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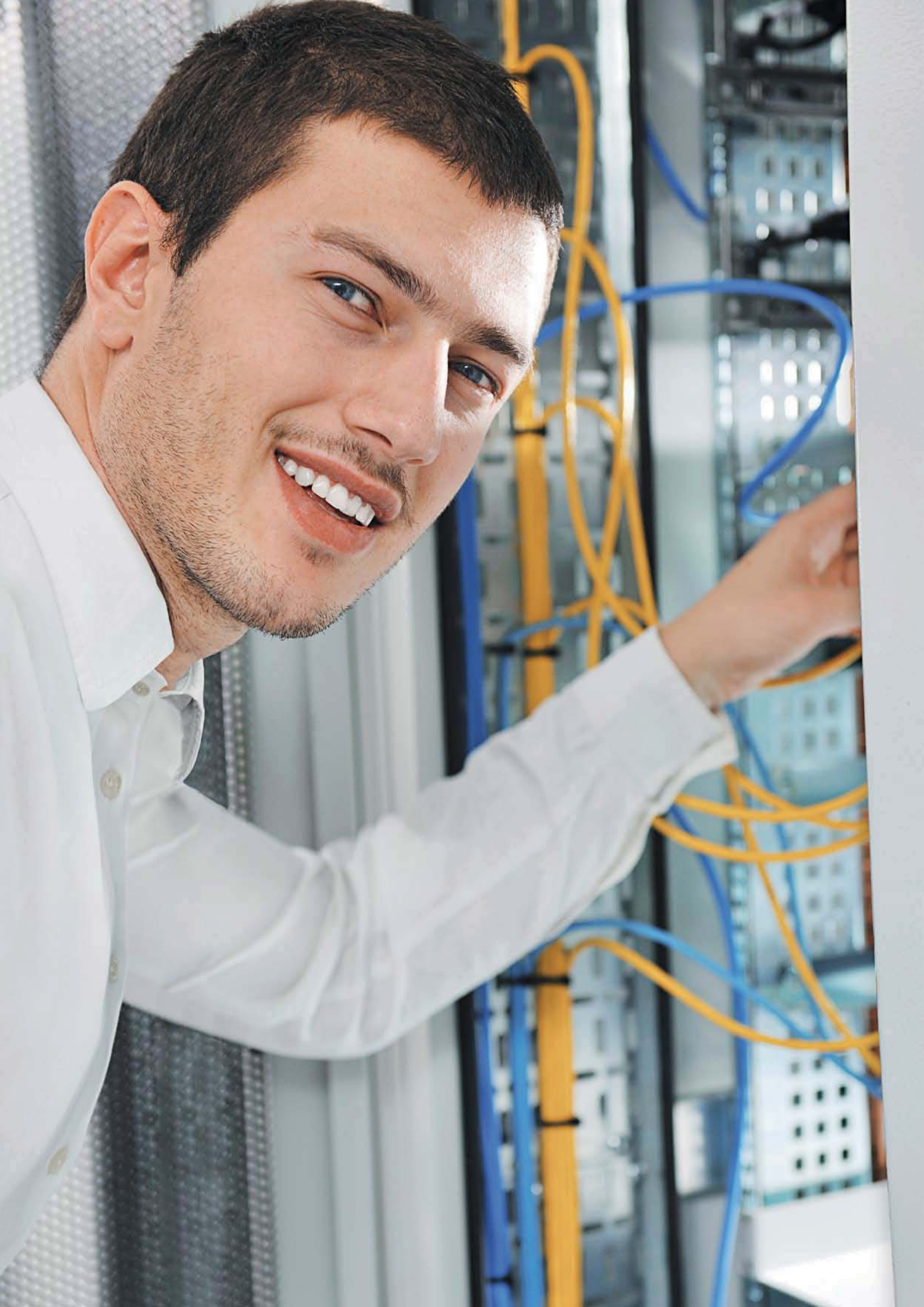


Telegärtner DataVoice

Everything for Structured Building Cabling

With the DataVoice product portfolio, Telegärtner offers a reliable professional total system for everything to do with building wiring: from products forthe complete wiring of copper and fiber optic networks to professional connectors for industry.

Telegärtner offers you a comprehensive program of high quality connection components for the data and telecommunications throughout the building. This kicks off with a complete FO program which can be delivered pre-assembled, continues in the office environment with extensive network solutions does not stop at the industrial environment with extremely reliable RJ45 connector systems for harsh ambient conditions.

In addition to high performance active and passive components for transmission by copper cable, you also get connection and distributor components for fiber optic technology from us. This is all rounded off by our cable assembly for a complete, structured building cabling. The DataVoice range is enhanced by products for factory, machine and plant wiring: The Telegärtner industrial connectors of variant 1, variant 4, variant 5, variant 6 and variant 14 offer standard conformant solutions which can be flexibly combined – without annoying adaptations. Because the freely selectable inserts can easily be inserted into all IP67 housings. There is nothing easier and at the same time more reliable for modern, gigabit fast hall, machine and plant networks.

Telegärtner DataVoice: All from one provider and always with that added Telegärtner quality and reliability – in every component.

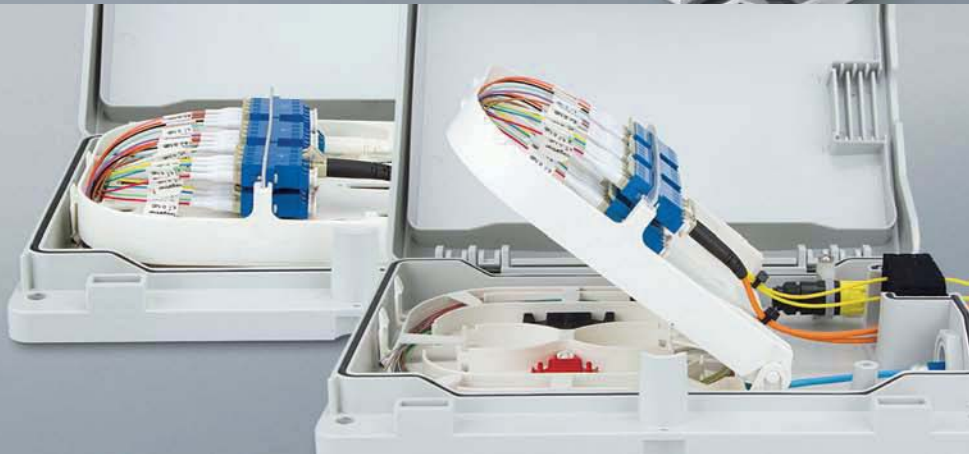
MFP8 Cat.6_A RJ45 connector for field assembly

All 500 MHz components in Cat.6_A quality

AMJ-S Module Cat.6_A

TOC Telecommunication Outdoor Connector IP68

Optical Distribution Box ODB 54



Telegärtner DataVoice
Highlights

Telegärtner has been setting new standards in connection technology for decades. Over the years Telegärtner has developed numerous products for structured building wiring with which planners, installers and users can go about their daily tasks easier, more efficiently and with the promise of greater success.

MFP8 Cat.6_A RJ45 connector for field assembly
The MFP8 Cat.6_A is an RJ45 plug for time-saving and efficient on-site assembly for all networks up to 10 Gigabit Ethernet. It can be assembled on all standard types of cable in just 60 seconds – and no special tools are required. Whether in the office, data center, in industry or in home networks - the MFP8 offers unprecedented flexibility and saves time and money on installation, repairs and maintenance.

All 500 MHz components in Cat.6_A quality
For a long time it seemed impossible that category 6_A network components could be certified as conforming to the ISO/IEC 11801 standard. Until now the strict specifications of this standard could only be met with modules. But true to the motto "never say never" and excellent co-operation between development, design, production and quality control, Telegärtner has managed to make the impossible possible.

AMJ-S Module Cat.6_A
The fully shielded AMJ-S module for 10 Gigabit Ethernet builds on the advantages of Telegärtner connection and transmission technology which has proved its reliability and efficiency a million times over. The striking features of the new AMJ-S module are its slim-line keystone format (19.3 x 14.7 mm) and its design compatibility in that it can be easily combined with covers in the switch ranges of all well-known vendors.

TOC Telecommunication Outdoor Connector IP68
The handy, easy to install TOC connectors are used in telecommunications or automation but also in military, offshore or mining applications. The TOC series is suitable for integration into electronic interface SFP+ or as an independent interface (IP68 outlets). All connectors of the TOC series are compliant with the specifications of the IP68 protection class and can be used in a temperature range from -40 °C to 85 °C due to their excellent material properties.

ODB 54 wall-mounted optical distribution box
It is essential in fiber-to-the-building/home networks that the optical fibers are safely terminated in the area accessible to the customer. The Telegärtner ODB 54 wall distributor enables you to solve various different installation requirements with one product. Whether designed as a splice tray or distribution board housing, there is enough room in the robust ODB 54 plastic housing to accommodate up to 24 fiber optic ports.

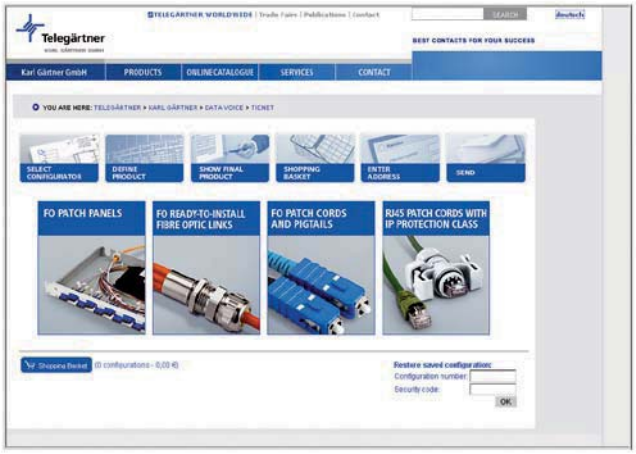
You will find other Telegärtner highlights from the DataVoice range on our Internet Web site under **www.telegaertner.com/datavoice**

Customised Solutions
Highlights

All of the products in the DataVoice Industry portfolio were developed for reliable transmission of data and signals in the harsh industrial environment. However, since every application has its own special requirements, it is sometimes necessary to adapt individual products or modules to the specific requirements of the application. Telegärtner provides a wide range of customer services which accompany and support the products for this purpose. With the online configurator, for example, you have the possibility of configuring and inquiring for cables and fiber optic patch panels to meet your requirements. Other customised product developments such as our outlets or distribution boxes ensure uncomplicated and structured cabling of halls, machinery or plants.

TICNET-Configurator: Simply assemble cables and fiber optic patch panels online

Do you want to assemble cables and connectors online or a fiber optic patch panel to meet your specific needs and then send an order inquiry straight away? Then the TICNET configurator developed by Telegärtner is just what you need as it allows you to customise any product to your requirements.



Different configurators

Selection of four different configurators for a wide and diverse range of individual product combinations:

- for fiber optic patch panels
- for ready-to-install fiber optic links
- for fiber optic patch cords and pigtails (IP20 and IP67)
- for RJ45 patch cords (IP20 and IP67

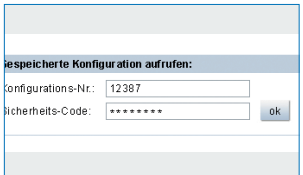
More detailed product information

Each individual product which you require for your specific configuration needs is displayed in detail with images and technical data.

Clear itemisation

All the information relating to the product you require is listed in a clear break-down including the gross list prices classified by price bracket.

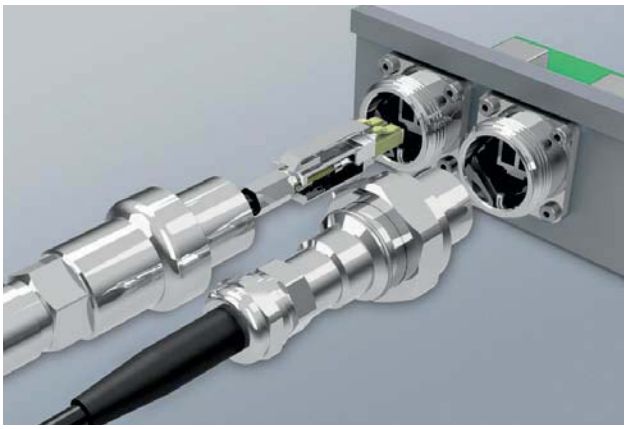
Your data is available in PDF format for download after configuration.



Configuration memory

All the cable links and fiber optic patch panels which you have developed in the TICNET configurator are saved in a shopping basket, allowing you to view your configurations at any time or use them for subsequent orders.

Customised Product Developments
Highlights



IP68 solutions: TOC outdoor connector
TOC connectors are used in data transmission and telecommunications in mobile telephony, process automation, plant automation and transport automation and also in applications in mechanical engineering and plant construction. They can be integrated in electronic SFP+ interfaces or function as self-contained IP68 connection units. All connectors conform to IP68 specifications and can be used in temperatures ranging from -40 °C to 85 °C.

Your parameter selection:

- housing size
- material
- 3D data for design-in
- suitable for SFP+ interfaces
- customized cable assemblies
- high performance RJ45 Cat.6_A connectors and fiber optic solution

Wall boxes
The wall boxes or wall splice boxes from Telegärtner are ideal for adapting multifiber loose tube cables to duplex or breakout cables. All accessories such as cable glands, splice cassettes, distribution plates and fiber optic adaptors can be combined as you like and assembled on request.

Your parameter selection:

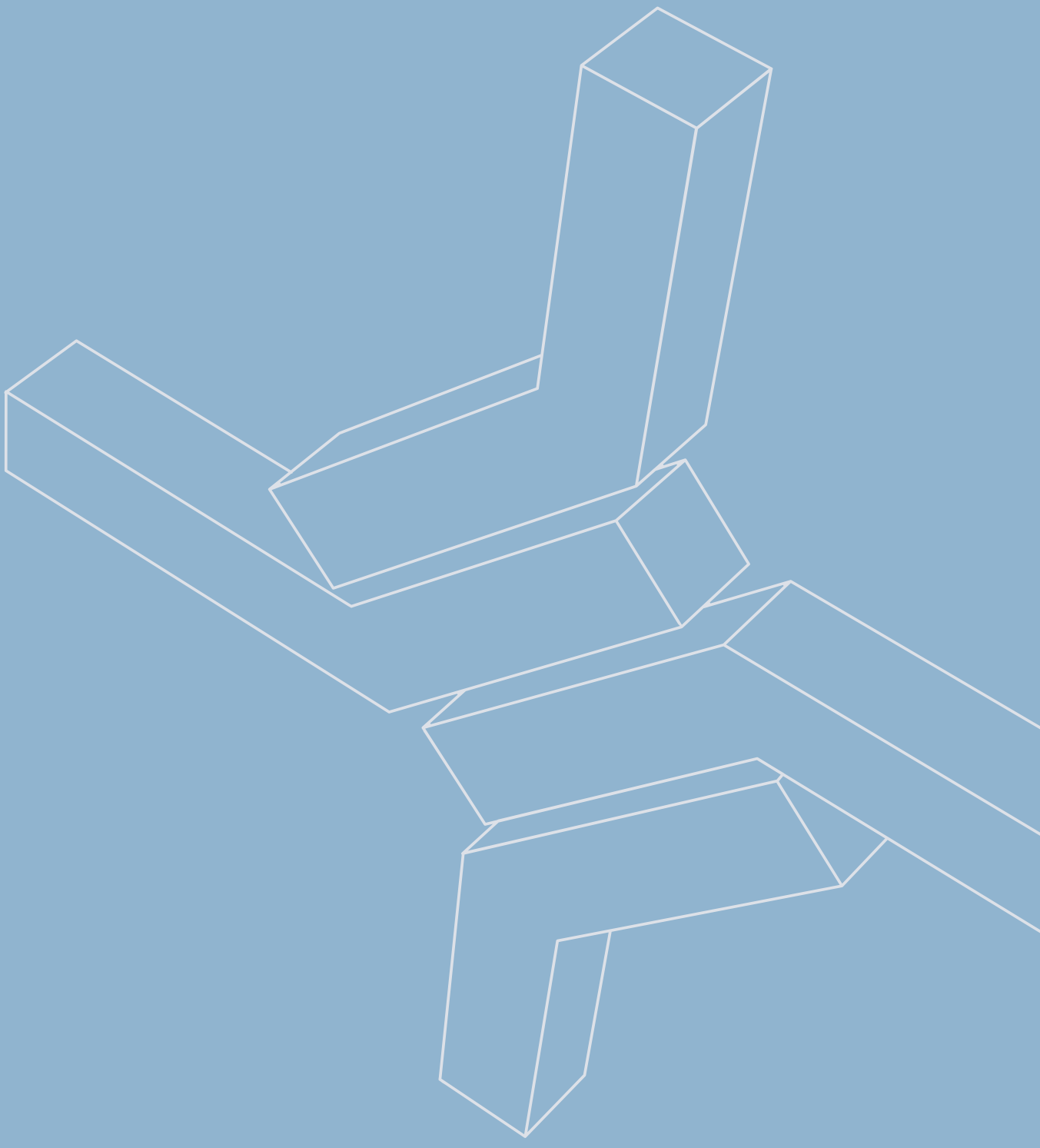
- housing size
- material / protection class
- equipment (splice cassette and/or distribution plate)
- fiber optic connector type and fiber types

Applications for mounting rails
Telegärtner mounting rail distributors are available either for connecting loose tube cables, mini-breakout or break-out cables with up to 12 fibers in splicing technique or with fiber optic adaptors for plugging preassembled fiber optic cables. Fiber optic adaptors of the ST, SC Duplex, SC-RJ, LC Duplex and E2000 Compact types can be installed in the exchange-able front plate.

Your parameter selection:

- housing size
- Type and number of fiber opti connectors and fiber types

Telegärtner



Telegärtner

Telegärtner

Best Contacts for your Success

Telegärtner Karl Gärtner GmbH in Steinenbronn near Stuttgart is an internationally operative full provider for professional solutions in connection technology. The traditional company produces and sells RF coaxial connectors, networking solutions for structured building cabling and modular programmes in the industrial and fiber optic sector.

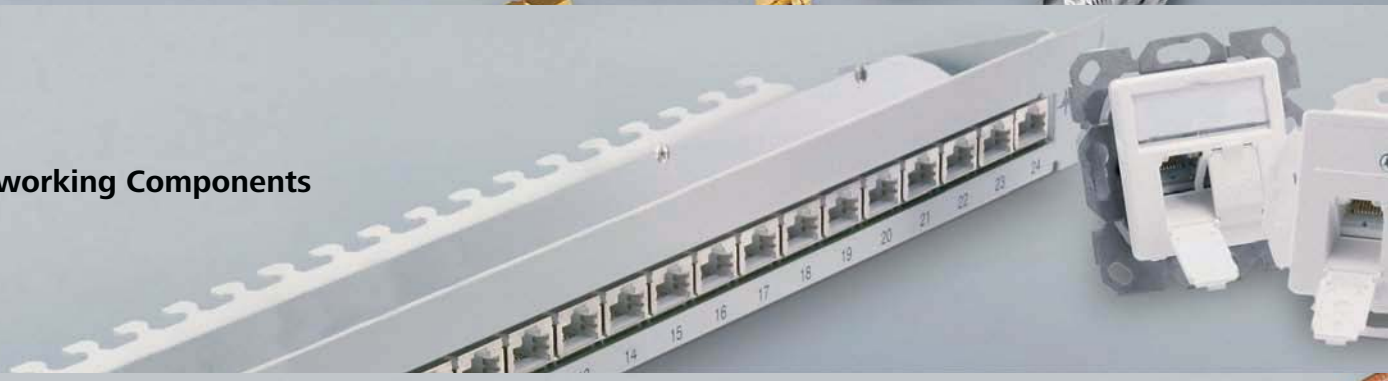
In its 66 year history Telegärtner Karl Gärtner GmbH has evolved from a spare parts supplier for telephone installations for American barracks to one of the top addresses for coaxial connectors, Data Voice components and cable assembly. But this remarkable development was only possible because the demands of the traditional company have not changed in all these years. Telegärtner does not just want to produce good quality but to give customers excellent solutions with which they can work successfully.

Telegärtner meets high tech demands and satisfies conventional customer needs with great commitment. Regardless of whether a large or small series is required, Telegärtner is the ideal standard supplier and development partner for customers who demand and expect the best contacts for their success.

Detailed information about Telegärtner as well as our online catalogue you can find at:
www.telegaertner.com

Coaxial Connectors

Networking Components

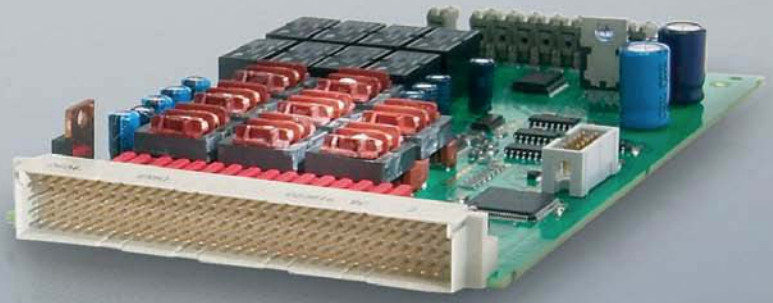


Cable Assemblies

Precision Turned Parts

Plastic Injection Mould Parts

Industrial Electronics



Telegärtner Products

Utilize the Contacts within the Telegärtner Group

The Telegärtner group offers you a complete and varied network of services. If you are already working successfully with Telegärtner in one of the following product areas, you can also profit from our outstanding performance in other areas – and exploit the resulting synergies. Please contact your authorised Telegärtner sales partner to receive additional catalogues and information material!

Coaxial Connectors
Whether you require coaxial connectors for high power transfer in the area of transmission, subminiature connectors for dense packaging, or precision connectors for laboratory equipment, we can meet your every need with our extensive line of standard products – as well as, naturally, connectors specially designed to meet individual customer specifications.

Networking Components
We offer you an extensive line of connection components for telecommunications and data transmission technology. On the one hand, high performance, active and passive components for transmission via copper cables and, on the other, connection and distribution components for fiber optics.

Cable Assembly
On request, we can provide you ready-to-use coaxial and other cables which we assemble ourselves. The advantage: cable specific connectors together with reliable, low-loss RF cables. In addition to conventional coax cables, we also pre-assemble semi-rigid, semi-flex, and corrugated cables.

Precision Turned Parts
Telegärtner Gerätebau manufactures precision turned parts of the highest quality. These include form turned pieces with diameters from 10 mm to 65 mm; straight turned parts with diameters from 6 mm to 26 mm; parts made from brass, aluminium, steel, stainless steel, and other materials. Our extensive knowledge in postprocessing techniques such as grinding and milling, galvanic surface treatment as well as heat treatment round off our service offerings.

Plastic Injection Mould Parts
Telegärtner Kunststofftechnik brings its comprehensive know-how to bear on complex material combinations, from product development right up to series production, from multi-component injection moulding, across in-mould and MID 3D techniques, to automation and clean room technologies.

Industrial Electronics
Telegärtner Elektronik offers active/passive sub-assemblies for industrial electronics, telephone and entryway speaker systems as well as emergency call systems. We offer everything from development (hardware and software) based on customer specifications, to technical consultation and prototype testing and acceptance by the TÜV (the leading technical approval institution in Germany), up to production in small and large series. Device construction covers every aspect from PCB population and sub-assembly mounting, up to complete device manufacturing.

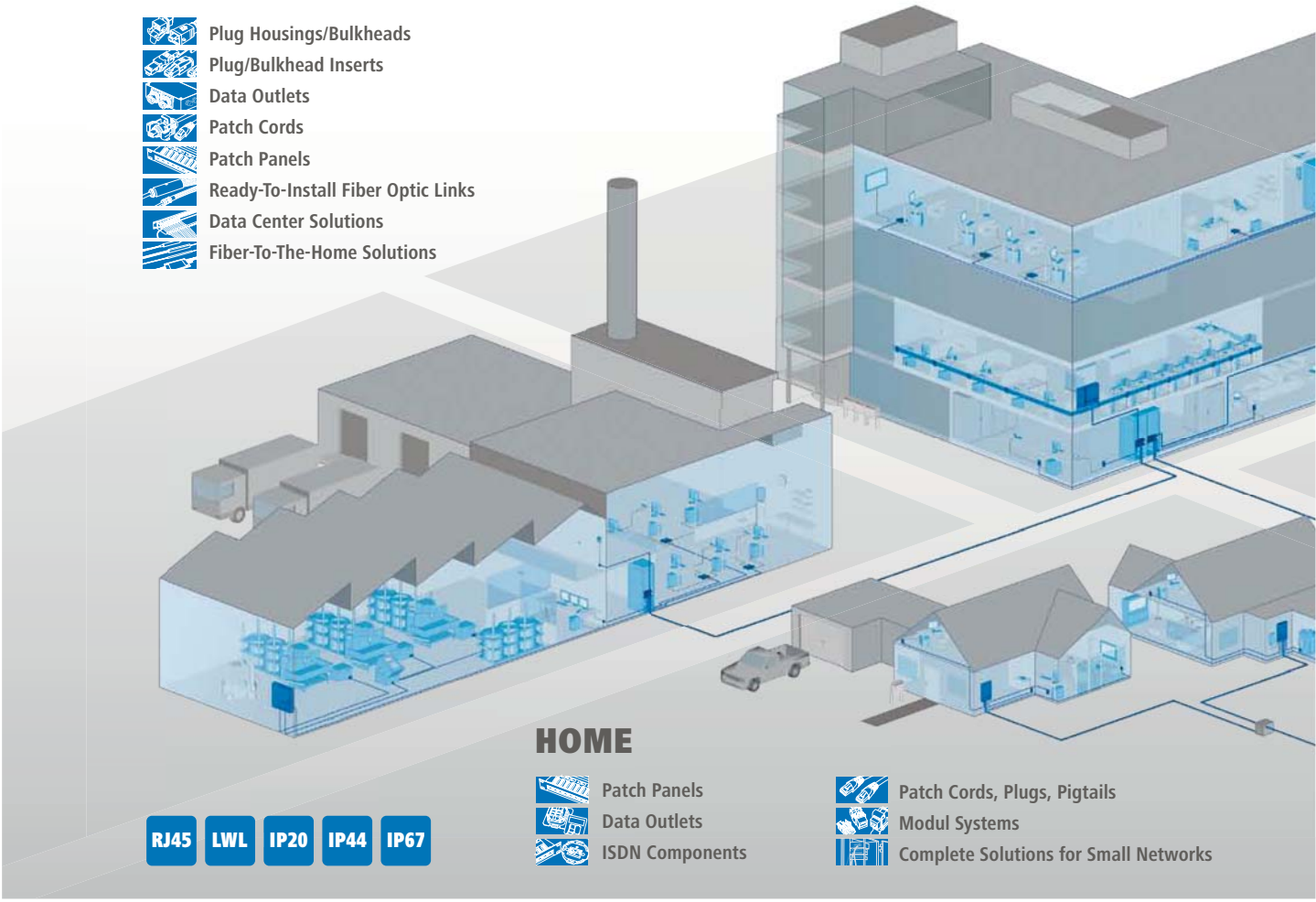
Data Voice – The Cabling System with PLUS POINTS

Professional Package System for Generic Building Cabling

DataVoice is a reliable professional package for designers, fitters and users developed by Telegärtner to meet all generic cabling requirements in office buildings, production halls and machines. The DataVoice range includes components for copper and fiber optic cable networks and connectors for industrial applications. The office product line ranges from connection and distribution components for optical transmission systems and preassembled optical fiber sections right through to powerful passive components for copper cable transmission.

INDUSTRY

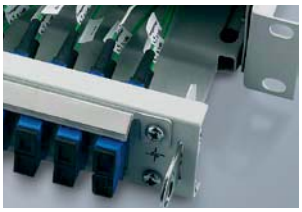
- Plug Housings/Bulkheads
- Plug/Bulkhead Inserts
- Data Outlets
- Patch Cords
- Patch Panels
- Ready-To-Install Fiber Optic Links
- Data Center Solutions
- Fiber-To-The-Home Solutions



RJ45 LWL IP20 IP44 IP67

HOME

- Patch Panels
- Data Outlets
- ISDN Components
- Patch Cords, Plugs, Pigtails
- Modul Systems
- Complete Solutions for Small Networks

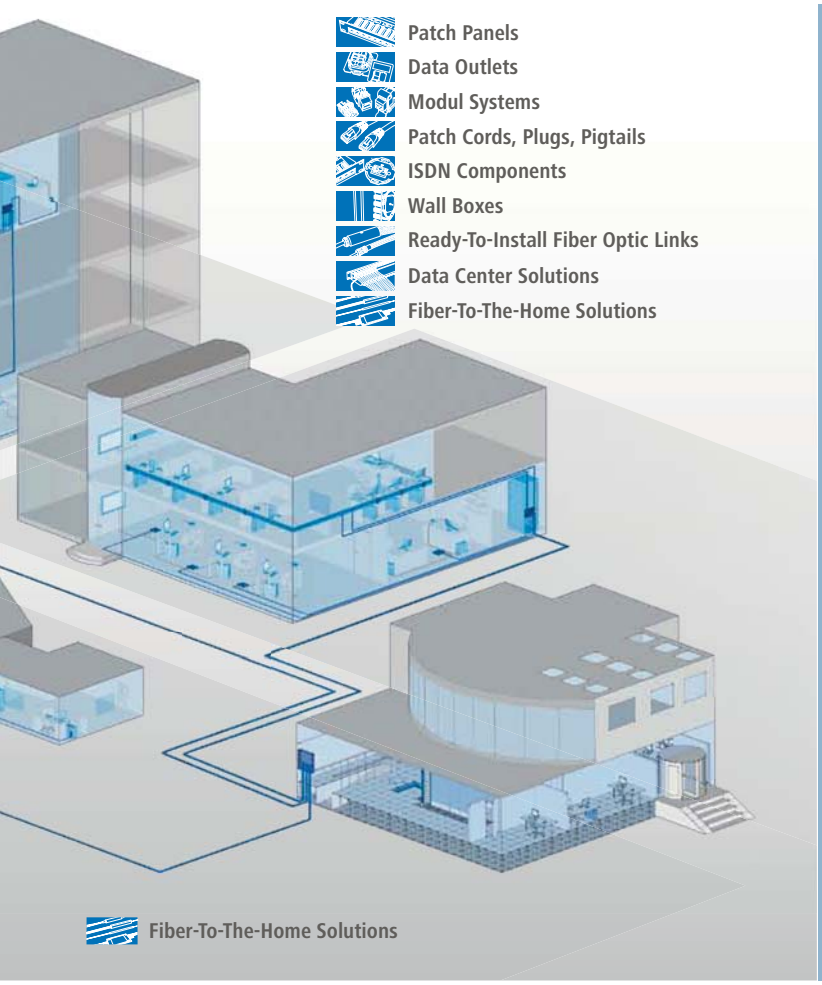


Whether your requirements be for on the factory floor or for the wiring machinery: with our extremely reliable RJ45 wiring systems, DataVoice offers everything you require for modern gigabit-speed networks in the industrial environment of production areas and machinery wiring.

Our product offering is complemented with cable assemblies - for a complete generic building cabling system.

OFFICE

- Patch Panels
- Data Outlets
- Modul Systems
- Patch Cords, Plugs, Pigtails
- ISDN Components
- Wall Boxes
- Ready-To-Install Fiber Optic Links
- Data Center Solutions
- Fiber-To-The-Home Solutions



Fiber-To-The-Home Solutions

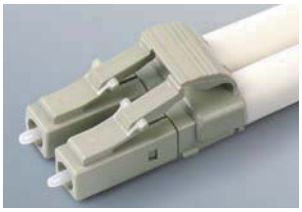
DataVoice
The Cabling System with PLUS POINTS for...

...Power
Guaranteed transmission rates of up to 40 GBit with fiber optics and 10 Gbit with copper thanks to cutting-edge technology.

...Practicality
Integrated system for office networks, production halls, machine and plant networks.

...Availablity
IP20 and IP67 protected housings for reliable connections for extreme demands in heavy-duty conditions.

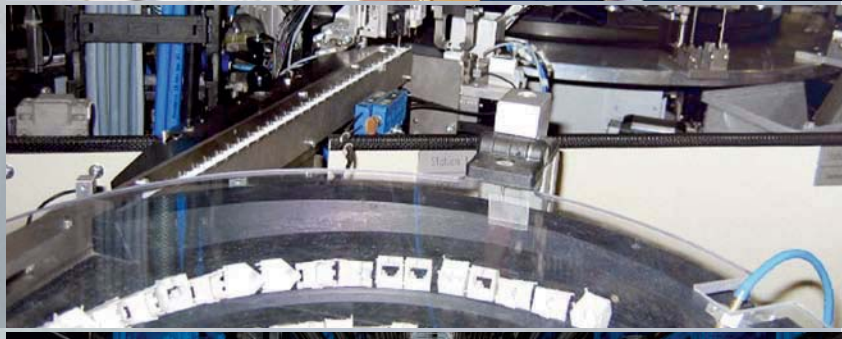
...User-friendliness
Easier to install thanks to pre-assembled components and cables.



Policy on Quality

Development

Manufacturing



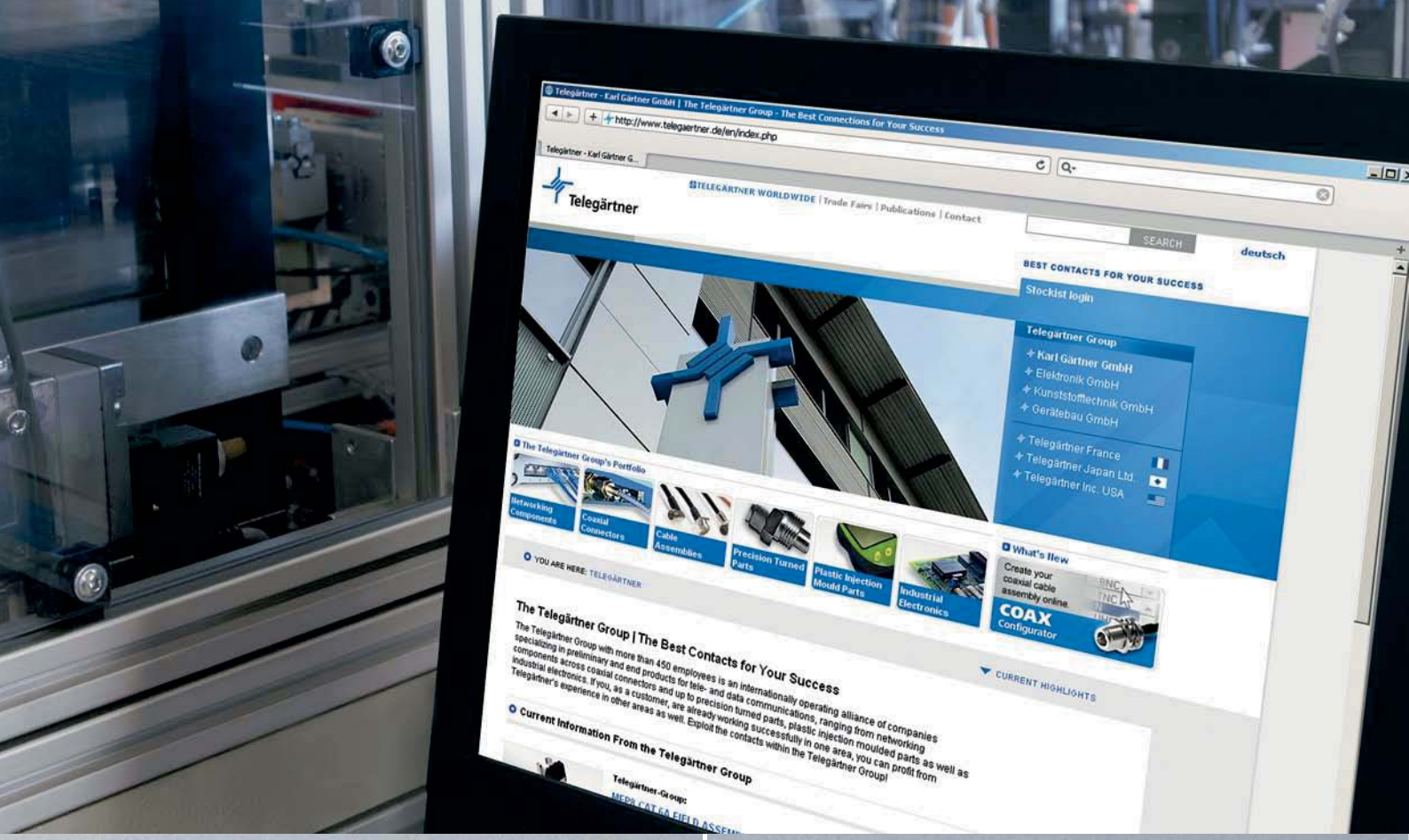
Delivery Service

Telegärtner Quality
Connectors for highest demands

Policy on Quality
Because we always want to offer you, our customers, the best contacts, our quality expectations go far beyond standard. Accordingly, we view ISO as merely a standard for quality – Telegärtner quality, on the other hand, is something we improve daily. It is with this in mind that we have instituted a quality assurance programme according to DIN EN ISO 9001:2008 und DIN EN ISO 14001:2004: from goods received, through manufacturing up to shipping and maintenance. A CAQ programme, the most up-to-date measuring and testing tools, optical and 3D measuring systems, quality consciousness by our employees and the continual optimisation of the Total Quality Management: That´s what makes Telegärtner so unique.

Development and Manufacturing
The products developed with CAD are optimized in our labs with the aid of network analysers and intermodulation test benches. A well-balanced ratio between fully automated, semi-automated and manual manufacturing processes guarantees a high level of flexibility. In addition to the wide range of standard types listed in this catalogue, a multitude of special designs are also available. Additional products can be – and are – developed and manufactured based on your specifications.

Delivery Service
The Telegärtner brand stands for 66 years of pronounced customer orientation. Starting in the manufacturing, where we consider your requests up to the delivery, where we do more than necessary, to afford you the best contacts in the right place at the right time. A fully automated state-of-the-art warehouse with more than 28,000 containers assures, that you don´t have to wait long for their goods. 24-hour delivery time ex warehouse: This is the figure against which you can measure the performance of our logistic department.


Telegärtner - Karl Gärtner GmbH | The Telegärtner Group - The Best Connections for Your Success
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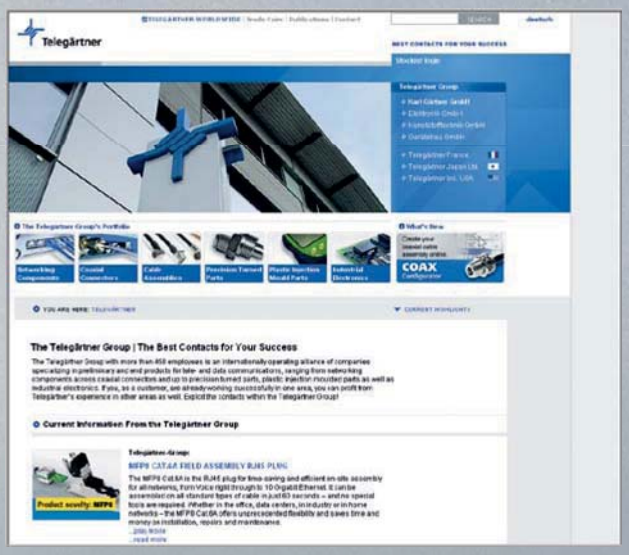
Gerätebau GmbH
Telegärtner France
Telegärtner Japan Ltd.
Telegärtner Inc. USA
The Telegärtner Group's Portfolio
Networking Components
Coaxial Connectors
Cable Assemblies
Precision Turned Parts
Plastic Injection Mould Parts
Industrial Electronics
What's New
Create your coaxial cable assembly online.
COAX Configurator
YOU ARE HERE: TELEGÄRTNER
CURRENT HIGHLIGHTS
The Telegärtner Group | The Best Contacts for Your Success
The Telegärtner Group with more than 450 employees is an internationally operating alliance of companies specializing in preliminary and end products for tele- and data communications, ranging from networking components across coaxial connectors and up to precision turned parts, plastic injection moulded parts as well as industrial electronics. If you, as a customer, are already working successfully in one area, you can profit from Telegärtner's experience in other areas as well. Exploit the contacts within the Telegärtner Group!
Current Information From the Telegärtner Group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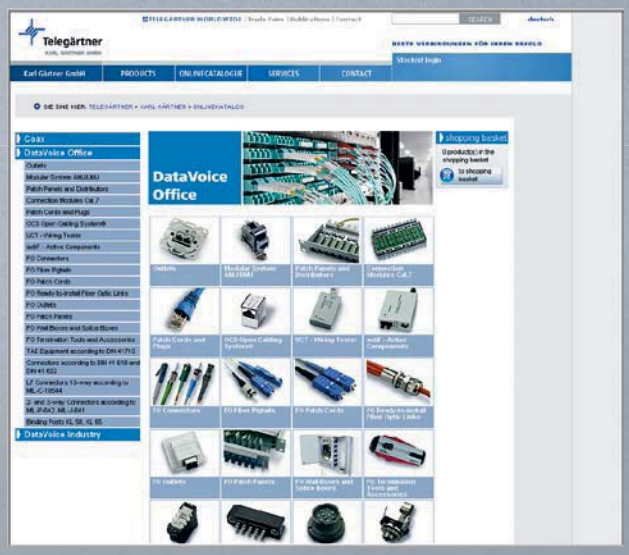
The Telegärtner Group | The Best Contacts for Your Success
Current Information From the Telegärtner Group


Telegärtner
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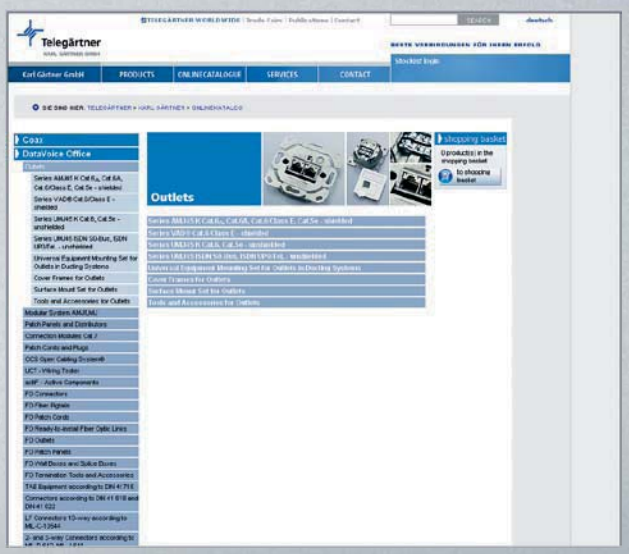
PRODUCTS
ONLINECATALOGUE
SERVICES
CONTACT
Coax
DataVoice Office
DataVoice Industry
DataVoice Office
shopping basket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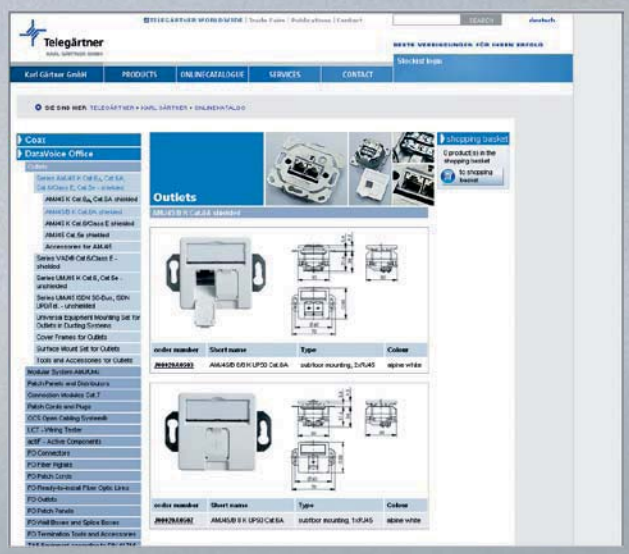
SERVICES
CONTACT
Coax
DataVoice Office
Outlets
shopping basket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Outlets
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Telegärtner Online

Visit us online!

Get an insight into our extensive product spectrum and learn more about us – as a reliable partner around the clock and around the world!

Here you can find quickly and easily useful information regarding e. g. agents and preferred stockists, information regarding new products or test certificates in our download area.

Our Online-Catalogue keeps you constantly informed on our complete product portfolio – always up-to-date. By using open navigation structure and integrated full text retrieval you are sure to find the products you are looking for quickly. Every product group is described in detail with corresponding technical parameters and special features. You can obtain extensive information on every product in picture and text, as well as you can download important information such as assembly instructions as PDF-file onto your computer.

With a mouse click the product lands with all relevant data in the product basket. You will find a clear easily-to-read list, which you can work at your own speed and discretion. After you have dispatched the list to us, just lean back and relax in the knowledge that, from that moment on, we will be doing our outmost to deal with your inquiry as quickly and as carefully as possible!

www.telegaertner.com

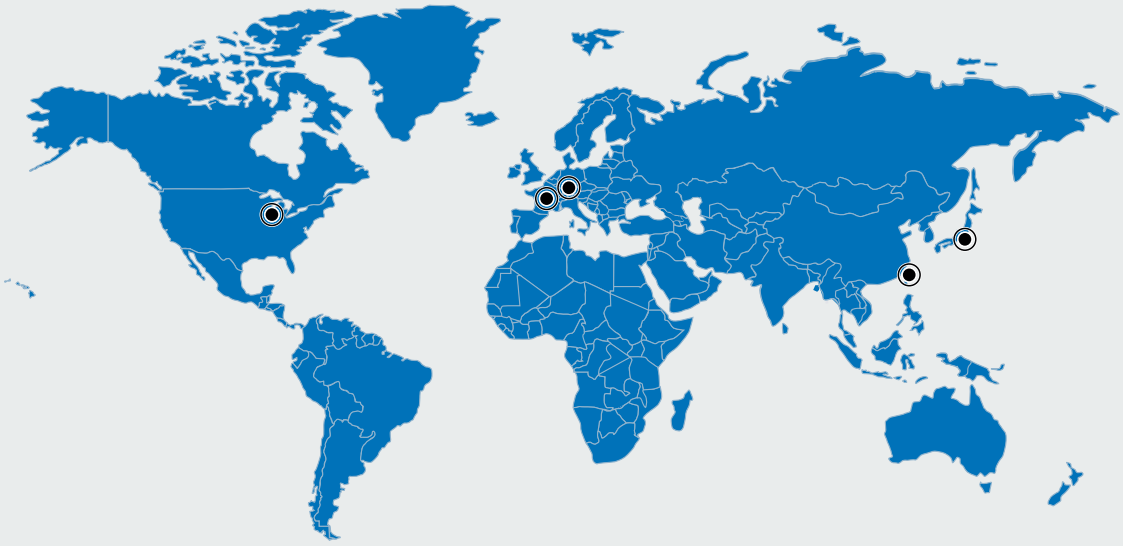
Subsidiaries and Agents

The Telegärtner Group
Worldwide there for you

The head office of the Telegärtner Group is located in Steinenbronn, Germany. It lies in the heart of the Stuttgart industrial region from where world-renowned companies such as Mercedes Benz, Porsche, or Bosch began their global triumphal march.

Telegärtner Germany manufactures networking components and coaxial connectors for structured cabling as well as plastic injection moulded parts in Steinenbronn. Precision turned parts and components for fiber optic technology are produced in Höckendorf (near Dresden). Finally, active and passive electronic sub-assemblies are developed and manufactured in Crailsheim. Beyond this, we also have several overseas subsidiaries.

Subsidiaries and Representations



Head Office

Telegärtner Karl Gärtner GmbH
Steinenbronn, Germany

Subsidiaries

- **Telegärtner Kunststofftechnik GmbH**
  Steinenbronn, Germany
- **Telegärtner Elektronik GmbH**
  Crailsheim, Germany
- **Telegärtner Gerätebau GmbH**
  Höckendorf, Germany
- **Japan Telegärtner Ltd.**
  Tokyo, Japan
- **Telegärtner France SARL**
  Paris, France
- **Telegärtner Taiwan Co., Ltd.**
  Taipei City, Taiwan
- **Telegärtner Inc.**
  Chicago, USA

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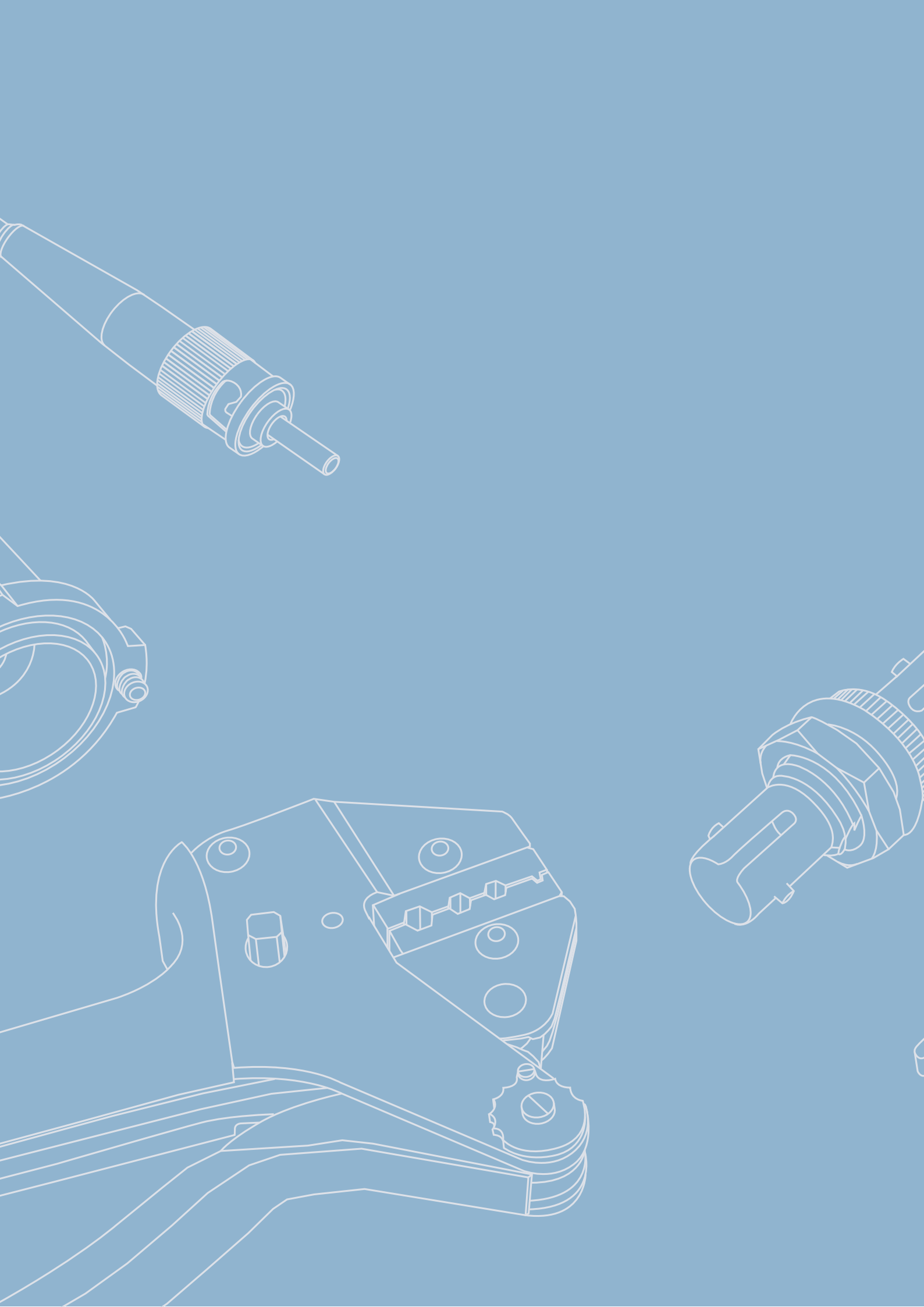
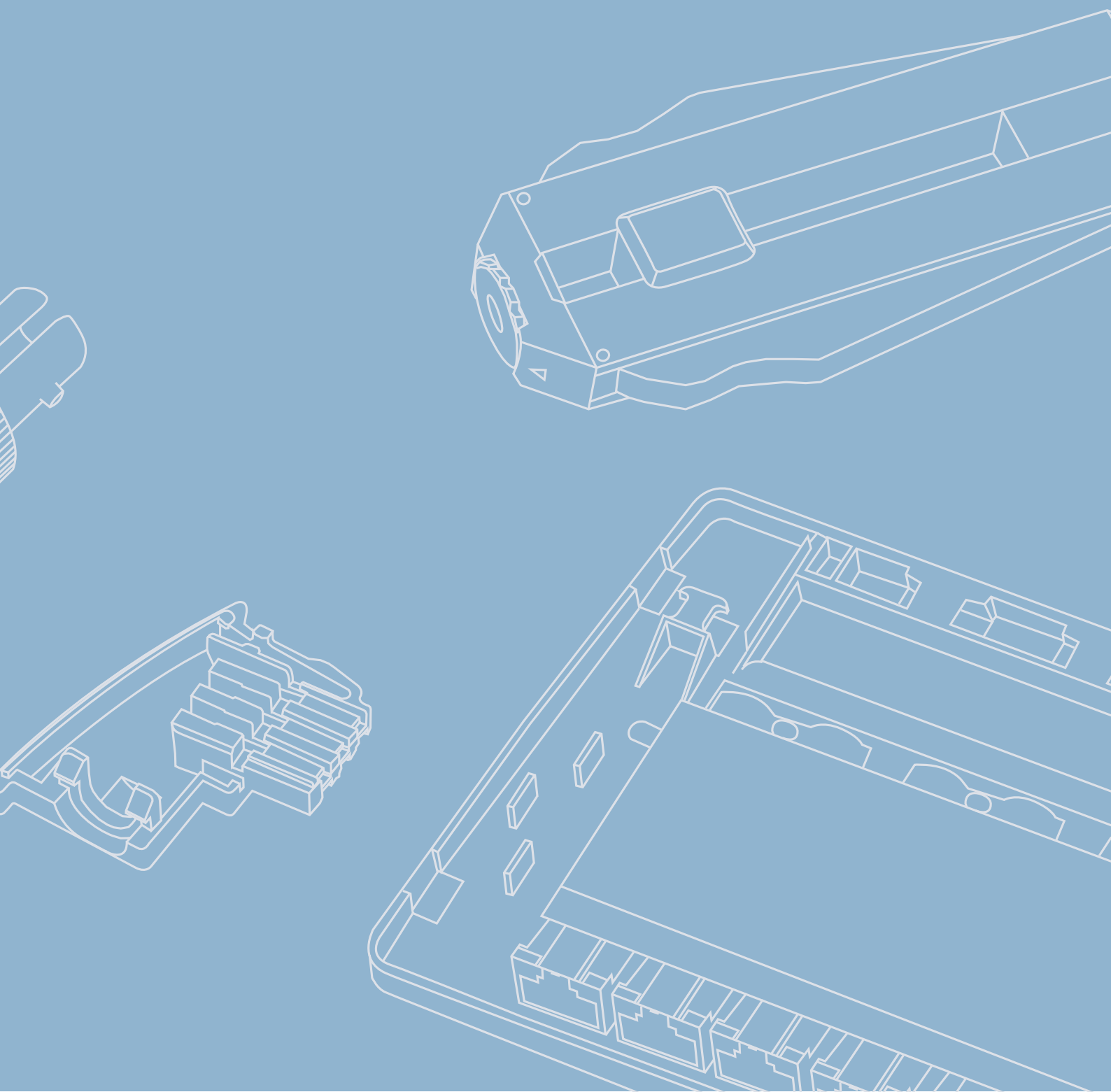


Technical Information



General

The history of data communications is closely linked to the developments in cabling and connecting hardware. High performance data networks and local area networks (LANs) cannot perform well without appropriate cables and excellent connectors.

When we take a look at high-speed data networks like-Gigabit and 10 Gigabit Ethernet, it's hard to imagine that data networks descended from telephone networks. Telegärtner has set quite some trends from the early beginnings.

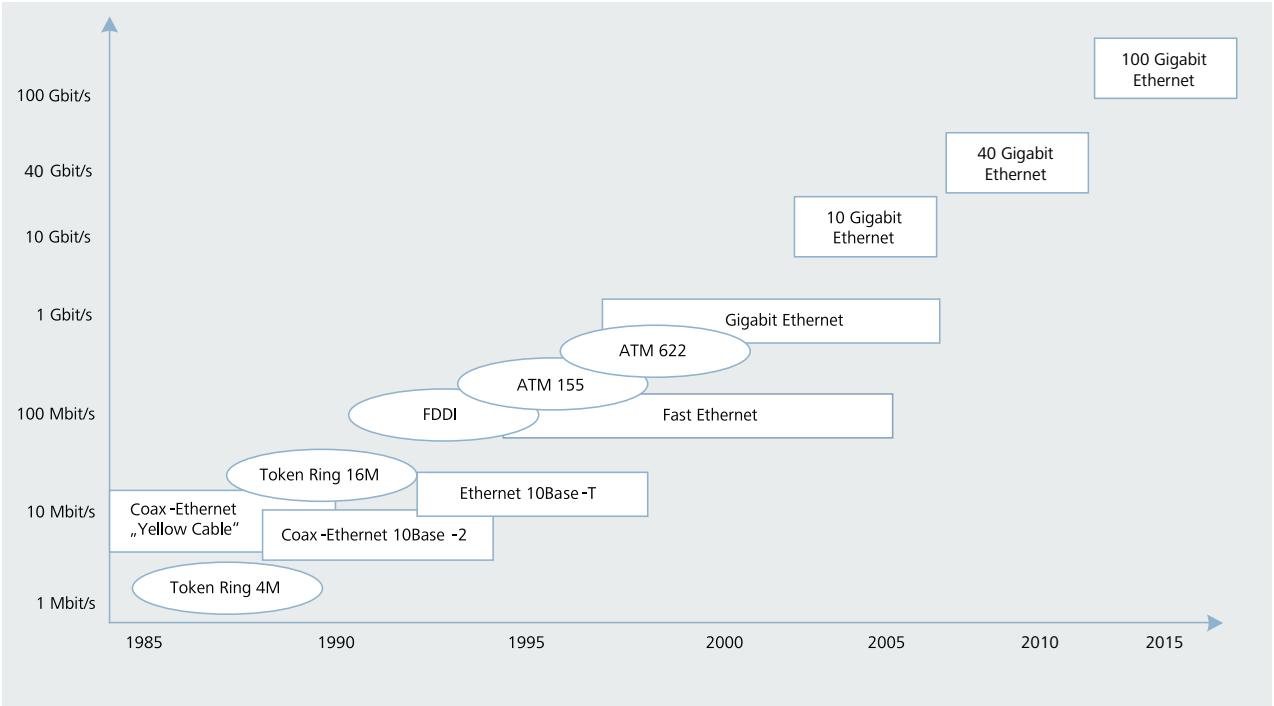
The Ethernet version 10Base-2 was running over coaxial cable. With Telegärtner's uninterruptable EAD outlets, computers could be added or removed while the network is running. Soon, the screened version scEAD followed, and even 2010 there are still some coaxial networks with EAD/scEAD outlets in use.

EAD/scEAD

TAE Outlet

Plug

BNC Connector



Evolution of LAN technologies: Ethernet has become the dominant technology for local area networks (LANs). Most common are Fast Ethernet with 100 Mbps and Gigabit Ethernet with 1 Gbps. For high speed networks, 10 Gigabit Ethernet offers 10 Gbps, and 40 and 100 Gigabit Ethernet will soon offer even higher data rates.

Copper Networks

Structured Cabling

The demand for vendor independent and neutral cabling led to the international standard ISO/IEC 11801 with it's European version EN 50173. These standards define a structured cabling which shall be designed independent of the use or dedication of rooms or any network technology. The standards also contain performance specificatons for components and links, as well as appropriate testing methods.

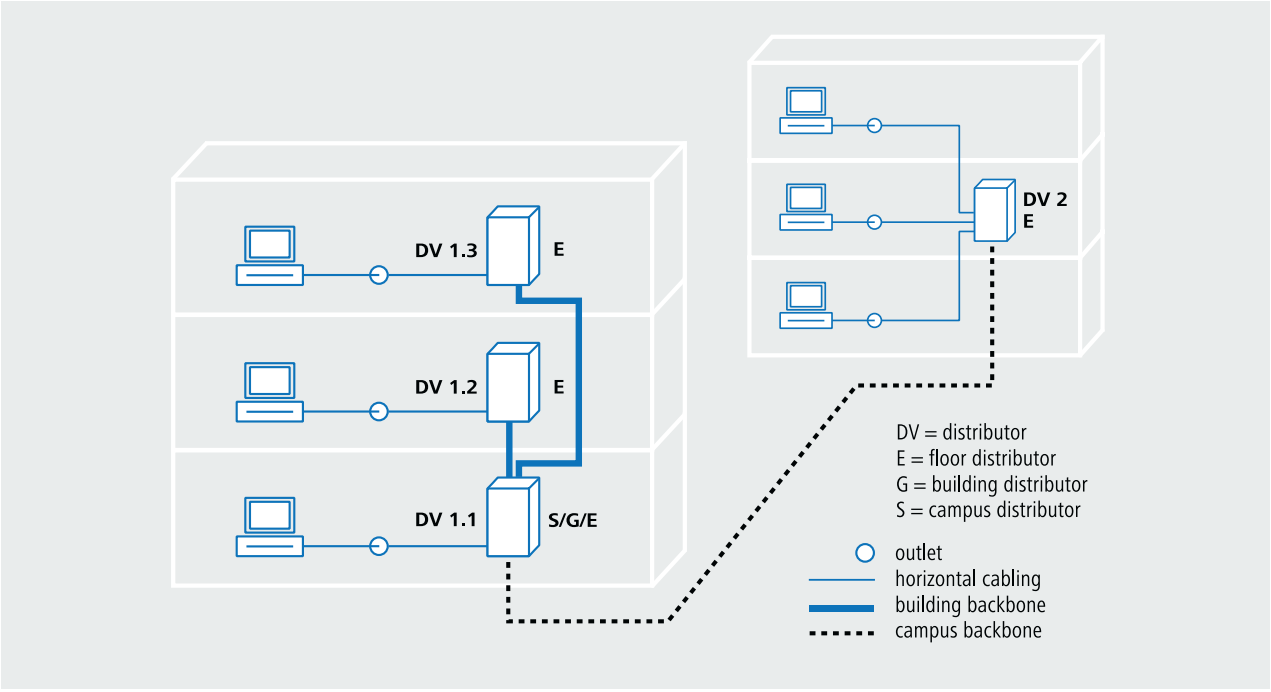
Structured cabling consists of the horizontal cabling, the building backbone, and the campus backbone. The campus backbone runs between buildings on the same campus. Apart from telephone cables, only fiber optic cables are used to connect the buildings to a central campus distributor.

The cabling to connect the floor disributors to the building distributor following a star topology is called building backbone. According to the standards, each floor should have at least one floor distributor. However, it is also possible to use one floor distributor for several floors should they be sparsely populated.

The horizontal cabling runs from the floor distributor to the outlets. Mainly twisted-pair cabling is used here, but fiber optic cabling might offer some advantages depending on the size of the network and the details of the individual cabling project. In a lot of projects the data cabling is also used for telephony.

Telephones need another pin assignment than Ethernet, but when all pins of a jack are connected to the cable, the outlet can be used for either telephone or data. Telephone and data over the same cabling is called a converged network.

Example of RJ45 outlet from Telegärtner



An example of structured cabling

DIN EN 50173

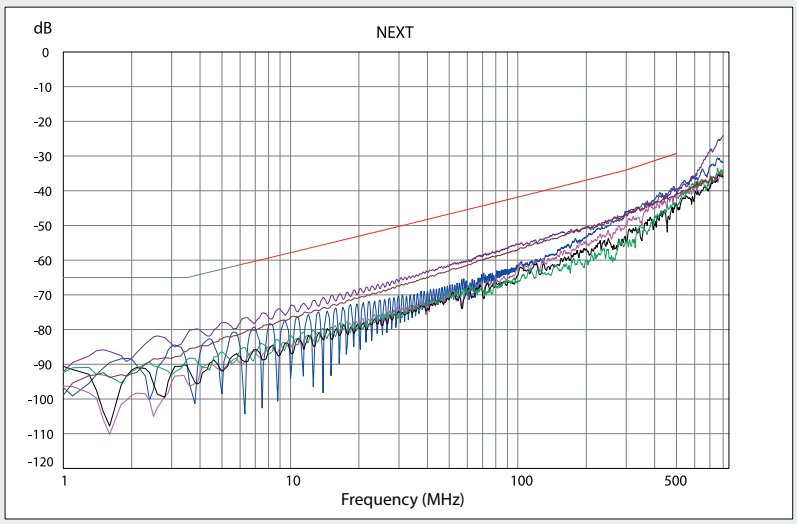
The first editions of ISO/IEC 11801 and EN 50173 were published in 1995. In 1999/2000, addenda were published with the requirements for Gigabit Ethernet over copper cable.

The first editions and addenda of both standards defined systems up to 100 MHz (Class D/Cat.5). In the United States, EIA/TIA defined a Cat.5e for cabling supporting Gigabit Ethernet. New editions of the EN 50173 were published in 2003 and 2007. Currently, components for 10 Gigabit Ethernet with a bandwidth of 500 MHz (Class E_A / Category 6_A) are used.

DIN EN 50173 has become a series of five standards, focusing on different environments and scenarios:

DIN EN 50173-1:2007	General requirements
DIN EN 50173-2:2007	Office premises
DIN EN 50173-3:2007	Industrial premises
DIN EN 50173-4:2007	Residential premises
DIN EN 50173-5:2007	Data centers

Telegärtner's tip: Always make sure to use the right software according to the specific standard with the test equipment.



High system reserve of Telegärtner Cat.6_A connection components measured in 90 m Class E_A Permanent Link in accordance with ISO/IEC 11801

TIA-568

Apart from ISO / IEC 11801, the American standard TIA-568 is very common in the United States. Currently, the fourth issue of TIA-568 is published as TIA-568-C, which replaces all preceding ones, including TIA-568-B.

Some specifications of TIA-568-C differ from the ones in ISO / IEC 11801 and thus EN 50173. TIA-568 applies only for North America unless explicitly stated in tenders and project descriptions.

The set of TIA-568-C consists of four parts:

TIA-568-C.0: Generic Telecommunications Cabling for Customer Premises

TIA-568-C.1: Commercial Building Telecommunica tions Standard

TIA-568-C.2: Balanced Twisted-Pair Telecommunications Cabling and Components Standard

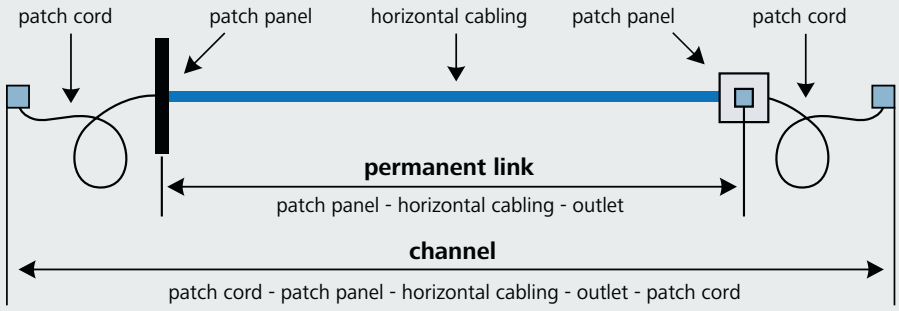
TIA-568-C.3: Optical Fiber Cabling Components Standard

Permanent Link and Channel

EN 50173 defines multiple performance levels. Some terms quickly: „Class“ always applies to the whole cabled link, of which permanent link and channel are two examples. The permanent link comprises the components that will stay permanently in place, so in most installations this means patch panel, horizontal cable, and outlet.

„Channel“ means the whole connection between two electronic devices like a PC and a switch, including all necessary patch cords (very often, the channel consists of the permanent link and the patch cords). In most cases, the channel will only be tested when problems have occured to make sure that the whole cabling is fine. After the installation is done, nearly always the permanent link is tested. The reason for this is simple: Following the test procedures for the channel would mean that all of the patch cords had to remain plugged into the outlets and patch panels.

Telegärtner's tip: Always check whether the permanent link or the channel has to be tested – they have different specs.



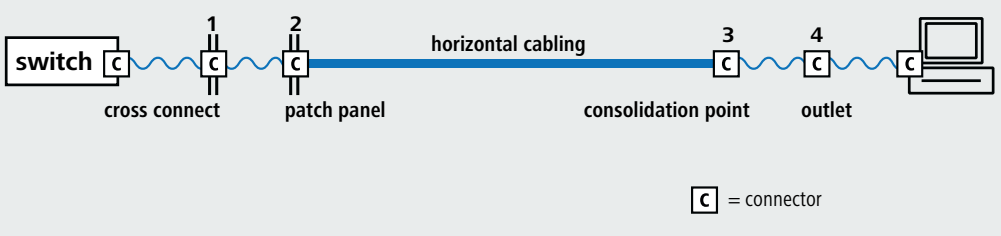
Permanent link and channel

2, 3 and 4 connector model

EN 50173 defines three different types of permanent links, depending on the amount of connectors used. The connections directly at the electronics like switches or at the equipment like PCs are not taken into consideration.

The simplest model is the 2 connector model: just one connection at the patch panel and one at the information outlet.

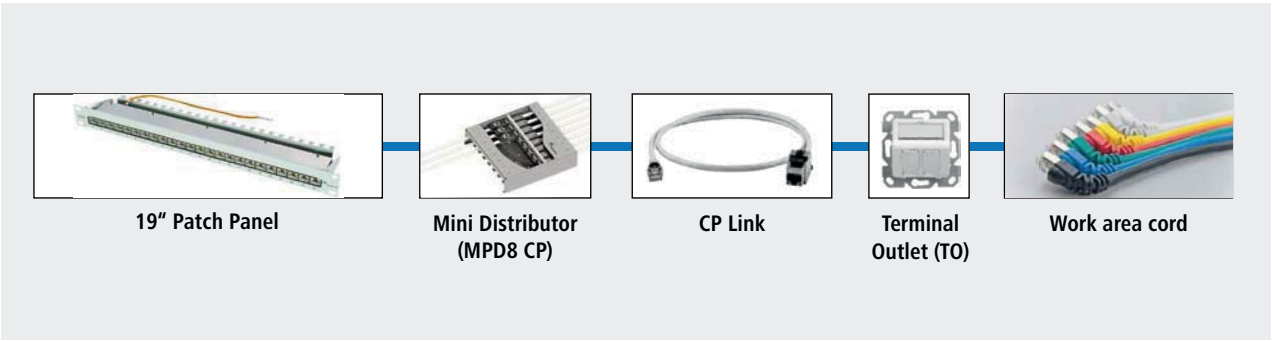
The most demanding model is the 4 connector model, which adds two more connections to the ones of the 2 connector model: a cross connect and a consolidation point. The 3 connector model just uses either a cross connect or a consolidation point.



4 connector model

Cabling with Consolidation Point

Sometimes it is useful to lay a bundle of horizontal cables between the floor distributor and a consolidation point, which is made of a group of outlets or a small distributor. From the consolidation point, cables are run to fixed or mobile outlets, to which PCs are connected. An example of a consolidation point is a small distributor, installed in suspended ceilings or cellular floors in open-plan offices or for industry solutions, where cover plates or utility columns provide flexibility. Floor outlets may also serve as consolidation points when patch cords plugged in, which are not connected to PCs but to other outlets in desks or furniture. With a consolidation point, a link may contain up to four connections (4 connector model): Patch panel, consolidation point, outlet, and cross connect (mainly used in the USA, not very common in Europe). The connections at the networking devices (PC and switch/hub) are outside the scope of this model.



Cabling with consolidation point

Class and Category

„Class" means something completely different than „category". The class (or category link in American English) always applies to the installed link, the category as such applies only to one single component, e.g. the cable or the outlet; the component is tested and verified by either the labs of the manufacturer or independent verification labs. The installed link is always tested according to classes (or category links).

Cabling classes according to ISO/IEC:

Class D:	frequency range up to 100 MHz, for data rates up to 1 Gbps
Class E:	frequency range up to 250 MHz, for data rates up to 1 Gbps
Class E_A:	frequency range up to 500 MHz, for data rates up to 10 Gbps
Class F:	frequency range up to 600 MHz, for multi-media applications
Class F_A:	frequency range up to 1,000 MHz, for multi-media applications

Component categories according to ISO/IEC:

Category 5:	frequency range up to 100 MHz, for data rates up to 1 Gbps
Category 6:	frequency range up to 250 MHz, for data rates up to 1 Gbps
Category 6_A:	frequency range up to 500 MHz, for data rates up to 10 Gbps
Category 7:	frequency range up to 600 MHz, for multi-media applications
Category 7_A:	frequency range up to 1,000 MHz, for multi-media applications

The correct spelling of Class E_A and Category 6_A: Originally, an „a" in lower case was used. Later on, TIA and ISO agreed to use an „A" in upper case. ISO (and thus Cenelec) use the „A" in subscript ($_A$), TIA uses it in the same level as „6":

Link and Channel according to ISO:	Class E_A
Link and Channel according to TIA:	Category 6A link
Components according to ISO:	Category 6_A
Components according to TIA:	Category 6A

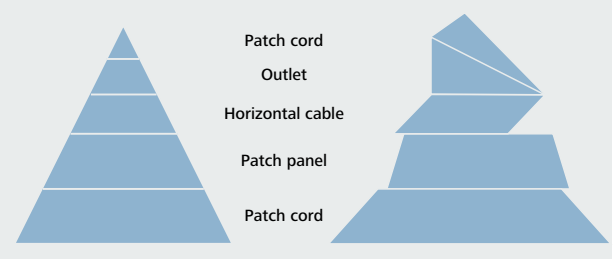
Telegärtner's tip: When testing class E_A links or links with Cat.6_A components, always make sure that the tester uses the correct settings according to ISO/IEC 11801 – Ed2 Add.2.

Cabling systems versus Mix & Match

According to the 2007 editions of ISO/IEC 11801 and EN 50173, the selection of cabling components will be determined by the class of applications to be supported by the cabling. Cables and connections of different categories may be mixed within a channel. However, the resultant cabling performance will be determined by the category of the lowest performing component.

Even though the cabling standards were created to offer the possibility of using components from different vendors in the same link, standard compliant links („mix & match") might lead to serious problems. The specifications allow

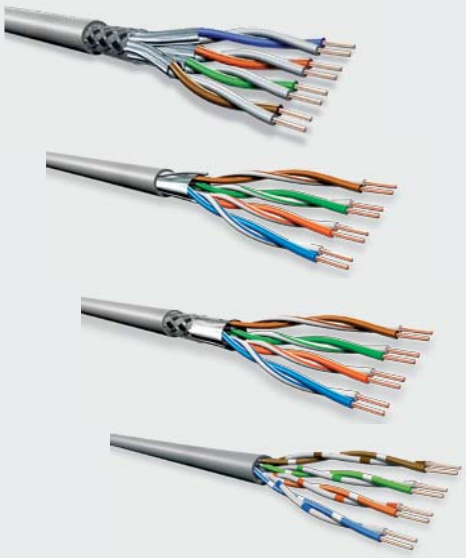
large tolerances, and different vendors may use different ways of eliminating capacitive and inductive interference. It may well happen that components of standard compliant systems cause reflections of the signal, which lead to high bit error rates. The system becomes slow and offers only poor performance.



Cabling systems and mix & match

Twisted pair cables

ISO developed a standardized, systematic naming for the different types of construction of twisted pair cables. The first letter stands for the overall screen, the second one – separated by a slash – stands for the element screen. „S" means braid screen, „F" means foil screen. „TP" stand for twisted pair, the balanced element.



Different types of twisted pair cables

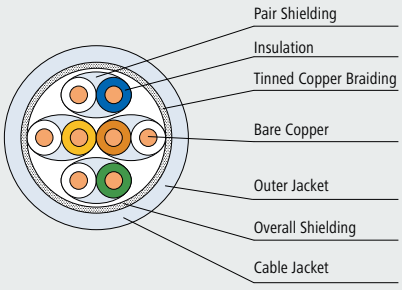
S/FTP:
overall braid screen (S),
elements foil screened (FTP)

F/UTP:
overall foil screen (F),
elements unscreened (UTP)

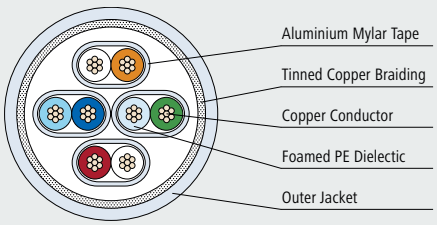
SF/UTP:
overall braid and foil screen (SF),
elements unscreened (UTP)

U/UTP:
no overall screen (U),
elements unscreened (UTP)

Twisted pair cables are available with solid and stranded conductors.



solid



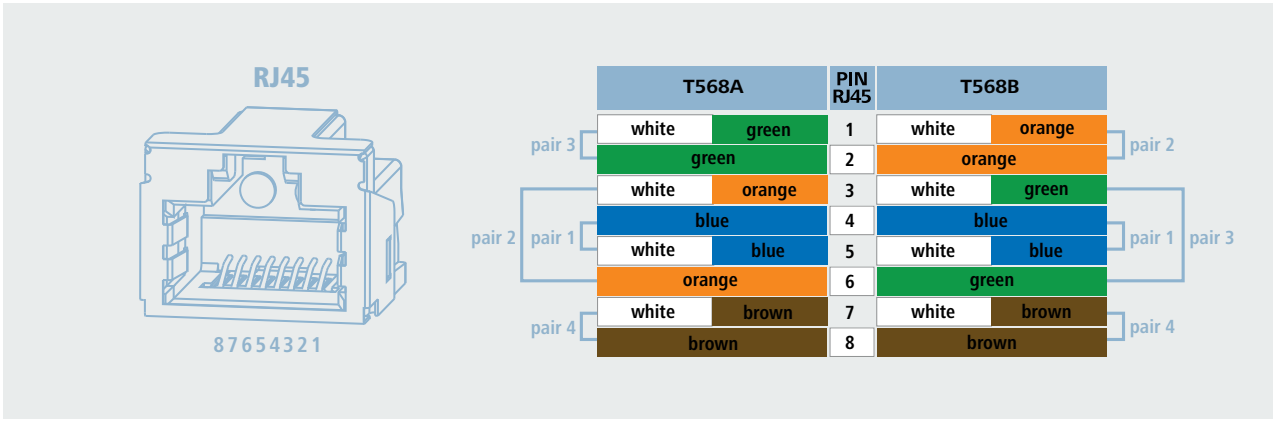
stranded

Connecting hardware

The RJ45 has become the dominant connector for copper cabling. The term "RJ45" is not standardized, but it's widely used. The standard series EN 60603-7 (international: IEC 60603-7) specifies the RJ45 in both, shielded and unshielded versions, and from category 5 to category 6_A.

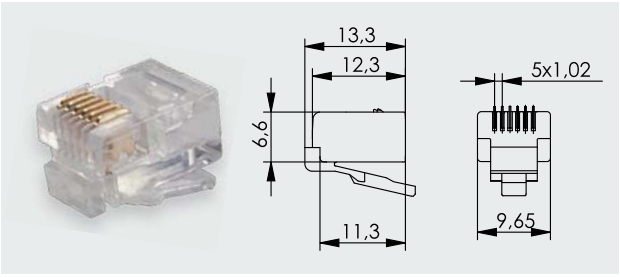
The American standard EIA/TIA 568 defines two different colour codings for RJ45 plugs and jacks. The colour coding T568A was originally developed for the military. T568B, which was developed for civil use, has become common for most installations by now.

The colour codings of EIA/TIA are not contradictory to EN 50173. EN 50173 points to EN 50174, which contains both coding schemes. Either one may be used, but both ends of the cable have to be connected in the same manner.

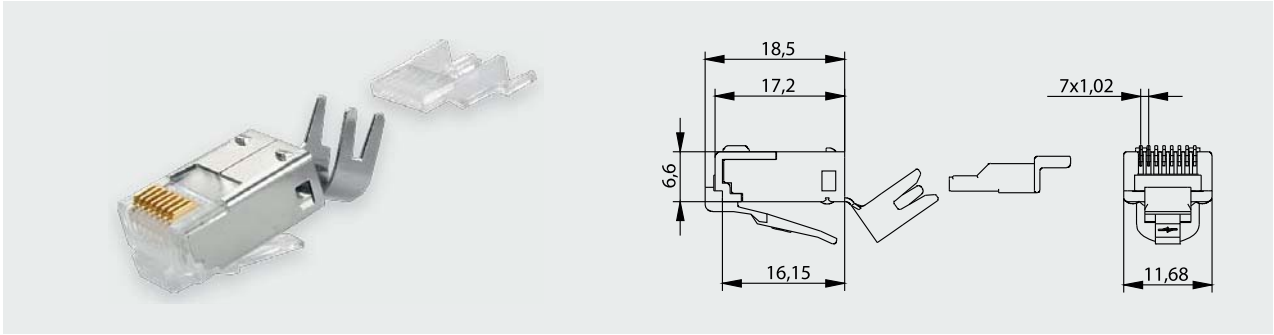


RJ45 pin assignment and colour coding

RJ45 jacks should have an integrated protection against overbending the contacts. When the cord of a telephone or a fax machine with an RJ11 or RJ12 connector is plugged into an RJ45 jack, the outer contacts (1/2 and 7/8) can be damaged. RJ11 and RJ12 connectors are similar to the RJ45, but they are a bit smaller. An integrated protection against overbending protects the contacts of the jack. Even after many "mispluggings", the jack can transmit high data rates without any problems.



RJ12



RJ45

Outlets with boards or individual modules

The problems of ever growing data rates and at the same time cost pressure demanding shorter installation time were successfully solved by the modular design of the connecting hardware. In the old days, outlets contained small printed circuit boards to which the jacks were soldered.

Now the jacks are mounted directly on the end of the cable and just snapped into the frame of the outlet or the patch panels. Each cable is terminated on both ends with an individual jack. This leads to a much better electrical performance of the link and to an enormous time saving when terminating the cables and installing the connecting hardware. An additional benefit: Individual links can be added later at much lower costs.

Either concept works, and Telegärtner offers both, of course. The AMJ K Cat 6_A was the first board based outlet with LSA+ contacts and Cat.6_A performance verified by the independent test lab GHMT worldwide.

RJ45 outlets with board and individual modules, both Cat.6_A compliant for 10 Gigabit Ethernet

Horizontal cables do not necessarily have to be terminated with a jack. When they are terminated with a plug, they can be inserted into an outdoor housing of an IP surveillance camera, for example. There is no need anymore for an outlet near the camera. This benefit is also welcome by industrial applications, and even in residential cabling the outlet can be omitted – in many installations there is no space for an outlet anyway. Good plugs can be mounted on site and can be used for any application, from analogue telephony up to 10 Gigabit Ethernet.

MFP8 connector by Telegärtner: Toollessly mounted on site in less than 60 seconds, and ready to transmit 10 Gigabit Ethernet

Power over Ethernet (PoE)

With PoE, the devices can be powered using the data cable. The American standards body IEEE has specified PoE in the documents IEEE 802.3af and IEEE 802.3at:

Standard	IEEE 802.3af	IEEE 802.3at
Issued	June 2003	September 2009
Voltage	48 V DC	53 V DC
Maximum power at power sourcing equipment	15 W	30 W
Maximum power at powered device	12.95 W	24.6 W
Maximum current per pair	350 mA	600 mA

Source Treiber: Praxishandbuch Netzwerktechnik, courtesy of J. Schlembach Fachverlag

PoE and PoE + demand high quality connecting hardware as the small contacts have to transmit data and power at the same time.

Telegärtner's tip: All Cat.6_A jacks and plugs made by Telegärtner can be used for PoE and PoE + up to 30 W.

De-embedded / Re-embedded

The cabling infrastructure of high speed data networks calls for high tech testing, especially when testing individual components. The de-embedded testing method was developed for cat. 6 components. It uses a reference jack which has to be tested with 12 different plugs to ensure it can cope with the complete spectrum of mix & match applications.

Of course, this leads to different margins with the different connectors, and all of them have to be standard compliant. De-embedded testing is precise enough for testing individual components of category 6 up to 250 MHz for data rates up to 1 Gbps. Despite of this effort, this testing method is not precise enough for testing cat. 6_A components up to 500 MHz for data rates up to 10 Gbps. With de-embedded testing, a jack under test was tested as a single, stand-alone item. Re-embedded testing test the jack re-embedded into the board, it tests "the whole thing". Re-embedded testing uses a reference plug with well-known margins. It also uses two test heads, which are connected to a network analyzer. One of this heads has a soldered receptacle for the reference plug; the jack to be tested is connected to the other test head using twisted pairs. Then the two test heads are connected and tested.

Re-embedded testing using multiple boards according to IEC 60512 is still not precise enough for Telegärtner: In the Telegärtner's test lab, the board with the reference jack is directly connected to the network analyzer using coaxial cables. This has the benefit of eliminating near-end crosstalk (NEXT) and effects caused by interference among the twisted pairs. The special testing procedure with coaxial cable enables higher precision than the procedure according to IEC 60512.

Telegärtner Real-Time Re-Embedded Cat.6_A

Using an 8-port network analyzer with implemented re-embedding calculation, the Real-Time Re-Embedded test procedure by Telegärtner makes real-time evaluation of connecting hardware possible. With this, effects of any changes of the device under test can be tracked in real-time. The time consuming testing of all pair combinations belongs to the past.

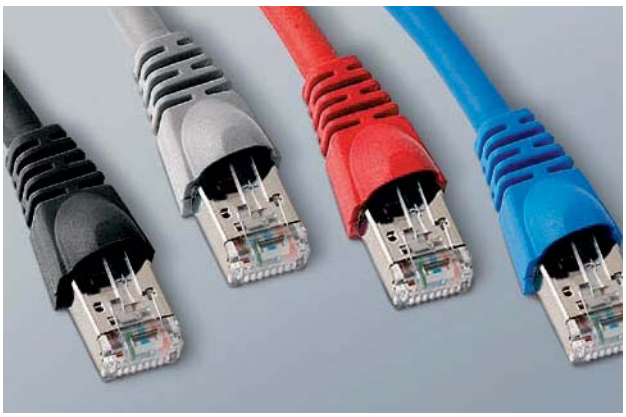
REAL-TIME
RE-EMBEDDED

Cat.6_A Patch Cords

In many installaitons, patch cords are ignored – with unpleasant consequences, as the cabling infrastructure will not reach it's full performance when low-cost patch cords degrade the quality of the channel. But how can one tell that a specific path cord is a high quality product?

Cat.6_A components have been tested using the re-embedded test procedure for quite a while by now, but patch cords haven't – the physics made it next to impossible.

Once again, Telegärtner lead the way: The Telegärtner test lab was the fist test lab worldwide that was able to test cat.6_A patch cords. The test procedure is more advanced and more precise than specified by international standards. Telegärtner uses Real-Time / Re-Embedded testing, which tests all four pairs simultaneously with an 8-port network analyzer. This high-end test procedure without baluns leads to much more precise test results and sets the trend for testing high-quality patch cords. This ensures that the channel can transmit the full data rate.



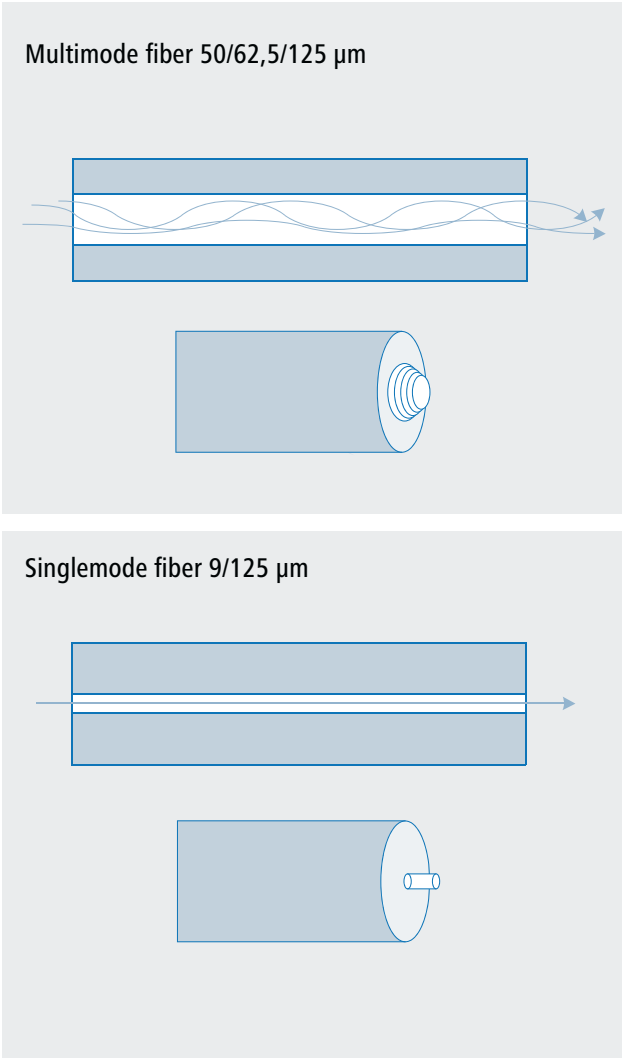
Fiber Optic Networks

Design of optical fiber

State of the art fiber optic cables contain multimode fibers with graded refraction index (marked with a „G“) or singlemode fiber (marked with an „E“). Loosely, one can assume that several rays of light (modes) travel along a multimode fiber in different ways, whereas in singlemode fibers only one of them does so (these „rays“ stand for the main distribution of electromagnetic energy that satisfies Maxwell's equations and boundary conditions in guided wave propagation).

The light is guided in the inner part of the fiber. The outer part ensures that only light that doesn't exceed a certain angle can enter the fiber, that it will be guided travelling along the fiber, and that light which left the inner part may not reenter causing signal irritation. The inner part of a fiber is called core, the outer part cladding. As core and cladding are made of glass with different refraction indices, light will be reflected at the border (total relfection).

Thus, a maximum of light will be guided through the fiber core. In Europe, multimode fibers with a core diameter of 50 µm are common, in the USA it's mostly 62.5 µm. The two multimode fiber types may not be mixed in the same link, for that would lead to a heavy loss of light, especially when light travels from the 62.5 into the 50 µm fiber. The core diameter of singlemode fibers is typically 9 to 10 µm, depending on the fiber manufacturer. The outer diameter of all of the fiber types mentioned above is 125 µm.



Optical fiber (simpified)

Optical fibers and their performance

ISO/IEC 11801 and EN 50173-1:2003 specify different performance categories for optical fibers. There are four of them for multimode fiber (OM1 to OM4) and two for singlemode (OS1 and OS2, with OS1 fibers being superseded by OS2 by now). LEDs usually work fine at transmission rates up to 100 Mbps. Gigabit and 10 Gigabit Ethernet use lasers, as LEDs can't be switched on and off fast enough.

Cost-effective VCSELs (vertical cavity surface emitting lasers) work at 850 nm. For other wavelengths such as 1310 nm or 1550 nm, standard lasers have to be used.

Maximum attenuation in dB / km							
	Multimode OM1, OM2 and OM3		Multimode OM4		Singlemode OS2		
Wavelength	850 nm	1300 nm	850 nm	1300 nm	1310 nm	1383 nm	1550 nm
Attenuation	3.5 dB	1.5 dB	3.5 dB	1.5 dB	0.4 dB	0.4 dB	0.4 dB

		Min. modal bandwidth in MHz x km		
		Overfilled Launch Bandwidth		Effective Laser Launch Bandwidth
Wavelength		850 nm	1300 nm	850 nm
Fiber	Core diameter (µm)			
OM1	50 or 62.5	200	500	not specified
OM2	50	500	500	not specified
OM3	50	1500	500	2000
OM4	50	3500	500	4700

Source: Treiber: Praxishandbuch Netzwerktechnik, courtesy of J. Schlembach Fachverlag

Telegärtner's tip: Optical fibers should always be tested with the type of light source they will be used with for data transmission. Most optical testers (optical time domain reflectometer, OTDR) typically use standard lasers. However, depending on the type of Ethernet, LEDs and VECSELs are used with multi¬mode fibers instead of standard lasers. The wrong source of light might lead to wrong test results.

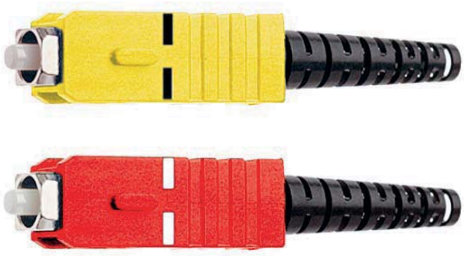
Plastic optical fibers

Optical fibers do not necessarily have to be made of glass. They can partially or completely be made of plastic.

Polymeric optical fibers, also called plastic optical fibers or POF, are completely made of plastic. Unlike glass fibers, polymeric optical fibers cannot be fusion spliced together, as the plastic would just melt.

POFs are connected using connectors or clamps. With sharp knives, POFs can be cut precisely, and there is no need to polish the fiber ends.

Hard clad silica fibers (HCS), also called polymer cladded fibers (PCF), have a core made of glass and a cladding made of plastic. Because of the glass core, HCS fibers offer higher bandwidth and longer link lengths than polymeric optical fibers, but they need a more sophisticated installation process than POFs do.



Connectors for polymeric optical fibers

Bend-insensitve optical fibers

Bend-insensitive optical fibers have a lot of advantages in installations with very tight space. Such fibers can be layed in very narrow turns and still offer the full bandwidth. But not all of them are backwards compatible with common optical fibers.

Bend-insensitve singlemode fibers are specified in the ITU-T G.657 standard. Fibers of the G.657.A series are backwards compatible with standard singlemode fibers as specified in ITU-T G.652. Fibers of the G.657.B series in most cases aren't, but they have a smaller minimum bending radius than the ones of the A series.

Depending on the manufacturer, bend-insensitive multimode fibers (BIMMF) might be backwards compatible with conventional OM3 and OM4 fibers. A look at the data sheet is highly recommended, an explicit statement of the manufacturer will help best.

WDM systems

Low waterpeak fibers are very important for WDM systems. WDM stands for wavelength division multiplexing. Where standard systems send light of only one wavelength along a singlemode fiber, WDM systems send multiple rays of light of different wavelengths simultaneously along one single fiber.

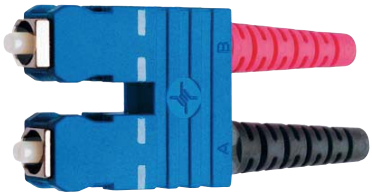
Each channel is assigned to an individual wavelength, and to ensure a constant transmission of all signals, the physical properties of the fiber must be the same for all of the channels, i.e. for all of the appropriate wavelengths. Today, WDM systems can only rarely be found in the LAN environment, but still low waterpeak fibers have to be minded when designing or installing new networks to ensure that the future migration towards WDM will be possible without changing the cables again.

Fiber optic connectors

EN 50173 specifies the LC duplex fiber optic connector for the work area (outlets). In legacy installations where the older SC duplex connector is used, links with SC duplex can still be added. For any other area all other connectors specified by IEC standards are allowed.

ST connectors

Telegärtner's tip: Never look into fiber optic connectors or jacks. VCSELs and standard lasers emit invisible infrared light which can cause serious health hazards.



SC connectors

Many manufacturers of networking devices have begun to use small form factor (SFF) connectors like the LC duplex as they consume not more space than RJ45 jacks. It has to be minded, though, that a high density of connectors in patch panels or consolidation points might proof to be disadvantageous as far as handling, robustness, and clearness are concerned.

In legacy installations, ST connectors can be found alongside with the SC duplex and the LC duplex.

LC connectors

To achieve best possible optical performance, connectors for singlemode fibers are also available in an angled version. Because of the sloping surface of the tip of the connector, reflected light cannot return into the mode field of the fiber but is reflected away from the connector end.

Telegärtner's tip: Never plug connectors with a rectangular end (physical contact connector, PC) and connectors with a sloping surface (angled physical contact connectors, APC) into the same coupling. When using APC connectors make sure that slope of both connectors in one coupling has the same angle.

Standardized colour code for fiber optic connectors according to EN 50173-1:

Multimode: beige or black

Singlemode PC, rectangular connector tip
(PC = physical contact): blue

Singlemode APC, angled connector tip
(APC = angled physical contact): green

Connectors and couplings for OM3 multimode fibers are often colored aqua as specified in the American TIA standard.

	Connector	Patch cord	Pre-assembled installation cable
OM1	beige	orange	orange
OM2	beige	orange	orange
OM3	aqua	aqua	orange
OM4	black	orange	orange
OS2 PC	blue	yellow	yellow
OS2 APC	green	yellow	yellow

Colour scheme: connectors, patch cords, pre-assembled installation cables

Fiber to the Home (FTTH)

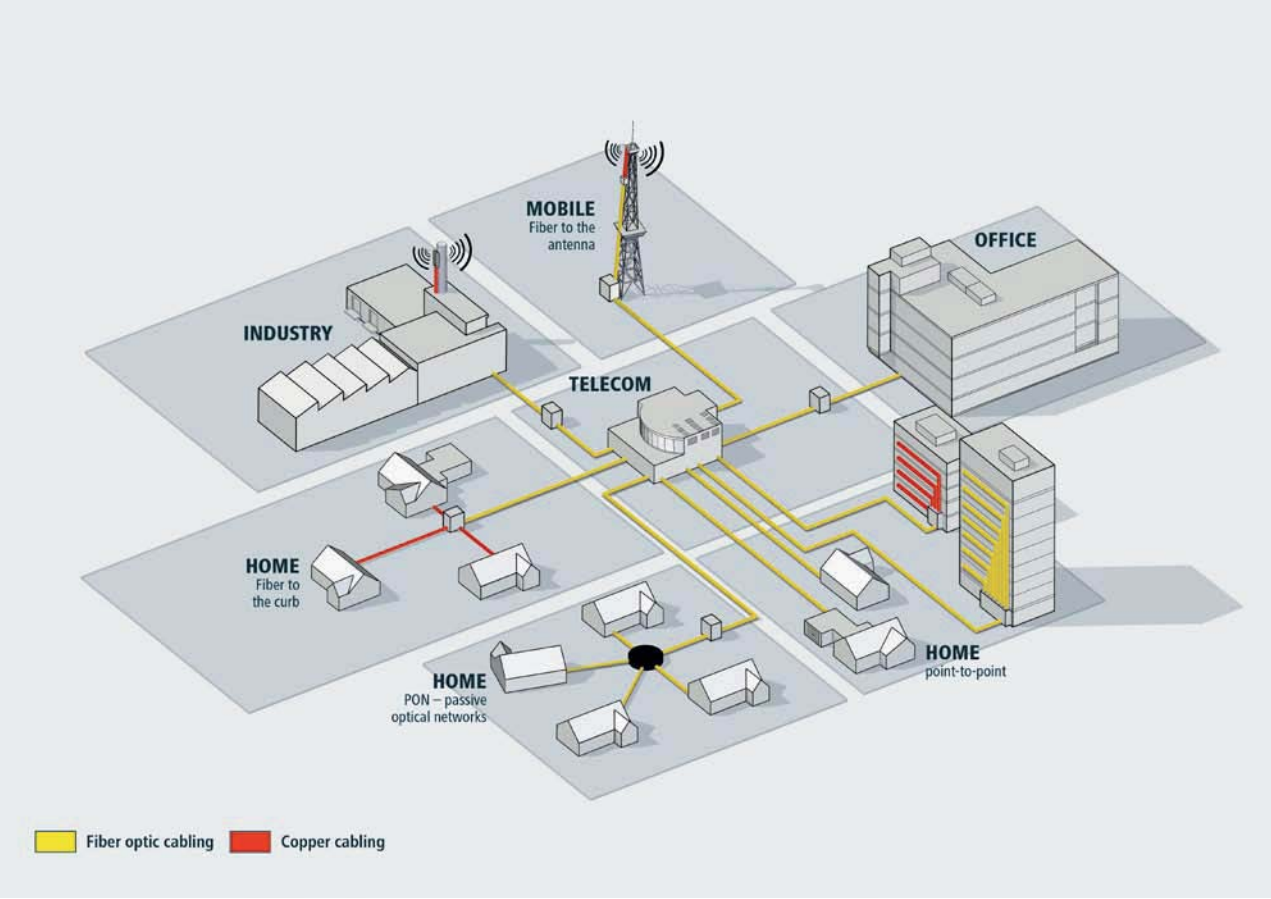
High speed internet, Triple Play (TV, telephone and internet via the same connection), video on demand or DSL links connecting company headquarters with subsidiaries need powerful infrastructures. Legacy cabling has grown over decades and very often can't compete anymore. It's only logical to extend the powerful fiber optic cabling of the wide area network and bring it closer to the end-user: fiber to the home.

Optical coupler

FTTH calls for a large product portfolio of optical couplers, optical fibers, fiber optic connectors and even coaxial connectors and application-specific RJ45 connectors for office, home and industrial applications.

Contact us at fttx@telegaertner.de.

Telegärtner's tip: The expression „fiber to the ..." is often used in different ways. It is recommended to add information on the network design (using fiber optic outlets, installation switches, etc.).



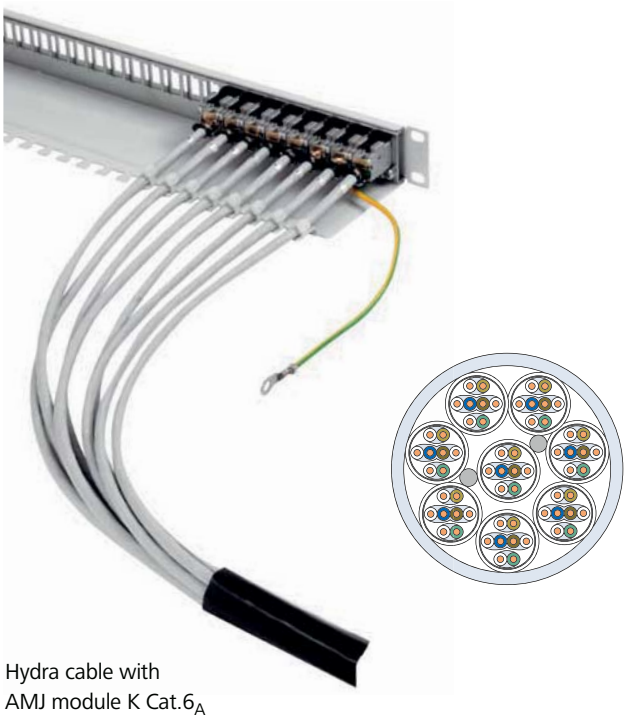
Migration path from copper based to FTTX networks

Data Center Infrastructure

In data centers, fiber optic cables for high data rates have become standard. Most commonly used are OM3 and OM4 fibers which can transmit data rates of 10, 40 and 100 Gbps according to the standard IEEE 802.3. Highest quality, flexibility and minimum disruptions at the same time are the demands for today's data center infrastructure.
To address this challenging environment, Telegärtner offers pre-terminated solutions. Cables with 12, 24, or 48 fibers are terminated with 12-fiber MPO connectors or with duplex LC or duplex SC connectors. A major benefit of pre-terminated cables is that they can be installed whenever data center processes allow, very often even during live operations. Whenever new servers, switches, or mainframes are installed or moved, the pre-terminated cables are already in place, ready for service. Time consuming cable cutting and stripping, connectorization, curing, and polishing belong to the past. Pulling grips protect the connectors during cable installation and guarantee factory-proven quality even under rough installation conditions.

Pre-terminated cables
MTP® / MPO – MTP® / MPO (left) and MTP®/ MPO – duplex LC (right)

Pre-terminated cabling systems are not limited to optical fibers. More and more pre-terminated copper solutions are used. Such solutions are available with RJ45 jacks for patch panels as well as with stranded cabling and RJ45 plugs as multi plug cables, which can save a lot of time when uses for large switches.



Hydra cable with
AMJ module K Cat.6_A

Parallel Optics and 40/100 Gigabit Ethernet

The bandwidth of multimode fibers is much smaller than the one of singlemode fibers. For shorter link lengths, multimode fibers are used as the electronics for multimode application is much cheaper than the electronics for singlemode fibers.

With 40 and 100 Gigabit Ethernet, the data streams are divided into channels of 10 Gbps which are transmitted simultaneously ("parallel"), which led to the term parallel optics. 40 Gigabit Ethernet uses 8 optical fibers (4 fibers for transmitting, 4 fibers for receiving), 100 Gigabit Ethernet uses 20 of them (10 fibers for transmitting, 10 fibers for receiving). The MTP®/MPO connector, which is already used for pre-terminated cables, will also be used for parallel optics.

Contact us at datacenter@telegaertner.com.

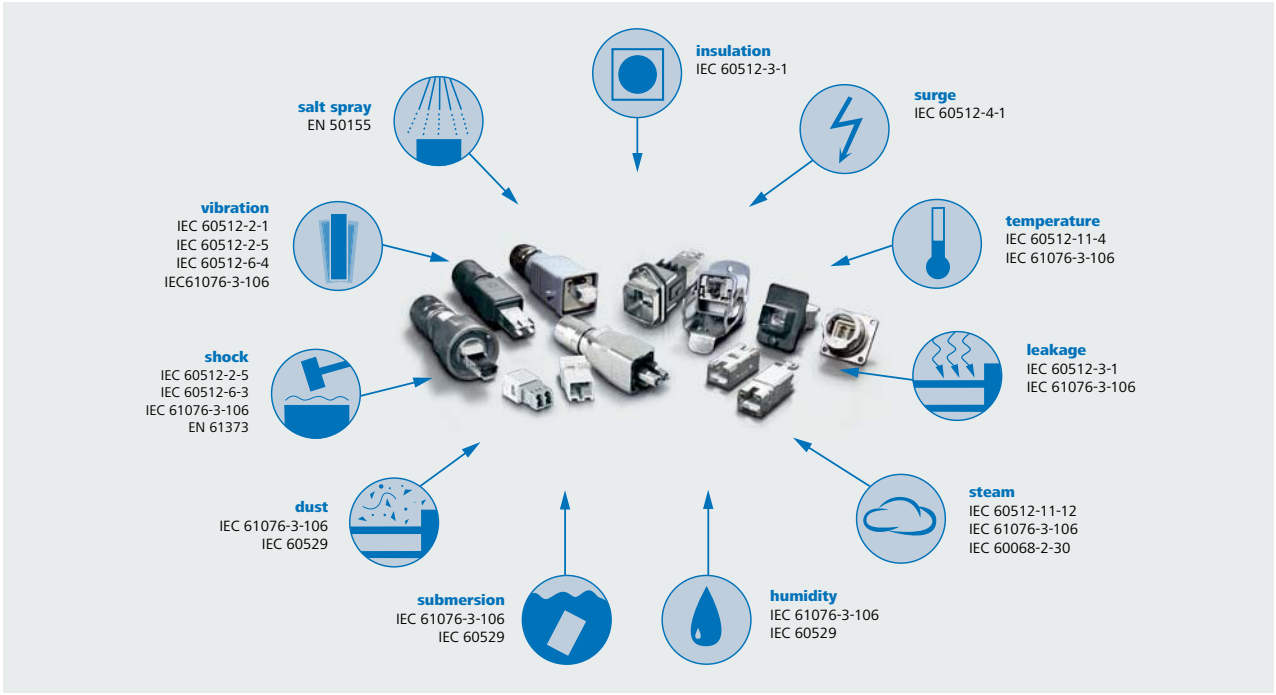
MPO connector

Telegärtner's tip: Pre-terminated cables can be installed whenever data center processes allow, very often even during live operations. Whenever new servers, switches, or mainframes are installed or moved, the pre-terminated cables are already in place, ready for service. Time consuming cable cutting and stripping, connectorization, curing, polishing or crimping. And the online configurator is at you service at any time.

Industrial Ethernet

The harsh environments of plants and workshops put much more stress on the components than the office environment does: Dust, moisture, chemicals, mechanical stress, extreme temperatures and much higher electromagnetic interference lead to specifications which were unknown and unrivalled in the past. At the same time, plants and workshops demand highest possible reliability and availability, as even short service interruptions lead to high losses.

One hour downtime of a PC in an office is annoying; one hour downtime of a production line is not acceptable as it inevitably means losing enormous amounts of money. Especially in the industrial environment quality and reliability of the components – above all outlets and connectors – are exceptionally important and in most cases mission-critical. So it's no wonder that for industrial applications different standards apply, e.g. ISO/IEC 24702 for the cabling and IEC 61076-3-106 for the connectors.



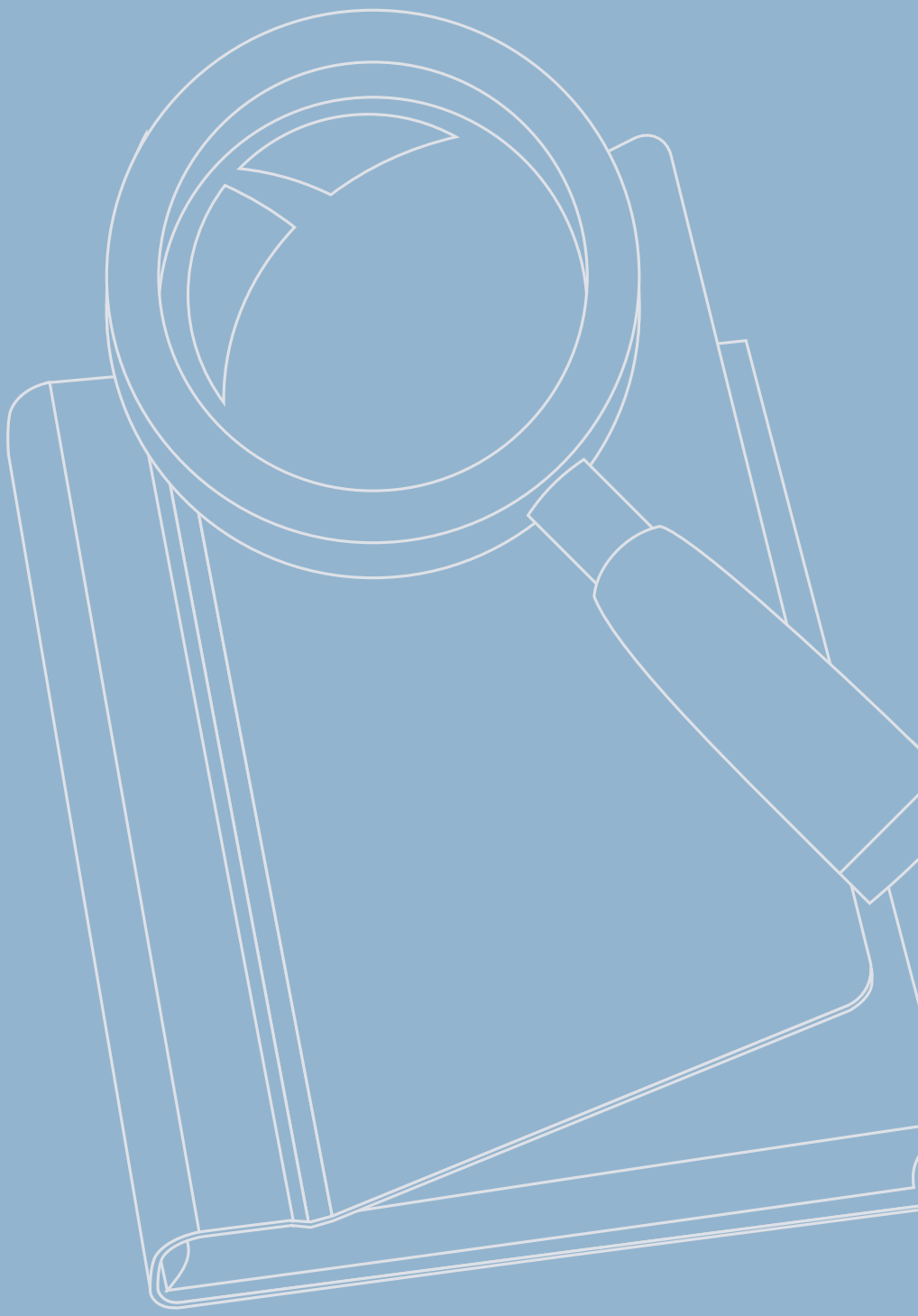
Protection against foreign bodies Protection against water

Protection against touch and foreign bodies*	
First Code Number	**Description**
0	No particular protection
1	Protection against ingress of solid foreign bodies with a diameter over 50 mm
2	Protection against solid foreign bodies with a diameter over 12,5 mm Protection against vertically dripping
3	Protection against ingress of solid foreign bodies with a diameter over 2,5 mm
4	Protection against ingress of solid foreign bodies with a diameter over 1,0 mm
5	Dust protected
6	Dust-proof

Protection against water*	
Second Code Number	**Description**
0	No particular protection
1	Protection against dripping water
2	Protection against vertically dripping water. There must be no harmful effect on materials tipped (in a container) up to 15° from it is normal position
3	Protection against fine water spray
4	Protection against water spray
5	Protection against water jet
6	Protection against strong water spray jet
7	Protection against water, when the material is immersed in water
8	The material is suitable for continous submersion in water

* Definitions see IEC 60529

Telegärtner Network Dictionary



Telegärtner Network Dictionary: fiber optic technology

The most important terms regarding data and networking technology are as follows.

Adaptors
Adaptors are used to align two fiber optic connectors. Optical fibers can't be fixed in jacks like copper wires. Two fibers are connected either by splicing them together or by pushing two connectors together. To do this, adaptors are needed to align the connectors precisely for mimimum signal loss. "Fiber optic jacks" offered by some manufacturers do have some kind of connector and adaptor inside.

APC – aspherical physical contact
Connectors with angled end-faces angle typically 8 degrees, other angles are also possible. Angled end-faces cause very low reflection, which results in excellent return loss margins. APC connectors always have to be connected to other APC connectors with the same angle. Connector and adaptor colour: green

Attenuation
Travelling along an optical fiber or passing a connector, a signal loses some of its power. Attenuation is measured as the ratio of input power to output power.

Backbone
A connection between networks or cabling areas, e.g. the cables that run between the distributors in a building or between buildings.

Bandwidth
The range of frequencies that can be transmitted; e.g. lowest frequency = 10 MHz, highest frequency = 100 MHz, then the total bandwidth is 90 MHz (100 MHz – 10 MHz = 90 MHz). With optical fibers, the term bandwith is often used for the product of freqency times length, i.e. MHz x km, which is constant. For example, a fiber with a usable bandwidth of 400 MHz x km means that a signal using a frequency range of 400 MHz can travel 1 km along the fiber, a signal using 800 MHz can only travel half a kilometer, a signal using 200 MHz can travel 2 km, and so on.

Break-out cable
Multifiber cable with each fiber being individually buffered. Fibers of break-out cables can be routed away from the cable without the need for additional protection. Typical buffer diameters are 900 µm and 3 mm, so connectors can be mounted directly without having to use a buffer kit or splicing.

Building backbone
EN 50173 specifies three main cabling areas:
Campus backbone = the cabling between buildings
Building backbone = the cabling between the floors in a building
Horizontal cabling = the cabling on a floor in a building, also referred to as "premises-specific cabling subsystem"

Cabling layer
The ISO reference model for Open System Interconnection does not specify the cabling. On Layer 1, connectors and interfaces are specified, but the cabling itself is NOT specified in layer 1, even though many people think so. In order to have a relationship between the cabling and the ISO model, an artificial "cabling layer" ("layer 0") was introduced, but this layer is not part of the original ISO model.

Campus backbone
EN 50173 specifies three main cabling areas:
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Horizontal cabling = the cabling on a floor in a building, also referred to as "premises-specific cabling subsystem"

Campusnet
The backbone network connecting the building / presmises networks.

Channel
Complete cabling between two electronic devices, e.g. between a switch and a PC, including the patch cords.

Consolidation point link
Part of the cabling from the patch panel to the consolidation point, including the cable and the connecting hardware but not the patch cords.

CWDM – Coarse Wavelength Division Multiplexing
Transmission technology using several optical signals of different wavelengths at the same time in one fiber. Channel spacing 20 nm.

Delay
Measured in ns/km; the time a signal needs to pass a given length on a cable.

DIN connector
Old fiber optic connector type with a union nut; nowadays used almost only in legacy cabling installations; standardized term is LSA connector; outer diameter of the ferrule is 2.5 mm.

DIN VDE 0888-3
Defines the short terms for fiber optic outdoor cables in Germany; as these short terms are very comprehensive and straight-forward, they are often used outside of Germany as well.

DIN VDE 0888-6
Defines the short terms for fiber optic indoor cables in Germany; as these short terms are very comprehensive and straight-forward, they are often used outside of Germany as well.

Dual-duplex connection
Connection with transmitting and receiving simultaneously using only one fiber.

Duplex
"Double"; duplex connectors are used for two optical fibers. Depending on the connector type, two individual connectors can be put together using a clamp or a clip.

Duplex connection
Connection with transmitting and receiving simultaneously.

DWDM – Dense Wavelength Division Multiplexing
Transmission technology using several optical signals (typically 32) of different wavelengths at the same time in one fiber. The channels are much narrower or are much closer together when compared with CWDM.

E-2000 Compact
Small form factor (SFF) duplex version of the E-2000 connector; registered trademark of Diamond. → *See also E-2000 connector*

E-2000 connector
Very precise fiber optic connector with integrated shutter and laser protection flap; mainly used for WAN (wide area network) applications; registered trademark of Diamond; standardized as LSH connector; outer diameter of the ferrule is 2.5 mm.

Easy strip fiber
Special kind of tight buffer construction for easy removing of the fiber buffer. Cables with easy strip fibers are the ideal choice when the same cable type shall be used for splicing as well as for direct connectorization.

EN 50173
"Information technology – Generic cabling systems"; most important set of standards in Europe for structured cabling. EN 50 173 consists of five parts:

Part 1: General requirements
part 2: Office premises
part 3: Industrial premises
part 4: Residential premises
part 5: Data centers

ESCON connector
Old duplex fiber optic connector type for applications in the data center; nowadays used almost only in legacy cabling installations.

FC/PC connector
Old fiber optic connector type with a union nut; nowadays used almost only in legacy cabling installations; FC stands for ferrule connector, PC for physical contact; outer diameter of the ferrule is 2.5 mm.

Ferrule
Tube containing the optical fiber in a connector; made of zirconia, metal or plastic.

FSMA connector
Old fiber optic connector type with a union nut; nowadays used almost only in legacy cabling installations; outer diameter of the ferrule is 2.5 mm.

FTTA – Fiber to the antenna
Fiber optic cables run to wireless base stations.

FTTA – Fiber to the amplifier
Fiber optic cables run to street cabinets containing electronic equipment like amplifiers.

FTTB – Fiber to the building
Fiber optic cables run to a building (inside of the building, copper cabling is used);
→ *See also FTTH – Fiber to the home*

FTTC – Fiber to the curb
Fiber optic cables run to street cabinets, located near the curb.

FTTD – Fiber to the desk
Fiber optic cables run to desks people work at.

FTTF – Fiber to the factory
Fiber optic cables run to factory buildings.

FTTH – Fiber to the home
Fiber optic cables run to fiber optic wall outlets in homes.

FTTL – Fiber to the loop
General term for fiber optic cabling in the access network.

FTTM – Fiber to the machine
Fiber optic cables run to machines in a factory building.

FTTN – Fiber to the node
Fiber optic cables run to nodes or distribution points; term is mainly used for passive optical networks (PON) with FTTH – Fiber to the home.

FTTO – Fiber to the office
Fiber optic cables run to office blocks; similar to FTTH – Fiber to the home.

FTTP – Fiber to the premises
Fiber optic cables run to buildings or the properties.

FTTR – Fiber to the radio
Fiber optic cables run to transmitters of wireless base stations;
→ *See also FTTA – Fiber to the antenna*

FTTT – Fiber to the terminal
Fiber optic cables run to workstations or terminals, e.g. to PCs.

FTTW – Fiber to the wall or Fiber to the workgroup
Fiber optic cables run to small switches near groups of desks, e.g. mini switches in cable raceways.

Full-duplex connection
Connection with transmitting and receiving simultaneously.

Graded-index fiber
Multimode fiber with an index of refraction that progressively increases towards the center of the fiber. Graded-index fibers have become the only relevant type of multimode fiber.

Half-duplex connection
Connection with alternate transmitting and receiving. Both, transmitting and receiving are possible, but only one at a time.

High return loss
Connector with excellent return loss margins; can be achieved by special polishing or other methods.

Horizontal cabling
EN 50173 specifies three main cabling areas:
Campus backbone = the cabling between buildings
Building backbone = the cabling between the floors in a building
Horizontal cabling = the cabling on a floor in a building, also referred to as "premises-specific cabling subsystem"

HRL
→ *See high return loss*

ISO
International Organization for Standardization.

ISO model
Also called "ISO reference model". Communication in a telecommunications network is divided into seven logical layers according to ISO/IEC 7498-1.

ITU
International Telecommunication Union.

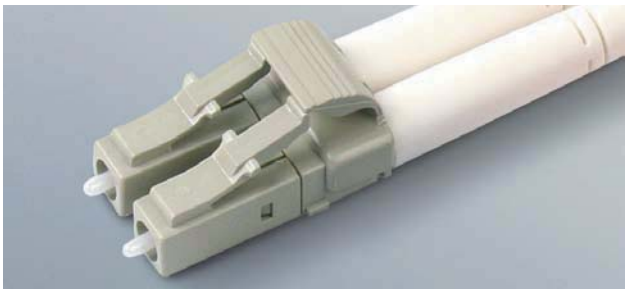
LAN
Acronym for local area network, a data network at a defined place, typically inside of a building.

Layer 0
→ *See Cabling layer*

Layer 1
→ *See Physical Layer*

LC connector
Small form factor connector with excellent optical margins; preferred connector in new installations; duplex version for two fibers available, size and handling similar to the RJ45 connector used for twisted pair cabling; depending on the source, LC has different meanings; the most common ones are Lampert connector and Lucent connector; outer diameter of the ferrule is 1.25 mm, which makes a very small connector size possible.

LC duplex connector
Connector for two optical fibers, combination of two individual LC connectors; the individual connectors can be either fixed together or just held together with a clip.



Link
Cabling between two defined points in a channel, e.g. permanent link or consolidation point link, see there.

Local area network
→ *See LAN*

Loose tube cable
Special kind of cable construction, where the coated fibers lay in a plastic tube. As the fibers are not surrounded by an individual jacket ("buffer"), the fibers cannot be directly connectorized. Stripping is easy as there is no buffer. Typical coating diameter is 250 µm.

LSA connector
Old fiber optic connector type with a union nut; nowadays used almost only in legacy cabling installations; also called DIN connector; outer diameter of the ferrule is 2.5 mm.

LSF/OH
Acronym for low smoke and fume / zero halogen.
→ *See LSZH*

LSH connector
Standardized term for the E-2000 connector, *see there.*

LSOH
Acronym for low smoke zero halogen.
→ *See LSZH*

LSZH
Acronym for low smoke and fume / zero halogen; cables with flame retardent jackets, which produce very low smoke and don't emit toxic halogens in the case of a fire.

MAN
Acronym for metropolitan area network, the network that connects buildings or campuses across a city.

Mbit/s
→ *See Mbps*

Mbps
Acronym for Megabits per second, unit for the data rate; 1 Mbps = 1 million bits per second.

Metropolitan area network
→ *See MAN*

MHz
Acronym for Megahertz, unit for cycles per time;
1 MHz = 1 million cycles per second.

MIC connector
Rather large fiber optic connector; was used in old FDDI networks, hardly used anymore.

Moore's law
There are several statements of Gordon Moore which have bevome famous as Moore's law. One of them is: "Every five years add a zero", which means that the bandwidth needed grows by the factor of 10 every five years.

MP connector
Old term for MPO connector, *see there.*

MPO connector
Multi-fiber connector for up to 72 optical fibers; most common is the version for 12 fibers. The fibers are arranged in parallel in a wide plastic ferrule; two connectors are aligned by metal pins in one connector which fit into the holes of the other connector, the acronym MPO stands for multi-fiber push on.

MT-RJ connector
Duplex connector; the two fibers are arranged in parallel in a plastic ferrule; two connectors are aligned by metal pins in one connector which fit into the holes of the other connector; the acronym MT-RJ stands for mechanical transfer – registered jack.

MTP® connector
Multi-fiber connector; "MTP®" is a registered trademark of US Conec; the MTP® connector is compatible (and nearly identical) with the MPO connector.

Multimode fiber
Optical fiber that – simply explained – transmits multiple rays of light ("modes") simultaneously, whereas in a singlemode fiber only one ray ("mode") is transmitted. Singlemode fibers can be used for much longer distances than multimode, but the electronic equipment for singlemode applications is much more expensive than equipment for mulimode applications. Typical link length with multimode fiber are several hundred meters compared to several kilometers with singlemode fibers.

NT – network termination
Termination of the cables that run into a building.

OAN – optical access network
Fiber optic network that connects buildings to street cabinets.

OLT – optical line termination
Termination of a fiber optic cable that runs from a street cabinet into a building.

ONT – optical network termination
Termination of a fiber optic cable entering a building.

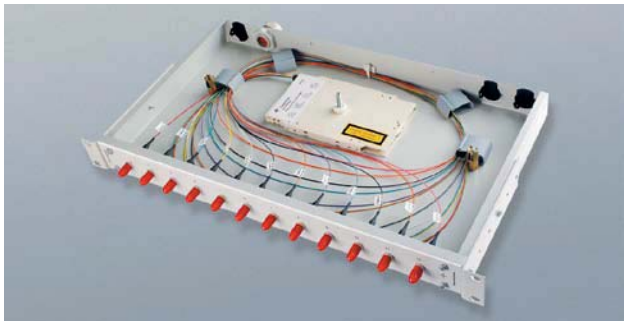
ONU – optical network unit
Electronic equipment with fiber optic connection between the access network outside of and the LAN inside of a building.

PC-physical contact
Acronym for physical contact, which means the end-faces of fiber optic connectors are plain and have physical contact to one another when the connectors are aligned in the adaptor. Connector and adaptor colour: blue

Permanent link
End-to-end part of the cabling from patch panel to outlet, including the cable but not the patch cords.

Patch cord
Flexible cord with connectors on both ends.

Patch panel
Group of jacks arranged in a panel in a rack or cabinet to terminate cables.



Physical layer
Layer 1 in the ISO model, specifies connectors and interfaces. The cabling itself is NOT specified in layer 1, even though many people think so. In order to have a relationship between the cabling and the ISO model, an artificial "layer 0" ("cabling layer") was introduced, but this layer is not part of the original ISO model.

Pigtail
A short piece of optical fiber of a few meters length with a factory-polished connector on one end. The other end is blunt to splice the pigtail to a fiber of a cable and thus terminate the cable's fiber.

PON – passive optical network
Fiber optic access network with passive ("non-electric" / "non-electronic") equipment like splitters.

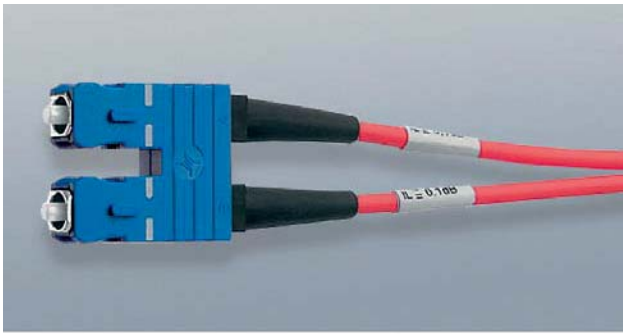
Primary coating
Thin plastic coating that surrounds the glass of the optical fiber. The primary coating is applied immediately after the glass fiber is produced. The outer diameter of a glass fiber typically is 125 µm, with primary coating it is 250 µm.

SAN
Acronym for storage area network; the SAN is the network that connects storage devices with the servers using SAN switches.

SC connector
Very popular fiber optic connector; was used to replace the ST connector in many installations, but gets more and more replaced by the LC connector itself, as the LC is much smaller and offers better margins; duplex version for two fibers available; SC stands for subscriber connector; outer diameter of the ferrule is 2.5 mm.

SC-DC connector
Fiber optic connector that looks like an SC connector but uses only one ferrule for two optical fibers; NOT compatible with the standard SC connector; SC-DC stands for SC Dual Contact; nowadays used almost only in legacy data center installations, in new installations the LC connector is preferred; outer diameter of the ferrule is 2.5 mm.

SC duplex connector
Connector for two optical fibers, combination of two individual SC connectors; the individual connectors can be either fixed together or just held together with a clip.



SC-QC connector
Fiber optic connector that looks like an SC connector but uses only one ferrule for four optical fibers; NOT compatible with the standard SC connector; SC-QC stands for SC Quad Contact or SC Quarto Contact; very rarely used in legacy installations, not used in new installations; outer diameter of the ferrule is 2.5 mm.

Secondary coating
Plastic coating that covers the primary coating of an optical fiber.

SFF – small form factor
General term for small fiber optic connectors; in most cases, the duplex version of such connectors is not larger than an RJ45 connector used for copper cabling.

Signal
Physical realisation of information travelling along the media, e.g. a series of Zeros and Ones realized by different voltage levels or light pulses on a cable.

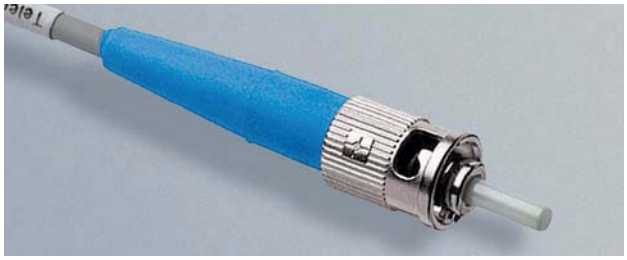
Singlemode fiber
Optical fiber that – simply explained – transmits just one ray of light ("mode"), whereas in a multimode fiber only multiple rays ("modes") are transmitted simultaneously.

Singlemode fibers can be used for much longer distances than multimode fibers, but the electronic equipment for singlemode applications is much more expensive than the equipment for mulimode applications.

Splice
Permanent joint of of two optical fibers. With a mechanical splice, the fibers are pushed together mechanically; with a fusion splice, the fibers are welded together.

ST connector
Connector with a bayonet housing. The ST connector used to be very common, but it got replaced by the SC connector in most installations.

ST stands for straight tip; outer diameter of the ferrule is 2.5 mm.



Step index fiber
Optical fiber with an index of refraction that increases in one large step towards the center of the fiber. With multimode fibers, the step index fiber has been replaced by graded-index fibers with a progressive increase, and for singlemode applications, fibers with a specially engineered index of refraction are preferred.

Storage area network
→ *See SAN*

TIA
TIA is an acronym for Telecommunications Industry Association, an American standards body that authors and publishes telecommunications and cabling standards in the USA.

Tight buffer
Special kind of cable construction, where each fiber is surrounded by an individual jacket ("buffer"). As the buffer is very tight around the fiber, the fibers can be directly connectorized, but the fibers can be stripped only in short lengths.

Should the tight buffer cable be used for direct connectorization and splicing as well, easy strip fibers should be used, as for splicing larger parts of the buffer have to be removed. Typical buffer diameters are 900 µm and 3 mm.

Two way concept
Cabling concept where two cables are routed in different ways between two points in order to increase availibility by redundancy.

VF-45 connector
Standardized term for the Volition connector, *see there.*

Volition connector
Duplex connector; the two fibers are arranged in V-grooves and are pressed against the fibers in the jack when connected; registered trademark of 3M.

WAN
Acronym for wide area network; the WAN is the network which connects other networks nationally and / or internationally.

Wavelength multiplexing
Simultaneous transfer of multiple modes ("rays of light") of different wavelengths ("colors").

Wide area network
→ *See WAN*

Note: The use of brand names, registered trademarks, trade names, proprietary names, etc. in this glossary, even if not explicitly identified as such, does not constitute any entitlement to assume that such names, as defined in trademark protection legislation, are free of restrictions and can be used by anyone.

Telegärtner Network Dictionary: copper technology

ACR – attenuation to crosstalk ratio
The ratio of crosstalk attenuation to attenuation.
ACR represents the quality of a link much better than crosstalk attenuation or attenuation alone, because the ratio reflects a possible compensation far better, e.g. an excellent crosstalk attenuation compensates for a mediocre attenuation or vice versa.

American wire gauge
→ *See AWG*

Attenuation
Travelling along a cable or passing a connector, a signal loses some of its power. Attenuation is measured as the ratio of input power to output power.

Attenuation to crosstalk ratio
→ *See ACR*

AWG – American wire gauge
American unit of measure for the cross-sectional area of a wire. The most important AWGs in the IT arena are (deviations possible!):

AWG:	22	23	24	26
Cross-sectional area in mm²:	0.322	0.259	0.203	0.127
Outer diameter in mm:	0.643	0.574	0.511	0.404

Backbone
A connection between networks or cabling areas, e.g. the cables that run between the distributors in a building or between buildings.

Balanced cable
In balanced cables, the two conductors are similar. Twisted pair cables are the most important type of balanced cable. Because the conductors look alike, a balanced cable is also called a symmetrical cable. An example for an unbalanced (unsymmetrical) cable is a coaxial cable, with the two conductors differing a lot from each other. To connect balanced and unbalanced cables, a balun (acronym made of BALanced / UNbalanced) is needed.

Balun
Acronym made of BALanced-UNbalanced for symmetrical (balanced) cables like twisted pair cables and unsymmetrical (unbalanced) coaxial cables. Baluns convert symmetrical signals into unsymmetrical ones and vice versa and act as an adaptor between twisted pair and coaxial cabling.

Bandwidth
The range of frequencies that can be transmitted; e.g. lowest frequency = 10 MHz, highest frequency = 100 MHz, then the total bandwidth is 90 MHz (100 MHz – 10 MHz = 90 MHz).

Building backbone
EN 50173 specifies three main cabling areas:

Campus backbone = the cabling between buildings
Building backbone = the cabling between the floors in a building
Horizontal cabling = the cabling on a floor in a building, also referred to as "premises-specific cabling subsystem"

Cable sharing
With cable sharing, a four pair twisted pair cable is used for multiple outlets. Cable sharing was common with 10 and 100 Mbps Ethernet, as just two pairs were needed per link, and so one four pair cable could be used for a double outlet. As Gigabit and 10 Gigabit Ethernet use four pairs for one link, cable sharing is not common anymore.

Cable terminology according to ISO/IEC 11801
ISO/IEC 11801 classifies cables according to the kind of shielding. The classification scheme is „x/yTP", with „x" meaning the overall screen, „y" the shielding of the individual pairs.

U/UTP: unshielded twisted pair; no shielding at all

F/UTP: foil screened unshielded twisted pair; overall screen made of metal foil; also referred to as FTP cable

U/FTP: no overall screen, pairs are individually shielded by metal foil

SF/UTP: braid and foil screened unshielded twisted pair; overall screen made of braid and metal foil

S/FTP: braid screened shielded twisted pair; overall braid screen made, pairs individually shielded by metal foil. Most common type of shielded cable; also referred to as PiMF (pairs in metal foil).

Cabling layer
The ISO reference model for Open System Interconnection does not specify the cabling. On Layer 1, connectors and interfaces are specified, but the cabling itself is NOT specified in layer 1, even though many people think so. In order to have a relationship between the cabling and the ISO model, an artificial "cabling layer" ("layer 0") was introduced, but this layer is not part of the original ISO model.

Campus backbone
EN 50173 specifies three main cabling areas:
Campus backbone = the cabling between buildings
Building backbone = the cabling between the floors in a building
Horizontal cabling = the cabling on a floor in a building, also referred to as "premises-specific cabling subsystem"

Campusnet
The backbone network connecting the building / premises networks.

Cat. 5 / Cat. 5e
→ *See Category 5 / category 5E*

Cat. 6
→ *See Category 6*

Cat. 6_A / Cat. 6A
→ *See Category 6_A*

Cat. 7
→ *See Category 7*

Cat. 7_A
→ *See Category 7_A*

Category
Components are classified by categories according to their performance, links and channels are classified by classes. At the moment, category 5 (100 MHz / 1 Gbps) up to category 7_A (1000 MHz /10 Gbps) are common.

Category 5 / category 5E
Performance category for individual components for frequencies up to 100 MHz and data rates up to 1 Gbps. The international standard ISO/IEC 11801 specifies the requirements for Category 5 (Cat. 5), in Europe the standard series EN 50173 is used. ANSI EIA/TIA 568C specifies the requirements for Category 5e („enhanced category 5", also referred to as Category 5E), but they apply only in the USA and Canada; some requirements of TIA differ from the ones specified in ISO/IEC 11801 and EN 50173.

Categories are only used for individual components. ISO/IEC and EN classify the performance of permanent link and channel as classes, the terms in TIA differ from that:

EN: category 5
ISO/IEC: category 5
TIA: category 5e

Permanent link (cabling between patch panel and outlet):
EN: class D permanent link
ISO/IEC: class D permanent link
TIA: category 5e permanent link

Channel (entire cabling including patch cords):
EN: class D channel
ISO/IEC: class D channel
TIA: category 5e channel

Category 6
Performance category for individual components for frequencies up to 250 MHz and data rates up to 1 Gbps. The international standard ISO/IEC 11801 specifies the requirements for Category 6 (Cat. 6), in Europe the standard series EN 50173 is used. ANSI EIA/TIA 568C also specifies the requirements for a Category 6, but they apply only in the USA and Canada; some requirements of TIA differ from the ones specified in ISO/IEC 11801 and EN 50173. Categories are only used for individual components. ISO/IEC and EN classify the performance of permanent link and channel as classes, the terms in TIA differ from that:

EN: category 6
ISO/IEC: category 6
TIA: category 6

Permanent link (cabling between patch panel and outlet):
EN: class E permanent link
ISO/IEC: class E permanent link
TIA: category 6 permanent link

Channel (entire cabling including patch cords):
EN: class E channel
ISO/IEC: class E channel
TIA: category 6 channel

Category 6_A
Performance category for individual components for frequencies up to 500 MHz and data rates up to 10 Gbps. The international standard ISO/IEC 11801 specifies the requirements for Category 6_A (Cat. 6_A), in Europe the standard series EN 50173 is used. ANSI EIA/TIA 568C specifies the requirements for Category 6A, but they apply only in the USA and Canada; some requirements of TIA differ from the ones specified in ISO/IEC 11801 and EN 50173. TIA uses the "A" in normal script, ISO/IEC an EN in subscript "$_A$" Categories are only used for individual components.

ISO/IEC and EN classify the performance of permanent link and channel as classes, the terms in TIA differ from that:

EN: category 6_A
ISO/IEC: category 6_A
TIA: category 6A

Permanent link (cabling between patch panel and outlet):
EN: class E_A permanent link
ISO/IEC: class E_A permanent link
TIA: category 6A permanent link

Channel (entire cabling including patch cords):
EN: class E_A channel
ISO/IEC: class E_A channel
TIA: category 6A channel

Category 7
Performance category for individual components for frequencies up to 600 MHz and data rates up to 10 Gbps. The international standard ISO/IEC 11801 specifies the requirements for Category 7 (Cat. 7), in Europe the standard series EN 50173 is used. The American ANSI EIA/TIA 568C specifies no requirements for a Category 7. Categories are only used for individual components. ISO/IEC and EN classify the performance of permanent link and channel as classes, the terms in TIA differ from that:

EN: category 7
ISO/IEC: category 7
TIA: not specified

Permanent link (cabling between patch panel and outlet):
EN: class F permanent link
ISO/IEC: class F permanent link
TIA: not specified

Channel (entire cabling including patch cords):
EN: class F channel
ISO/IEC: class F channel
TIA: not specified

Category 7_A
Performance category for individual components for frequencies up to 1,000 MHz and data rates up to 10 Gbps. The international standard ISO/IEC 11801 specifies the requirements for Category 7_A (Cat. 7_A), in Europe the standard series EN 50173 is used. The American ANSI EIA/TIA 568C specifies no requirements for a Category 7_A. Categories are only used for individual components. ISO/IEC and EN classify the performance of permanent link and channel as classes, the terms in TIA differ from that:

EN: category 7_A
ISO/IEC: category 7_A
TIA: not specified

Permanent link (cabling between patch panel and outlet):
EN: class F_A permanent link
ISO/IEC: class F_A permanent link
TIA: not specified

Channel (entire cabling including patch cords):
EN: class F_A channel
ISO/IEC: class F_A channel
TIA: not specified

Category 8
Some cable manufacturers use the term "category 8" for cables which exceed the requirements of category 7 and are also specified for a frequency range far beyond 1,000 MHz. "Category 8" is just a term used by marketing divisions, at the moment no standards committee is working on such a category.

The related performance class for installed links would be "class G", but no standards committee works on such a class either.

Channel
Complete cabling between two electronic devices, e.g. between a switch and a PC, including the patch cords.

Class
Components are classified by categories according to their performance, links and channels are classified by classes.

At the moment, category 5 (100 MHz / 1 Gbps) up to category 7 (600 MHz / 10 Gbps) are common.

Class D
→ *See Category 5 / category 5E*

Class E
→ *See Category 6*

Class E_A
→ *See Category 6_A*

Class F
→ *See Category 7*

Class F_A
→ *See Category 7_A*

Class G
→ *See Category 8*

Consolidation point link
Part of the cabling from the patch panel to the consolidation point, including the cable and the connecting hardware but not the patch cords.

Crosstalk
Crosstalk means that the signal travelling along one pair of a cable can be detected on an adjacent pair as well. The term originally comes from the telephony systems, were crosstalk meant that one could listen to someone else talking over another cable pair.

Delay
Measured in ns/km; the time a signal needs to pass a given length on a cable.

Delay skew
Measured in ns; the time difference signals travelling along different pairs within the same cable arrive at the receiver.

DIN VDE 0815
German standard specifying indoor telephony cables and their terminology.

DIN VDE 0816
German standard specifying outdoor telephony cables and their terminology.

Dual-duplex connection
Connection with transmitting and receiving simultaneously using only one pair.

Duplex connection
Connection with transmitting and receiving simultaneously.

EAD Connector
Old connector design, used for uninteruptable sockets fitted with two BNC jacks in coaxial Ethernet wiring systems (10 Base-2. EAD is german and stands for Ethernet Access Socket); the TAE connector for wiring to telephone sockets has a similar design,however the EAD connector had two differently positioned mechanical codings (code „E"), which prevented any inadvertent connection with the telephone connector. The subsequent, better screened successor to the EAD system was called the scEAD connector (scEAD = screened EAD connector), which used a metal sheet as screen. The inventor and developer of the EAD/scEAD connector was Telegärtner.

Picture: scEAD

ELFEXT – equal level FEXT
A signal travelling along a cable gets attenuated. The crosstalk at the far end of the cable is much lower than it would be if the signal arrived at the receiver with its original strength. As field testers also measure the signal attenuation and the length of a cable, both can be taken into consideration as well when measuring FEXT, the far end crosstalk attenuation.
→ *See FEXT – far end crosstalk attenuation*

EN 50173
"Information technology – Generic cabling systems"; most important set of standards in Europe for structured cabling.
EN 50 173 consists of five parts:
Part 1: General requirements
part 2: Office premises
part 3: Industrial premises
part 4: Residential premises
part 5: Data centers

Enhanced Cat. 5
→ *See Category 5 / Category 5E*

Equal level FEXT
→ *See ELFEXT – equal level FEXT*

Far End ACR
ACR measured at the far end of a cable. → *See ACR – attenuation to crosstalk ratio*

Far end crosstalk attenuation
→ *See FEXT – far end crosstalk attenuation*

FEXT – far end crosstalk attenuation
Crosstalk attenuation at the far end of a cable. Crosstalk attenuation is a measure of how much of a signal is detected on another pair. Crosstalk is unwanted, so it is suppressed by cable construction. The measure of its suppression (or attenuation) is called crosstalk attenuation.

FTP
Acronym for foil screened twisted pair; twisted pair cable with one or more shields made of metal foil. In most cases, there is just one overall foil screen; in some cables, the pairs are individually shielded by metal foil and the overall screen is omitted. Details like this are in the data sheet of the cable.
→ *See also Cable terminology according to ISO/IEC 11801.*

F/UTP
Acronym for foil screened unshielded twisted pair; a F/UTP cable has an overall foil screen, the pairs themselves are not shielded individually. Also referred to as FTP.
→ *See also Cable terminology according to ISO/IEC 11801.*

Full-duplex connection
Connection with transmitting and receiving simultaneously.

Half-duplex connection
Connection with alternate transmitting and receiving. Both, transmitting and receiving are possible, but only one at a time.

Horizontal cabling
EN 50173 specifies three main cabling areas:
Campus backbone = the cabling between buildings
Building backbone = the cabling between the floors in a building
Horizontal cabling = the cabling on a floor in a building, also referred to as "premises-specific cabling subsystem"

ICS connector
Old connector with four pins used with the IBM cabling system ICS for Token Ring cabling. ICS uses 150 Ohm STP cabling, but the standard EN 50173 specifies 100 Ohm cabling. To connect ICS devices to structures cabling according to EN 50173, a balun is needed to convert the impedances.

Impedance
Opposition a cabling component offers to an electromagnetic wave travelling along or crossing the component; impedance is frequency-dependant, i.e. the impedance of a component changes with frequency changes.

ISO
International Organization for Standardization.

ISO model
Also called "ISO reference model". Communication in a telecommunications network is divided into seven logical layers according to ISO/IEC 7498-1.

LAN
Acronym for local area network, a data network at a defined place, typically inside of a building.

Layer 0
→ *See Cabling layer*

Layer 1
→ *See Physical Layer*

Link
Cabling between two defined points in a channel, e.g. permanent link or consolidation point link, → *See there*.

local area network
→ *See LAN*

LSF/OH
Acronym for low smoke and fume / zero halogen, → *See LSZH.*

LSOH
Acronym for low smoke zero halogen, → *See LSZH.*

LSZH
Acronym for low smoke and fume / zero halogen; cables with flame retardent jackets, which produce very low smoke and don't emit toxic halogens in the case of a fire.

Mbit/s
→ *See Mbps*

Mbps
Acronym for Megabits per second, unit for the data rate;
1 Mbps = 1 million bits per second.

MHz
Acronym for Megahertz, unit for cycles per time;
1 MHz = 1 million cycles per second.

Moore's law
There are several statements of Gordon Moore which have bevome famous as Moore's law. One of them is: "Every five years add a zero", which means that the bandwidth needed grows by the factor of 10 every five years.

Near end crosstalk attenuation
→ *See NEXT – near end crosstalk attenuation*

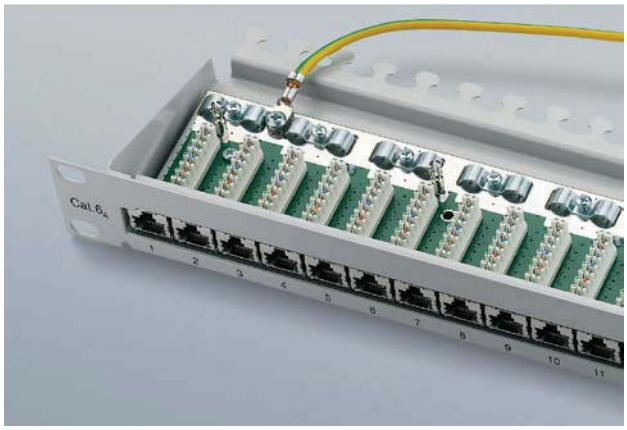
Network termination
→ *See NT – network termination*

NEXT – near end crosstalk attenuation
Crosstalk attenuation at the near end of a cable. Crosstalk attenuation is a measure of how much of a signal is detected on another pair. Crosstalk is unwanted, so it is suppressed by cable construction. The measure of its suppression (or attenuation) is called crosstalk attenuation.

NT – network termination
Termination of an outside plant cable entering a building.

Patch cord
Flexible cord with connectors on both ends.

Patch panel
Group of jacks arranged in a panel in a rack or cabinet to terminate cables.



Permanent link
End-to-end part of the cabling from patch panel to outlet, including the cable but not the patch cords.

Physical layer
Layer 1 in the ISO model, specifies connectors and interfaces. The cabling itself is NOT specified in layer 1, even though many people think so. In order to have a relationship between the cabling and the ISO model, an artificial "layer 0" ("cabling layer") was introduced, but this layer is not part of the original ISO model.

PiMF cable
Acronym for pairs in metal foil; in a PiMF cable, the pairs are shielded individually by metal foil. The cable may or may not have overall screen, in most cases, it has one made of braid.
→ *See also Cable terminology according to ISO/IEC 11801.*

PowerSum ACR
→ *See PSCAR – PowerSum ACR*

PowerSum ELFEXT
→ *See PSELFEXT – PowerSum ELFEXT*

PowerSum NEXT
→ *See PSNEXT – PowerSum NEXT*

PSACR – PowerSum ACR
High-speed data networks like Gigabit Ethernet and 10 Gigabit Ethernet use all four pairs of a cable simultaneously. All the noise between the pairs has to be summed up, as every pair has three adjacent pairs which cause interferences.

The term PowerSum stands for the summing-up of induced noise. PowerSum ACR stands for summing up all possible noise and interferences within one cable as far as ACR is concerned.

PSELFEXT – PowerSum ELFEXT
High-speed data networks like Gigabit Ethernet and 10 Gigabit Ethernet use all four pairs of a cable simultaneously. All the noise between the pairs has to be summed up, as every pair has three adjacent pairs which cause interferences.

The term PowerSum stands for the summing-up of induced noise. PowerSum ELFEXT stands for summing up all possible noise and interferences within one cable as far as ELFEXT is concerned.

PSNEXT – PowerSum NEXT
High-speed data networks like Gigabit Ethernet and 10 Gigabit Ethernet use all four pairs of a cable simultaneously. All the noise between the pairs has to be summed up, as every pair has three adjacent pairs which cause interferences.

The term PowerSum stands for the summing-up of induced noise. PowerSum NEXT stands for summing up all possible noise and interferences within one cable as far as NEXT is concerned.

RJ10
The acronym RJ stands for registered jack, but it is often used without its formal relationship to USOC (Universal Service Ordering Code). The usual RJ10 connector has four pins and is often used for the small cable that connects the receiver to a standard telephone.

RJ11
The acronym RJ stands for registered jack, but it is often used without its formal relationship to USOC (Universal Service Ordering Code). The usual RJ11 connector has six pins and is often used for the patch cord that connects a telephone or fax machine to an outlet. Very often, a patch cord with an RJ11 connector is plugged into an RJ45 jack.
The RJ45 jack is a bit larger than the RJ11 plug and has eight contacts, and so the outer contacts of the RJ45 jack get damaged by the edges of the smaller plug. Jacks made by Telegärtner have an integrated protection against overbending the contacts when a smaller connector like an RJ11 is plugged mistakenly into is.

RJ12
The acronym RJ stands for registered jack, but it is often used without its formal relationship to USOC (Universal Service Ordering Code). The usual RJ12 connector has six pins and is often used for the patch cords that connects a telephone or fax machine to an outlet. Very often, a patch cord with an RJ12 connector is plugged into an RJ45 jack.

The RJ45 jack is a bit larger than the RJ12 plug and has eight contacts, and so the outer contacts of the RJ45 jack get damaged by the edges of the smaller plug. Jacks made by Telegärtner have an integrated protection against overbending the contacts when a smaller connector like an RJ12 is plugged mistakenly into is.

RJ45
The acronym RJ stands for registered jack, but it is often used without its formal relationship to USOC (Universal Service Ordering Code). The RJ45 is specified by the IEC 60603-7 set of standards:

IEC 60603-7: Detail specification for 8-way, unshielded, free and fixed connectors
IEC 60603-7-1: Detail specification for 8-way, shielded, free and fixed connectors
IEC 60603-7-2: Connectors up to 100 MHz / Cat. 5, unshielded
IEC 60603-7-3: Connectors up to 100 MHz / Cat. 5, shielded
IEC 60603-7-4: Connectors up to 250 MHz / Cat. 6, unshielded
IEC 60603-7-41: Connectors up to 500 MHz / Cat. 6_A, unshielded
IEC 60603-7-5: Connectors up to 250 MHz / Cat. 6, shielded
IEC 60603-7-51: Connectors up to 500 MHz / Cat. 6_A, shielded

IEC 60603-7-7: Connectors up to 600 MHz / Cat. 7, shielded
(this standard specifies the GG45 connector; the jack is backwards compatible to the RJ45 plug, but the GG45 plug is NOT compatible to RJ45 jacks)

IEC 60603-7-71: Connectors up to 1,000 MHz / Cat. 7_A, shielded
(this standard specifies the GG45 connector; the jack is backwards compatible to the RJ45 plug, but the GG45 plug is NOT compatible to RJ45 jacks.)

The RJ45 has become the dominant connector for the major types of data networks. Even older network types like Token Ring or TP-PMD (FDDI over copper) use the RJ45 – at least their later releases do so. The most important pin assignments are (source: Treiber: Praxishandbuch Netzwerktechnik, courtesy of J. Schlembach Fachverlag Wilburgstetten)

10Base-T:	1-2, 3-6
100Base-TX:	1-2, 3-6
1000Base-T:	1-2, 3-6, 4-5, 7-8
Token Ring:	3-6, 4-5
ISDN:	3-6, 4-5
ATM:	1-2, 7-8
TP-PMD:	1-2, 7-8

On the sides of the IDC blocks of the jacks color codes are printed to make pin assignment during installation easier. There are two options: T568A and T568B. Originally, T568A was invented for military and federal applications but has become common also for civil projects. More often, T568B is used. EN 50173 specifies only pin/pair assignment but does not specify any color codes.

Very often, a patch cord with an RJ11 or RJ12 connector is plugged into an RJ45 jack. The RJ45 jack is a bit larger than the RJ11 or RJ12 plug and has eight contacts, and so the outer contacts of the RJ45 jack get damaged by the edges of the smaller plug. Jacks made by Telegärtner have an integrated protection against overbending the contacts when a smaller connector like an RJ11 or an RJ12 is plugged mistakenly into it.

SAN
Acronym for storage area network; the SAN is the network that connects storage devices with the servers using SAN switches.

scEAD connector
screened EAD connector, *see there.*

SF/UTP
Acronym for braid and foil screened unshielded twisted pair; an SF/UTP cable has two overall screens, one made of copper braid, one made of metal foil; the pairs themselves are not shielded individually.
→ *See also Cable terminology according to ISO/IEC 11801.*

S/FTP
Acronym for screened shielded twisted pair; an S/FTP cable has an overall braid screen, the pairs are shielded individually with metal foil. Most common type of shielded cable. Also referred to as PiMF (pairs in metal foil).
→ *See also Cable terminology according to ISO/IEC 11801.*

Signal
Physical realisation of information travelling along the media, e.g. a series of Zeros and Ones realized by different voltage levels on a cable.

Storage area network
→ *See SAN*

STP
Acronym for shielded twisted pair; general term for shielded twisted pair cables. In most cases, the pairs of a shielded cable are shielded individually with metal foil.

There are also cables with only one overall foil screen, sometimes the overall screen is made of tinned copper braid. Details on this can be found in the data sheet of the cable.

→ *See also Cable terminology according to ISO/IEC 11801.*

TAE connector
TAE is an acronym for the German words „Teilnehmer-Anschluss-Einheit", which means "user connection unit". The TAE connector is a common connector used to connect telephones and fax machines. A TAE connector can have up to 6 pins, but in most cases, only 4 of them are used. Guidance strips run along the connector on both sides, either in the middle of the connector (TAE-N) or at the bottom (TAE-F), which eliminates wrong connections. F coded connectors are used for telephones, N codes ones for non-telephone devices like answering or fax machines.

Typically, three position outlets like TAE-NFN are used to connect answering machine (left jack), telephone (middle) and fax machine (right jack) using just one faceplate. F connections are always superior to N connections. This makes it possible to answer a telephone call after the answering machine has already started recording. Telegärtner played a significant role in the development of the TAE connector.

Thin Wire
Old term for the coaxial Ethernet 10Base-2; the name comes from the thin coaxial cable which replaced the much thicker Yellow Cable in many installations.

TIA
TIA is an acronym for Telecommunications Industry Association, an American standards body that authors and publishes telecommunications and cabling standards in the USA.

TIA/EIA 568A
Complete title: ANSI/TIA/EIA-568-A
Set of American cabling standards; replaced the former standard TIA/EIA 568, got replaced by ANSI/TIA/EIA-568-B, which got replaced by ANSI/TIA/EIA-568-C itself.

TIA/EIA 568B
Complete title: ANSI/TIA/EIA-568-B
Set of American cabling standards; replaced the former standard ANSI/TIA/EIA-568-A, got replaced by ANSI/TIA/EIA-568-C.

TIA 568C
Complete title: ANSI/TIA-568-C. Set of American cabling standards, replaced the former standard ANSI/TIA/EIA-568-B. ANSI/TIA-568-C consists of four parts:

ANSI/TIA-568-C-0: Generic Telecommunications Cabling for Customer Premises
ANSI/TIA-568-C-1: Commercial Building Telecommunications Cabling Standard
ANSI/TIA-568-C-2: Balanced Twisted-Pair Telecommunication Cabling and Components Standard
ANSI/TIA-568-C-3: Optical Fiber Cabling and Components Standard

Twisted pair
Technical short term for data cables with twisted pairs.

Two way concept
Cabling concept where two cables are routed in different ways between two points in order to increase availibility by redundancy.

Type 1 cable
Old S/FTP cable type with two pairs used with the IBM cabling system (ICS); impedance was 150 Ohms compared to the common shielded data cables (category 3 to category 7) with 100 Ohms.

UTP
Acronym for unshielded twisted pair; general term for twisted pair cables without shielding.
→ *See also Cable terminology according to ISO/IEC 11801.*

U/FTP
Acronym for unscreened foil shielded twisted pair; a U/FTP cable has no overall screen, but the pairs are shielded individually with metal foil.
→ *See also Cable terminology according to ISO/IEC 11801.*

U/UTP
Acronym for unscreened, unshielded twisted pair; a U/UTP cable has no shielding at all.
→ *See also Cable terminology according to ISO/IEC 11801.*

Unbalanced cable
In unbalanced cables, the two conductors differ from each other. Most important unbalanced cable type is coaxial cable.

Because the conductors do not look alike, an unbalanced cable is also called an unsymmetrical cable.

An example for a balanced (symmetrical) cable is a twisted pair cable, where the two conductors are similar. To connect balanced and unbalanced cables, a balun (acronym made of BALanced / UNbalanced) is needed.

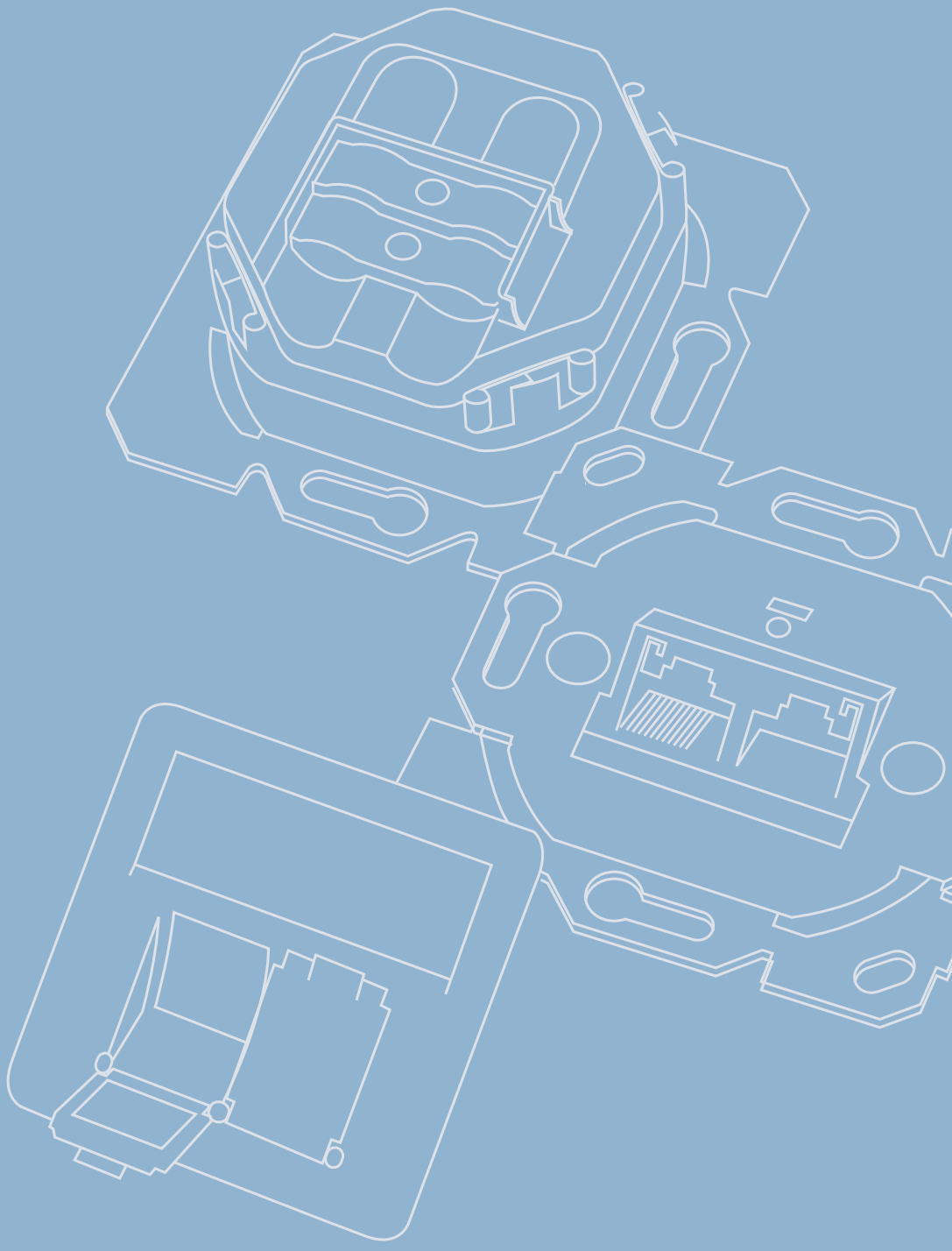
WLAN
Acronym for wireless LAN, general term for data networks using radio technology to transmit data. The most important international WLAN types are standardized by IEEE 802.11.

Yellow Cable
Old term for the original coaxial Ethernet 10Base-5; the name comes from the thick, yellow coaxial cable which had to be used.

Note: The use of brand names, registered trademarks, trade names, proprietary names, etc. in this glossary, even if not explicitly identified as such, does not constitute any entitlement to assume that such names, as defined in trademark protection legislation, are free of restrictions and can be used by anyone.

1

Outlets



1 Outlets

1.1 Series AMJ45 K Cat.6_A, Class E_A 500, Cat.5e - shielded 62

1.1.1 AMJ45 K Cat.6_A, shielded 62
1.1.2 AMJ45/B K Cat.6_A shielded 64
1.1.3 AMJ45 K Cat.6_A AP 65
1.1.4 AMJ45 K Class E_A 500 shielded 65
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1.3 Cover Frames for Outlets 68

1.4 Faceplates for Telecommunications Outlets 69

1.5 Universal Equipment Mounting Set for Outlets in Ducting Systems 70

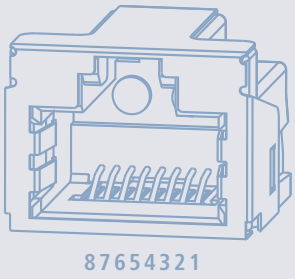
1.6 Surface Mount Set for Outlets 70

1.7 Tools and Accessories for Outlets 71

	Series AMJ45	VAD AP Compact
	Cat.6_A Class E_A 500 Cat.5e	Cat.6/Class E
Standards		
Connectors	IEC 60603-7-51 / -7-3	IEC 60603-7-5
Mechanical Characteristics		
Insertion force	≤ 30 N	≤ 30 N
Life (mating cycles RJ45, RJ12, RJ11)	≥ 750	≥ 750
Material: housing	zinc diecast	ABS
Material: insulators	PA, PBT, ABS, PC	PBT, ABS, PC
Material: PCB	FR4	FR4
Material: PCB finish	tin plated	tin plated
Material: contact spring	CuSn, spring steel	CuSn, spring steel
Material: contact spring finish	min. 0,8 µm Au on 1,2 µm Ni	min. 0,8 µm Au on 1,2 µm Ni
Material: contact IDC termination	CuZn	CuZn
Material: IDC termination finish	tin plated	tin plated
LSA Plus: Cu conductor diameter	solid 0,40 - 0,65 mm AWG 26/1 - AWG 22/1	solid 0,40 - 0,65 mm AWG 26/1 - AWG 22/1
LSA Plus: Wire diameter	0.7 - 1.6 mm	0.7 - 1.6 mm
Environmental Requirements		
Ambient temperature	-40° C to + 70° C	-40° C to + 70° C
Electrical Characteristics		
Contact resistance	≤ 20 mΩ	≤ 20 mΩ
Insulation resistance	≥ 500 MΩ	≥ 500 MΩ
Voltage proof: contact-contact	≥ 1000 V, DC	≥ 1000 V, DC
Voltage proof: contact-shield	≥ 1500 V, DC	
Current carrying capacity at 50°C	1 A	1 A
PoE+ acc to IEEE 802.3at	Cat.6_A, Class E_A 500	PoE+
PoE according to IEEE802.3af	Cat.5e	
Transmission Chracteristics		
Category 6_A (component) for products Cat.6_A	ISO/IEC 11801, DIN EN 50173-1	-
Class E_A (Permanent Link) for products Cat.6_A, Class E_A 500	ISO/IEC 11801, DIN EN 50173-1	-
Class E_A (Channel) for products Cat.6_A, Class E_A 500	ISO/IEC 11801, DIN EN 50173-1	-
Class E	-	ISO/IEC 11801, DIN EN 50173-1
Category 5e	ISO/IEC 11801, DIN EN 50173-1	-
Gigabit Ethernet acc. to IEEE 802.3	for Cat.5e	Adequate for Gigabit Ethernet
10 Gigabit Ethernet acc. to IEEE 802.3an	for Cat.6_A, Class E_A 500	-

1 Outlets

RJ45 pin colour coding acc. to EIA/TIA 568 A and B



	EIA/TIA 568 A	PIN RJ45	EIA/TIA 568 B	
pair 3	white / green	1	white / orange	pair 2
	green	2	orange	
pair 2	white / orange	3	white / green	pair 3
pair 1	blue	4	blue	pair 1
	white / blue	5	white / blue	
	orange	6	green	
pair 4	white / brown	7	white / brown	pair 4
	brown	8	brown	

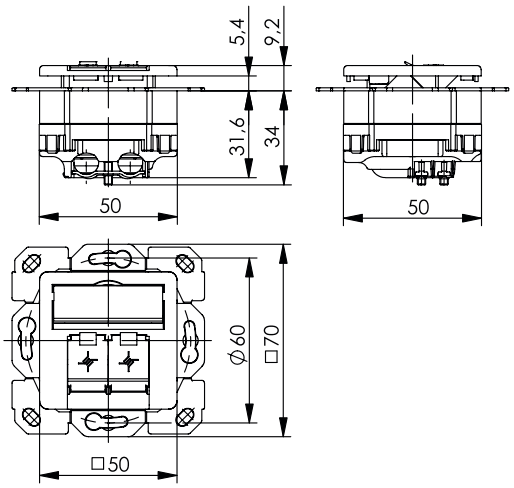
1.1 Series AMJ45 K Cat.6$_A$, Class E$_A$ 500, Cat.5e - shielded

Performance Characteristics

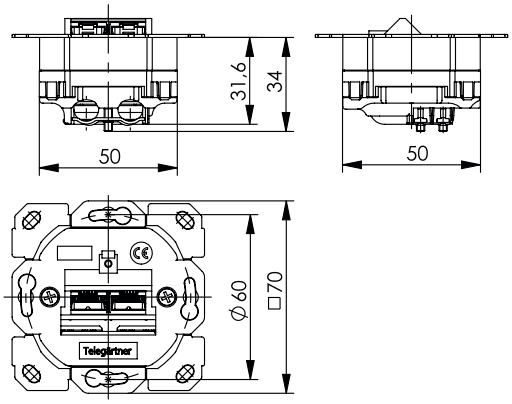
- Transmission performance: Cat.6$_A$ acc. to ISO/IEC 11801; EN 50173-1
- full shielded
- 360° shielding contact and strain relief by means of two (one, in the case of Cat.5e) separate, captive screw clamps for the exterior cable jacket and shielding
- can be wired up from all directions, in 8x45° steps; enables reduction in stock diversity
- either horizontal or vertical installation in the cable duct as a result of variable cable inlet
- Type offers low installtion depth; problem-free installation in floor tanks as a result of cable inlet form the side within the subfloor mounting box
- dust cover flaps
- option of plug-in ground connection at all four corners; according to DIN 46342-1; 6,3 mm
- can be combined with covers for a wide variety of switching programs
- simple wire presorting guarantees wires will be laid without damage and good transmission performance
- cover plate can be retrofitted with a flip-up loss-proof, transparent label field
- detachable vertical fixing rail of the four-hole bearer ring (e. g. for subfloor installation)
- Overbend protection: 6- (RJ11/12) and 8-pin connectors (RJ45) can be used interchangeably in the MJ outlets without additional installation kits

Note: Labelling masters for AMJ45 and UMJ45 and a cross-reference-list for switching programs several manufacturers can be found on our homepage www.telegaertner.com.

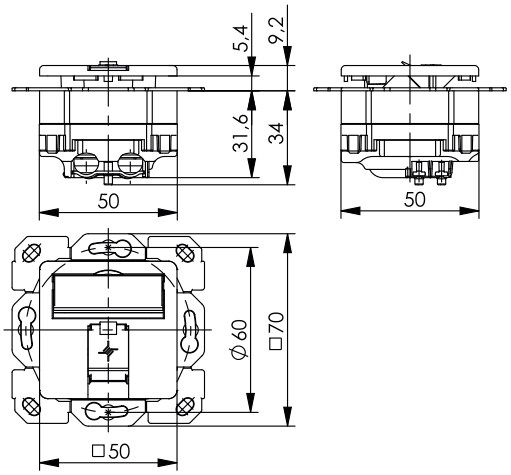
1.1.1 AMJ45 K Cat.6$_A$ shielded



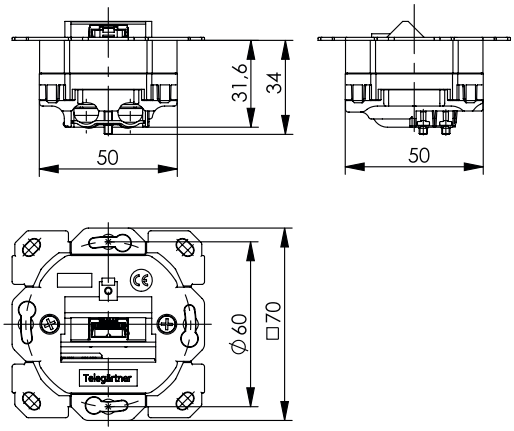
Order no.	Short name	Type	Colour
J00020A0500	AMJ45 8/8 K Up/50 Cat.6$_A$	cable duct mounting, 2xRJ45	alpine white
J00020A0501	AMJ45 8/8 K Up/50 Cat.6$_A$	cable duct mounting, 2xRJ45	pearl white RAL 1013



Order no.	Short name	Type
J00020A0502	AMJ45 8/8 K Up/0 Cat.6_A without faceplate	cable duct mounting, 2xRJ45



Order no.	Short name	Type	Colour
J00020A0505	AMJ45 8 K Up/50 Cat.6_A	cable duct mounting, 1xRJ45	alpine white
J00020A0504	AMJ45 8 K Up/50 Cat.6_A	cable duct mounting, 1xRJ45	pearl white RAL 1013

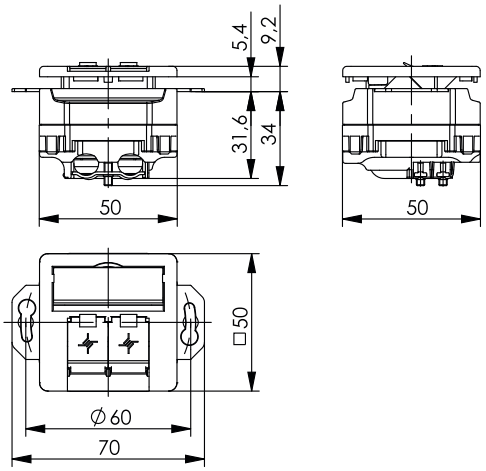


Order no.	Short name	Type
J00020A0506	AMJ45 8 K Up/0 Cat.6_A without faceplate	cable duct mounting, 1xRJ45

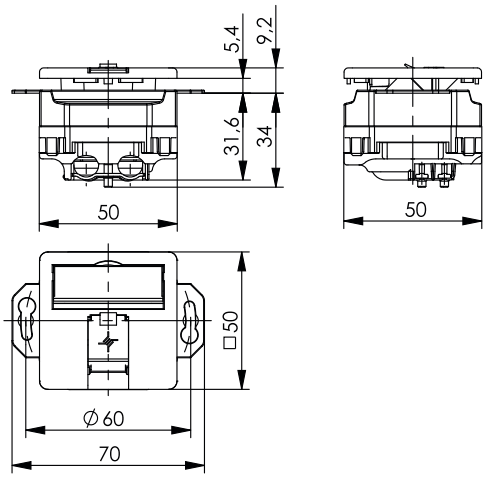
1 Outlets

1.1 Series AMJ45 K Cat.6$_A$, Class E$_A$ 500, Cat.5e - shielded

1.1.2 AMJ45/B K Cat.6$_A$ shielded



Order no.	Short name	Type	Colour
J00020A0503	AMJ45/B 8/8 K Up/50 Cat.6$_A$	subfloor mounting, 2xRJ45	alpine white

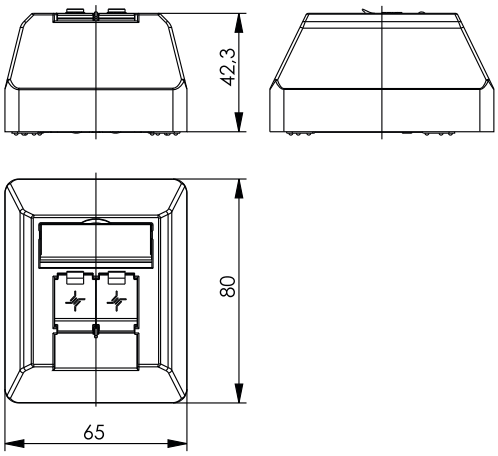


Order no.	Short name	Type	Colour
J00020A0507	AMJ45/B 8 K Up/50 Cat.6$_A$	subfloor mounting, 1xRJ45	alpine white

AMJ45 K Cat.6$_A$ AP 1.1.3

Performance Characteristics

- Transmission performance: Cat.6$_A$ acc. to ISO/IEC 11801; EN 50173-1
- full shielded, zinc diecast housing
- 360° shielding contact and strain relief by means of two separate, captive screwclamps for the exterior cable jacket and shielding
- dust cover flaps protected
- simple wire presorting guarantees wires will be laid without damage and good transmission performance
- cover plate can be retrofitted with a flip-up loss-proof, transparent label field
- rugged zinc diecast housing for surface mounting
- compact design
- cable entry in 4x90° steps selectable

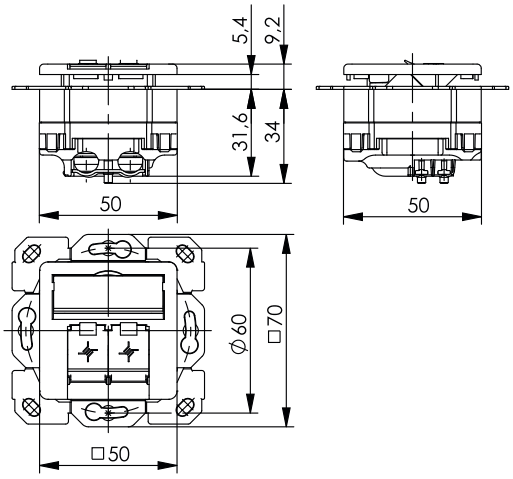


Order no.	Short name	Type	Colour
J00023A0204	AMJ45 8/8 K AP Cat.6$_A$	surface mounting, 2xRJ45	alpine white

AMJ45 K Class E$_A$ 500 shielded 1.1.4

Performance Characteristics

- Transmission performance: PL Class E$_A$ 500 acc. to ISO/IEC 11801; EN 50173-1
- full shielded
- 360° shielding contact and strain relief by means of two separate, captive screwclamps for the exterior cable jacket and shielding
- simple wire presorting guarantees wires will be laid without damage and good transmission performance
- cover plate can be retrofitted with a flip-up loss-proof, transparent label field
- dust cover flaps protected

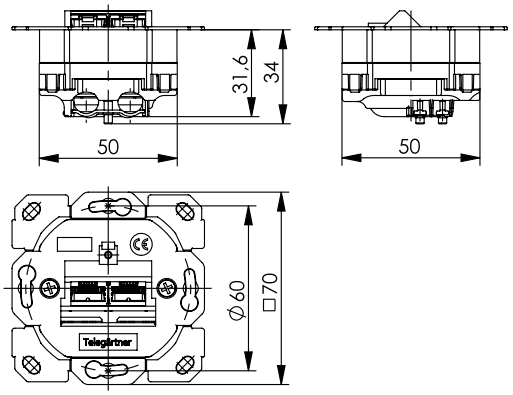


Order no.	Short name	Type	Colour
J00020A0393	AMJ45 K 8/8 Up/50 Class E$_A$ 500	cable duct mounting, 2xRJ45	alpine white
J00020A0394	AMJ45 K 8/8 Up/50 Class E$_A$ 500	cable duct mounting, 2xRJ45	pearl white RAL 1013

1 Outlets

1.1 Series AMJ45 K Cat.6$_A$, Class E$_A$ 500, Cat.5e - shielded

1.1.4 AMJ45 K Class E$_A$ 500 shielded

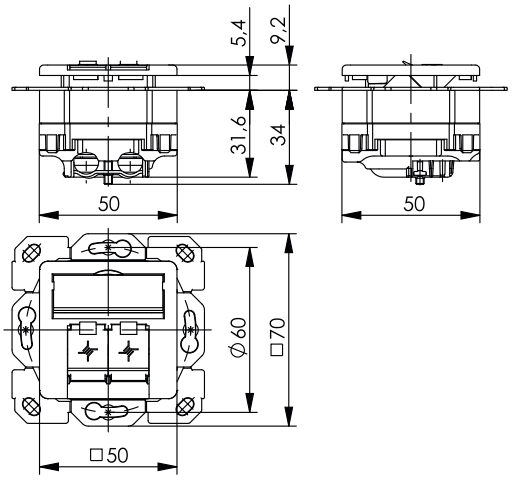


Order no.	Short name	Type
J00020A0395	AMJ45 K 8/8 Up/0 Class E$_A$ 500 without faceplate	cable duct mounting, 2xRJ45

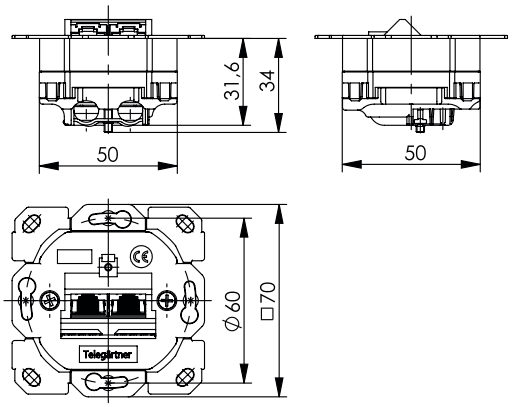
1.1.5 AMJ45 Cat.5e shielded

Performance Characteristics

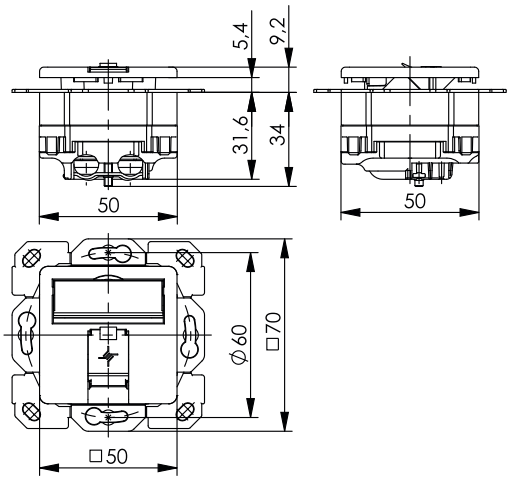
- Transmission performance:
  Cat.5 acc. to ISO/IEC 11801; EN 50173-1
- full shielded
- zinc diecast housing



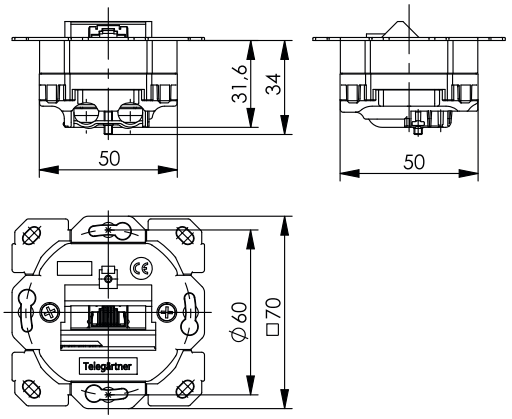
Order no.	Short name	Type	Colour
J00020A0389	AMJ45 8/8 Up/50 Cat.5e	cable duct mounting, 2xRJ45	alpine white
J00020A0390	AMJ45 8/8 Up/50 Cat.5e	cable duct mounting, 2xRJ45	pearl white RAL 1013



Order no.	Short name	Type
J00020A0388	AMJ45 8/8 Up/0 Cat.5e without faceplate	cable duct mounting, 2xRJ45



Order no.	Short name	Type	Colour
J00020A0419	AMJ45 8 Up/50 Cat.5e	cable duct mounting, 1xRJ45	alpine white
J00020A0418	AMJ45 8 Up/50 Cat.5e	cable duct mounting, 1xRJ45	pearl white RAL 1013



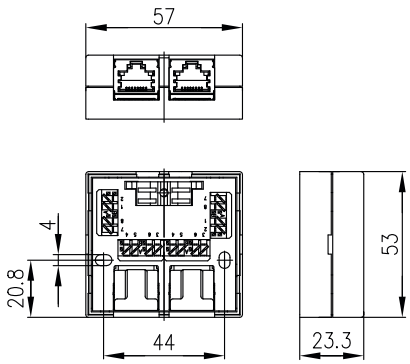
Order no.	Short name	Type
J00020A0420	AMJ45 8 Up/0 Cat.5e without faceplate	cable duct mounting, 1xRJ45

1 Outlets

1.2 Series VAD® Cat.6/Class E - shielded

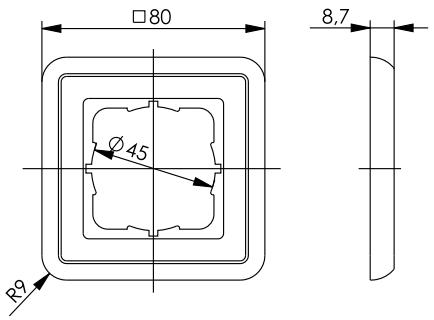
Performance Characteristics

- suitable for Gigabit Ethernet (1000 BaseT)
- compact type for surface mounting with two RJ45 jacks parallel to the mounting level
- shielded version
- RJ45 jacks facing downwards
- installation cabling from top
- fixing by 2 screws 3.5 mm dia. max.
- plastic housing with snap-on cover

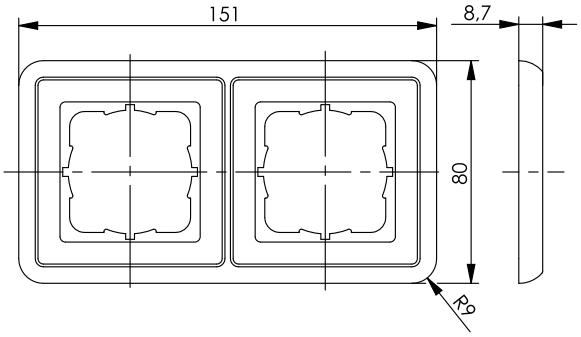


Order no.	Short name	Type	Colour
J00023A0056	VAD 8/8 Ap Compact-S Cat.6/Class E	shielded; surface mounting	pure white RAL 9010

1.3 Cover Frames for Outlets



Order no.	Short name	Type	Series	Colour	Finish
B00004A0021	Cover frame for flush mounting (UP)	single, 80x80	AMJ45, UMJ45, Modular System AMJ/UMJ, OAD/S	alpine white	
B00004A0020	Cover frame for flush mounting (UP)	single, 80x80	AMJ45, UMJ45, Modular System AMJ/UMJ	pure white RAL 9010	gloss finish
B00004A0019	Cover frame for flush mounting (UP)	single, 80x80	AMJ45, UMJ45, Modular System AMJ/UMJ, OAD/S	pearl white RAL 1013	



Order no.	Short name	Type	Series	Colour
B00005A0009	Cover frame for flush mounting (UP)	double, 80x151	AMJ45, UMJ45, Modular System AMJ/UMJ	alpine white
B00005A0007	Cover frame for flush mounting (UP)	double, 80x151	AMJ45, UMJ45, Modular System AMJ/UMJ	pearl white RAL 1013

Faceplates for Telecommunications Outlets 1.4

AMJ-S

Order no.	Short name	Series	Colour
F00020A0113	Faceplate 50 x 50 mm for AMJ45 8/8 UP/0 and design capable module carrier AMJ-S; with screw, transparent label field, cover and 2 shutters	AMJ45; AMJ-S	alpine white
F00020A0114	Faceplate 50 x 50 mm for AMJ45 8/8 UP/0 and design capable module carrier AMJ-S; with screw, transparent label field, cover and 2 shutters	AMJ45; AMJ-S	pearl white RAL 1013

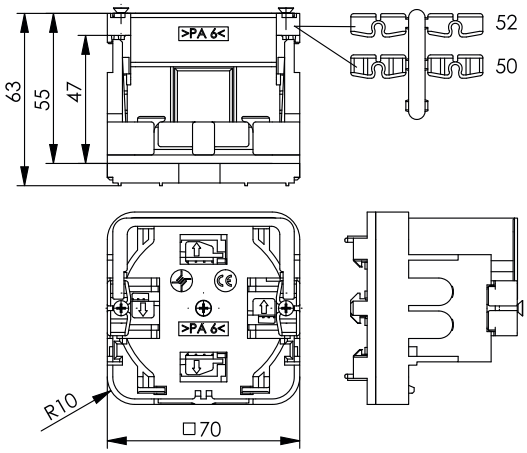
Order no.	Short name	Colour
F00020A0123	Faceplate 50 x 50 for AMJ45 8 UP/0 with screw, transparent label field, cover and 1 shutter	alpine white
F00020A0124	Faceplate 50 x 50 for AMJ45 8 UP/0 with screw, transparent label field, cover and 1 shutter	pearl white RAL 1013

1 Outlets

1.5 Universal Equipment Mounting Set for Outlets in Ducting Systems

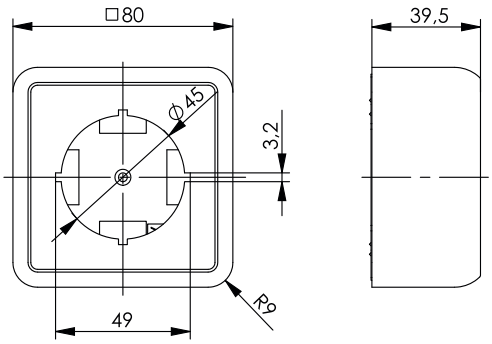
Performance Characteristics

- suitable for cable duct systems with c-rails, top-hat rails, and combi-rails with 35 mm fixings
- variable height compensation for wiring ducts with internal heights of 47 mm, 50 mm, 52 mm, and 55 mm
- cable strain relief
- can be string-mounted, and therefore suitable for double, triple and multiple installations
- user-friendly installation and integration of the outlets
- suitable for horizontal and vertical installation
- small stock diversity
- optimal cable runs inside the cable ducts
- quick, screw-free installation due to snap-in latches
- reduced installation times
- external dimensions (in mm): width = 70; height: variable 47, 50, 52, and 55

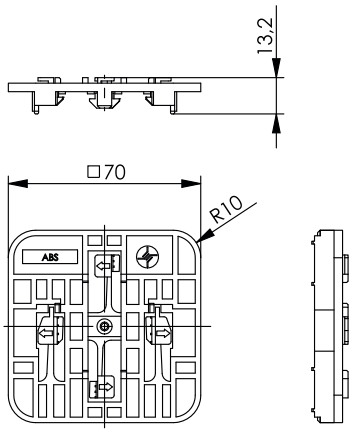


Order no.	Short name	Type
H02010B0014	Universal Equipment Mounting Set for installation of outlets AMJ45, UMJ45 in cable ducts for heights 47, 50, 52 and 55 mm and for top hat rails, C-rails, Combi-rails	without half shell
H02010B0013	Universal Equipment Mounting Set for installation of outlets AMJ45, UMJ45 in cable ducts for heights 47, 50, 52 and 55 mm and for top hat rails, C-rails, Combi-rails	with 1 half shell

1.6 Surface Mount Set for Outlets



Order no.	Short name	Type	Colour
H02000C0027	Surface mount set	80x80x40 mm	alpine white
H02000C0017	Surface mount set	80x80x40 mm	pure white RAL 9010
H02000C0026	Surface mount set	80x80x40 mm	pearl white RAL 1013



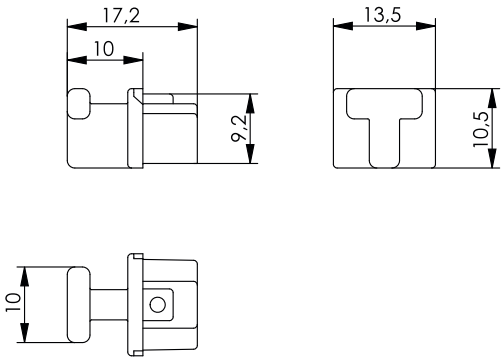
Order no.	Short name	Type
H02000A0054	Top hat rail adaptor for Surface Mount Set	for top hat rails acc. to DIN 50022

Tools and Accessories for Outlets 1.7

Order no.	Short name	Colour
B00002A0014	Dust protection flap for faceplate	alpine white
B00002A0015	Dust protection flap for faceplate	pearl white RAL 1013
B00002B0014	Dust protection flap for faceplate	red RAL 3020
B00002C0014	Dust protection flap for faceplate	green RAL 6017
B00002D0014	Dust protection flap for faceplate	blau RAL 5015
B00002E0014	Dust protection flap for faceplate	yellow RAL 1023
B00002F0014	Dust protection flap for faceplate	black RAL 9005

1 Outlets

1.7 Tools and Accessories for Outlets



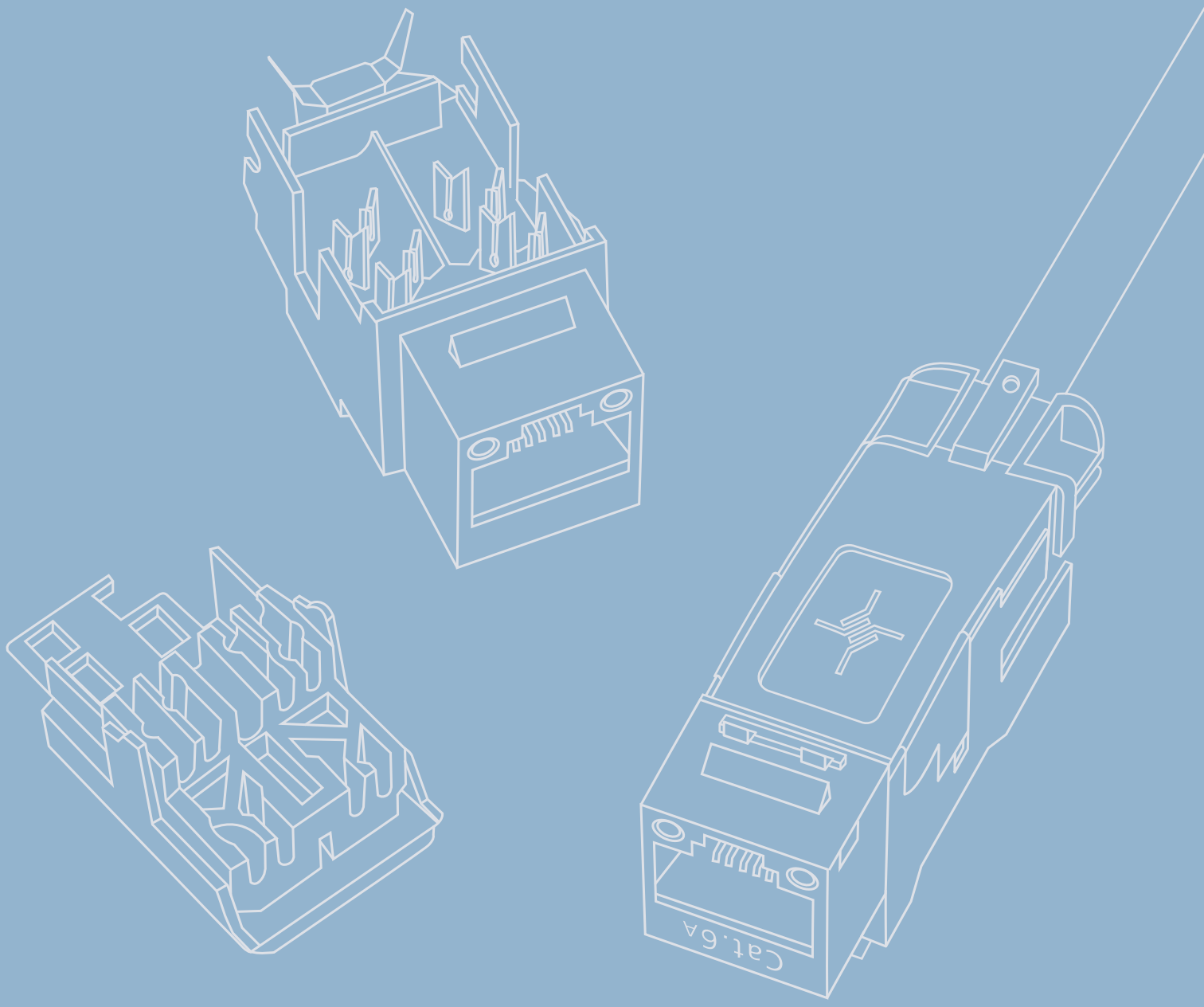
Order no.	Short name	Colour
H00030A0014	Dust cover for RJ45	alpine white
H00030B0014	Dust cover for RJ45	pearl white RAL 1013
H00030C0014	Dust cover for RJ45	red RAL 3020
H00030D0014	Dust cover for RJ45	green RAL 6017
H00030E0014	Dust cover for RJ45	blau RAL 5015
H00030F0014	Dust cover for RJ45	black RAL 9005

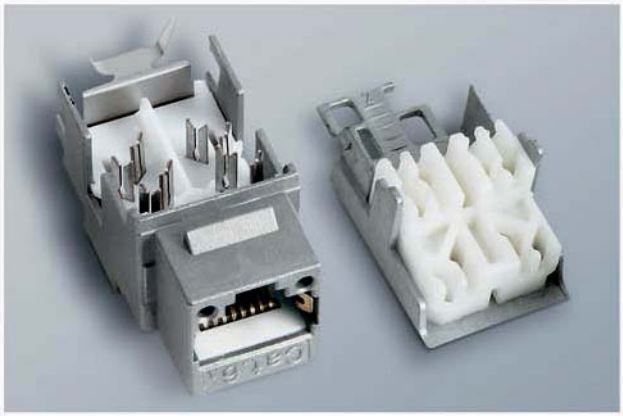
Order no.	Short name
N01002A0000	Basic tool for IDC termination (LSA Plus) without wire cutter

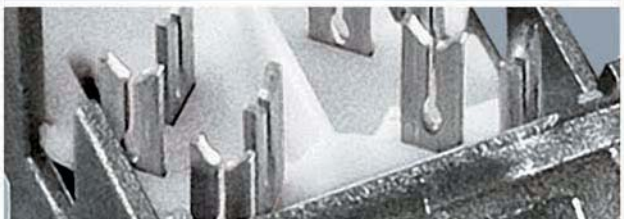
Order no.	Short name
N01002A0001	Insertion tool for IDC termination (LSA Plus) with wire cutter

2

Modular System AMJ-S / AMJ / UMJ







2 Modular System AMJ-S/AMJ/UMJ

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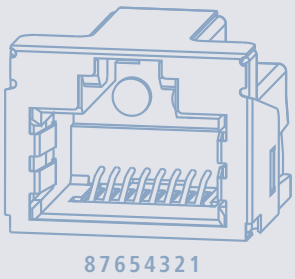
Modular System AMJ-S/AMJ/UMJ

	AMJ-S Module Cat.6_A	AMJ Module K Cat.6_A	AMJ Coupler Cat.6 / Cat.5e	UMJ Module K Class E_A 500	UMJ Coupler Cat.6 / Cat.5e
Standards					
Connectors	IEC 60603-7-51		IEC 60603 -7-5 / -7-3	IEC 60603 -7-41	IEC 60603-7-4 / -7-2
Mechanical Characteristics					
Insertion force	≤ 30 N	≤ 30 N	≤ 30 N	≤ 20 N	≤ 20 N
Life (mating cycles RJ45, RJ12, RJ11)	≥ 750	≥ 750	≥ 750	≥ 750	≥ 750
Material: housing	zinc diecast	zinc diecast	zinc diecast	PA white	PC UL94 V0
Material: insulating housing	-	-	ABS alpine white	-	-
Material: snap-fit	spring steel	PC UL94 V0 black	zinc diecast	PA white	PC UL94 V0 white
Material: shield	German silver	German silver	German silver	-	-
Material: insulators	PC UL94 V0	PBT	PA	PA, PBT	-
Material: PCB	FR4	FR4	FR4	FR4	FR4
Material: PCB finish	chem. tin-plated	chem. tin-plated	chem. tin-plated	chem. tin-plated	chem. tin-plated
Material: contact spring	spring steel	spring steel	spring steel	spring steel	spring steel
Material: contact spring finish	min. 0,8 µm (30 µin) Au über 1,2 µm (50 µin) Ni				
Material: contact IDC termination	CuNi2Si	CuNi2Si	-	CuNi2Si	-
Material: IDC termination finish	min. 3-6 µm (120-240 µin) Sn	min. 3-6 µm (120-240 µin) Sn	-	min. 3-6 µm (120-240 µin) Sn	-
Material: cable ties	-	PA UL94 V2	-	-	-
Material: cable clamp	PC UL94 V0	-	-	-	-
Cu-Conductor diam.: Solid	0.4 - 0.64 mm AWG 26/1 - AWG 22/1		-	0.40 - 0.64 mm AWG 26/1 - AWG 22/1	-
Cu-Conductor diam.: Stranded	0.46 - 0.76 mm AWG 27/7 - AWG 22/7		-	0.46 - 0.76 mm AWG 27/7 - AWG 22/7	-
Insulation diameter	0.9 - 1.6 mm	0.9 - 1.6 mm	-	0.9 - 1.6 mm	-
Reusable IDC for AWG 22/1 and AWG 22/7	≤4 cycles	≤4 cycles		≤4 cycles	
Reusable IDC für AWG 23/1 - AWG 26/1	≤10 cycles	≤10 cycles		≤10 cycles	
Reusable IDV for AWG 24/7 - 27/7	≤10 cycles	≤10 cycles		≤10 cycles	
Cable diameter	max. 9 mm	max. 9 mm		max. 9 mm	
Environmental Requirements					
Ambient temperature	-40° C to + 70° C				
Electrical Characteristics					
Contact resistance	≤ 20 mΩ	≤ 20 mΩ	≤ 20 mΩ	≤ 20 mΩ	≤ 20 mΩ
Insulation resistance	≥ 500 MΩ	≥ 500 MΩ	≥ 500 MΩ	≥ 500 MΩ	≥ 500 MΩ
Voltage proof: contact-contact	≥ 1000 V, DC	≥ 1000 V, DC	≥ 1000 V, DC	≥ 1000 V, DC	≥ 1000 V, DC
Voltage proof: contact-shield	≥ 1500 V, DC	≥ 1500 V, DC	≥ 1500 V, DC	-	-
Current carrying capacity at 50°C	1 A	1 A	1 A	1 A	1 A
PoE+ acc to IEEE 802.3at	PoE+	PoE+	PoE+	PoE+	PoE+
Transmission Chracteristics					
Class 6_A (Component)	ISO/IEC 11801, DIN EN 50173-1		-	-	-
Class E_A (Permanent Link)	ISO/IEC 11801, DIN EN 50173-1		-	ISO/IEC 11801, DIN EN 50173-1	-
Class E_A (Channel)	ISO/IEC 11801, DIN EN 50173-1				-
Class E (Channel with coupler Cat.6)	-	-	ISO/IEC 11801, DIN EN 50173-1	-	ISO/IEC 11801, DIN EN 50173-1
Class D (Channel with coupler Cat.5e)	-	-	ISO/IEC 11801, DIN EN 50173-1	-	ISO/IEC 11801, DIN EN 50173-1
Gigabit Ethernet acc. to IEEE 802.3	-	-	Cat.5e, Cat.6	-	Cat.5e, Cat.6
10 Gigabit Ethernet acc. to IEEE 802.3an	fulfilled	fulfilled	Cat.6	fulfilled	Cat.6

2 Modular System AMJ-S/AMJ/UMJ

RJ45 pin colour coding acc. to EIA/TIA 568 A and B



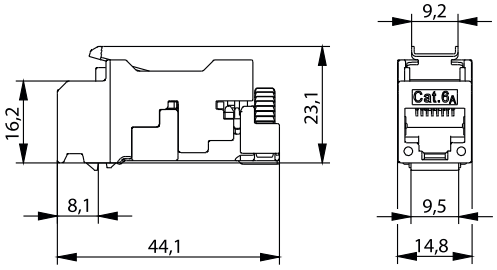
	EIA/TIA 568 A	PIN RJ45	EIA/TIA 568 B	
pair 3	white / green	1	white / orange	pair 2
	green	2	orange	
pair 2	white / orange	3	white / green	pair 3
pair 1	blue	4	blue	pair 1
	white / blue	5	white / blue	
	orange	6	green	
pair 4	white / brown	7	white / brown	pair 4
	brown	8	brown	

2.1 AMJ-S Modules and AMJ Modules/Coupler - shielded

2.1.1 AMJ-S Module

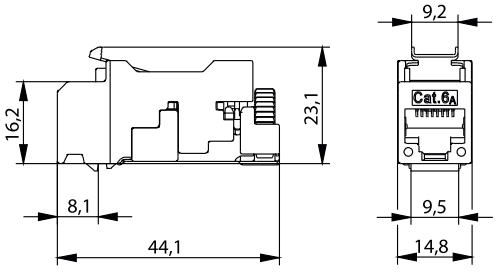
Performance Characteristics

- suitable for switching programs from several manufacturers with design capable face plate AMJ-S double gang Up/0 flex
- integrated strain relief for cable O.D. to 9 mm
- Cat.6_A acc. to IEC 60603-7-51
- Cat.6_A re-embedded tested acc. to IEC 60512-27-100
- fully-automated production of Cat.6_A RJ45 core to guarantee a uniformly high quality standard
- 3rd party laboratory GHMT Cat.6_A tested and confirmed
- suitable for PoE+ acc. to IEEE 802.3at
- GHMT link certificate: Class E_A acc. to ISO/IEC 11801; 10 Gigabit-Ethernet compliant (IEEE 802.3an)
- overbending protection: ≥750 mating cycles with RJ45/RJ11/RJ12 plugs
- universally, world-wide available installation dimension for mounting cut-outs: 19.3 x 14.7 mm
- optical inspection of the RJ45 contact heights
- Made in Germany



Cat.6A | AMJ-S | REAL-TIME RE-EMBEDDED

Order no.	Short name	Remarks	Mount. dim.
J00029A2000	AMJ-S Module Cat.6_A T568A	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121
J00029A2001	AMJ-S Module Cat.6_A T568B	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121



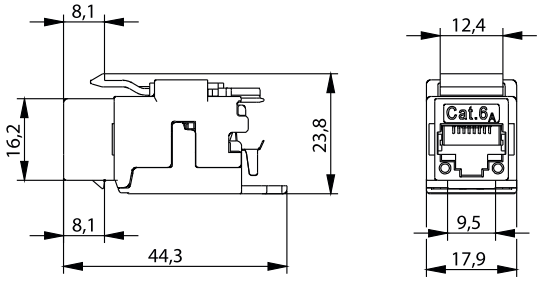
Cat.6A | AMJ-S | REAL-TIME RE-EMBEDDED

Order no.	Short name	Type	Remarks	Mount. dim.
J00029A2110	AMJ-S Module Cat.6_A T568A	blister package (24 pcs.)	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121
J00029A2111	AMJ-S Module Cat.6_A T568B	blister package (24 pcs.)	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121

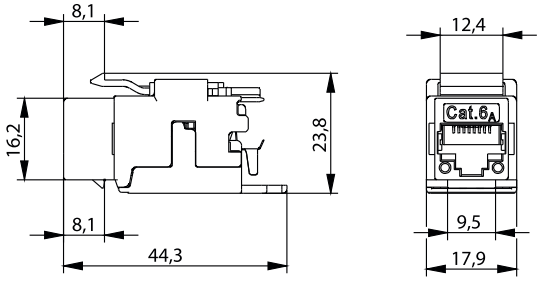
Modular System AMJ-S/AMJ/UMJ

Performance Characteristics

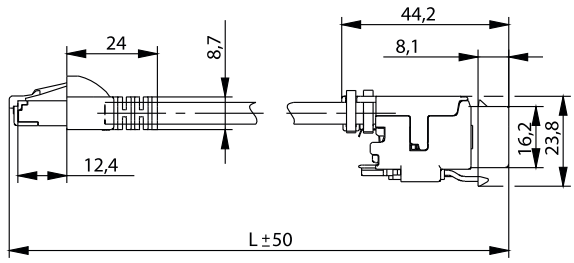
- Cat.6_A certified by independent testing laboratory acc. to ISO/IEC 11801:2010
- 10 Gigabit-Ethernet compliant (IEEE 802.3an)
- fully-automated production of Cat.6_A RJ45 core to guarantee a uniformly high quality standard
- universally, world-wide available installation dimension for mounting cut-outs: 19.3 x 14.7 mm
- optical inspection of the RJ45 contact heights
- suitable for POE+ (Power Over Ethernet)
- Made in Germany
- overbending protection: ≥750 mating cycles with RJ45/RJ11/RJ12 plugs



Order no.	Short name	Remarks	Mount. dim.
J00029K0036	AMJ Module K Cat.6_A, T568A	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121
J00029A0077	AMJ Module K Cat. 6_A, T568B	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121



Order no.	Short name	Type	Remarks	Mount. dim.
J00029L0036	AMJ Module K Cat.6_A, T568A	blister package (24 pcs.)	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121
J00029B0077	AMJ Module K Cat. 6_A, T568B	blister package (24 pcs.)	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121

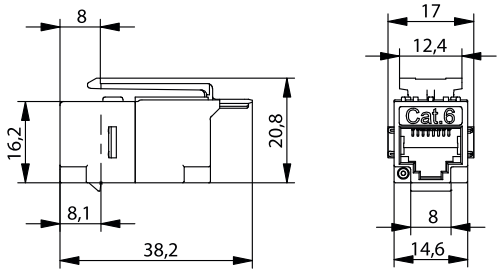


Order no.	Short name	Length	Colour
L00002A0194	AMJ Cat.6_A CP-Link	3,0 m	grey
L00003A0145	AMJ Cat.6_A CP-Link	5,0 m	grey
L00004A0128	AMJ Cat.6_A CP-Link	7,5 m	grey
L00005A0102	AMJ Cat.6_A CP-Link	10,0 m	grey
L00006A0185	AMJ Cat.6_A CP-Link	15,0 m	grey

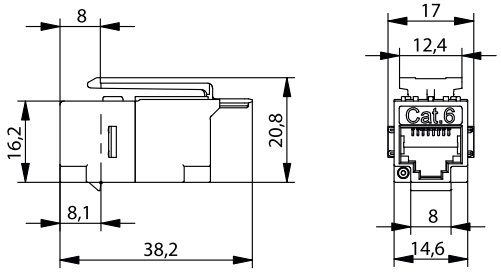
2 Modular System AMJ-S/AMJ/UMJ

2.1 AMJ-S Modules and AMJ Modules/Coupler - shielded

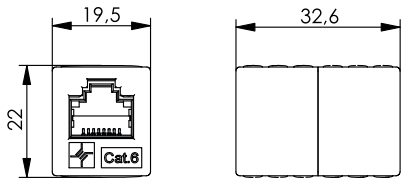
2.1.3 AMJ Coupler K



Order no.	Short name	Remarks	Mount. dim.
J00029A0061	AMJ Coupler K Cat.6, f-f	suitable for RJ45/11/12 plugs	Z121
J00029K0051	AMJ Coupler K Cat.5e, f-f	suitable for RJ45/11/12 plugs	Z121



Order no.	Short name	Type	Remarks	Mount. dim.
J00029B0061	AMJ Coupler K Cat.6, f-f	blister package (24 pcs.)	suitable for RJ45/11/12 plugs	Z121
J00029L0051	AMJ Coupler K Cat.5e, f-f	blister package (24 pcs.)	suitable for RJ45/11/12 plugs	Z121



Order no.	Short name	Remarks	Colour
J00029A0062	AMJ Coupler K Cat.6, insulated, f-f*	suitable for RJ45/11/12 plugs	alpine white
J00029K0052	AMJ Coupler K Cat.5e, insulated, f-f*	suitable for RJ45/11/12 plugs	alpine white

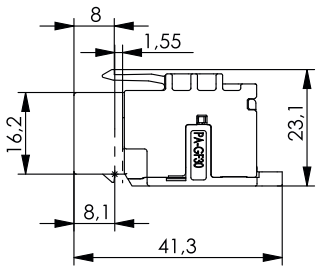
*) loose coupler for patch cords, no snap-in mounting

UMJ Modules/Coupler - unshielded 2.2

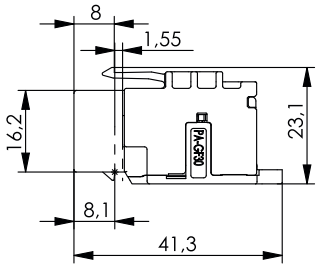
Performance Characteristics

- Class E_A 500 Permanent Link acc. to ISO/IEC 11801/EN 50173-1 (except Cat.5e and USB)
- unshielded
- universally, world-wide available installation dimension for mounting cut-outs: 19.3 x 14.7 mm
- 10 Gigabit Ethernet compliant
- fully-automated production of Class E_A 500 RJ45 core to guarantee a uniformly high quality standard (transmission characteristic values)
- optical inspection of the RJ45 contact heights
- Made in Germany

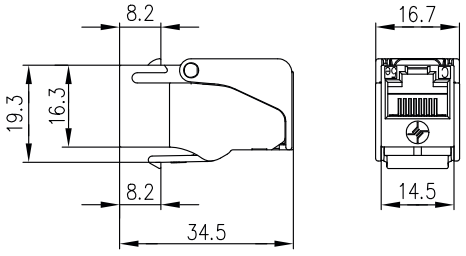
UMJ Module K 2.2.1



Order no.	Short name	Remarks	Mount. dim.
J00029K0050	UMJ Module K Class E_A 500 T568A	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121
J00029K0078	UMJ Module K Class E_A 500 T568B	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121



Order no.	Short name	Type	Remarks	Mount. dim.
J00029L0050	UMJ Module K Class E_A 500 T568A	blister package (24 pcs.)	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121
J00029L0078	UMJ Module K Class E_A 500 T568B	blister package (24 pcs.)	tool-free connectivity, suitable for RJ45/11/12 plugs	Z121

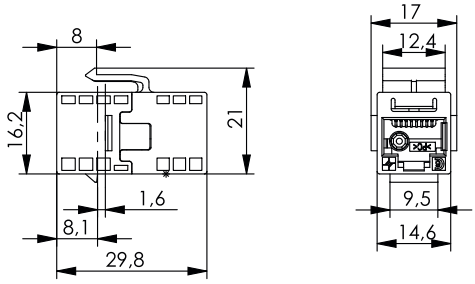


Order no.	Short name	Remarks	Mount. dim.
J00029A0088	RJ45 Keystone 90° Cat.5e	unshielded, tool-free connectivity	Z121

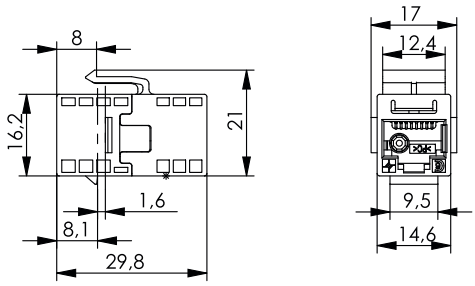
2 Modular System AMJ-S/AMJ/UMJ

2.2 UMJ Modules/Coupler - unshielded

2.2.2 UMJ Coupler K

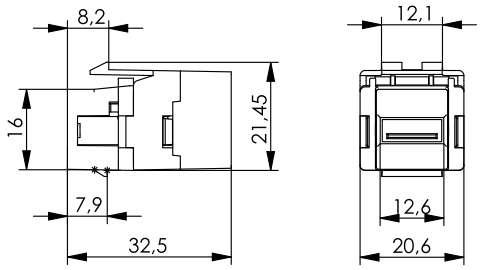


Order no.	Short name	Remarks	Mount. dim.
J00029A0064	UMJ Coupler K Cat.6, f-f	suitable for RJ45/11/12 plugs	Z121
J00029K0054	UMJ Coupler K Cat.5e, f-f	suitable for RJ45/11/12 plugs	Z121



Order no.	Short name	Type	Remarks	Mount. dim.
J00029B0064	UMJ Coupler K Cat.6, f-f	blister package (24 pcs.)	suitable for RJ45/11/12 plugs	Z121
J00029L0054	UMJ Coupler K Cat.5e, f-f	blister package (24 pcs.)	suitable for RJ45/11/12 plugs	Z121

2.2.3 USB Coupler



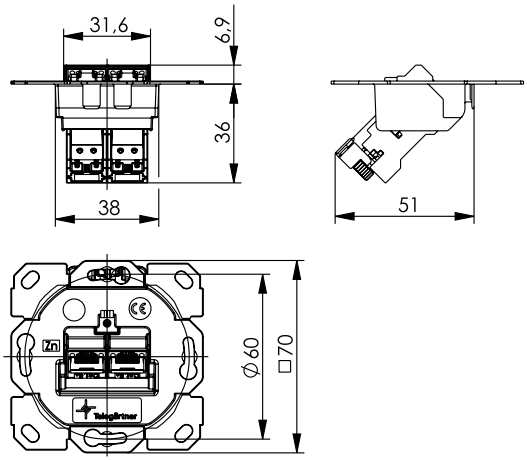
Order no.	Description	Type	Mount. dim.
J00029A0086	USB Keystone Type A	f-f	Z121

Modular System AMJ-S/AMJ/UMJ

Applications for AMJ-S Modules and AMJ/UMJ Modules/Coupler 2.3

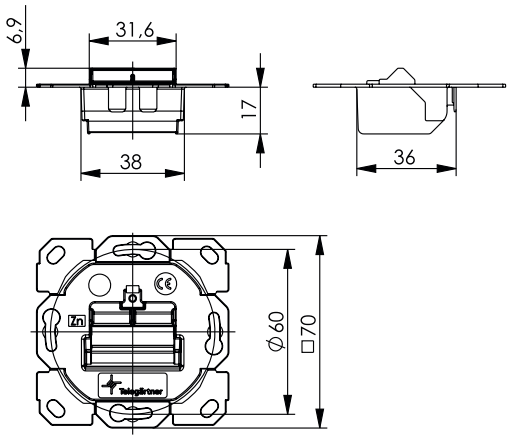
Telegärtner offers a wide range of various applications in which AMJ and UMJ Modules and Couplers can be installed for flexible use. Additional adaptors are not required.

Cable Duct Mounting - Suitable for Switching Programs 2.3.1



Order no.	Short name	Type	Remarks	Series
J00020A0510	design capable double gang module carrier AMJ-S UP/0 flex	module carrier incl. 2 AMJ-S Modules Cat.6_A T568A, suitable for switching programs of several manufacturers*	for cable duct, mating direction 45 degree	AMJ-S
J00020A0511	design capable double gang module carrier AMJ-S UP/0 flex	module carrier incl. 2 AMJ-S Modules Cat.6_A T568B, suitable for switching programs of several manufacturers*	for cable duct, mating direction 45 degree	AMJ-S

*an overview with suitable switching programs of several manufacturers can be found at www.telegaertner.com



Order no.	Short name	Type	Remarks	Series
H02010A0085	design capable double gang module carrier AMJ-S UP/0 flex	double gang module carrier without AMJ-S Modules; suitable with switching programs of several manufacturers*	without AMJ-S Modules; for cable duct, mating direction 45°	AMJ-S

*an overview with suitable switching programs of several manufacturers can be found at www.telegaertner.com

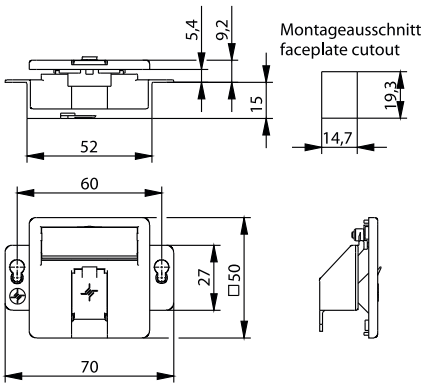
2 Modular System AMJ-S/AMJ/UMJ

2.3 Applications for AMJ-S Modules and AMJ/UMJ Modules/Coupler

2.3.2 Cable Duct Mounting

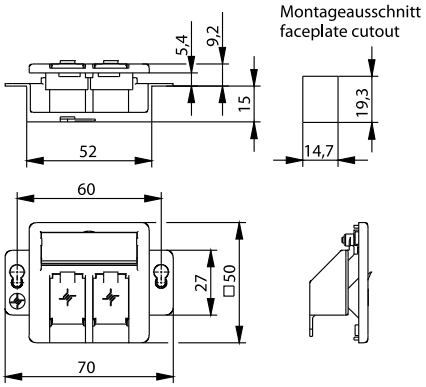
AMJ-S

Order no.	Short name	Series	Colour
F00020A0113	Faceplate 50 x 50 mm for AMJ45 8/8 UP/0 and design capable module carrier AMJ-S; with screw, transparent label field, cover and 2 shutters	AMJ45; AMJ-S	alpine white
F00020A0114	Faceplate 50 x 50 mm for AMJ45 8/8 UP/0 and design capable module carrier AMJ-S; with screw, transparent label field, cover and 2 shutters	AMJ45; AMJ-S	pearl white RAL 1013



AMJ
AMJ-S

Order no.	Short name	Type	Remarks	Series	Colour
H02010A0079	faceplate 50x50	single gang UP/50 incl. module carrier, label field and shutter, without module/coupler	for cable duct, mating direction 45 degree	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white
H02010A0080	faceplate 50x50	single gang UP/50 incl. module carrier, label field and shutter, without module/coupler	for cable duct, mating direction 45 degree	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	pearl white RAL 1013

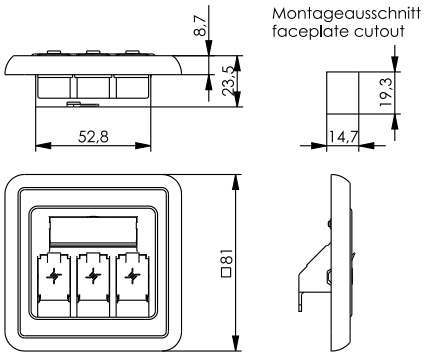


AMJ
AMJ-S

Order no.	Short name	Type	Remarks	Series	Colour
H02010A0081	faceplate 50x50	double gang UP/50 incl. module carrier, label field and shutter, without module/coupler	for cable duct, mating direction 45 degree	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white
H02010A0082	faceplate 50x50	double gang UP/50 incl. module carrier, label field and shutter, without module/coupler	for cable duct, mating direction 45 degree	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	pearl white RAL 1013

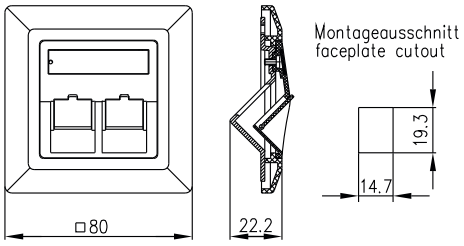
Modular System AMJ-S/AMJ/UMJ

AMJ-S
AMJ



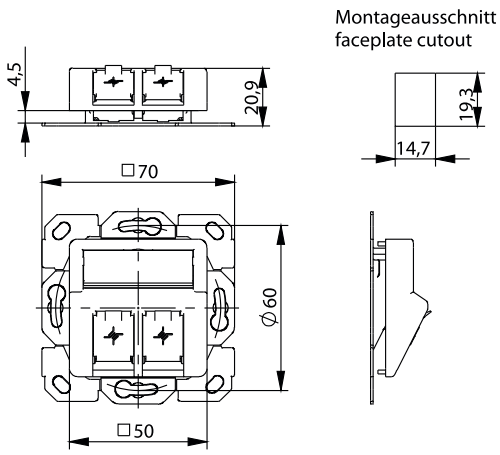
Order no.	Short name	Type	Remarks	Series	Colour
H02010A0053	Faceplate 80x80 for modules/ coupler, integrated metal module carrier and shutters	triple gang UP incl. module carrier module carrier, label field and shutter, without module/coupler	for cable duct, mating direction 45 degree	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white

AMJ-S
AMJ



Order no.	Short name	Type	Remarks	Series	Colour
H02010A0040	Faceplate 80x80 for modules/ coupler, integrated metal module carrier and shutters	Double gang UP, without module/coupler, mating direction 45 degree	without frame also suitable for UP/50 cable duct	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white

AMJ-S
AMJ



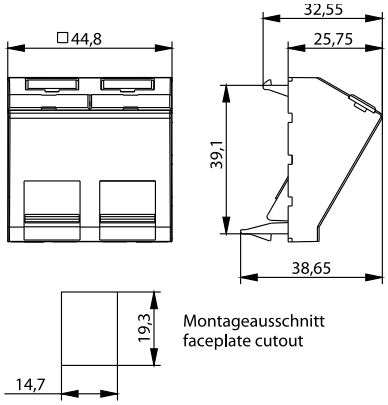
Order no.	Short name	Type	Remarks	Series	Colour
H02010A0083	Faceplate 50x50, projecting	double gang UP/50 incl. module carrier, label field and shutter, without module/coupler	for flush mounting and cavity wall outlets acc. to DIN 49073, mating direction 30°	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white
H02010A0084	Faceplate 50x50, projecting	double gang UP/50 incl. module carrier, label field and shutter, without module/coupler	for flush mounting and cavity wall outlets acc. to DIN 49073, mating direction 30°	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	pearl white RAL 1013

2.3

2 Modular System AMJ-S/AMJ/UMJ

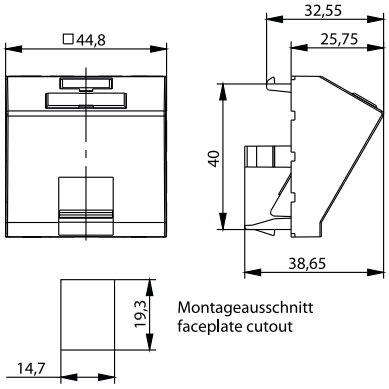
2.3 Applications for AMJ-S Modules and AMJ/UMJ Modules/Coupler

2.3.2 Cable Duct Mounting



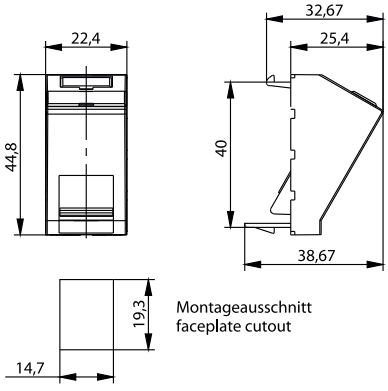
AMJ-S
AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02010C0063	Faceplate 45x45, french style	double gang incl. label field, icon and shutter, without module/coupler	for cable duct and OBO module carrier MT3/45, MT4/45, mating direction 45°	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	white



AMJ-S
AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02010C0064	Faceplate 45x45, french style	single gang incl. label field, icon and shutter, without module/coupler	for cable duct and OBO module carrier MT3/45, MT4/45, mating direction 45°	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	white



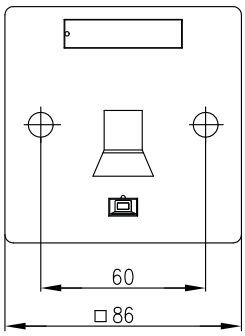
AMJ-S
AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02010C0065	Faceplate 22,5x45, french style	single gang incl. label field, icon and shutter, without module/coupler	for cable duct and OBO module carrier MT3/45, MT4/45, mating direction 45°	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	white

Modular System AMJ-S/AMJ/UMJ

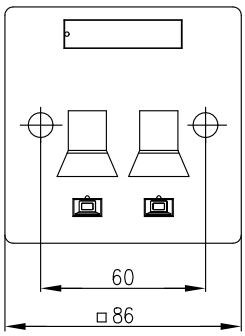
Order no.	Short name	Remarks	Colour
H02010A0066	Blank 22,5x45	for cable duct and OBO module carrier MT3/45, MT4/45	white

AMJ-S
AMJ

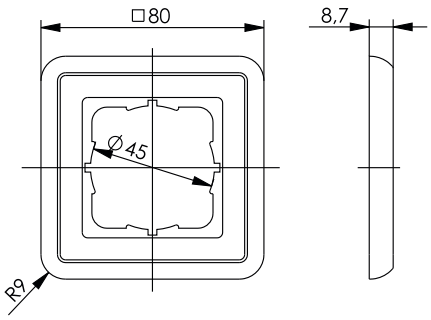


Order no.	Short name	Type	Remarks	Series	Colour
H02010A0055	Faceplate 86x86, for modules/coupler; UK style	single gang incl. label field, icon and shutter, without module/coupler	mating direction 90°	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white

AMJ-S
AMJ



Order no.	Short name	Type	Remarks	Series	Colour
H02010A0056	Faceplate 86x86, for modules/coupler; UK style	double gang incl. label field, icon and shutter, without module/coupler	mating direction 90°	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white

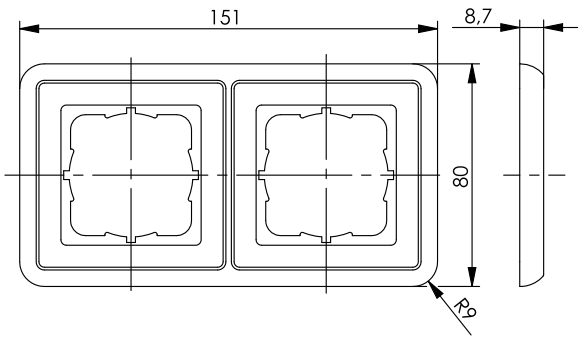


Order no.	Short name	Type	Series	Colour
B00004A0021	Cover frame for flush mounting (UP)	single, 80x80	AMJ45, UMJ45, Modular System AMJ/UMJ, OAD/S	alpine white
B00004A0019	Cover frame for flush mounting (UP)	single, 80x80	AMJ45, UMJ45, Modular System AMJ/UMJ, OAD/S	pearl white RAL 1013

2 Modular System AMJ-S/AMJ/UMJ

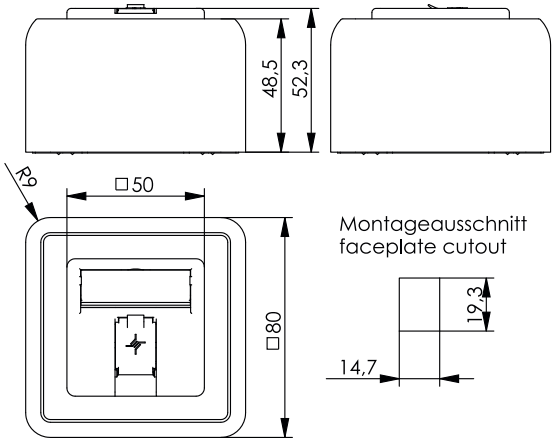
2.3 Applications for AMJ-S Modules and AMJ/UMJ Modules/Coupler

2.3.2 Cable Duct Mounting



Order no.	Short name	Type	Series	Colour
B00005A0009	Cover frame for flush mounting (UP)	double, 80x151	AMJ45, UMJ45, Modular system AMJ/UMJ	alpine white
B00005A0007	Cover frame for flush mounting (UP)	double, 80x151	AMJ45, UMJ45, Modular system AMJ/UMJ	pearl white RAL 1013

2.3.3 Surface Mounting

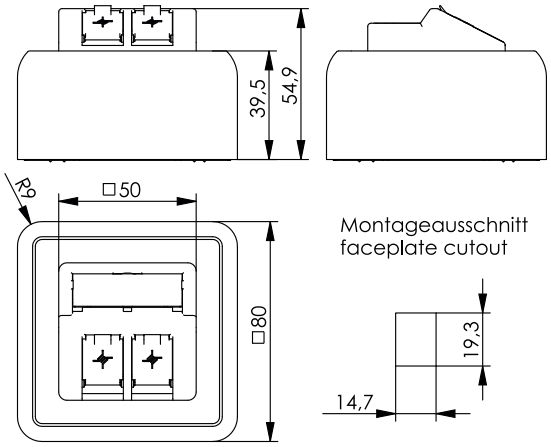


AMJ-S

AMJ

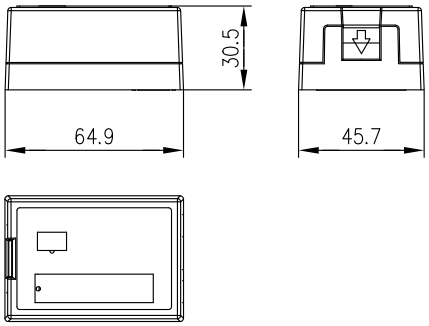
Order no.	Short name	Type	Remarks	Series	Colour
H02000A0090	Faceplate 80x80 for modules/ coupler, integrated metal module carrier and shutters	single gang AP incl. module carrier, label field and shutter, without module/coupler	mating direction 45°	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white
H02000A0091	Faceplate 80x80 for modules/ coupler, integrated metal module carrier and shutters	single gang AP incl. module carrier, label field and shutter, without module/coupler	mating direction 45°	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	pearl white RAL 1013

Modular System AMJ-S/AMJ/UMJ



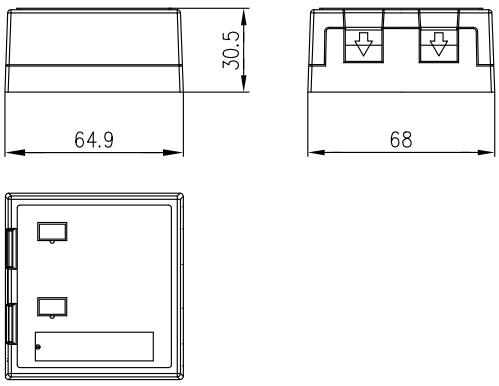
AMJ-S
AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02000A0092	face plate 80x80, projecting	double gang AP incl. module carrier, label field and shutter, without module/coupler	mating direction 30°	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white
H02000A0093	face plate 80x80, projecting	double gang AP incl. module carrier, label field and shutter, without module/coupler	mating direction 30°	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	pearl white RAL 1013



AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02000A0071	Faceplate 46x64	single gang AP compact incl. label field and shutter, without module/coupler	for AMJ/ UMJ modules	AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white



AMJ

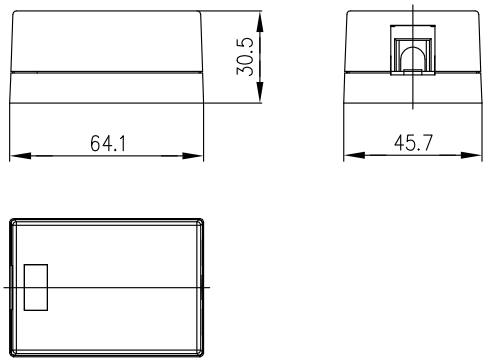
Order no.	Short name	Type	Remarks	Series	Colour
H02000A0072	faceplate 68x64	double gang AP compact incl. label field and shutter, without module/coupler	for AMJ/ UMJ modules	AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white

2.3

2 Modular System AMJ-S/AMJ/UMJ

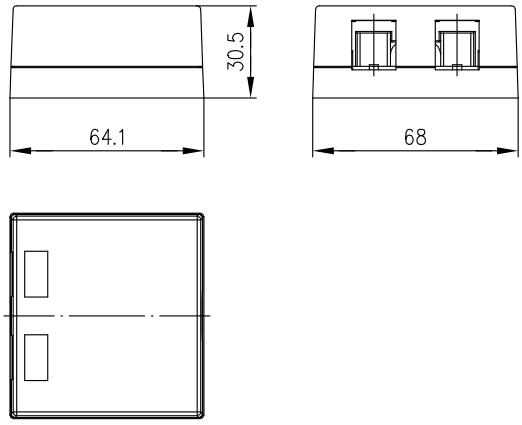
2.3 Applications for AMJ-S Modules and AMJ/UMJ Modules/Coupler

2.3.3 Surface Mounting



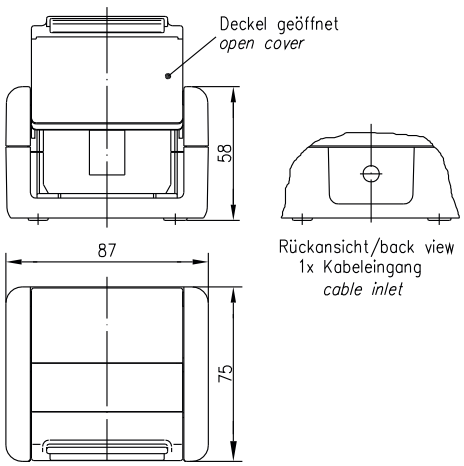
AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02000A0064	Faceplate 46x64	Single gang surface mounting box 1x AP compact, without module/coupler	for AMJ/ UMJ modules	AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white



AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02000A0065	Faceplate 68x64	Double gang surface mounting box 2x AP compact, without modules/coupler	for AMJ/ UMJ modules	AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white

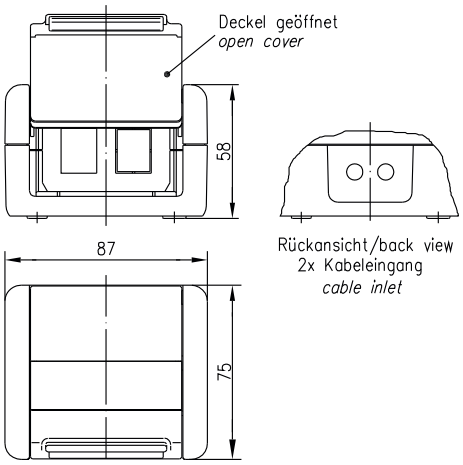


AMJ-S

AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02000A0069	Outlet IP44 AP	single gang incl. faceplate, without module/coupler	for AMJ/ UMJ modules	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	grey

Modular System AMJ-S/AMJ/UMJ

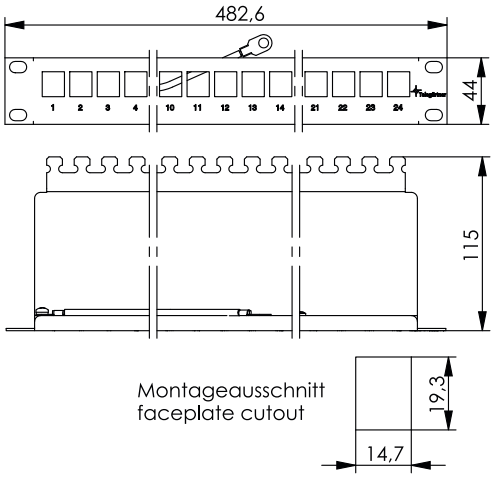


AMJ-S

AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02000A0070	Outlet IP44 AP	double gang incl. faceplate, without module/coupler	for AMJ/ UMJ modules	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	grey

19" Module Carrier without Modules/Coupler 2.3.4



AMJ-S

AMJ

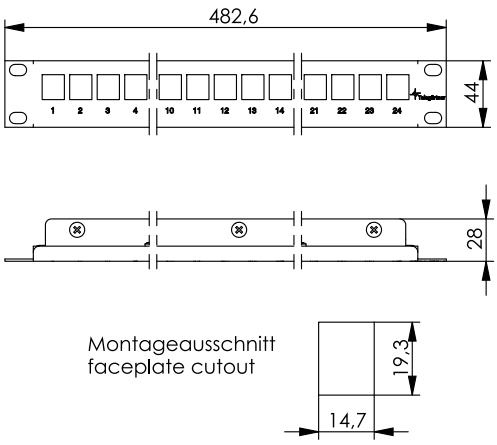
Order no.	Short name	Type	Remarks	Series	Colour
H02025A0167	19" frontplate 1 HU	incl. cable strain relief and grounding kit, without module/coupler	24 ports	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	light grey RAL 7035
H02025A0220	19" frontplate 1 HU	incl. cable strain relief and grounding kit, without module/coupler	24 ports	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	black

2.3

2 Modular System AMJ-S/AMJ/UMJ

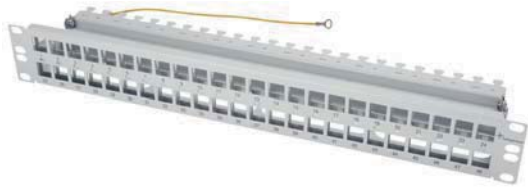
2.3 Applications for AMJ-S Modules and AMJ/UMJ Modules/Coupler

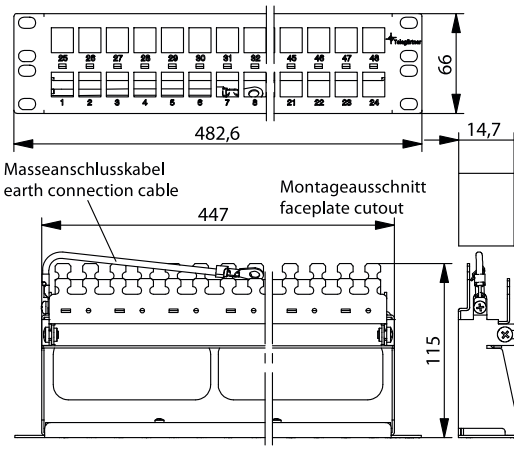
2.3.4 19" Module Carrier without Modules/Coupler



AMJ-S
AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02025A0197	19" frontplate 1 HU	without cable strain relief and grounding kit, without module/coupler	24 ports	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	light grey RAL 7035
H02025A0221	19" frontplate 1 HU	without cable strain relief and grounding kit, without module/coupler	24 ports	AMJ-S; AMJ Modul K; AMJ Coupler K; UMJ Modul K; UMJ Coupler K	black

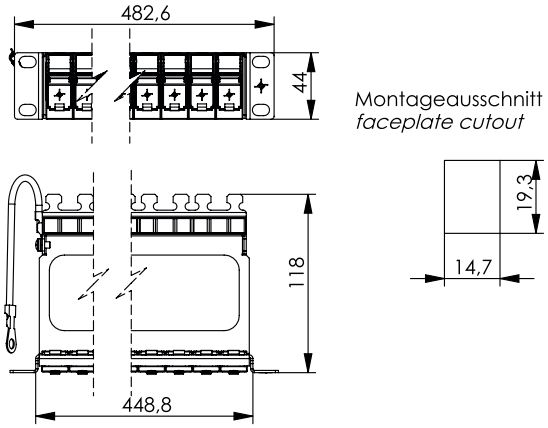




AMJ-S
AMJ

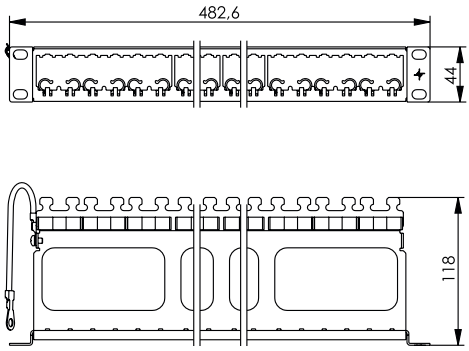
Order no.	Short name	Type	Remarks	Series	Colour
H02025A0171	19" frontplate 1,5 HU	incl. cable strain relief and grounding kit, without module/coupler	48 Ports	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	light grey RAL 7035

Modular System AMJ-S/AMJ/UMJ



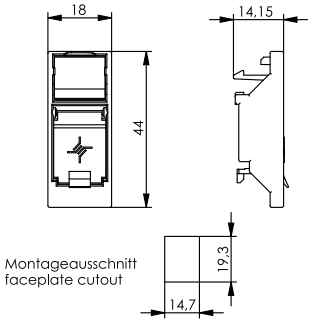
AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02025A0199	19" frontplate Flex 1 HU	incl. 24 snap-in bezels, cable management, cable strain relief and grounding kit, without module/coupler	24 ports	AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	frontplate light grey RAL 7035/ faceplate alpine white
H02025S0199	19" frontplate Flex 1 HU	incl. 24 snap-in bezels, cable management, cable strain relief and grounding kit, without module/coupler	24 ports	AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	frontplate light grey RAL 7035/ faceplate black
H02025A0193	19" frontplate Flex 1 HU	isolated, incl. 24 snap-in bezels, cable management, cable strain relief and grounding kit, without module/coupler	24 ports	AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	frontplate light grey RAL 7035/ faceplate alpine white



AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02025A0214	19" frontplate Flex 1 HU	for 24 snap-in bezels, incl. cable management, cable strain relief and grounding kit, without module/coupler	24 ports	AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	frontplate light grey RAL 7035



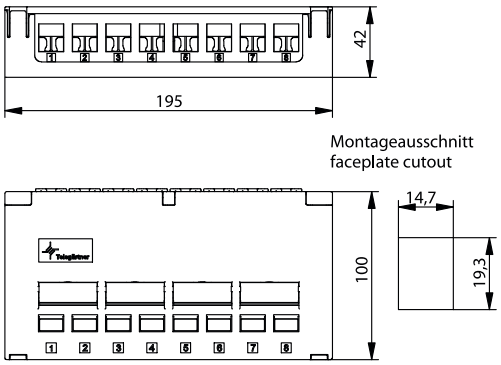
AMJ

Order no.	Short name	Type	Series	Colour
H02023A0005	bezel for 19" frontplate Flex	pack of 6	AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white
H02023A0006	bezel for 19" frontplate Flex	pack of 6	AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	black

2 Modular System AMJ-S/AMJ/UMJ

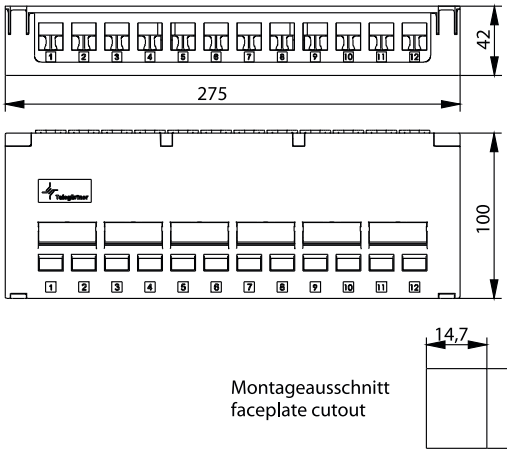
2.3 Applications for AMJ-S Modules and AMJ/UMJ Modules/Coupler

2.3.4 19" Module Carrier without Modules/Coupler



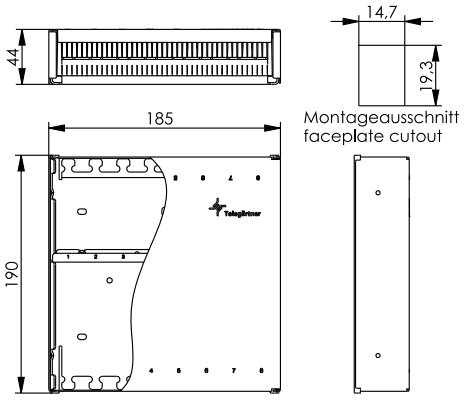
AMJ-S
AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02000A0080	MPD8 AMJ/UMJ	Mini Distributor without module/coupler	8 ports, stackable, hinged lip for easy installation	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white



AMJ-S
AMJ

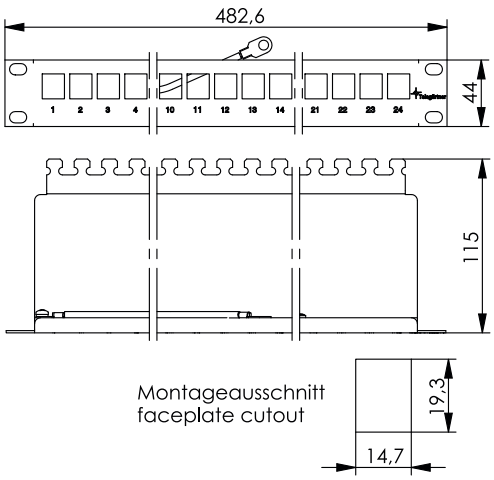
Order no.	Short name	Type	Remarks	Series	Colour
H02000A0081	MPD12 AMJ/UMJ	Mini Distributor without module/coupler	12 ports, stackable, hinged lip for easy installation	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white



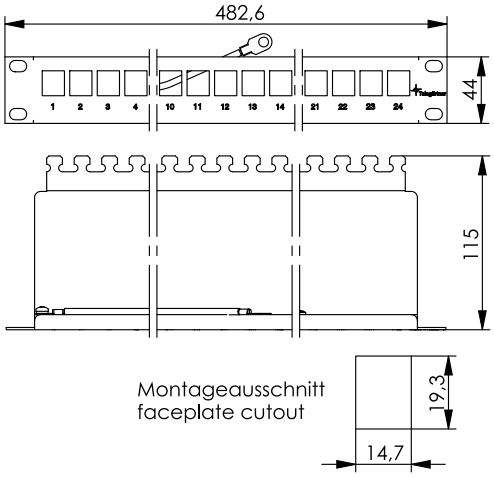
AMJ-S
AMJ

Order no.	Short name	Type	Remarks	Series	Colour
H02025B0222	MPD8 CP Metal AMJ/UMJ	Mini Distributor without module/coupler	8 ports, robust, crush-resistant metal; Consolidation Point	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	sheet steel zinc plated, powder coated, light grey RAL 7035

19" Module Carrier with Modules/Coupler 2.3.5



Order no.	Short name	Type	Remarks	Colour
J02023A0039	19" frontplate 1 HU	incl. 24xAMJ-S Module Cat.6$_A$ T568A, cable strain relief and grounding kit	tool-free connectivity, suitable for RJ45/11/12 plugs	light grey RAL 7035
J02023A0040	19" frontplate 1 HU	incl. 24xAMJ-S Module Cat.6$_A$ T568B, cable strain relief and grounding kit	tool-free connectivity, suitable for RJ45/11/12 plugs	light grey RAL 7035



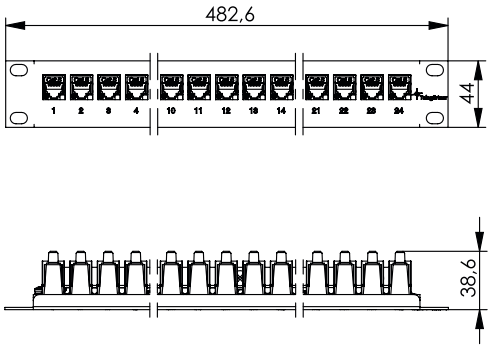
Order no.	Short name	Type	Remarks	Colour
J02023K0027	19" frontplate 1 HU	incl. 24 AMJ Modules K Cat.6$_A$ T568A, cable strain relief and grounding kit	tool-free connectivity, suitable for RJ45/11/12 plugs	light grey RAL 7035
J02023A0033	19" frontplate 1 HU	incl. 24 AMJ Modules K Cat.6$_A$ T568A, cable strain relief and grounding kit	tool-free connectivity, suitable for RJ45/11/12 plugs	black
J02023A0034	19" frontplate 1 HU	incl. 24 AMJ Modules K Cat.6$_A$ T568B, cable strain relief and grounding kit	tool-free connectivity, suitable for RJ45/11/12 plugs	light grey RAL 7035
J02023A0035	19" frontplate 1 HU	incl. 24 AMJ Modules K Cat.6$_A$ T568B, cable strain relief and grounding kit	tool-free connectivity, suitable for RJ45/11/12 plugs	black

2.3

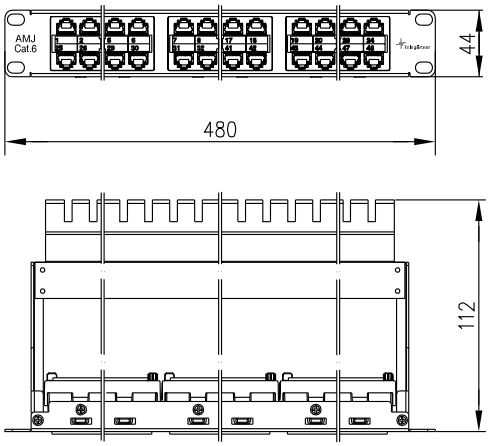
2 Modular System AMJ-S/AMJ/UMJ

2.3 Applications for AMJ-S Modules and AMJ/UMJ Modules/Coupler

2.3.5 19" Module Carrier with Modules/Coupler

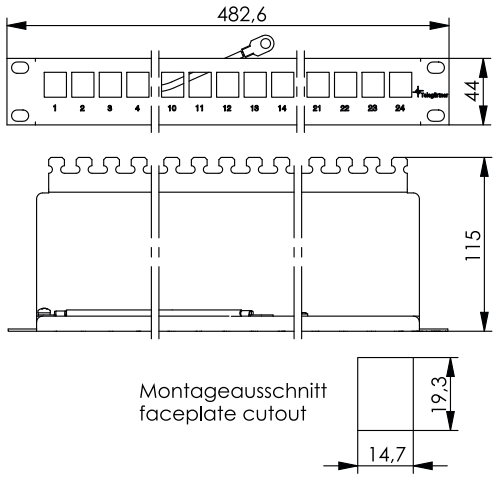


Order no.	Short name	Type	Remarks	Colour
J02023A0026	19" frontplate 1 HU	incl. 24 AMJ Coupler K Cat.6, grounding kit, without cable strain relief	suitable for RJ45/11/12 plugs	light grey RAL 7035
J02023K0025	19" frontplate 1 HU	incl. 24 AMJ Coupler K Cat.5e, grounding kit, without cable strain relief	suitable for RJ45/11/12 plugs	light grey RAL 7035

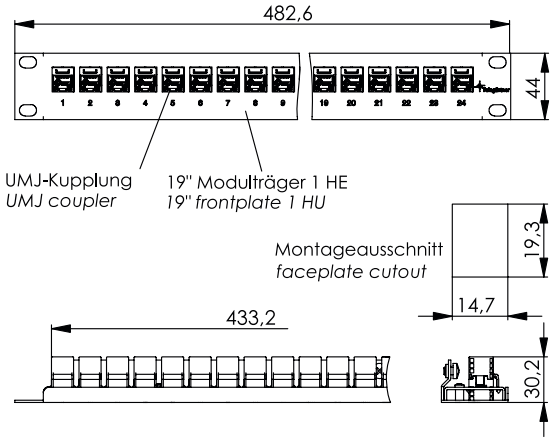


Order no.	Short name	Type	Remarks	Colour
J02024A0007	19" Feedthrough panel, 1 HU	incl. 48 AMJ Coupler K Cat.6 (4x12), cable strain relief and grounding kit	suitable for RJ45/11/12 plugs	light grey RAL 7035
J02024C0007	19" Feedthrough panel, 1 HU	incl. 48 AMJ Coupler K Cat.6 (4x12), cable strain relief and grounding kit	suitable for RJ45/11/12 plugs	black

Modular System AMJ-S/AMJ/UMJ



Order no.	Short name	Type	Remarks	Colour
J02023K0031	19" frontplate 1 HU	incl. 24 UMJ Modules K Class E_A 500 T568A, cable strain relief	tool-free connectivity, suitable for RJ45/11/12 plugs	light grey RAL 7035
J02023A0036	19" frontplate 1 HU	incl. 24 UMJ Modules K Class E_A 500 T568A, cable strain relief	tool-free connectivity, suitable for RJ45/11/12 plugs	black
J02023A0037	19" frontplate 1 HU	incl. 24 UMJ Modules K Class E_A 500 T568B, cable strain relief	tool-free connectivity, suitable for RJ45/11/12 plugs	light grey RAL 7035
J02023A0038	19" frontplate 1 HU	incl. 24 UMJ Modules K Class E_A 500 T568B, cable strain relief	tool-free connectivity, suitable for RJ45/11/12 plugs	black



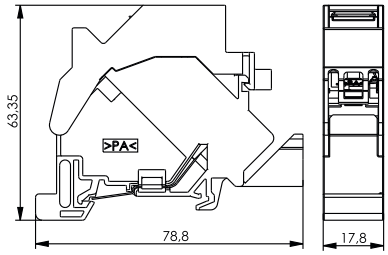
Order no.	Short name	Type	Remarks	Colour
J02023A0030	19" frontplate 1 HU	incl. 24 UMJ Coupler K Cat.6, without cable strain relief	suitable for RJ45/11/12 plugs	light grey RAL 7035
J02023K0029	19" frontplate 1 HU	incl. 24 UMJ Coupler K Cat.5e, without cable strain relief	suitable for RJ45/11/12 plugs	light grey RAL 7035

2.3

2 Modular System AMJ-S/AMJ/UMJ

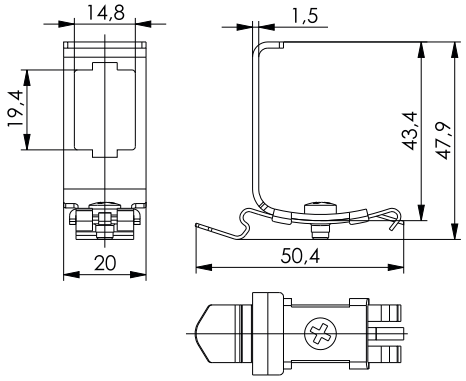
2.3 Applications for AMJ-S Modules and AMJ/UMJ Modules/Coupler

2.3.6 Components for Mounting Rails



Cat.6$_A$ AMJ-S REAL-TIME RE-EMBEDDED

Order no.	Short name	Type	Remarks	Colour
J00023A0205	Mounting rail outlet TS45 AMJ-S	incl. AMJ-S Module Cat.6$_A$ T568A	for mounting rail TH35; GHMT	light grey RAL 7035
J00023A0206	Mounting rail outlet TS45 AMJ-S	incl. AMJ-S Module Cat.6$_A$ T568B	for mounting rail TH35; GHMT	light grey RAL 7035
H02006A0086	Mounting rail outlet TS45 AMJ-S	empty	for mounting rail TH35	light grey RAL 7035

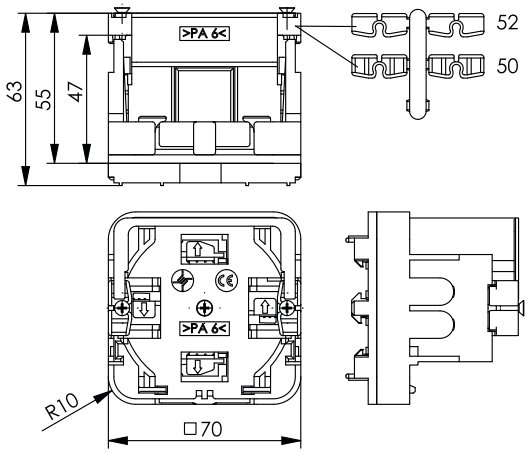


AMJ AMJ-S

Order no.	Short name	Type	Remarks	Series
H06000B0045	mounting rail adaptor	metal, without module	for mounting rail TH35	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K

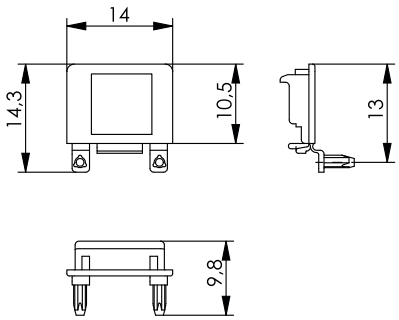
Order no.	Short name	Type	Remarks
H06000A0056	mounting set for mounting rail adaptor	metal	for mouting rail TH35, e.g. for MPD6, MPD8, MPD12

Accessories 2.3.7



Order no.	Short name	Type
H02010B0013	Universal Equipment Mounting Set for installation of outlets AMJ45, UMJ45 in cable ducts for heights 47, 50, 52 and 55 mm and for top hat rails, C-rails, Combi-rails	with 1 half shell
H02010B0014	Universal Equipment Mounting Set for installation of outlets AMJ45, UMJ45 in cable ducts for heights 47, 50, 52 and 55 mm and for top hat rails, C-rails, Combi-rails	without half shell

AMJ-S
AMJ



Order no.	Short name	Colour	Remarks
B00001A0016	Retrofit dust protection flap for AMJ-S, AMJ	black	contents 100 pcs.
B00001B0016	Retrofit dust protection flap for AMJ-S, AMJ	orange	contents 100 pcs.
B00001C0016	Retrofit dust protection flap for AMJ-S, AMJ	green	contents 100 pcs.
B00001D0016	Retrofit dust protection flap for AMJ-S, AMJ	blue	contents 100 pcs.
B00001E0016	Retrofit dust protection flap for AMJ-S, AMJ	yellow	contents 100 pcs.

AMJ-S
AMJ

Order no.	Short name	Colour
B00002A0014	Dust protection flap for face plate; for AMJ-S, AMJ, AMJ45	alpine white
B00002A0015	Dust protection flap for face plate; for AMJ-S, AMJ, AMJ45	pearl white RAL 1013
B00002B0014	Dust protection flap for face plate; for AMJ-S, AMJ, AMJ45	red RAL 3020
B00002C0014	Dust protection flap for face plate; for AMJ-S, AMJ, AMJ45	green RAL 6017
B00002D0014	Dust protection flap for face plate; for AMJ-S, AMJ, AMJ45	blau RAL 5015
B00002E0014	Dust protection flap for face plate; for AMJ-S, AMJ, AMJ45	yellow RAL 1023
B00002F0014	Dust protection flap for face plate; for AMJ-S, AMJ, AMJ45	black RAL 9005

2 Modular System AMJ-S/AMJ/UMJ

2.3 Applications for AMJ-S Modules and AMJ/UMJ Modules/Coupler

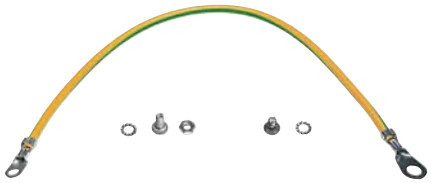
2.3.7 Accessories

Order no.	Short name	Colour	Remarks
B00111A0018	Icon „Data“	yellow	for H02000A0080, H02000A0081
B00111A0019	Icon „Data“	red	for H02000A0080, H02000A0081
B00111A0023	Icon „Data“	green	for H02000A0080, H02000A0081
B00111A0024	Icon „Data“	blue	for H02000A0080, H02000A0081
B00111A0025	Icon „Phone“	green	for H02000A0080, H02000A0081
B00111A0026	Icon „Phone“	blue	for H02000A0080, H02000A0081
B00111A0027	Icon „Phone“	yellow	for H02000A0080, H02000A0081
B00111A0028	Icon „Phone“	red	for H02000A0080, H02000A0081
B00111A0031	icon „Neutral“	white	for H02000A0080, H02000A0081

Order no.	Short name	Type
N00000A0013	Plier wrench 1 3/8 inch	auxiliary tool for AMJ, STX and UMJ module assembly, 2 in 1 tool: gripper and spanner

Order no.	Short name	Type
N00000B0020	Parallel pressing tool	auxiliary tool for AMJ, UMJ, STX Module and MFP8 plug assembly

Modular System AMJ-S/AMJ/UMJ



Order no.	Short name	Type
L00040A0009	Grounding Set	Cable 4 mm², with screw and lock washers, length 0,3 m

Order no.	Short name
B05002A0012	Marking strip 12 x 430 mm self-adhesive

Order no.	Short name
H06000A0001	Fixing set for Patch Panels (4 screws M6x16 with nuts)

Order no.	Short name
B06013A0010	Cable Management bar for 19" patch panels

Order no.	Short name
H02025A0343	19" Patch Panel with 5 cable guide bars (plastic)

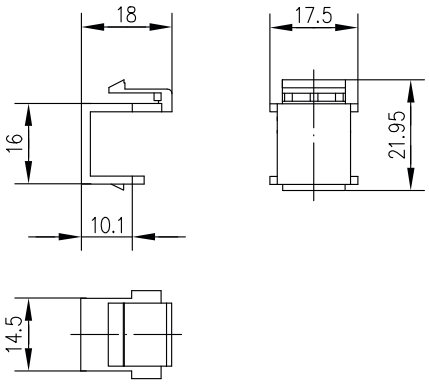
Order no.	Short name
H02025A0116	Cable Management plate for 19" patch panels 1 HU
H02025A0117	Cable Management plate for 19" patch panels 2 HU

2.3

2 Modular System AMJ-S/AMJ/UMJ

2.3 Applications for AMJ-S Modules and AMJ/UMJ Modules/Coupler

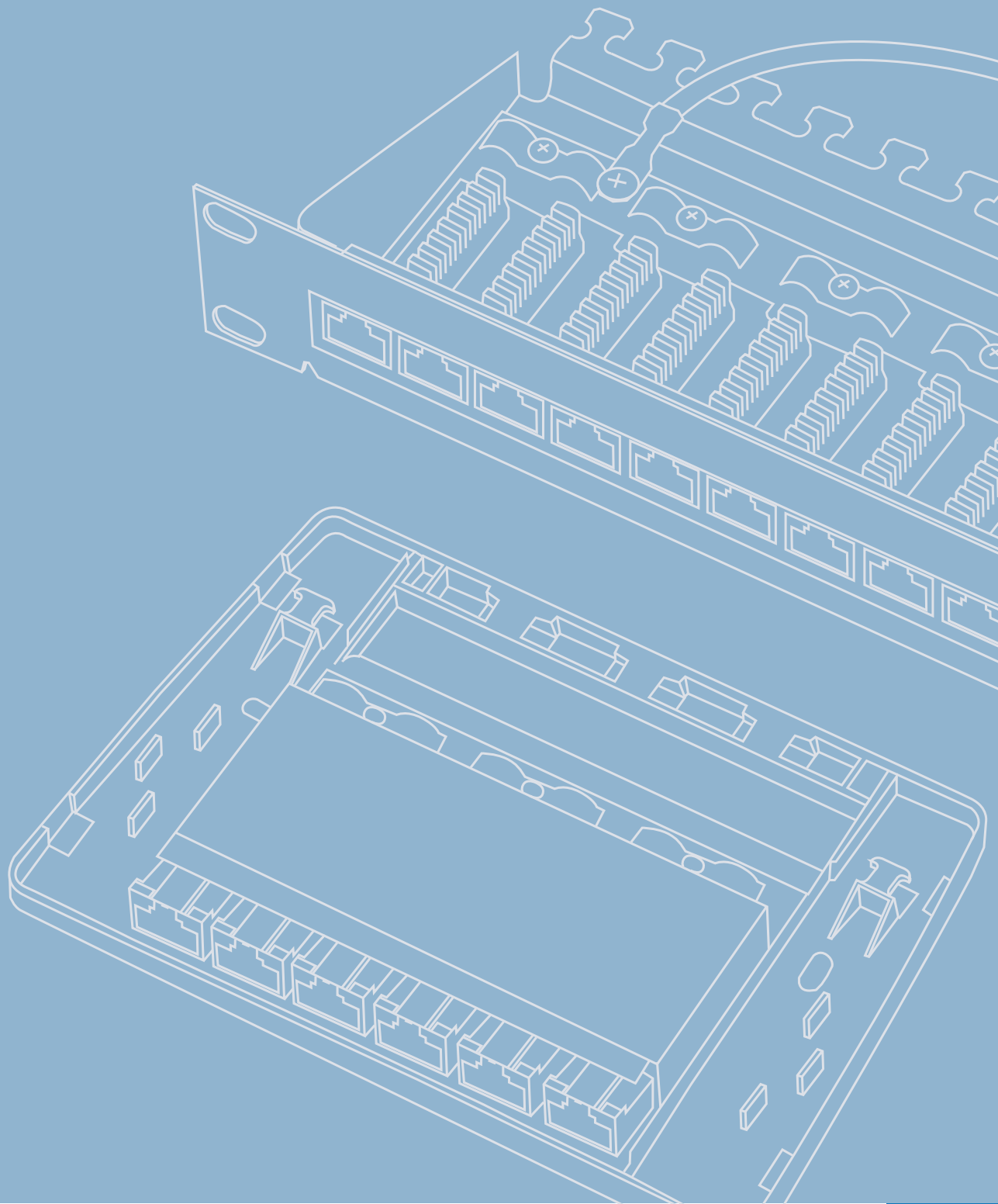
2.3.7 Accessories

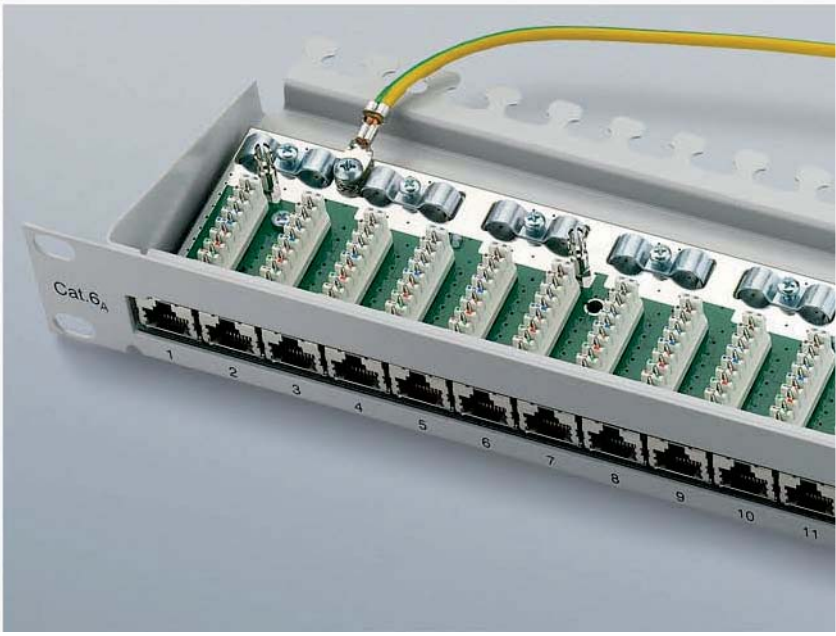


Order no.	Short name	Colour	Mount. dim.
H00030A0008	Blind cover for 19" Module carrier and surface mounting boxes AP compact	black	Z131

3

Patch Panels and Distributors





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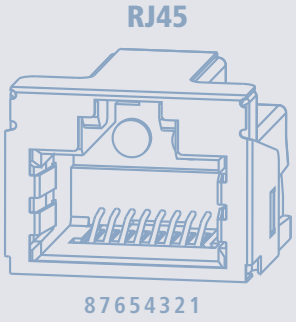
Patch Panels and Distributors

	19" Patch Panels 10" Patch Panels	19" Patch Panels ISDN/Tel	Mini Distributor
	Cat.6_A, Cat.6A Class E_A 500 Cat.5e		Cat.6_A Cat.6A
Standards			
Connectors	IEC 60603-7-51 / -7-5 / -7-3 / -7-41	IEC 60603-7	IEC 60603-7-51 / -7-41
Mechanical Characteristics			
Insertion force	≤ 30 N	≤ 20 N	≤ 30 N
Durability (mating cycles)	≥ 750	≥ 750	≥ 750
Material: housing	sheet steel powder coated	sheet steel powder coated	
Material: housing mini distributor	-	-	ABS
Material: housing mini distributor 3HU	-	-	stainless sheet steel
Material: cover (shielded type)	stainless sheet steel	-	stainless sheet steel
Material: insulators	PA, PBT, PBP, PE	PBT, PPO, PVC	PBT
Material: PCB	FR4	FR4	FR4
Material: PCB finish	tin plated	tin plated	tin plated
Material: contact spring	CuSn, spring steel	CuSn	spring steel
Material: contact spring finish	min. 0,8 µm Au on 1,2 µm Ni		
Material: contact IDC termination	CuZn	CuZn	CuZn
Material: IDC termination finish	tin plated	tin plated	tin plated
LSA Plus: Cu conductor diameter	solid 0,40 - 0,65 mm AWG 26/1 - AWG 22/1		
LSA Plus: Wire diameter	0.7 - 1.6 mm	0.7 - 1.6 mm	0.7 - 1.6 mm
Environmental Requirements			
Ambient temperature	-40° C to + 70° C	-40° C to + 70° C	-40° C to + 70° C
Electrical Characteristics			
Contact resistance	≤ 20 mΩ	≤ 20 mΩ	≤ 20 mΩ
Insulation resistance	≥ 500 MΩ	≥ 500 MΩ	≥ 500 MΩ
Voltage proof: contact-contact	≥ 1000 V, DC	≥ 1000 V, DC	≥ 1000 V, DC
Voltage proof: contact-shield	≥ 1500 V, DC		≥ 1500 V, DC
Current carrying capacity at 50°C	1 A	1 A	1 A
PoE+ acc to IEEE 802.3at	suitable for Power over Ethernet+		suitable for Power over Ethernet+
Transmission Characteristics			
Category 6_A (component) for products Cat.6_A	ISO/IEC 11801, DIN EN 50173-1	-	ISO/IEC 11801, DIN EN 50173-1
Class E_A (Permanent Link) for products Cat.6_A, Cat.6A, Class E_A 500	ISO/IEC 11801, DIN EN 50173-1	-	ISO/IEC 11801, DIN EN 50173-1
Class E_A (Channel) for products Cat.6_A, Cat.6A, Class E_A 500	ISO/IEC 11801, DIN EN 50173-1	-	ISO/IEC 11801, DIN EN 50173-1
Category 5e	ISO/IEC 11801, DIN EN 50173-1	-	-
Category 3	-	ISO/IEC 11801, DIN EN 50173-1	-
Gigabit Ethernet acc. to IEEE 802.3	fulfilled	-	-
10 Gigabit Ethernet acc. to IEEE 802.3an	for Cat.6_A, Cat.6A, Class E_A	-	for Cat.6_A, Cat.6A

3 Patch Panels and Distributors

RJ45 pin colour coding acc. to EIA/TIA 568 A and B



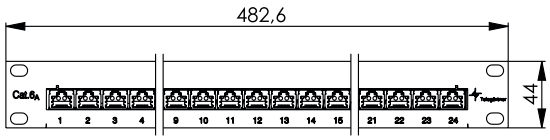
	EIA/TIA 568 A	PIN RJ45	EIA/TIA 568 B	
pair 3	white / green	1	white / orange	pair 2
	green	2	orange	
pair 2	white / orange	3	white / green	pair 3
pair 1	blue	4	blue	pair 1
	white / blue	5	white / blue	
	orange	6	green	
pair 4	white / brown	7	white / brown	pair 4
	brown	8	brown	

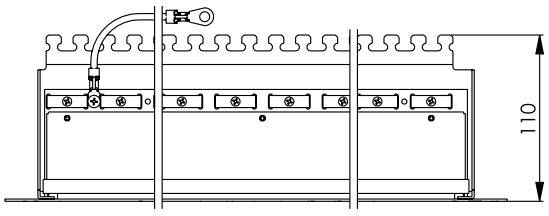
3.1 19" Patch Panels K Cat.6$_A$, Cat.6A & Cat.6

Performance Characteristics

- 19"/10" rack mount unit 1 HU with 12, 16 or 24 RJ45 jacks assembled on one common PCB
- no special tooling required for mounting of cover (shielded type)
- grounding using the enclosed earth connection cable (shielded types)
- 360 degree shielding can be connected directly on the PCB on a large contact spot using screw clamps, without need of twisting the shielding braid (shielded type)
- risk of short-circuit between screening braid and data leads is minimized due to sufficient space between data terminals and screening contact
- cables are terminated via IDC (LSA Plus) terminals with colour coding acc. to EIA/TIA 568 A and B
- printed circuit board is mounted horizontally
- limit of 13 mm max. of untwisted length of wires can be easily achieved without restricting an easy installation
- enclosed cable ties for strain relief of the cables without need of screws and special tools
- modular jacks are numbered on the front panel
- housing is made of steel and powder-laminated in light grey (RAL 7035) or black; the cover is made of stainless steel
- Cat.6$_A$-, Class E$_A$ 500 & Cat.6A types with overbending protection: ≥750 mating cycles with RJ45/RJ11/RJ12 plugs

3.1.1 MPP24 K Cat.6$_A$ & Cat.6A





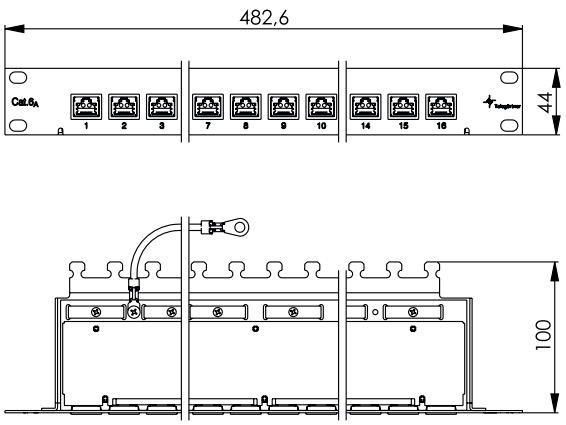
Cat.6$_A$

REAL-TIME RE-EMBEDDED

Order no.	Short name	Type	Remarks	Colour
J02023A0050	MPP24-HS K Cat.6$_A$	24 x RJ45 shielded	GHMT	light grey RAL 7035
J02023S0050	MPP24-HS K Cat.6$_A$	24 x RJ45 shielded	GHMT	black
J02023A0051	MPP24-H K Cat.6A	24 x RJ45 unshielded, without cover		light grey RAL 7035
J02023S0051	MPP24-H K Cat.6A	24 x RJ45 unshielded, without cover		black

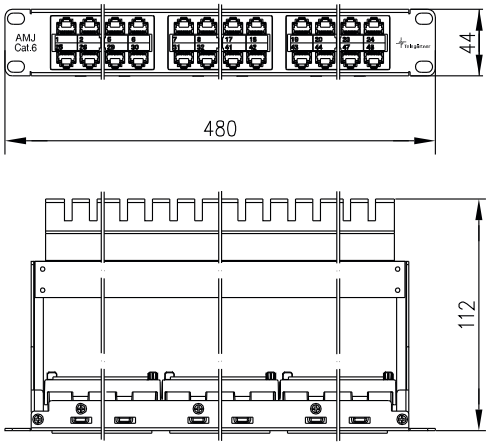
Patch Panels and Distributors

MPP16 K Cat.6$_A$ & Cat.6A 3.1.2



Order no.	Short name	Type	Remarks	Colour
J02022A0050	MPP16-HS K Cat.6$_A$	16 x RJ45 shielded	GHMT	light grey RAL 7035
J02022A0051	MPP16-H K Cat.6A	16 x RJ45 unshielded, without cover		light grey RAL 7035
J02022S0051	MPP16-H K Cat.6A	16 x RJ45 unshielded, without cover		black

19" Feedthrough Panel Cat.6 3.1.3

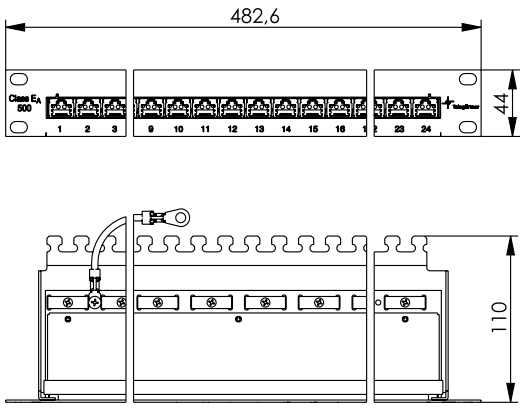


Order no.	Short name	Type	Remarks	Colour
J02024A0007	19" Feedthrough panel, 1 HU	incl. 48 AMJ Coupler K Cat.6 (4x12), cable strain relief and grounding kit	suitable for RJ45/11/12 plugs	light grey RAL 7035
J02024C0007	19" Feedthrough panel, 1 HU	incl. 48 AMJ Coupler K Cat.6 (4x12), cable strain relief and grounding kit	suitable for RJ45/11/12 plugs	black

3 Patch Panels and Distributors

3.2 19" Patch Panels K Class E_A 500

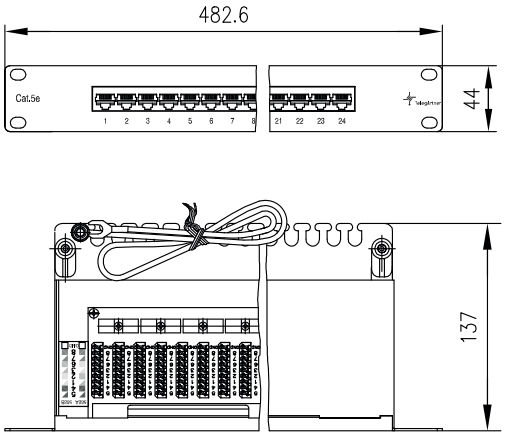
3.2.1 MPP24 K Class E_A 500



Order no.	Short name	Type	Colour
J02023A0052	MPP24-HS K Class E_A 500	24 x RJ45 shielded	light grey RAL 7035

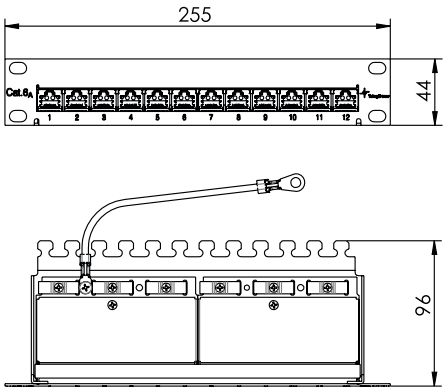
3.3 19" Patch Panels Cat.5e

3.1.1 MPP24 Cat.5e



Order no.	Short name	Type	Colour
J02023B0017	MPP24-HS Cat.5e	24 x RJ45 shielded	light grey RAL 7035
J02023B0018	MPP24-H Cat.5e	24 x RJ45 unshielded, without cover	light grey RAL 7035
J02023S0018	MPP24-H Cat.5e	24 x RJ45 unshielded, without cover	black

10" Mini Patch Panels K Cat.6$_A$ 3.4



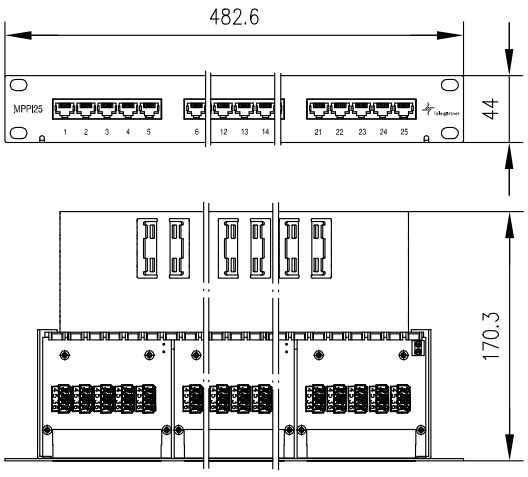
Order no.	Short name	Type	Colour
J02022A0057	10" MPP12-HS K Cat.6$_A$	12 x RJ45 shielded	light grey RAL 7035

19" ISDN/Telephone Patch Panels Cat.3 3.5

Performance Characteristics

- 19" rack mount unit 1 HU with 25, 30 or 50 RJ45 jacks assembled on one common PCB
- wire termination via IDC (LSA-Plus) terminals
- screening contact (shielded types) on a stainless steel contact bar
- strain relief by common cable ties (not included) without need of screws and special tools
- modular jacks are numbered on the front panel
- housing made of steel, light grey (RAL 7035) powder-laminated

MPPI25 Cat.3 3.5.1

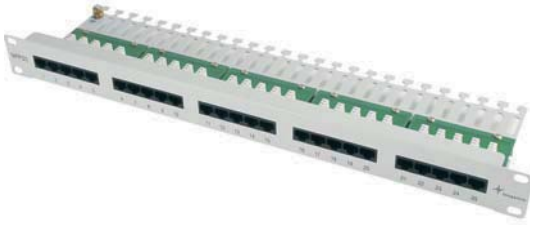


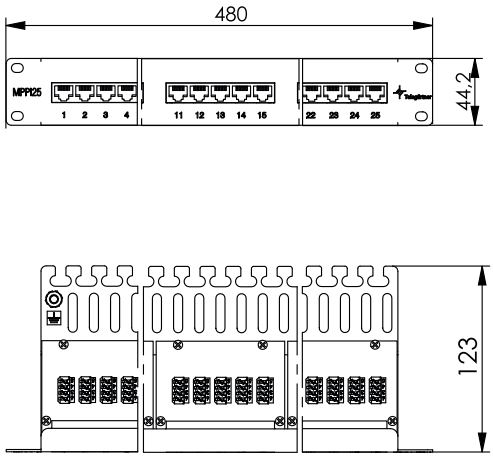
Order no.	Short name	Type	Colour
J02023C0014	MPPI25-H	25xRJ45 unshielded, with wire management	light grey RAL 7035

3 Patch Panels and Distributors

3.5 19" ISDN/Telephone Patch Panels Cat.3

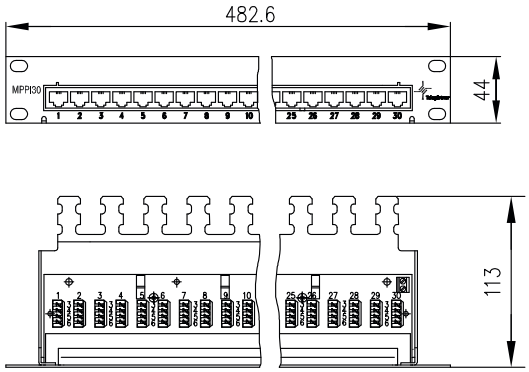
3.5.1 MPPI25 Cat.3





Order no.	Short name	Type	Colour
J02023L0014	MPPI25-H	25xRJ45 unshielded, without wire management	light grey

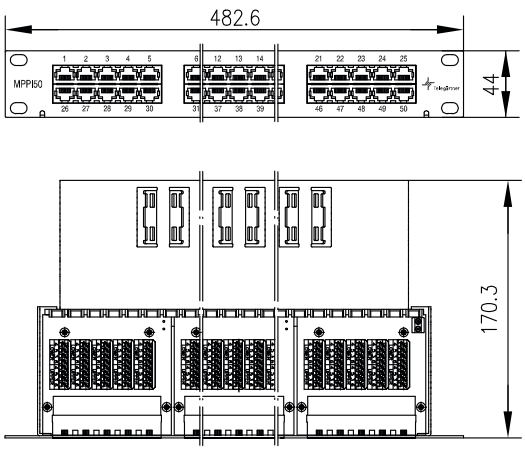
3.5.2 MPPI30 Cat.3



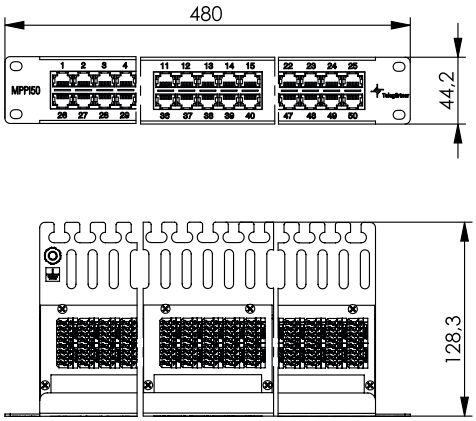
Order no.	Short name	Type	Colour
J02023E0010	MPPI30-H	30xRJ45 unshielded, without wire management	light grey RAL 7035

Patch Panels and Distributors

MPPI50 Cat.3 3.5.3



Order no.	Short name	Type	Colour
J02024C0002	MPPI50-H	50xRJ45 unshielded, with wire management	light grey RAL 7035



Order no.	Short name	Type	Colour
J02024L0002	MPPI50-H	50xRJ45 unshielded, without wire management	light grey RAL 7035

3 Patch Panels and Distributors

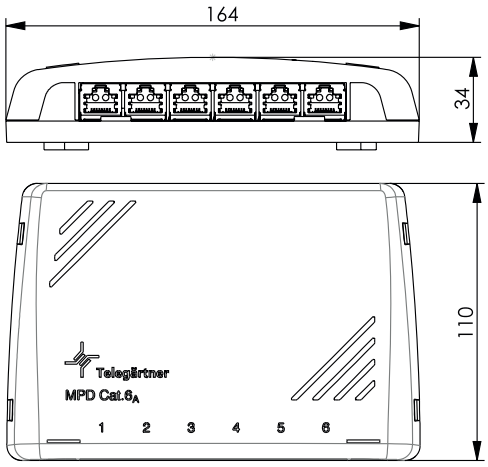
3.6 Mini Distributor

Networks which have a small number of subscribers require simple and cost-effective distributors without 19“ racks and separate EDP rooms. For this purpose we have developed distributors which are suitable as cable distributors or as connection devices for groups of participants at their workdesk. Up to 12 subscribers can be connected using shielded or unshielded installation cabling.
The cables can be led into the housing from behind or from below; the distributor can be affixed to the wall, in a cable duct or simply placed on to the desk. A 19“ rack mount version (with 3 HU) is also available.

Performance Characteristics

- Mini distributor MPD6 and MPD12 with 6 resp. 12 RJ45 jacks assembled on one common PCB
- Mini distributors MPD8 AMJ/UMJ and MPD12 AMJ/UMJ for 8 resp. 12 AMJ/UMJ modules or couplers
- printed circuit board is mounted horizontally in the housing, shielded versions are provided inside with a metal shielding cover; in addition, an earth connection cable can be connected to the PCB (with screw M4)
- no special tooling required for mounting of cover (shielded type)
- enclosed cable ties for strain relief of the cables without need of screws and special tools
- 360 degrees shielding of MPD-HS can be connected directly on the PCB on a large contact spot using a screw clamp without need of twisting the braid
- cables are terminated via IDC (LSA Plus) terminals with colour coding acc. to EIA/TIA 568A and B
- limit of 13 mm max. of untwisted length of wires can be easily achieved without restricting an easy installation
- housing made of thermoplastic, halogene-free, with non-slip bumpers
- shielding cover made of stainless steel
- 19“ rack-mount design size 3 HU/8 PU with 6xRJ45 and 3 HU/10 PU with 12xRJ45 available, front plate anodized aluminum
- Cat.6_A- & Cat.6A types with overbending protection: suitable for 6- (RJ11/12) and 8-pin connectors (RJ45); can be used in the modular jack without additional installation kits

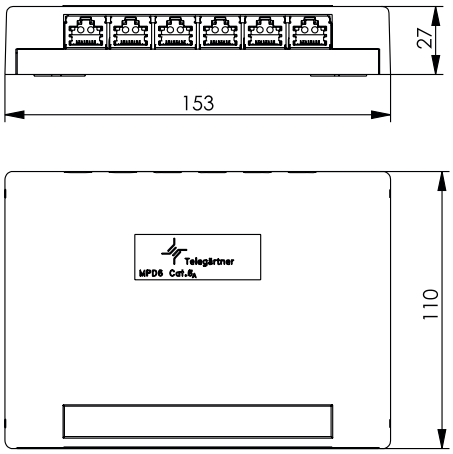
3.6.1 Mini Distributor MPD6 K Cat.6_A & Cat.6A



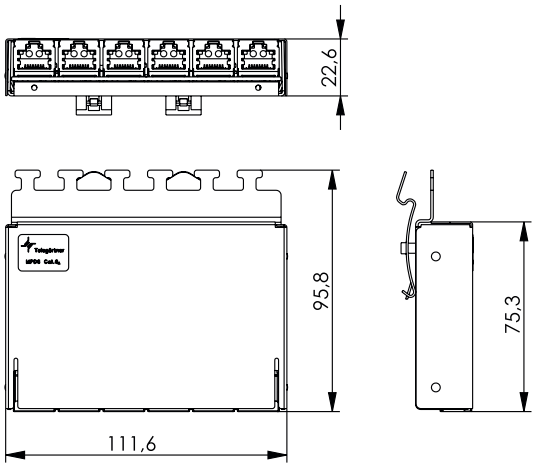
Order no.	Short name	Type	Remarks	Colour
J02021A0051	MPD6-HS K Cat.6_A	shielded	GHMT	light grey RAL 7035
J02021A0050	MPD6-HS K Cat.6_A	shielded	GHMT	alpine white
J02021A0053	MPD6-H K Cat.6A	unshielded, without cover		light grey RAL 7035

Order no.	Short name	Type
B05002A0011	Marking strip für MPD6 (J02021A0051, J02021A0053, J02021A0050)	12 x 132 mm, self adhesive

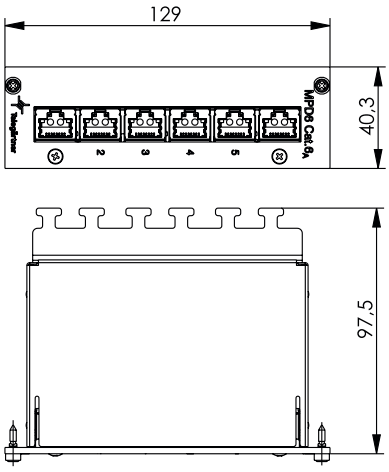
Patch Panels and Distributors



Order no.	Short name	Type	Colour	Remarks
J02021A0052	MPD6-HS flex K Cat.6$_A$	shielded, stackable	RAL 9010 pure white	incl. 4 connection pins for stacking



Order no.	Short name	Type	Remarks
J02021A0055	MPD6-HS K Cat.6$_A$	6-port mini distributor metal incl. 2 mounting rail adaptors	suitable for RJ45/11/12 plugs, mounting rail TH35

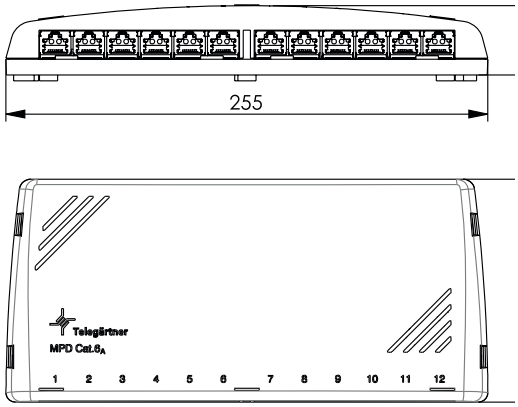


Order no.	Short name	Type	Colour
J02021A0054	MPD6-HS K Cat.6$_A$ 3 HU / 8 PU	shielded, 6x RJ45, 3 HU / 8 PU	front panel anodized aluminium

3 Patch Panels and Distributors

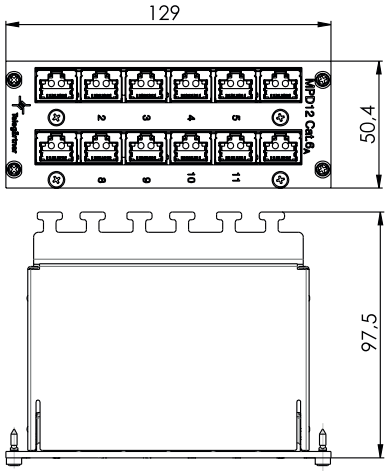
3.6 Mini Distributor

3.6.2 Mini Distributor MPD12 K Cat.6$_A$, Cat.6A



Order no.	Short name	Type	Remarks	Colour
J02022A0053	MPD12-HS K Cat.6$_A$	shielded	GHMT	light grey RAL 7035
J02022A0052	MPD12-HS K Cat.6$_A$	shielded	GHMT	alpine white
J02022A0054	MPD12-H K Cat.6A	unshielded, without cover		light grey RAL 7035

Order no.	Short name	Type
B05002A0010	Marking strip for MPD12 (J02022A0053, J02022A0054, J02022A0052)	12 x 220 mm, self adhesive



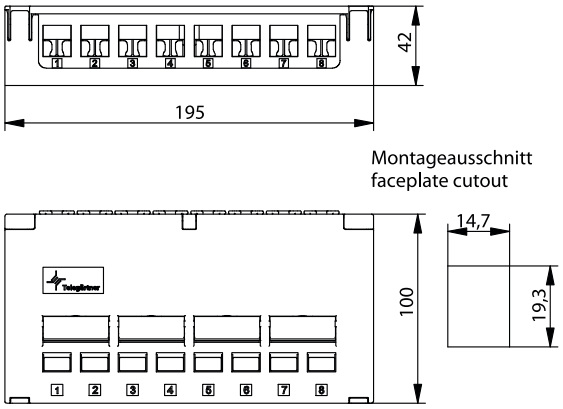
Order no.	Short name	Type	Remarks	Colour
J02022A0055	MPD12-HS K Cat.6$_A$ 3 HU / 10 PU	shielded, 12x RJ45, 3 HU / 10 PU	GHMT	front panel anodized aluminium
J02022A0056	MPD12-H K Cat.6A 3 HU / 10 PU	unshielded, without cover		front panel anodized aluminium

Patch Panels and Distributors

Mini Distributor MPD8 AMJ/UMJ 3.6.3

AMJ-S

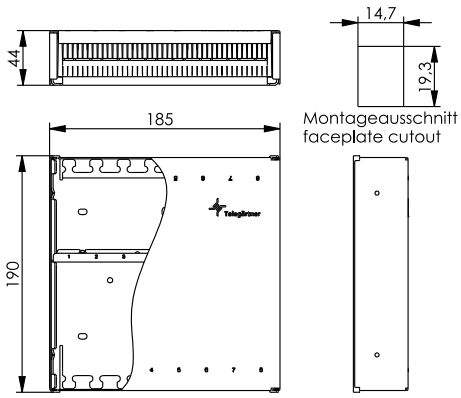
AMJ



Order no.	Short name	Type	Remarks	Series	Colour
H02000A0080	MPD8 AMJ/UMJ	Mini Distributor without module/coupler	8 ports, stackable, hinged lip for easy installation	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white

AMJ-S

AMJ

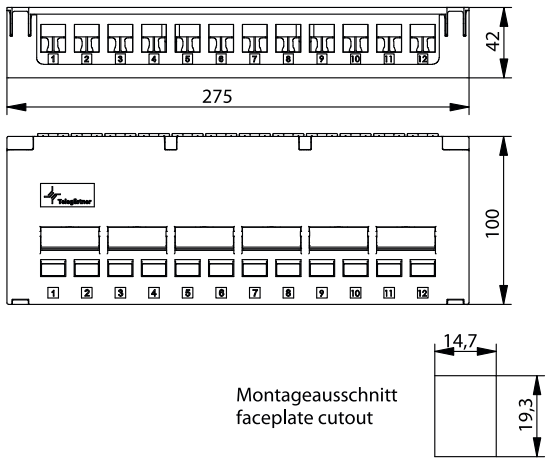


Order no.	Short name	Type	Remarks	Series	Colour
H02025B0222	MPD8 CP Metal AMJ/UMJ	Mini Distributor without module/coupler	8 ports, robust, crush-resistant metal; Consolidation Point	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	sheet steel zinc plated, powder coated, light grey RAL 7035

Mini Distributor MPD12 AMJ/UMJ 3.6.4

AMJ-S

AMJ



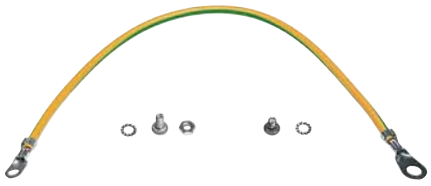
Order no.	Short name	Type	Remarks	Series	Colour
H02000A0081	MPD12 AMJ/UMJ	Mini Distributor without module/coupler	12 ports, stackable, hinged lip for easy installation	AMJ-S; AMJ Module K; AMJ Coupler K; UMJ Module K; UMJ Coupler K	alpine white

3.6 Mini Distributor

3.6.5 Accessories for Mini Distributors

Order no.	Short name	Colour	Remarks
B00111A0018	Icon „Data“	yellow	for H02000A0080, H02000A0081
B00111A0019	Icon „Data“	red	for H02000A0080, H02000A0081
B00111A0023	Icon „Data“	green	for H02000A0080, H02000A0081
B00111A0024	Icon „Data“	blue	for H02000A0080, H02000A0081
B00111A0025	Icon „Phone“	green	for H02000A0080, H02000A0081
B00111A0026	Icon „Phone“	blue	for H02000A0080, H02000A0081
B00111A0027	Icon „Phone“	yellow	for H02000A0080, H02000A0081
B00111A0028	Icon „Phone“	red	for H02000A0080, H02000A0081
B00111A0031	icon „Neutral“	white	for H02000A0080, H02000A0081

Order no.	Description	Type
H02032A0021	19“ Module Carrier with flange 3 HU / 84 PU	anodized aluminum, completely pre-assembled for 19“ rack



Order no.	Short name	Type
L00040A0009	Grounding Set	Cable 4 mm², with screw and lock washers, length 0,3 m

Patch Panels and Distributors

Adaptor 3.7

T-Adaptors 3.7.1

When all of the available connections in a data network are occupied then problems arise to be sure, as soon as new subscribers are added. One solution would be to lay additional cables as well as to install further distribution panels and boxes. But this sometimes proves to be very difficult and costly because of poor accessibility to installation ducts.

The Modular T-Adaptors make it possible to duplicate connections without having to intervene in the existing network structures with cable sharing. This solution is available for the network topologies Ethernet, Token Ring and Ethernet/ISDN combinations in different versions shielded or unshielded. Important: Each one adaptor has to be connected to the patch panel (2 inputs from the hub) and to the data outlet (2 outputs to the terminals)!

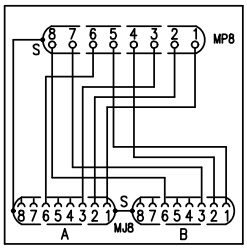
The adaptor, which is built into a plastic housing, divides an attached 8-wire RJ45 output into two sockets, each of which then has 4-wire pin assignment. The 15 cm long connecting cable is provided with an RJ45 plug which is inserted into the output of the box and/or the distributor. The connecting cables to the subscriber and/or to the next distributor socket are then inserted into the two RJ45 sockets at the adaptor output. The outputs to the subscribers are marked by coloured mounting symbols for data and/or telephone connections. A labelling plate under a transparent cover offers space for marking the outputs. On the underside of the adaptor housing there is a label with information on the pin assignment so that the distributor structure can be precisely traced in case additional action is required.

Performance Characteristics

- for the partitioning of an 8-wire RJ45 jack to 4-wire applications such as: 2x10/100BaseT, 2xToken Ring, 10/100BT/ISDN
- shielded and unshielded
- connection lead 150 mm long, strain relieved, RJ45-plug with latch bar protection
- moulded cable boot
- plastic housing, halogen-free, colour light grey RAL 7035
- indication of the outputs by plug-in symbols for data and telephone application
- marking label with transparent plastic cover
- label with wiring scheme underside of the housing

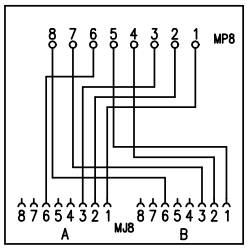
Connection Diagrams

J00029A0009



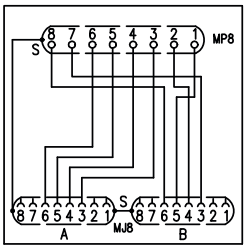
T–Adapter S
10/100BT / 10/100BT
1–2, 3–6/1–2, 3–6

J00029A0010



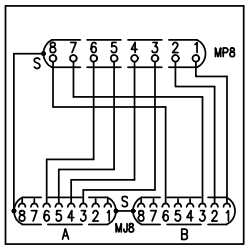
T–Adapter
10/100BT / 10/100BT
1–2, 3–6/1–2, 3–6

J00029A0011

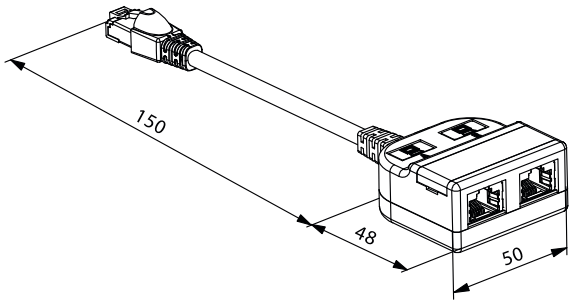


T–Adapter S
ISDN,TR / ISDN,TR
4–5, 3–6/4–5, 3–6

J00029A0013



T–Adapter S
ISDN / 10/100BT
4–5, 3–6/1–2, 3–6



Order no.	Remarks	Type	Colour
J00029A0009	T-Adaptor S, 2x10/100BT	shielded, outputs 2x10/100BaseT	light grey RAL 7035
J00029A0010	T-Adaptor, 2x10/100BT	unshielded, outputs 2x10/100BaseT	light grey RAL 7035
J00029A0011	T-Adaptor S, 2xTR	shielded, outputs 2xToken Ring	light grey RAL 7035
J00029A0013	T-Adaptor S, 10/100BT/ISDN	shielded, outputs 1x 10/100BaseT / 1xISDN	light grey RAL 7035

3 Patch Panels and Distributors

3.7 Adaptor

3.7.2 Adaptors ISDN/Tel.

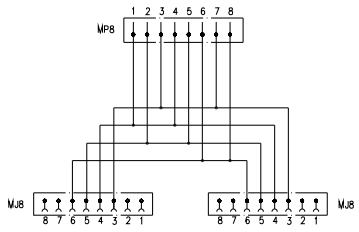
With the ISDN/Telephone T-adaptors structured wiring systems (Cat.5) with star topology, which are already installed in many offices and buildings, can be used for setting up ISDN bus wiring. Laying new cables for an ISDN system is no longer necessary. Once the adaptors are removed then the star structure of all ports is restored.
The T-Adaptor is available in three different versions for connection to the 19" Patch Panel and the wall outlets: the T-Bus-Ext. PP for the Patch Panel side, the T-Bus-Ext. Outlet for the socket side and the T-Bus Term with an integrated 100 Ω terminating resistor. In order to realise the parallel S0 bus the adaptors for the Patch Panel side are inserted into the panel ports and connected with each other using patch cable.
The ISDN Basic Access (NT) is connected to the first adaptor on the patch panel. If T-adaptors are also put into the outlets, the number of connection possibilities even doubles.

Performance Characteristics

- for conversion of a star network configurations to S0 bus structure for ISDN/Telephone
- different types for complete configuration
- connection cable 100 mm long with moulded connector
- indication of the outputs by plug-in telephone symbols
- label with wiring scheme underside of the housing
- halogen-free plastic housing, grey

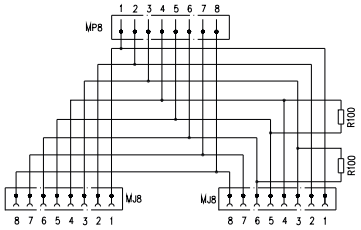
Connection Diagrams

J00029A0006



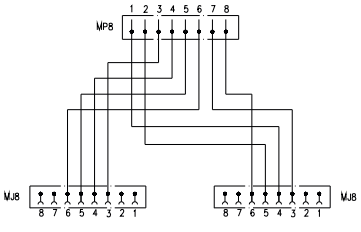
Mod.-T-Adapter (S_o) ISDN Bus Ext.

J00029A0007



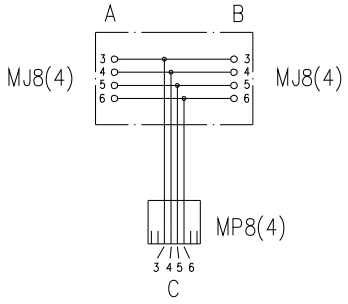
Mod.-T-Adapter (S_o) ISDN Term

J00029A0008



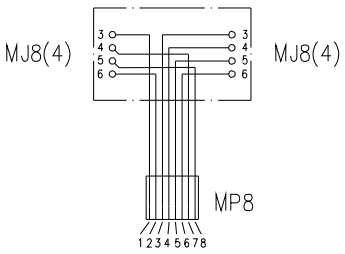
Mod.-T-Adapter (S_o) Bus Ext. PP

J00029A0003



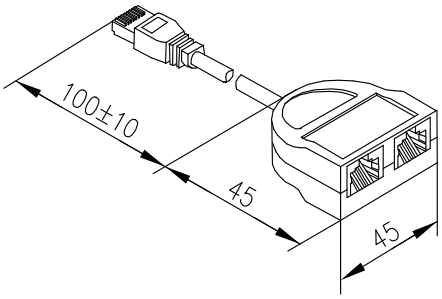
MP8(4)-2xMJ8(4)

J00029A0004



MP8(8)-MJ8(4)/MJ8(4)

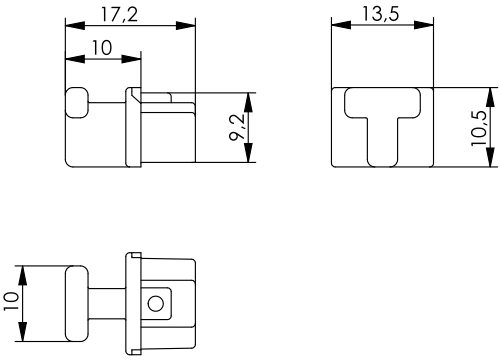
Patch Panels and Distributors



Order no.	Short name	Remarks
J00029A0008	Adaptor ISDN /Tel. T-Bus-Ext. PP	patch panel side
J00029A0006	Adaptor ISDN/Tel. T-Bus-Ext. Outlet	outlet side
J00029A0007	Adaptor ISDN/Tel. T-Bus.-Term	with integrated 100 Ω terminators

Order no.	Short name	Remarks
J00029A0003	Adaptor ISDN/Tel. MP8(4)-2xMJ8(4)	for ISDN S0 distribution
J00029A0004	Adaptor ISDN/Tel. MP8(8)-MJ8(4)/8(4)	for Cable Sharing ISDN/Telephone Cat.3

Tools and Accessories for Patch Panels and Mini Distributors 3.8



Order no.	Short name	Colour
H00030A0014	Dust cover for RJ45	alpine white
H00030B0014	Dust cover for RJ45	pearl white RAL 1013
H00030C0014	Dust cover for RJ45	red RAL 3020
H00030D0014	Dust cover for RJ45	green RAL 6017
H00030E0014	Dust cover for RJ45	blau RAL 5015
H00030F0014	Dust cover for RJ45	black RAL 9005

3 Patch Panels and Distributors

3.8 Tools and Accessories for Patch Panels and Mini Distributors

Order no.	Short name
B05002A0012	Marking strip 12 x 430 mm self-adhesive

Order no.	Short name
H06000A0001	Fixing set for Patch Panels (4 screws M6x16 with nuts)

Order no.	Short name
B06013A0010	Cable Management bar for 19" patch panels

Order no.	Short name
H02025A0343	19" Patch Panel with 5 cable guide bars (plastic)

Order no.	Short name
H02025A0116	Cable Management plate for 19" patch panels 1 HU
H02025A0117	Cable Management plate for 19" patch panels 2 HU

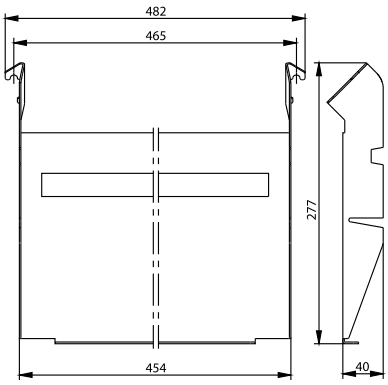
Order no.	Short name
H02025A0084	19" Dummy plate 1 HE

Order no.	Description
H10000A0000	Carrier with marking strip for 19" front plates, screw mounting

Patch Panels and Distributors

Order no.	Short name
N01002A0001	Insertion tool for IDC termination (LSA Plus) with wire cutter

Order no.	Short name
N01002A0000	Basic tool for IDC termination (LSA Plus) without wire cutter



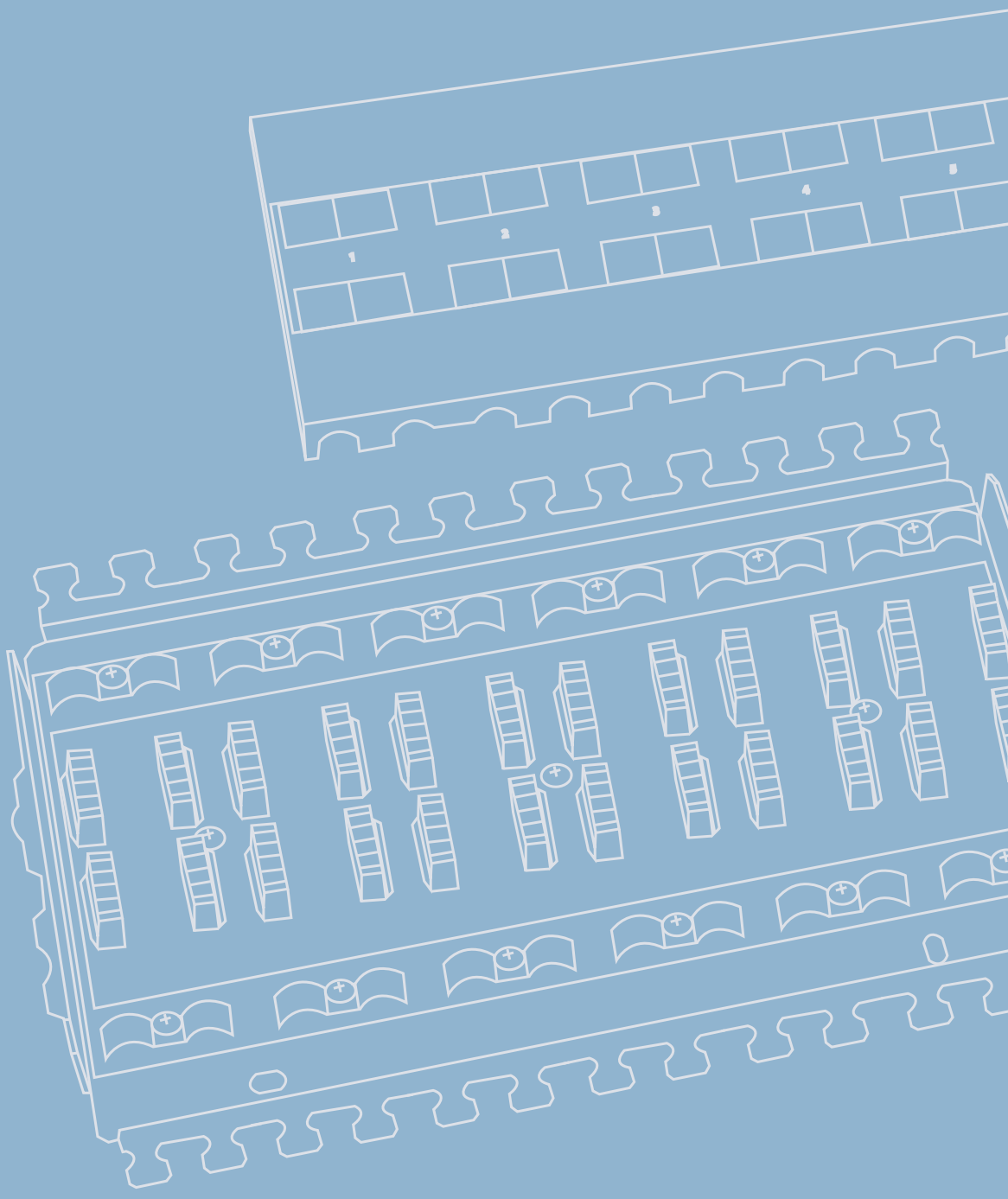
Order no.	Short name
M04022A0000	Mounting shelf for 19" patch panels up to 250 mm housing depth

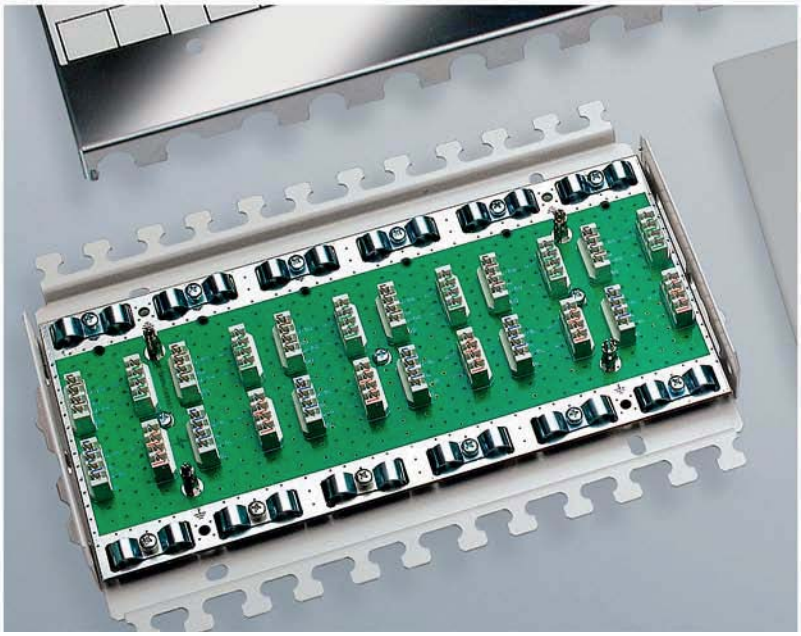
Compact Wall Box for 19" Patch Panels 3.9

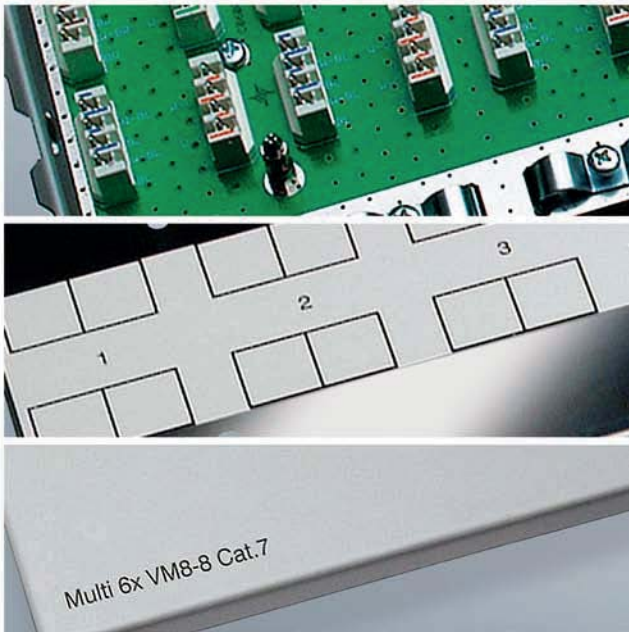
Order no.	Product package
H02072A0001	Compact LAN wall distributor 3 HU (B 450 mm x H 505 mm x T 175 mm), without components
H02072A0002	Compact LAN Wall Box 4 HU (W 600 mm x H 600 mm x D 230 mm) without components; two separated simultaneous locking doors

4

Connection Modules Cat.7







4 Connection Modules Cat.7

4.1 19" 1/2 HU Multi Connection Module Cat.7 124
4.2 Multi Connection Module Cat.7 for Wall Mounting 124
4.3 Connection Module Cat.7 125

Connection Modules Cat.7

The VM 8-8 modules are employed as connections/extensions of commercially available, shielded/unshielded twisted-pair installation cables (Cat.5e/Cat.6/Cat.7) in the following applications: damaged cables, cable extensions, cable rerouting. When VM 8-8 modules are used, the cable segments in a structured wiring system do not need to be laid out again. This reduces the expenses for alterations and the overall costs to a minimum. Depending on the connection module type, up to 12 incoming and 12 outgoing 8-wire cables can be permanently connected together without any significant reduction in the transmission characteristics or limitation of the maximum link lengths.

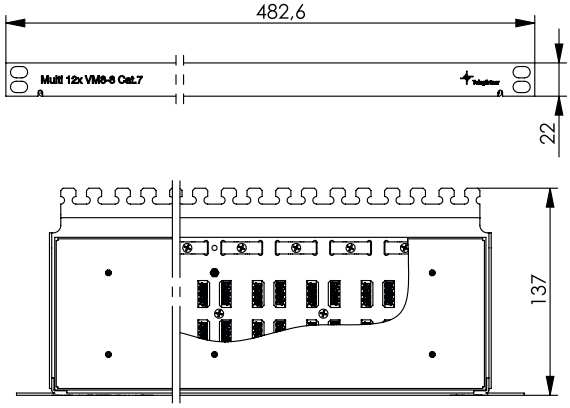
Performance Characteristics

- connection via LSA Plus terminals on a common PCB
- colour coding in acc. with EIA/TIA 568A and B
- connection of 4-pair shielded/unshielded installation cables from AWG 24-22
- pairs can be brought directly up to the terminal without untwisting the pairs
- secure shielded contact using screw-on terminals directly on the PCB
- variable cable feeds
- separate cable strain relief using commercially available cable ties
- tool-free installation of shielding cover made of stainless steel (19" and on-wall mounted version)
- surface mount (AP) type: incoming and outgoing cables in the same direction
- surface mount, 19", and basic (for loose connection) version: incoming and outgoing cables offset by 180 degrees
- ground connection option directly on the PCB (M4 screw)
- EMC compatible in accordance with EN 50081-2 and 50082-2

	VM 8-8 Cat.7		6x VM 8-8 Cat.7		12x VM 8-8 Cat.7	
Mechanical Characteristics						
Material: housing	ABS non halogen, UL94 V1 black		sheet steel 1 mm, powder-laminated, light grey RAL 7035			
Material: shield	copper conductive lacquer		stainless sheet steel		stainless sheet steel	
Material: PCB	FR4		FR4		FR4	
Material: PCB finish	Cu 35/35 chem. tinned		Cu 35/35 chem. tinned		Cu 35/35 chem. tinned	
Material: cable ties	PA 6.6 UL94 V2		PA6.6 UL94 V2		PA 6.6 UL94 V2	
LSA Plus: Cu conductor diameter	0,40 - 0,65 mm AWG 26/1 - AWG 22/1		0,40 - 0,65 mm AWG 26/1 - AWG 22/1		0,40 - 0,65 mm AWG 26/1 - AWG 22/1	
LSA Plus: Wire diameter	0,7 - 1,7 mm		0,7 - 1,7 mm		0,7 - 1,7 mm	
Climatic Characteristics						
Tested / classified in accordance with DIN IEC 60068-1	25/070/21		25/070/21		25/070/21	
Electrical Characteristics						
Working current at 50° C	1 A		1 A		1 A	
Voltage proof: contact-contact	≥ 1000 V=		≥ 1000 V=		≥ 1000 V=	
Voltage proof: contact-shield	≥ 1500 V=		≥ 1500 V=		≥ 1500 V=	
Transmission Characteristics						
	default values	typ. values	default values	typ. values	default values	typ. values
Next: at 100 MHz	72.4 dB min.	82.3 dB	72,4 dB min.	82,3 dB	72,4 dB min.	82,3 dB
Next: at 250 MHz	66.4 dB min.	77.1 dB	66,4 dB min.	77,1 dB	66,4 dB min.	77,1 dB
Next: at 600 MHz	60.7 dB min.	67.1 dB	60,7 dB min.	67,1 dB	60,7 dB min.	67,1 dB
Return loss: at 100 MHz	24 dB min.	28.9 dB	24 dB min.	28,9 dB	24 dB min.	28,9 dB
Return loss: at 250 MHz	16 dB min.	18.7 dB	16 dB min.	18,7 dB	16 dB min.	18,7 dB
Return loss: at 600 MHz	8.4 dB min.	17.9 dB	8,4 dB min.	17,9 dB	8,4 dB min.	17,9 dB
Insertion loss: at 100 MHz	0.2 dB max.	0.05 dB	0,2 dB max.	0,05 dB	0,2 dB max.	0,05 dB
Insertion loss: at 250 MHz	0.32 dB max.	0.1 dB	0,32 dB max.	0,1 dB	0,32 dB max.	0,1 dB
Insertion loss: at 600 MHz	0.49 dB max.	0.3 dB	0,49 dB max.	0,3 dB	0,49 dB max.	0,3 dB
Contact Resistance	200 mΩ max.	< 10 mΩ	200 mΩ max.	< 10 mΩ	200 mΩ max.	< 10 mΩ
Cat.7	Category 7 acc. to ISO/IEC 11801; EN 50173-1					

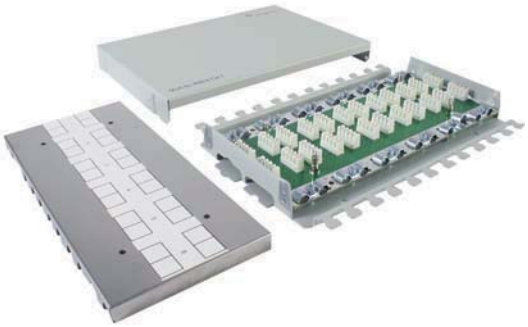
4 Connection Modules Cat.7

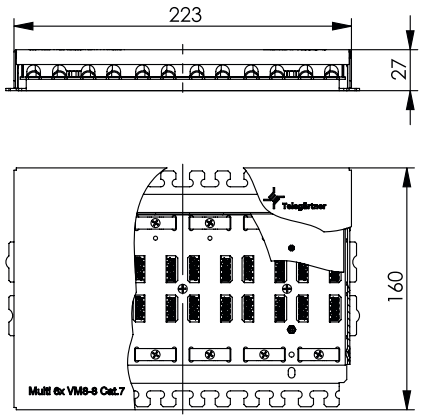
4.1 19" 1/2 HU Multi Connection Module Cat.7



Order no.	Short name	Remarks	Colour
J00060A0072	Multi 12x VM 8-8 Cat. 7	19" 1/2 HE Multi Connection Module for 12 shielded and unshielded installation cables	light grey RAL 7035

4.2 Multi Connection Module Cat.7 for Wall Mounting

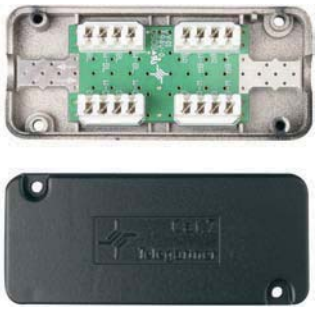


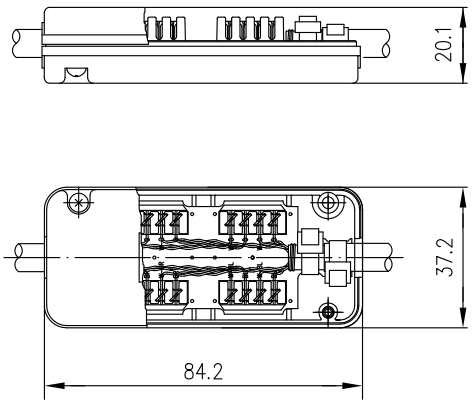


Order no.	Short name	Remarks	Colour
J00060A0071	Multi 6x VM 8-8 Cat. 7	wall housing for 6 shielded and unshielded installation cables	light grey RAL 7035

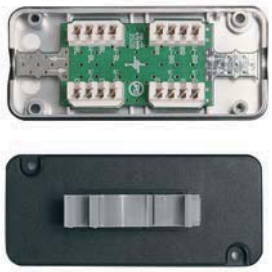
Connection Modules Cat.7

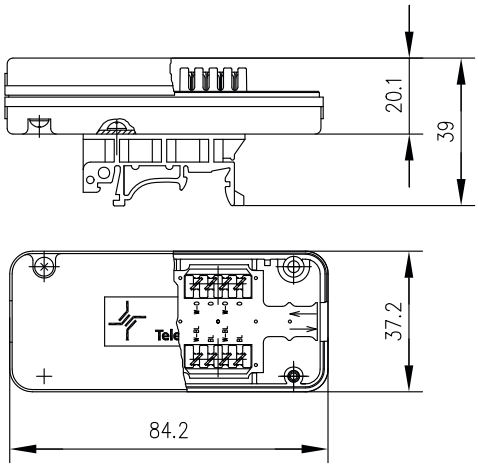
Connection Module Cat.7 4.3





Order no.	Short name	Remarks	Colour
J00060A0069	VM 8-8 Cat. 7	single module for shielded and unshielded installation cables	black

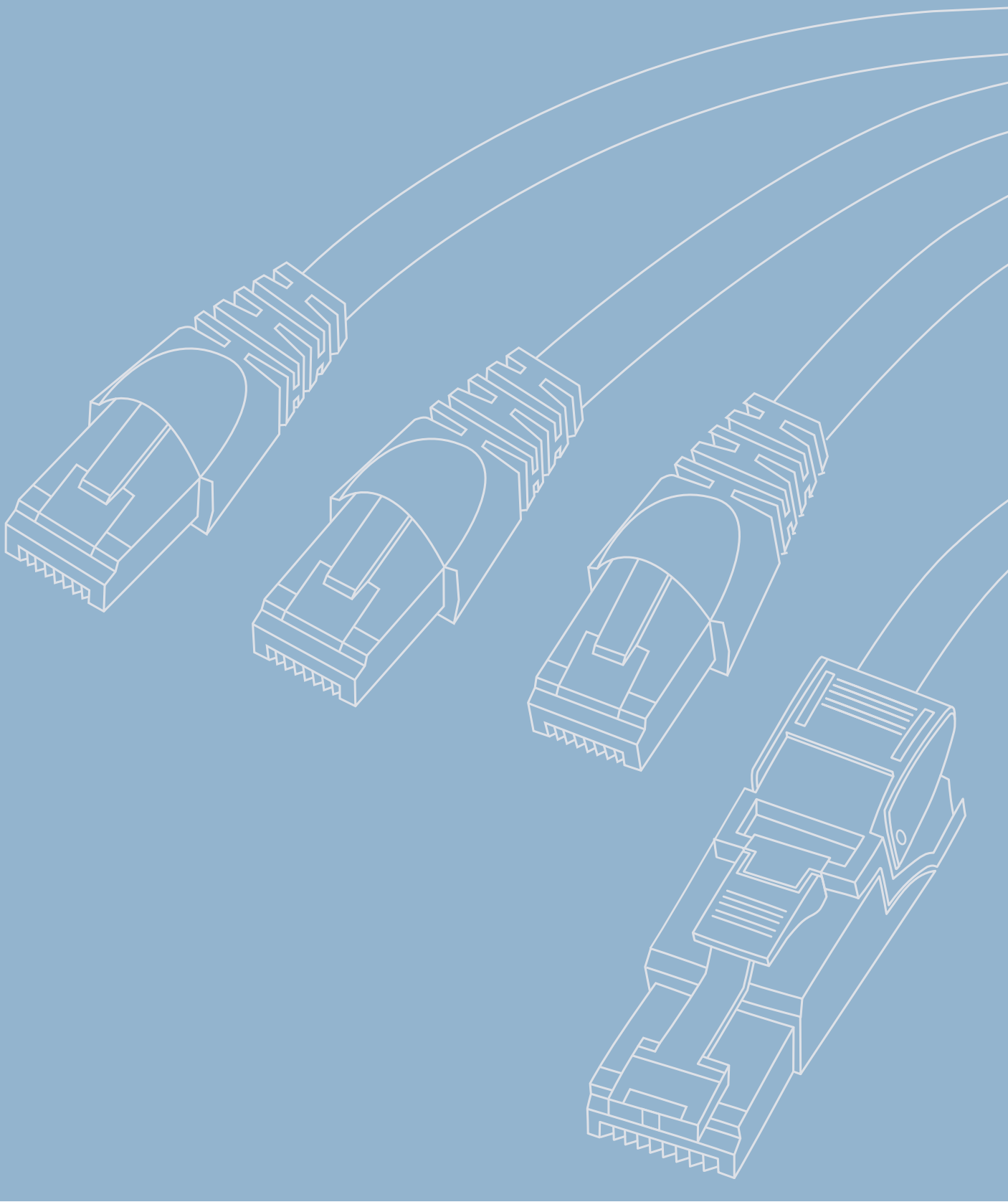




Order no.	Short name	Remarks	Colour
J00060B0069	VM 8-8 Cat.7 with mounting rail adaptor	single module for shielded and unshielded installation cables, with mounting rail adaptor	black

5

Patch Cords and Plugs



5 Patch Cords and Plugs

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5.1.1 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) 130
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Performance Characteristics

- termination sequence acc. to EIA/TIA 568B
- 90° / 180° / 270° moulded boot with latch protection
- Colours: grey, green, red, blue, yellow, black, white, purple
- Variants with very short boot

	Patch Cords shielded 500 MHz/Cat.6_A S/FTP LSZH	Patch Cords shielded 100 MHz/Cat.5e F/UTP PVC + LSZH	Patch Cords unshielded 250 MHz/Cat.6 U/UTP PVC	Patch Cords unshielded 100 MHz/Cat.5e U/UTP PVC
Standards				
Connectors	IEC 60603-7-51	IEC 60603-7-3	IEC 60603-7-4	IEC 60603-7-2
Mechanical Characteristics				
Cable structure	Li02YSCH 4x2xAWG 27/7 PiMF	Li2Y(ST)Y resp. LSZH 4x2xAWG 26/7	Li2YY 4x2xAWG 24/7	
Stranded wire	AWG 27 (7/0.14 mm)	AWG 26 (7/0.16mm)	AWG 24 (7/0.2 mm)	AWG 24 (7/0.2 mm)
Insulation	PE, Ø 1.04 mm (±0.05 mm)	PE, Ø 0.92 mm (±0.05 mm)	PE; Ø 1.0 mm (±0.05 mm)	PE; Ø 0.96 (±0.05 mm)
Pair shielding	Al-foil, outside conducting	-	-	-
Overall shielding	tin plated copper braid	Al-foil, inside conducting	-	-
Outer jacket	5.7 mm (±0.2 mm)	5.5 (±0.2 mm)	5.4 mm (±0.2 mm)	5.4 mm (±0.02 mm)
Climatic Characteristics				
flame-retardant test	IEC 60332-1	IEC 60332-1	IEC 60332-1	IEC 60332-1
UL	E344985	PVC type UL1581 FT2 (horizontal flame test)	UL 1581 FT2 (horizontal flame test)	UL 1581 FT2 (horizontal flame test)
Operating temperature	-40°C ... 75°C	-20° C ... 60° C	-20° C ... 60° C	-20° C ... 60° C
Electrical Characteristics				
Current carrying capacity at 50°C	1 A	1 A	1 A	1 A
PoE+ acc to IEEE 802.3at	Adequate for Power over Ethernet+			
Transmission Characteristics				
10 Gigabit Ethernet acc. to IEEE 802.3an	Adequate for 10 Gigabit Ethernet	-	-	-
Gigabit Ethernet acc. to IEEE 802.3	-	Adequate for Gigabit Ethernet		

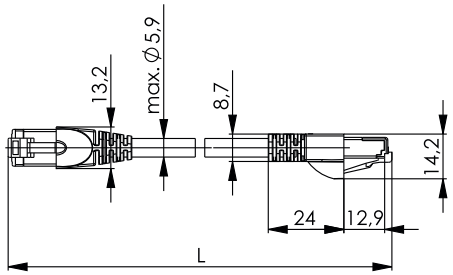
Tolerances of Lengths

Length (mm)	<500	≥500	>1500	>2500	>5000	>8000	>15000	>20000	>50000	>100000
Tolerance	±10	±20	±25	±40	±60	±100	±200	±300	±500	±500

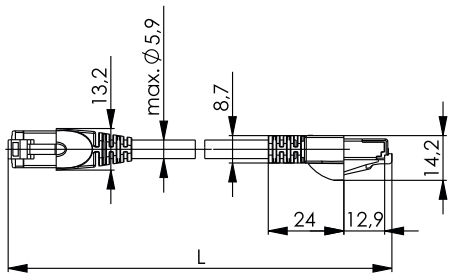
5 Patch Cords and Plugs

5.1 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) - shielded

5.1.1 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH)

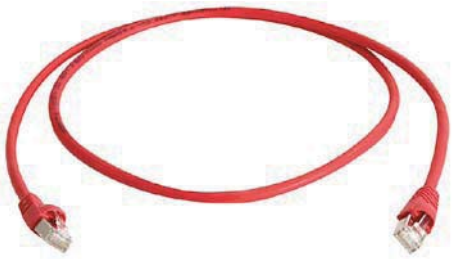


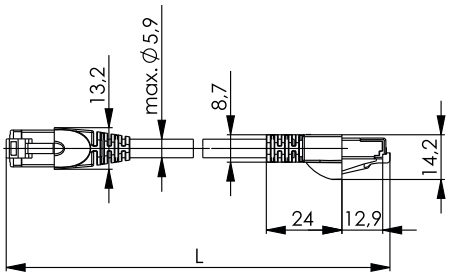
Order no.	Short name	Length	Colour
L00000A0230	MP8 FS 500 LSZH-0,25	0,25 m	grey
L00000A0072	MP8 FS 500 LSZH-0,5	0,5 m	grey
L00000A0081	MP8 FS 500 LSZH-1,0	1,0 m	grey
L00001A0090	MP8 FS 500 LSZH-1,5	1,5 m	grey
L00001A0084	MP8 FS 500 LSZH-2,0	2,0 m	grey
L00002A0112	MP8 FS 500 LSZH-3,0	3,0 m	grey
L00003A0055	MP8 FS 500 LSZH-5,0	5,0 m	grey
L00004A0054	MP8 FS 500 LSZH-7,5	7,5 m	grey
L00005A0027	MP8 FS 500 LSZH-10,0	10,0 m	grey
L00006A0033	MP8 FS 500 LSZH-15,0	15,0 m	grey
L00006A0036	MP8 FS 500 LSZH-20,0	20,0 m	grey
L00006A0034	MP8 FS 500 LSZH-25,0	25,0 m	grey
L00006A0035	MP8 FS 500 LSZH-50,0	50,0 m	grey



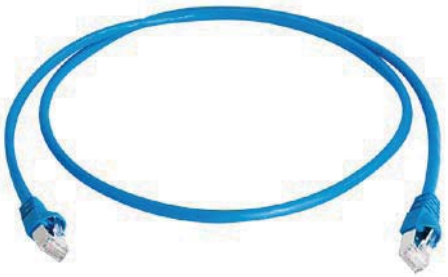
Order no.	Short name	Length	Colour
L00000A0231	MP8 FS 500 LSZH-0,25	0,25 m	green
L00000A0073	MP8 FS 500 LSZH-0,5	0,5 m	green
L00000A0082	MP8 FS 500 LSZH-1,0	1,0 m	green
L00001A0085	MP8 FS 500 LSZH-2,0	2,0 m	green
L00002A0113	MP8 FS 500 LSZH-3,0	3,0 m	green
L00003A0056	MP8 FS 500 LSZH-5,0	5,0 m	green
L00004A0055	MP8 FS 500 LSZH-7,5	7,5 m	green
L00005A0028	MP8 FS 500 LSZH-10,0	10,0 m	green
L00006A0037	MP8 FS 500 LSZH-15,0	15,0 m	green
L00006A0038	MP8 FS 500 LSZH-20,0	20,0 m	green
L00006A0039	MP8 FS 500 LSZH-25,0	25,0 m	green
L00006A0040	MP8 FS 500 LSZH-50,0	50,0 m	green

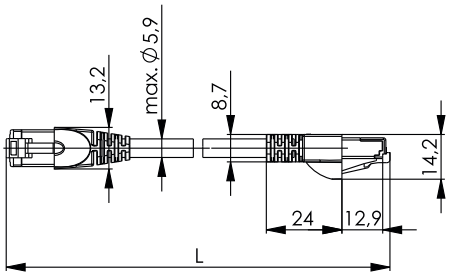
Patch Cords and Plugs





Order no.	Short name	Length	Colour
L00000A0232	MP8 FS 500 LSZH-0,25	0,25 m	red
L00000A0074	MP8 FS 500 LSZH-0,5	0,5 m	red
L00000A0083	MP8 FS 500 LSZH-1,0	1,0 m	red
L00001A0086	MP8 FS 500 LSZH-2,0	2,0 m	red
L00002A0114	MP8 FS 500 LSZH-3,0	3,0 m	red
L00003A0057	MP8 FS 500 LSZH-5,0	5,0 m	red
L00004A0056	MP8 FS 500 LSZH-7,5	7,5 m	red
L00005A0029	MP8 FS 500 LSZH-10,0	10,0 m	red
L00006A0041	MP8 FS 500 LSZH-15,0	15,0 m	red
L00006A0042	MP8 FS 500 LSZH-20,0	20,0 m	red
L00006A0043	MP8 FS 500 LSZH-25,0	25,0 m	red
L00006A0044	MP8 FS 500 LSZH-50,0	50,0 m	red



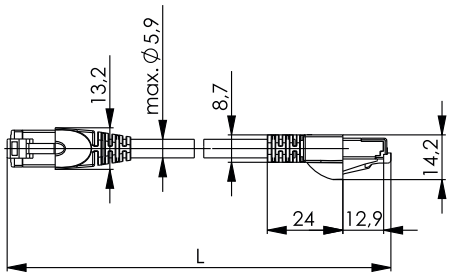


Order no.	Short name	Length	Colour
L00000A0233	MP8 FS 500 LSZH-0,25	0,25 m	blue
L00000A0075	MP8 FS 500 LSZH-0,5	0,5 m	blue
L00000A0084	MP8 FS 500 LSZH-1,0	1,0 m	blue
L00001A0087	MP8 FS 500 LSZH-2,0	2,0 m	blue
L00002A0115	MP8 FS 500 LSZH-3,0	3,0 m	blue
L00003A0058	MP8 FS 500 LSZH-5,0	5,0 m	blue
L00004A0057	MP8 FS 500 LSZH-7,5	7,5 m	blue
L00005A0030	MP8 FS 500 LSZH-10,0	10,0 m	blue
L00006A0045	MP8 FS 500 LSZH-15,0	15,0 m	blue
L00006A0046	MP8 FS 500 LSZH-20,0	20,0 m	blue
L00006A0047	MP8 FS 500 LSZH-25,0	25,0 m	blue
L00006A0048	MP8 FS 500 LSZH-50,0	50,0 m	blue

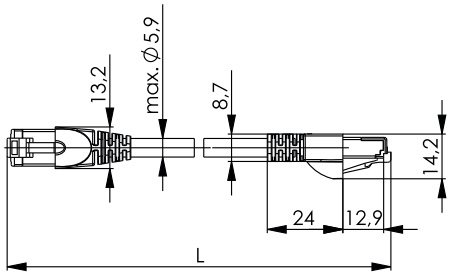
5 Patch Cords and Plugs

5.1 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) - shielded

5.1.1 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH)

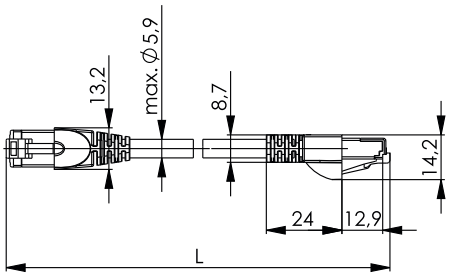


Order no.	Short name	Length	Colour
L00000A0234	MP8 FS 500 LSZH-0,25	0,25 m	yellow
L00000A0076	MP8 FS 500 LSZH-0,5	0,5 m	yellow
L00000A0085	MP8 FS 500 LSZH-1,0	1,0 m	yellow
L00001A0088	MP8 FS 500 LSZH-2,0	2,0 m	yellow
L00002A0116	MP8 FS 500 LSZH-3,0	3,0 m	yellow
L00003A0059	MP8 FS 500 LSZH-5,0	5,0 m	yellow
L00004A0058	MP8 FS 500 LSZH-7,5	7,5 m	yellow
L00005A0031	MP8 FS 500 LSZH-10,0	10,0 m	yellow
L00006A0049	MP8 FS 500 LSZH-15,0	15,0 m	yellow
L00006A0050	MP8 FS 500 LSZH-20,0	20,0 m	yellow
L00006A0051	MP8 FS 500 LSZH-25,0	25,0 m	yellow
L00006A0052	MP8 FS 500 LSZH-50,0	50,0 m	yellow

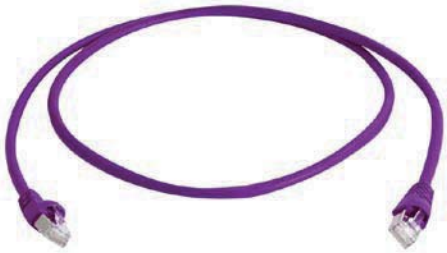


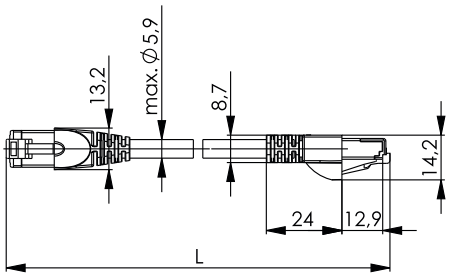
Order no.	Short name	Length	Colour
L00000A0235	MP8 FS 500 LSZH-0,25	0,25 m	black
L00000A0077	MP8 FS 500 LSZH-0,5	0,5 m	black
L00000A0086	MP8 FS 500 LSZH-1,0	1,0 m	black
L00001A0089	MP8 FS 500 LSZH-2,0	2,0 m	black
L00002A0117	MP8 FS 500 LSZH-3,0	3,0 m	black
L00003A0060	MP8 FS 500 LSZH-5,0	5,0 m	black
L00004A0060	MP8 FS 500 LSZH-7,5	7,5 m	black
L00005A0032	MP8 FS 500 LSZH-10,0	10,0 m	black
L00006A0053	MP8 FS 500 LSZH-15,0	15,0 m	black
L00006A0054	MP8 FS 500 LSZH-20,0	20,0 m	black
L00006A0055	MP8 FS 500 LSZH-25,0	25,0 m	black
L00006A0056	MP8 FS 500 LSZH-50,0	50,0 m	black

Patch Cords and Plugs



Order no.	Short name	Length	Colour
L00000A0236	MP8 FS 500 LSZH-0,25	0,25 m	white
L00000A0130	MP8 FS 500 LSZH-0,5	0,5 m	white
L00000A0131	MP8 FS 500 LSZH-1,0	1,0 m	white
L00001A0123	MP8 FS 500 LSZH-2,0	2,0 m	white
L00002A0141	MP8 FS 500 LSZH-3,0	3,0 m	white
L00003A0085	MP8 FS 500 LSZH-5,0	5,0 m	white
L00004A0071	MP8 FS 500 LSZH-7,5	7,5 m	white
L00005A0051	MP8 FS 500 LSZH-10,0	10,0 m	white





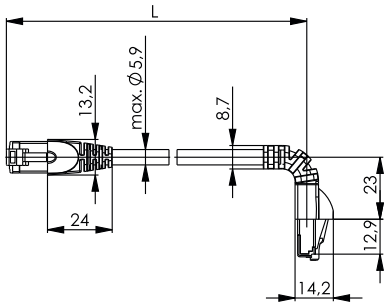
Order no.	Short name	Length	Colour
L00000A0237	MP8 FS 500 LSZH-0,25	0,25 m	purple
L00000A0238	MP8 FS 500 LSZH-0,5	0,5 m	purple
L00000A0226	MP8 FS 500 LSZH-1,0	1,0 m	purple
L00001A0194	MP8 FS 500 LSZH-2,0	2,0 m	purple
L00002A0195	MP8 FS 500 LSZH-3,0	3,0 m	purple
L00003A0147	MP8 FS 500 LSZH-5,0	5,0 m	purple
L00004A0134	MP8 FS 500 LSZH-7,5	7,5 m	purple
L00005A0103	MP8 FS 500 LSZH-10,0	10,0 m	purple

5.1

5 Patch Cords and Plugs

5.1 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) - shielded

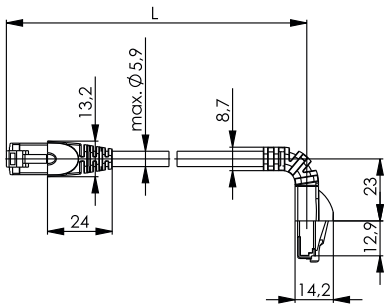
5.1.2 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) 1x90° - 1x180° cable boot



Cat.6$_A$

REAL-TIME RE-EMBEDDED

Order no.	Short name	Length	Colour	Remarks
L00000A0189	MP8 FS 500 LSZH-0,5	0,5 m	grey	1x90° - 1x180° cable boot
L00000A0192	MP8 FS 500 LSZH-1,0	1,0 m	grey	1x90° - 1x180° cable boot
L00001A0154	MP8 FS 500 LSZH-1,5	1,5 m	grey	1x90° - 1x180° cable boot
L00001A0155	MP8 FS 500 LSZH-2,0	2,0 m	grey	1x90° - 1x180° cable boot
L00002A0173	MP8 FS 500 LSZH-3,0	3,0 m	grey	1x90° - 1x180° cable boot
L00003A0119	MP8 FS 500 LSZH-5,0	5,0 m	grey	1x90° - 1x180° cable boot
L00004A0109	MP8 FS 500 LSZH-7,5	7,5 m	grey	1x90° - 1x180° cable boot
L00005A0080	MP8 FS 500 LSZH-10,0	10,0 m	grey	1x90° - 1x180° cable boot

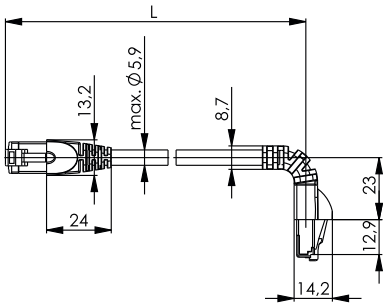


Cat.6$_A$

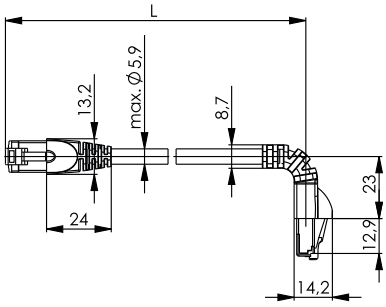
REAL-TIME RE-EMBEDDED

Order no.	Short name	Length	Colour	Remarks
L00000A0193	MP8 FS 500 LSZH-0,5	0,5 m	green	1x90° - 1x180° cable boot
L00000A0194	MP8 FS 500 LSZH-1,0	1,0 m	green	1x90° - 1x180° cable boot
L00001A0156	MP8 FS 500 LSZH-2,0	2,0 m	green	1x90° - 1x180° cable boot
L00002A0174	MP8 FS 500 LSZH-3,0	3,0 m	green	1x90° - 1x180° cable boot
L00003A0121	MP8 FS 500 LSZH-5,0	5,0 m	green	1x90° - 1x180° cable boot
L00004A0111	MP8 FS 500 LSZH-7,5	7,5 m	green	1x90° - 1x180° cable boot
L00005A0081	MP8 FS 500 LSZH-10,0	10,0 m	green	1x90° - 1x180° cable boot

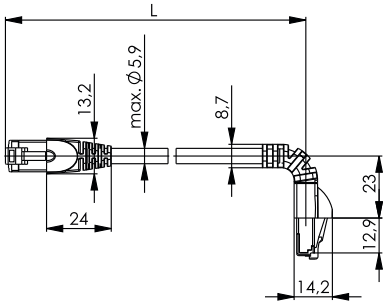
Patch Cords and Plugs



Order no.	Short name	Length	Colour	Remarks
L00000A0195	MP8 FS500 LSZH-0,5	0,5 m	red	1x90° - 1x180° cable boot
L00000A0196	MP8 FS500 LSZH-1,0	1,0 m	red	1x90° - 1x180° cable boot
L00001A0157	MP8 FS500 LSZH-2,0	2,0 m	red	1x90° - 1x180° cable boot
L00002A0176	MP8 FS500 LSZH-3,0	3,0 m	red	1x90° - 1x180° cable boot
L00003A0123	MP8 FS500 LSZH-5,0	5,0 m	red	1x90° - 1x180° cable boot
L00004A0112	MP8 FS500 LSZH-7,5	7,5 m	red	1x90° - 1x180° cable boot
L00005A0082	MP8 FS500 LSZH-10,0	10,0 m	red	1x90° - 1x180° cable boot



Order no.	Short name	Length	Colour	Remarks
L00000A0197	MP8 FS 500 LSZH-0,5	0,5 m	blue	1x90° - 1x180° cable boot
L00000A0198	MP8 FS 500 LSZH-1,0	1,0 m	blue	1x90° - 1x180° cable boot
L00001A0159	MP8 FS 500 LSZH-2,0	2,0 m	blue	1x90° - 1x180° cable boot
L00002A0177	MP8 FS 500 LSZH-3,0	3,0 m	blue	1x90° - 1x180° cable boot
L00003A0124	MP8 FS 500 LSZH-5,0	5,0 m	blue	1x90° - 1x180° cable boot
L00004A0113	MP8 FS 500 LSZH-7,5	7,5 m	blue	1x90° - 1x180° cable boot
L00005A0083	MP8 FS 500 LSZH-10,0	10,0 m	blue	1x90° - 1x180° cable boot

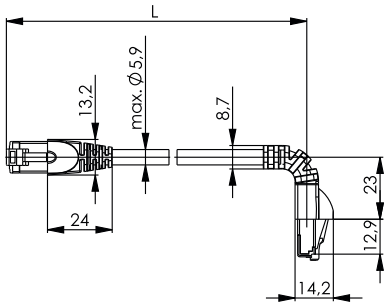


Order no.	Short name	Length	Colour	Remarks
L00000A0199	MP8 FS 500 LSZH-0,5	0,5 m	yellow	1x90° - 1x180° cable boot
L00000A0200	MP8 FS 500 LSZH-1,0	1,0 m	yellow	1x90° - 1x180° cable boot
L00001A0162	MP8 FS 500 LSZH-2,0	2,0 m	yellow	1x90° - 1x180° cable boot
L00002A0179	MP8 FS 500 LSZH-3,0	3,0 m	yellow	1x90° - 1x180° cable boot
L00003A0125	MP8 FS 500 LSZH-5,0	5,0 m	yellow	1x90° - 1x180° cable boot
L00004A0114	MP8 FS 500 LSZH-7,5	7,5 m	yellow	1x90° - 1x180° cable boot
L00005A0084	MP8 FS 500 LSZH-10,0	10,0 m	yellow	1x90° - 1x180° cable boot

5 Patch Cords and Plugs

5.1 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) - shielded

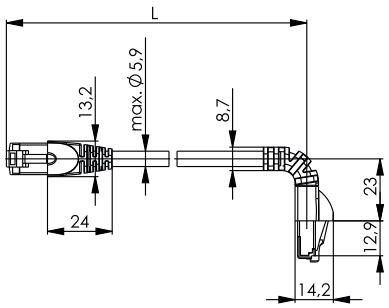
5.1.2 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) 1x90° - 1x180° cable boot



Cat.6$_A$

REAL-TIME RE-EMBEDDED

Order no.	Short name	Length	Colour	Remarks
L00000A0201	MP8 FS 500 LSZH-0,5	0,5 m	black	1x90° - 1x180° cable boot
L00000A0202	MP8 FS 500 LSZH-1,0	1,0 m	black	1x90° - 1x180° cable boot
L00001A0163	MP8 FS 500 LSZH-2,0	2,0 m	black	1x90° - 1x180° cable boot
L00002A0175	MP8 FS 500 LSZH-3,0	3,0 m	black	1x90° - 1x180° cable boot
L00003A0126	MP8 FS 500 LSZH-5,0	5,0 m	black	1x90° - 1x180° cable boot
L00004A0115	MP8 FS 500 LSZH-7,5	7,5 m	black	1x90° - 1x180° cable boot
L00005A0085	MP8 FS 500 LSZH-10,0	10,0 m	black	1x90° - 1x180° cable boot

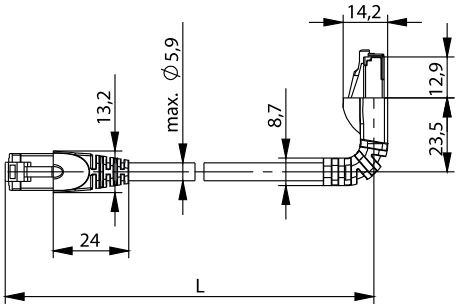


Cat.6$_A$

REAL-TIME RE-EMBEDDED

Order no.	Short name	Length	Colour	Remarks
L00000A0203	MP8 FS 500 LSZH-0,5	0,5 m	white	1x90° - 1x180° cable boot
L00000A0204	MP8 FS 500 LSZH-1,0	1,0 m	white	1x90° - 1x180° cable boot
L00001A0164	MP8 FS 500 LSZH-2,0	2,0 m	white	1x90° - 1x180° cable boot
L00002A0180	MP8 FS 500 LSZH-3,0	3,0 m	white	1x90° - 1x180° cable boot
L00003A0127	MP8 FS 500 LSZH-5,0	5,0 m	white	1x90° - 1x180° cable boot
L00004A0116	MP8 FS 500 LSZH-7,5	7,5 m	white	1x90° - 1x180° cable boot
L00005A0086	MP8 FS 500 LSZH-10,0	10,0 m	white	1x90° - 1x180° cable boot

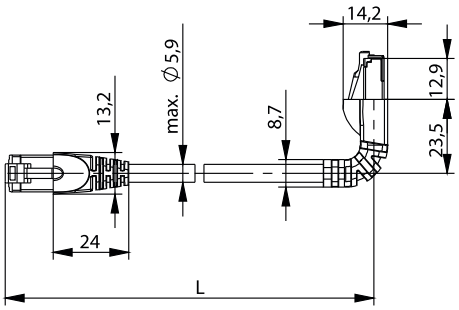
Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) 1x270° - 1x180° Cable Boot



Cat.6$_A$

REAL-TIME RE-EMBEDDED

Order no.	Short name	Length	Colour	Remarks
L00000A0253	MP8 FS 500 LSZH-0,5	0,5 m	grey	1x270° - 1x180° boot
L00000A0254	MP8 FS 500 LSZH-1,0	1,0 m	grey	1x270° - 1x180° boot
L00001A0199	MP8 FS 500 LSZH-2,0	2,0 m	grey	1x270° - 1x180° boot
L00002A0203	MP8 FS 500 LSZH-3,0	3,0 m	grey	1x270° - 1x180° boot
L00003A0157	MP8 FS 500 LSZH-5,0	5,0 m	grey	1x270° - 1x180° boot
L00004A0145	MP8 FS 500 LSZH-7,5	7,5 m	grey	1x270° - 1x180° boot
L00005A0113	MP8 FS 500 LSZH-10,0	10,0 m	grey	1x270° - 1x180° boot



Cat.6$_A$

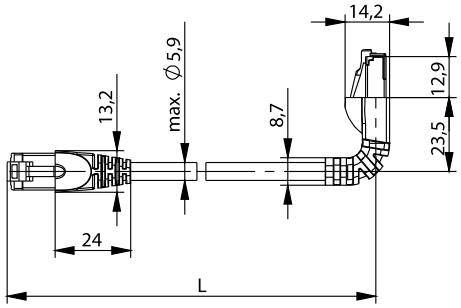
REAL-TIME RE-EMBEDDED

Order no.	Short name	Length	Colour	Remarks
L00000A0255	MP8 FS 500 LSZH-0,5	0,5 m	green	1x270° - 1x180° boot
L00000A0256	MP8 FS 500 LSZH-1,0	1,0 m	green	1x270° - 1x180° boot
L00001A0200	MP8 FS 500 LSZH-2,0	2,0 m	green	1x270° - 1x180° boot
L00002A0204	MP8 FS 500 LSZH-3,0	3,0 m	green	1x270° - 1x180° boot
L00003A0158	MP8 FS 500 LSZH-5,0	5,0 m	green	1x270° - 1x180° boot
L00004A0146	MP8 FS 500 LSZH-7,5	7,5 m	green	1x270° - 1x180° boot
L00005A0114	MP8 FS 500 LSZH-10,0	10,0 m	green	1x270° - 1x180° boot

5 Patch Cords and Plugs

5.1 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) - shielded

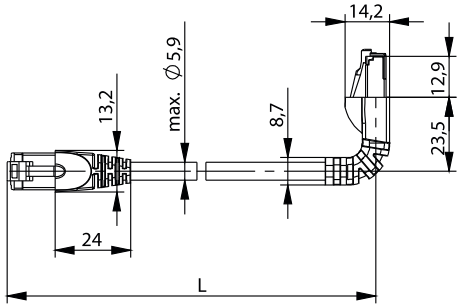
5.1.3 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) 1x270° - 1x180° Cable Boot



Cat.6$_A$

REAL-TIME RE-EMBEDDED

Order no.	Short name	Length	Colour	Remarks
L00000A0257	MP8 FS 500 LSZH-0,5	0,5 m	red	1x270° - 1x180° boot
L00000A0258	MP8 FS 500 LSZH-1,0	1,0 m	red	1x270° - 1x180° boot
L00001A0201	MP8 FS 500 LSZH-2,0	2,0 m	red	1x270° - 1x180° boot
L00002A0205	MP8 FS 500 LSZH-3,0	3,0 m	red	1x270° - 1x180° boot
L00003A0159	MP8 FS 500 LSZH-5,0	5,0 m	red	1x270° - 1x180° boot
L00004A0147	MP8 FS 500 LSZH-7,5	7,5 m	red	1x270° - 1x180° boot
L00005A0115	MP8 FS 500 LSZH-10,0	10,0 m	red	1x270° - 1x180° boot

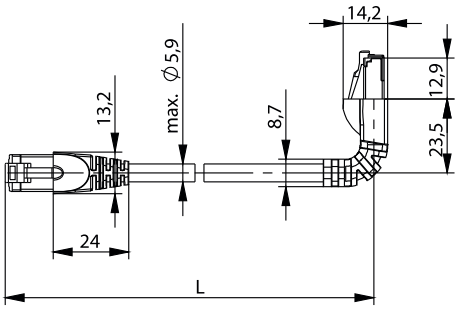


Cat.6$_A$

REAL-TIME RE-EMBEDDED

Order no.	Short name	Length	Colour	Remarks
L00000A0259	MP8 FS 500 LSZH-0,5	0,5 m	blue	1x270° - 1x180° boot
L00000A0260	MP8 FS 500 LSZH-1,0	1,0 m	blue	1x270° - 1x180° boot
L00001A0202	MP8 FS 500 LSZH-2,0	2,0 m	blue	1x270° - 1x180° boot
L00002A0206	MP8 FS 500 LSZH-3,0	3,0 m	blue	1x270° - 1x180° boot
L00003A0160	MP8 FS 500 LSZH-5,0	5,0 m	blue	1x270° - 1x180° boot
L00004A0148	MP8 FS 500 LSZH-7,5	7,5 m	blue	1x270° - 1x180° boot
L00005A0116	MP8 FS 500 LSZH-10,0	10,0 m	blue	1x270° - 1x180° boot

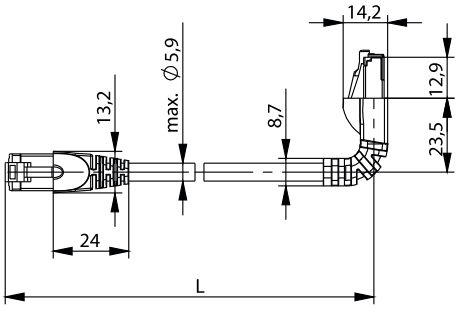
Patch Cords and Plugs



Cat.6A

REAL-TIME RE-EMBEDDED

Order no.	Short name	Length	Colour	Remarks
L00000A0261	MP8 FS 500 LSZH-0,5	0,5 m	yellow	1x270° - 1x180° boot
L00000A0262	MP8 FS 500 LSZH-1,0	1,0 m	yellow	1x270° - 1x180° boot
L00001A0203	MP8 FS 500 LSZH-2,0	2,0 m	yellow	1x270° - 1x180° boot
L00002A0207	MP8 FS 500 LSZH-3,0	3,0 m	yellow	1x270° - 1x180° boot
L00003A0161	MP8 FS 500 LSZH-5,0	5,0 m	yellow	1x270° - 1x180° boot
L00004A0141	MP8 FS 500 LSZH-7,5	7,5 m	yellow	1x270° - 1x180° boot
L00005A0117	MP8 FS 500 LSZH-10,0	10,0 m	yellow	1x270° - 1x180° boot



Cat.6A

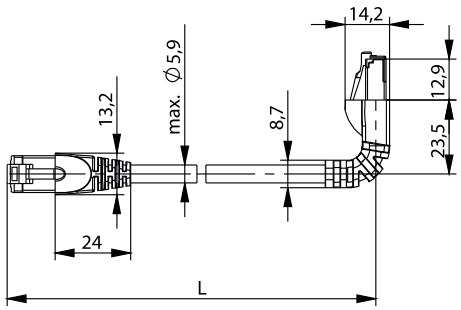
REAL-TIME RE-EMBEDDED

Order no.	Short name	Length	Colour	Remarks
L00000A0263	MP8 FS 500 LSZH-0,5	0,5 m	black	1x270° - 1x180° boot
L00000A0264	MP8 FS 500 LSZH-1,0	1,0 m	black	1x270° - 1x180° boot
L00001A0204	MP8 FS 500 LSZH-2,0	2,0 m	black	1x270° - 1x180° boot
L00002A0208	MP8 FS 500 LSZH-3,0	3,0 m	black	1x270° - 1x180° boot
L00003A0162	MP8 FS 500 LSZH-5,0	5,0 m	black	1x270° - 1x180° boot
L00004A0150	MP8 FS 500 LSZH-7,5	7,5 m	black	1x270° - 1x180° boot
L00005A0118	MP8 FS 500 LSZH-10,0	10,0 m	black	1x270° - 1x180° boot

5 Patch Cords and Plugs

5.1 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) - shielded

5.1.3 Cat.6$_A$ - Wiring 1:1 - S/FTP (LSZH) 1x270° - 1x180° Cable Boot

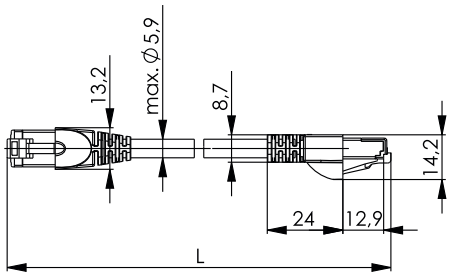


Cat.6$_A$

REAL-TIME RE-EMBEDDED

Order no.	Short name	Length	Colour	Remarks
L00000A0265	MP8 FS 500 LSZH-0,5	0,5 m	white	1x270° - 1x180° boot
L00000A0266	MP8 FS 500 LSZH-1,0	1,0 m	white	1x270° - 1x180° boot
L00001A0205	MP8 FS 500 LSZH-2,0	2,0 m	white	1x270° - 1x180° boot
L00002A0209	MP8 FS 500 LSZH-3,0	3,0 m	white	1x270° - 1x180° boot
L00003A0163	MP8 FS 500 LSZH-5,0	5,0 m	white	1x270° - 1x180° boot
L00004A0151	MP8 FS 500 LSZH-7,5	7,5 m	white	1x270° - 1x180° boot
L00005A0119	MP8 FS 500 LSZH-10,0	10,0 m	white	1x270° - 1x180° boot

5.2 Cat.6$_A$ - Measuring Cable Wiring 1:1 - S/FTP (LSZH) - shielded

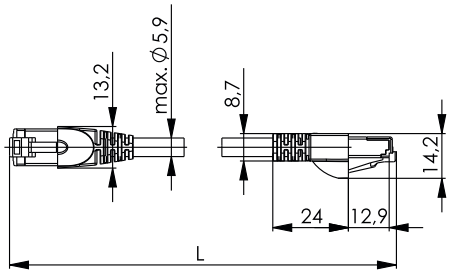


Cat.6$_A$

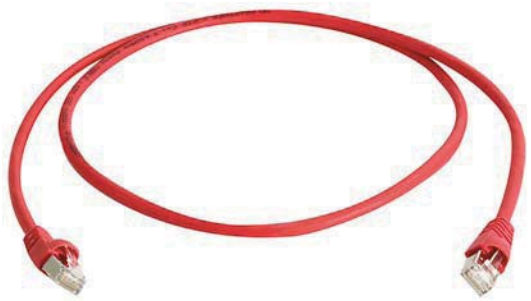
REAL-TIME RE-EMBEDDED

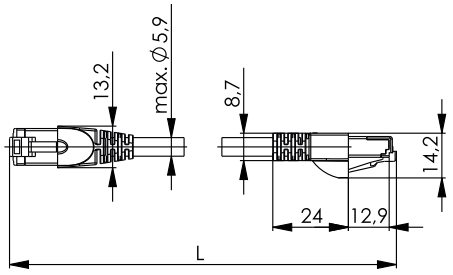
Order no.	Short name	Remarks	Length	Colour
L00003A0049	MP8 FS 500 LSZH-5,0	Telegärtner test cable for channel adaptor Class E_A	5,0 m	blue

Crossover - S/FTP (LSZH) - shielded 5.3



Order no.	Short name	Length	Cable boot colour	Colour
L00000A0102	MP8 FS 500 LSZH Crossover 10/100/1000 BT-0,5	0,5 m	yellow	grey
L00000A0103	MP8 FS 500 LSZH Crossover 10/100/1000 BT-1,0	1,0 m	yellow	grey
L00001A0099	MP8 FS 500 LSZH Crossover 10/100/1000 BT-2,0	2,0 m	yellow	grey
L00002A0120	MP8 FS 500 LSZH Crossover 10/100/1000 BT-3,0	3,0 m	yellow	grey
L00003A0067	MP8 FS 500 LSZH Crossover 10/100/1000 BT-5,0	5,0 m	yellow	grey
L00004A0064	MP8 FS 500 LSZH Crossover 10/100/1000 BT-7,5	7,5 m	yellow	grey
L00005A0035	MP8 FS 500 LSZH Crossover 10/100/1000 BT-10,0	10,0 m	yellow	grey



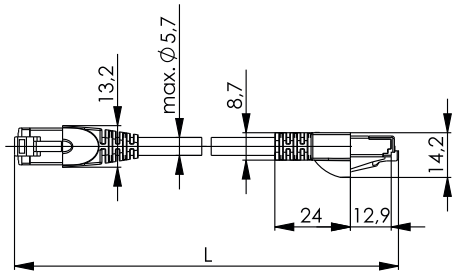


Order no.	Short name	Length	Colour
L00000A0118	MP8 FS 500 LSZH Crossover 10/100/1000 BT-0,5	0,5 m	red
L00000A0120	MP8 FS 500 LSZH Crossover 10/100/1000 BT-1,0	1,0 m	red
L00001A0117	MP8 FS 500 LSZH Crossover 10/100/1000 BT-2,0	2,0 m	red
L00002A0139	MP8 FS 500 LSZH Crossover 10/100/1000 BT-3,0	3,0 m	red
L00003A0078	MP8 FS 500 LSZH Crossover 10/100/1000 BT-5,0	5,0 m	red
L00005A0104	MP8 FS 500 LSZH Crossover 10/100/1000 BT-10,0	10,0 m	red

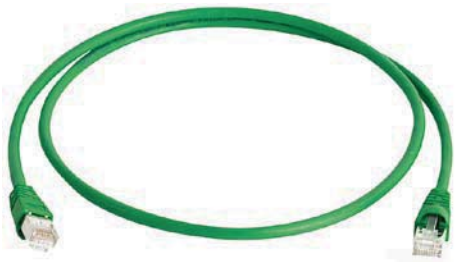
5 Patch Cords and Plugs

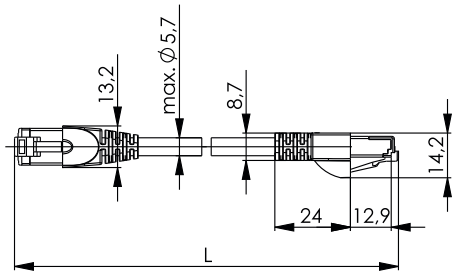
5.4 Cat.5e - Wiring 1:1 - F/UTP (PVC) - shielded

5.4.1 Cat.5e - Wiring 1:1 - F/UTP (PVC)



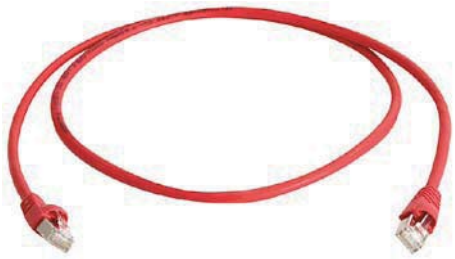
Order no.	Short name	Length	Colour
L00000D0016	MP8 FS 100-0,25	0,25 m	grey
L00000D0008	MP8 FS 100-0,5	0,5 m	grey
L00000D0009	MP8 FS 100-1,0	1,0 m	grey
L00001D0006	MP8 FS 100-1,5	1,5 m	grey
L00001D0004	MP8 FS 100-2,0	2,0 m	grey
L00002D0006	MP8 FS 100-2,5	2,5 m	grey
L00002D0005	MP8 FS 100-3,0	3,0 m	grey
L00003D0002	MP8 FS 100-5,0	5,0 m	grey
L00004D0002	MP8 FS 100-7,5	7,5 m	grey
L00005D0002	MP8 FS 100-10,0	10,0 m	grey
L00006D0016	MP8 FS 100-15,0	15,0 m	grey
L00006D0057	MP8 FS 100-20,0	20,0 m	grey
L00006D0017	MP8 FS 100-25,0	25,0 m	grey
L00006D0018	MP8 FS 100-50,0	50,0 m	grey

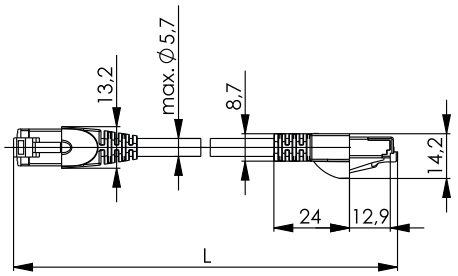




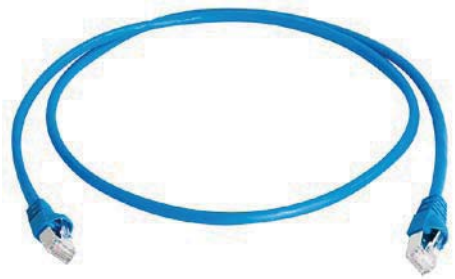
Order no.	Short name	Length	Colour
L00000D0074	MP8 FS 100-0,5	0,5 m	green
L00000D0079	MP8 FS 100-1,0	1,0 m	green
L00001D0073	MP8 FS 100-2,0	2,0 m	green
L00002D0107	MP8 FS 100-3,0	3,0 m	green
L00003D0054	MP8 FS 100-5,0	5,0 m	green
L00004D0057	MP8 FS 100-7,5	7,5 m	green
L00005D0031	MP8 FS 100-10,0	10,0 m	green
L00006D0058	MP8 FS 100-15,0	15,0 m	green
L00006D0059	MP8 FS 100-20,0	20,0 m	green
L00006D0060	MP8 FS 100-25,0	25,0 m	green
L00006D0061	MP8 FS 100-50,0	50,0 m	green

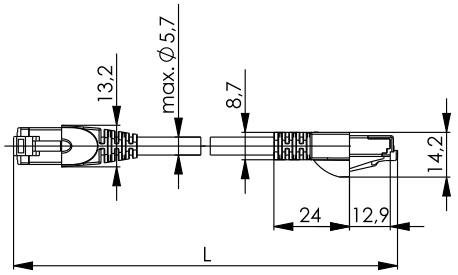
Patch Cords and Plugs





Order no.	Short name	Length	Colour
L00000D0075	MP8 FS 100-0,5	0,5 m	red
L00000D0080	MP8 FS 100-1,0	1,0 m	red
L00001D0074	MP8 FS 100-2,0	2,0 m	red
L00002D0108	MP8 FS 100-3,0	3,0 m	red
L00003D0055	MP8 FS 100-5,0	5,0 m	red
L00004D0058	MP8 FS 100-7,5	7,5 m	red
L00005D0032	MP8 FS 100-10,0	10,0 m	red
L00006D0062	MP8 FS 100-15,0	15,0 m	red
L00006D0063	MP8 FS 100-20,0	20,0 m	red
L00006D0064	MP8 FS 100-25,0	25,0 m	red
L00006D0065	MP8 FS 100-50,0	50,0 m	red



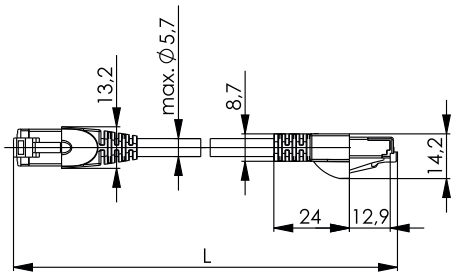


Order no.	Short name	Length	Colour
L00000D0073	MP8 FS 100-0,5	0,5 m	blue
L00000D0078	MP8 FS 100-1,0	1,0 m	blue
L00001D0072	MP8 FS 100-2,0	2,0 m	blue
L00002D0106	MP8 FS 100-3,0	3,0 m	blue
L00003D0053	MP8 FS 100-5,0	5,0 m	blue
L00004D0056	MP8 FS 100-7,5	7,5 m	blue
L00005D0030	MP8 FS 100-10,0	10,0 m	blue
L00006D0066	MP8 FS 100-15,0	15,0 m	blue
L00006D0067	MP8 FS 100-20,0	20,0 m	blue
L00006D0068	MP8 FS 100-25,0	25,0 m	blue
L00006D0069	MP8 FS 100-50,0	50,0 m	blue

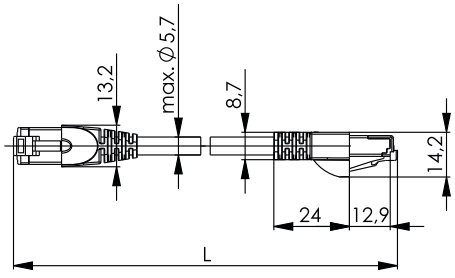
5 Patch Cords and Plugs

5.4 Cat.5e - Wiring 1:1 - F/UTP (PVC) - shielded

5.4.1 Cat.5e - Wiring 1:1 - F/UTP (PVC)

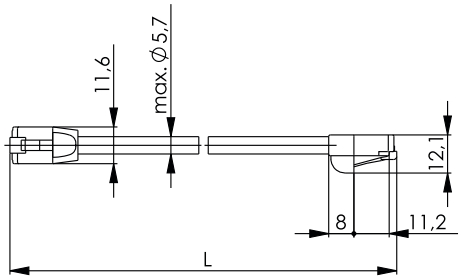


Order no.	Short name	Length	Colour
L00000D0076	MP8 FS 100-0,5	0,5 m	yellow
L00000D0081	MP8 FS 100-1,0	1,0 m	yellow
L00001D0075	MP8 FS 100-2,0	2,0 m	yellow
L00002D0109	MP8 FS 100-3,0	3,0 m	yellow
L00003D0056	MP8 FS 100-5,0	5,0 m	yellow
L00004D0059	MP8 FS 100-7,5	7,5 m	yellow
L00005D0033	MP8 FS 100-10,0	10,0 m	yellow
L00006D0070	MP8 FS 100-15,0	15,0 m	yellow
L00006D0071	MP8 FS 100-20,0	20,0 m	yellow
L00006D0072	MP8 FS 100-25,0	25,0 m	yellow
L00006D0073	MP8 FS 100-50,0	50,0 m	yellow



Order no.	Short name	Length	Colour
L00000D0087	MP8 FS 100-0,5	0,5 m	black
L00000D0088	MP8 FS 100-1,0	1,0 m	black
L00001D0093	MP8 FS 100-2,0	2,0 m	black
L00002D0121	MP8 FS 100-3,0	3,0 m	black
L00003D0061	MP8 FS 100-5,0	5,0 m	black
L00004D0061	MP8 FS 100-7,5	7,5 m	black
L00005D0034	MP8 FS 100-10,0	10,0 m	black
L00006D0074	MP8 FS 100-15,0	15,0 m	black
L00006D0075	MP8 FS 100-20,0	20,0 m	black
L00006D0076	MP8 FS 100-25,0	25,0 m	black
L00006D0077	MP8 FS 100-50,0	50,0 m	black

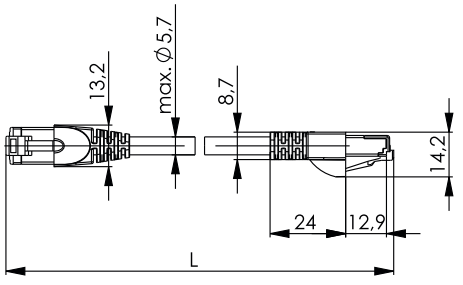
Cat.5e - Wiring 1:1 - F/UTP (PVC) - briefer cable boot 5.4.2



Order no.	Short name	Length	Colour	Remarks
L00000A0171	MP8 FS 100-0,25	0,25 m	grey	short boot
L00000A0172	MP8 FS 100-0,5	0,5 m	grey	short boot
L00000A0173	MP8 FS 100-1,0	1,0 m	grey	short boot
L00001A0150	MP8 FS 100-2,0	2,0 m	grey	short boot
L00002A0166	MP8 FS 100-3,0	3,0 m	grey	short boot
L00003A0114	MP8 FS 100-5,0	5,0 m	grey	short boot
L00004A0100	MP8 FS 100-6,0	6,0 m	grey	short boot
L00004A0101	MP8 FS 100-7,5	7,5 m	grey	short boot
L00005A0075	MP8 FS 100-10,0	10,0 m	grey	short boot

Order no.	Short name	Length	Colour	Remarks
L00000A0177	MP8 FS 100-0,25	0,25 m	black	short boot
L00000A0178	MP8 FS 100-0,5	0,5 m	black	short boot
L00000A0179	MP8 FS 100-1,0	1,0 m	black	short boot
L00001A0151	MP8 FS 100-2,0	2,0 m	black	short boot
L00002A0169	MP8 FS 100-3,0	3,0 m	black	short boot
L00003A0115	MP8 FS 100-5,0	5,0 m	black	short boot
L00004A0102	MP8 FS 100-6,0	6,0 m	black	short boot
L00004A0103	MP8 FS 100-7,5	7,5 m	black	short boot
L00005A0076	MP8 FS 100-10,0	10,0 m	black	short boot

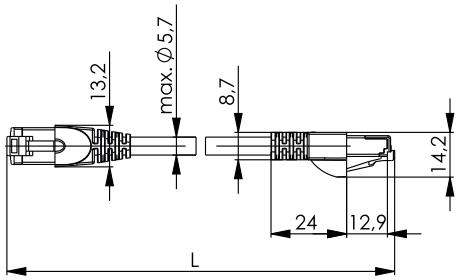
Cat.5e - Wiring 1:1 - F/UTP (LSZH) - shielded 5.5



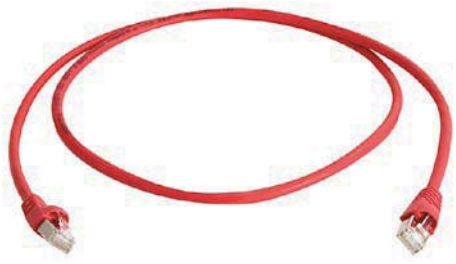
Order no.	Short name	Length	Colour
L00000D0035	MP8 FS 100 LSZH-0,5	0,5 m	grey
L00000D0026	MP8 FS 100 LSZH-1,0	1,0 m	grey
L00001D0036	MP8 FS 100 LSZH-2,0	2,0 m	grey
L00002D0080	MP8 FS 100 LSZH-3,0	3,0 m	grey
L00003D0030	MP8 FS 100 LSZH-5,0	5,0 m	grey
L00004D0041	MP8 FS 100 LSZH-7,5	7,5 m	grey
L00005D0035	MP8 FS 100 LSZH-10,0	10,0 m	grey
L00006D0078	MP8 FS 100 LSZH-15,0	15,0 m	grey
L00006D0079	MP8 FS 100 LSZH-20,0	20,0 m	grey
L00006D0080	MP8 FS 100 LSZH-25,0	25,0 m	grey
L00006D0081	MP8 FS 100 LSZH-50,0	50,0 m	grey

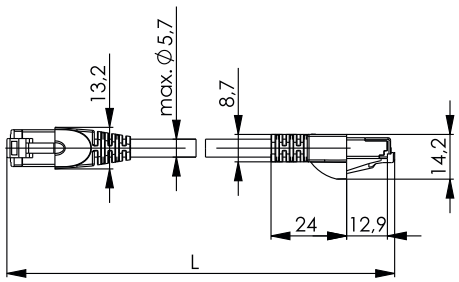
5 Patch Cords and Plugs

5.5 Cat.5e - Wiring 1:1 - F/UTP (LSZH) - shielded



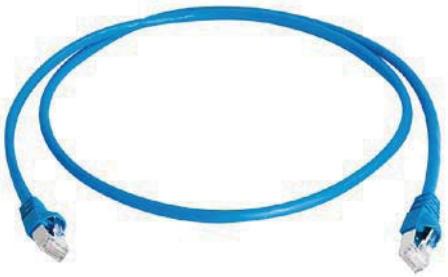
Order no.	Short name	Length	Colour
L00000D0034	MP8 FS 100 LSZH-0,5	0,5 m	green
L00000D0025	MP8 FS 100 LSZH-1,0	1,0 m	green
L00001D0035	MP8 FS 100 LSZH-2,0	2,0 m	green
L00002D0079	MP8 FS 100 LSZH-3,0	3,0 m	green
L00003D0029	MP8 FS 100 LSZH-5,0	5,0 m	green
L00004D0040	MP8 FS 100 LSZH-7,5	7,5 m	green
L00005D0036	MP8 FS 100 LSZH-10,0	10,0 m	green
L00006D0082	MP8 FS 100 LSZH-15,0	15,0 m	green
L00006D0083	MP8 FS 100 LSZH-20,0	20,0 m	green
L00006D0084	MP8 FS 100 LSZH-25,0	25,0 m	green
L00006D0085	MP8 FS 100 LSZH-50,0	50,0 m	green

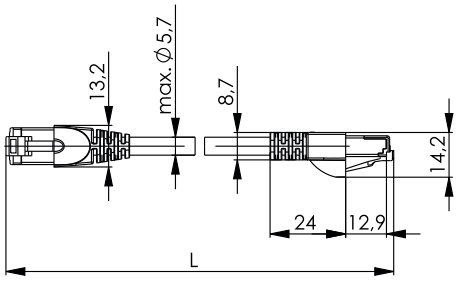




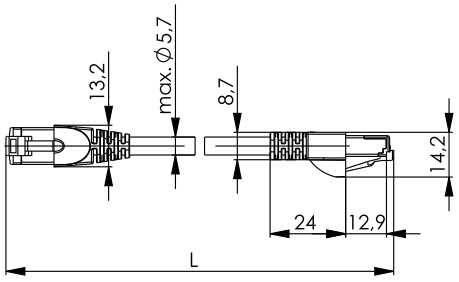
Order no.	Short name	Length	Colour
L00000D0031	MP8 FS 100 LSZH-0,5	0,5 m	red
L00000D0022	MP8 FS 100 LSZH-1,0	1,0 m	red
L00001D0032	MP8 FS 100 LSZH-2,0	2,0 m	red
L00002D0076	MP8 FS 100 LSZH-3,0	3,0 m	red
L00003D0026	MP8 FS 100 LSZH-5,0	5,0 m	red
L00004D0037	MP8 FS 100 LSZH-7,5	7,5 m	red
L00005D0037	MP8 FS 100 LSZH-10,0	10,0 m	red
L00006D0086	MP8 FS 100 LSZH-15,0	15,0 m	red
L00006D0087	MP8 FS 100 LSZH-20,0	20,0 m	red
L00006D0088	MP8 FS 100 LSZH-25,0	25,0 m	red
L00006D0089	MP8 FS 100 LSZH-50,0	50,0 m	red

Patch Cords and Plugs





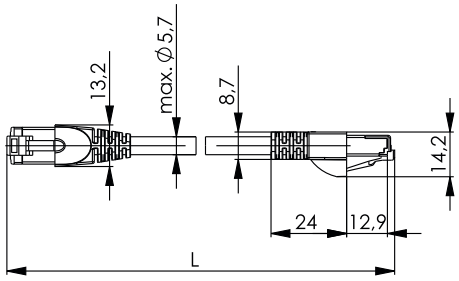
Order no.	Short name	Length	Colour
L00000D0032	MP8 FS 100 LSZH-0,5	0,5 m	blue
L00000D0023	MP8 FS 100 LSZH-1,0	1,0 m	blue
L00001D0033	MP8 FS 100 LSZH-2,0	2,0 m	blue
L00002D0077	MP8 FS 100 LSZH-3,0	3,0 m	blue
L00003D0027	MP8 FS 100 LSZH-5,0	5,0 m	blue
L00004D0038	MP8 FS 100 LSZH-7,5	7,5 m	blue
L00005D0038	MP8 FS 100 LSZH-10,0	10,0 m	blue
L00006D0090	MP8 FS 100 LSZH-15,0	15,0 m	blue
L00006D0091	MP8 FS 100 LSZH-20,0	20,0 m	blue
L00006D0092	MP8 FS 100 LSZH-25,0	25,0 m	blue
L00006D0093	MP8 FS 100 LSZH-50,0	50,0 m	blue



Order no.	Short name	Length	Colour
L00000D0033	MP8 FS 100 LSZH-0,5	0,5 m	yellow
L00000D0024	MP8 FS 100 LSZH-1,0	1,0 m	yellow
L00001D0034	MP8 FS 100 LSZH-2,0	2,0 m	yellow
L00002D0078	MP8 FS 100 LSZH-3,0	3,0 m	yellow
L00003D0028	MP8 FS 100 LSZH-5,0	5,0 m	yellow
L00004D0039	MP8 FS 100 LSZH-7,5	7,5 m	yellow
L00005D0039	MP8 FS 100 LSZH-10,0	10,0 m	yellow
L00006D0094	MP8 FS 100 LSZH-15,0	15,0 m	yellow
L00006D0095	MP8 FS 100 LSZH-20,0	20,0 m	yellow
L00006D0096	MP8 FS 100 LSZH-25,0	25,0 m	yellow
L00006D0097	MP8 FS 100 LSZH-50,0	50,0 m	yellow

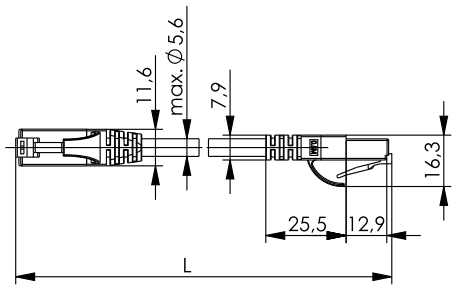
5 Patch Cords and Plugs

5.5 Cat.5e - Wiring 1:1 - F/UTP (LSZH) - shielded



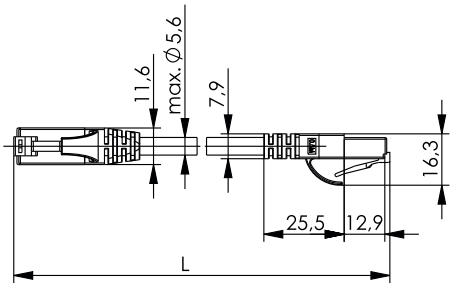
Order no.	Short name	Length	Colour
L00000D0089	MP8 FS 100 LSZH-0,5	0,5 m	black
L00000D0090	MP8 FS 100 LSZH-1,0	1,0 m	black
L00001D0095	MP8 FS 100 LSZH-2,0	2,0 m	black
L00002D0123	MP8 FS 100 LSZH-3,0	3,0 m	black
L00003D0062	MP8 FS 100 LSZH-5,0	5,0 m	black
L00004D0062	MP8 FS 100 LSZH-7,5	7,5 m	black
L00005D0040	MP8 FS 100 LSZH-10,0	10,0 m	black
L00006D0098	MP8 FS 100 LSZH-15,0	15,0 m	black
L00006D0099	MP8 FS 100 LSZH-20,0	20,0 m	black
L00006D0100	MP8 FS 100 LSZH-25,0	25,0 m	black
L00006D0101	MP8 FS 100 LSZH-50,0	50,0 m	black

5.6 Cat.6 - Wiring 1:1 - U/UTP (PVC) - unshielded

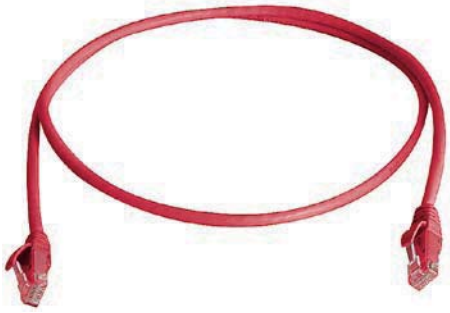


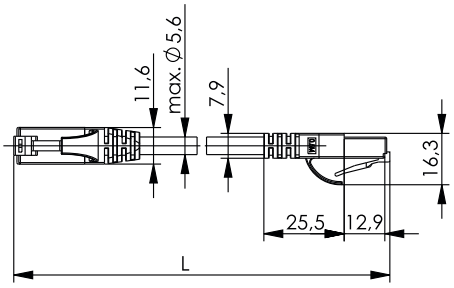
Order no.	Short name	Length	Colour
L00000A0106	MP8 250-0,5	0,5 m	grey
L00000A0107	MP8 250-1,0	1,0 m	grey
L00001A0105	MP8 250-2,0	2,0 m	grey
L00002A0128	MP8 250-3,0	3,0 m	grey
L00003A0072	MP8 250-5,0	5,0 m	grey
L00004A0065	MP8 250-7,5	7,5 m	grey
L00005A0040	MP8 250-10,0	10,0 m	grey
L00006A0060	MP8 250-15,0	15,0 m	grey
L00006A0061	MP8 250-20,0	20,0 m	grey
L00006A0062	MP8 250-25,0	25,0 m	grey

Patch Cords and Plugs



Order no.	Short name	Length	Colour
L00000A0108	MP8 250-0,5	0,5 m	green
L00000A0109	MP8 250-1,0	1,0 m	green
L00001A0107	MP8 250-2,0	2,0 m	green
L00002A0130	MP8 250-3,0	3,0 m	green
L00003A0073	MP8 250-5,0	5,0 m	green
L00004A0066	MP8 250-7,5	7,5 m	green
L00005A0041	MP8 250-10,0	10,0 m	green
L00006A0063	MP8 250-15,0	15,0 m	green
L00006A0064	MP8 250-20,0	20,0 m	green
L00006A0065	MP8 250-25,0	25,0 m	green

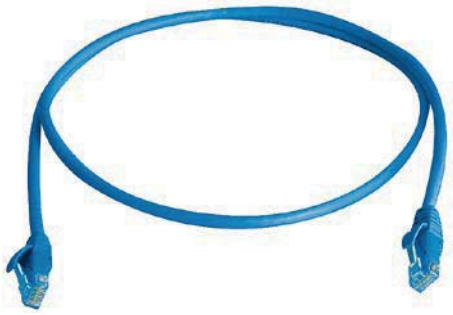


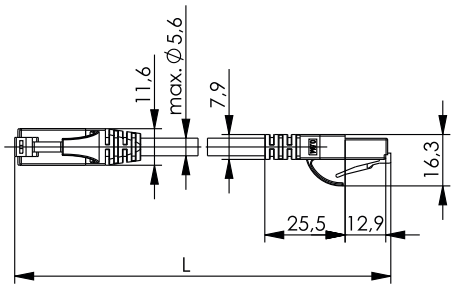


Order no.	Short name	Length	Colour
L00000A0110	MP8 250-0,5	0,5 m	red
L00000A0111	MP8 250-1,0	1,0 m	red
L00001A0109	MP8 250-2,0	2,0 m	red
L00002A0132	MP8 250-3,0	3,0 m	red
L00003A0074	MP8 250-5,0	5,0 m	red
L00004A0067	MP8 250-7,5	7,5 m	red
L00005A0042	MP8 250-10,0	10,0 m	red
L00006A0066	MP8 250-15,0	15,0 m	red
L00006A0067	MP8 250-20,0	20,0 m	red
L00006A0068	MP8 250-25,0	25,0 m	red

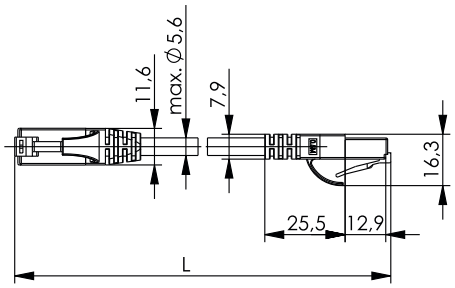
5 Patch Cords and Plugs

5.6 Cat.6 - Wiring 1:1 - U/UTP (PVC) - unshielded

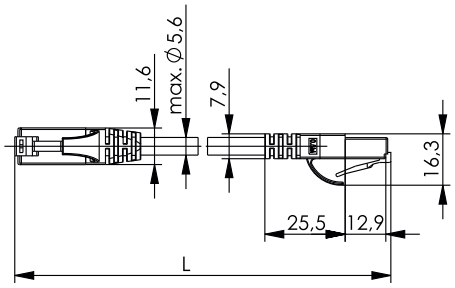




Order no.	Short name	Length	Colour
L00000A0112	MP8 250-0,5	0,5 m	blue
L00000A0113	MP8 250-1,0	1,0 m	blue
L00001A0111	MP8 250-2,0	2,0 m	blue
L00002A0134	MP8 250-3,0	3,0 m	blue
L00003A0075	MP8 250-5,0	5,0 m	blue
L00004A0068	MP8 250-7,5	7,5 m	blue
L00005A0043	MP8 250-10,0	10,0 m	blue
L00006A0069	MP8 250-15,0	15,0 m	blue
L00006A0070	MP8 250-20,0	20,0 m	blue
L00006A0071	MP8 250-25,0	25,0 m	blue

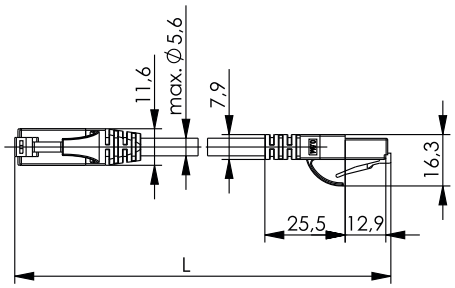


Order no.	Short name	Length	Colour
L00000A0114	MP8 250-0,5	0,5 m	yellow
L00000A0115	MP8 250-1,0	1,0 m	yellow
L00001A0113	MP8 250-2,0	2,0 m	yellow
L00002A0136	MP8 250-3,0	3,0 m	yellow
L00003A0076	MP8 250-5,0	5,0 m	yellow
L00004A0069	MP8 250-7,5	7,5 m	yellow
L00005A0044	MP8 250-10,0	10,0 m	yellow
L00006A0072	MP8 250-15,0	15,0 m	yellow
L00006A0073	MP8 250-20,0	20,0 m	yellow
L00006A0074	MP8 250-25,0	25,0 m	yellow



Order no.	Short name	Length	Colour
L00000A0116	MP8 250-0,5	0,5 m	black
L00000A0117	MP8 250-1,0	1,0 m	black
L00001A0115	MP8 250-2,0	2,0 m	black
L00002A0138	MP8 250-3,0	3,0 m	black
L00003A0077	MP8 250-5,0	5,0 m	black
L00004A0070	MP8 250-7,5	7,5 m	black
L00005A0045	MP8 250-10,0	10,0 m	black
L00006A0075	MP8 250-15,0	15,0 m	black
L00006A0076	MP8 250-20,0	20,0 m	black
L00006A0077	MP8 250-25,0	25,0 m	black

Cat.5e - Wiring 1:1 - U/UTP (PVC) - unshielded 5.7

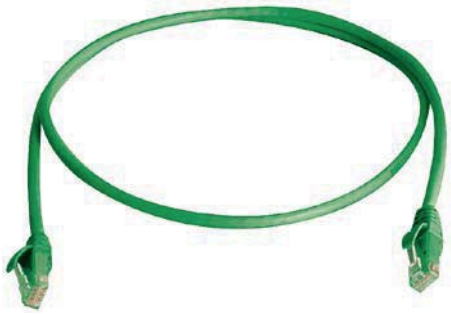


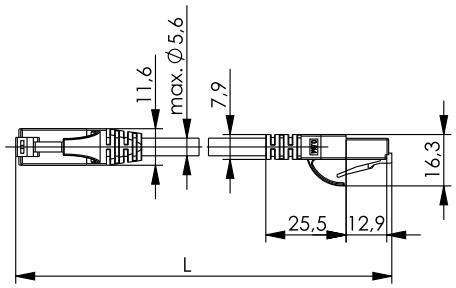
Order no.	Short name	Length	Colour
L00000E0010	MP8 100-0,5	0,5 m	grey
L00000E0011	MP8 100-1,0	1,0 m	grey
L00001E0007	MP8 100-1,5	1,5 m	grey
L00001E0005	MP8 100-2,0	2,0 m	grey
L00002E0004	MP8 100-3,0	3,0 m	grey
L00003E0003	MP8 100-5,0	5,0 m	grey
L00004E0003	MP8 100-7,5	7,5 m	grey
L00005E0003	MP8 100-10,0	10,0 m	grey
L00006E0015	MP8 100-15,0	15,0 m	grey
L00006E0019	MP8 100-25,0	25,0 m	grey
L00006E0020	MP8 100-50,0	50,0 m	grey

5.7

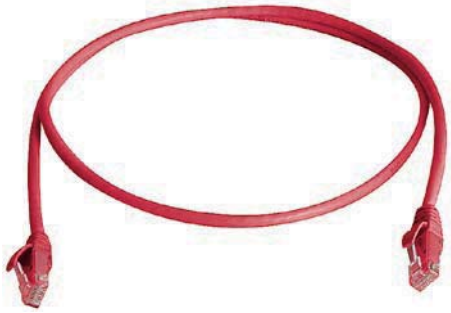
5 Patch Cords and Plugs

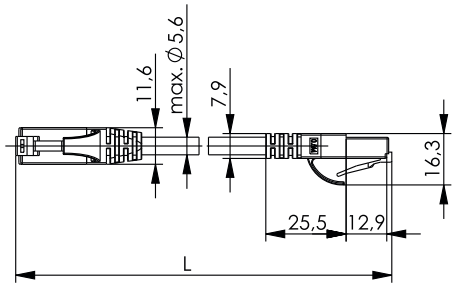
5.7 Cat.5e - Wiring 1:1 - U/UTP (PVC) - unshielded





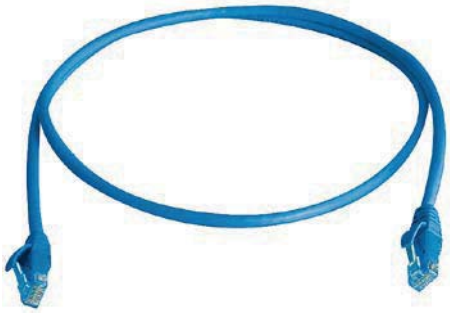
Order no.	Short name	Length	Colour
L00000E0003	MP8 100-0,25	0,25 m	green
L00000E0064	MP8 100-0,5	0,5 m	green
L00000E0069	MP8 100-1,0	1,0 m	green
L00001E0068	MP8 100-2,0	2,0 m	green
L00002E0102	MP8 100-3,0	3,0 m	green
L00003E0049	MP8 100-5,0	5,0 m	green
L00004E0052	MP8 100-7,5	7,5 m	green
L00005E0026	MP8 100-10,0	10,0 m	green

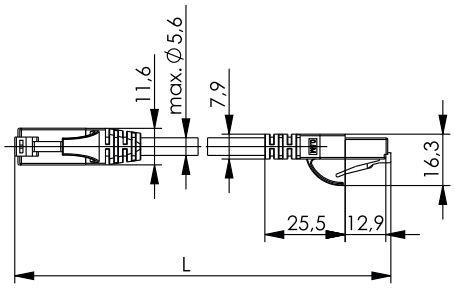




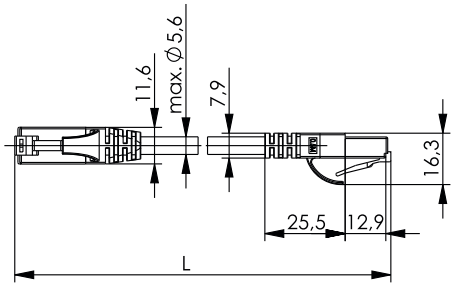
Order no.	Short name	Length	Colour
L00000E0065	MP8 100-0,5	0,5 m	red
L00000E0070	MP8 100-1,0	1,0 m	red
L00001E0069	MP8 100-2,0	2,0 m	red
L00002E0103	MP8 100-3,0	3,0 m	red
L00003E0050	MP8 100-5,0	5,0 m	red
L00004E0053	MP8 100-7,5	7,5 m	red
L00005E0027	MP8 100-10,0	10,0 m	red

Patch Cords and Plugs

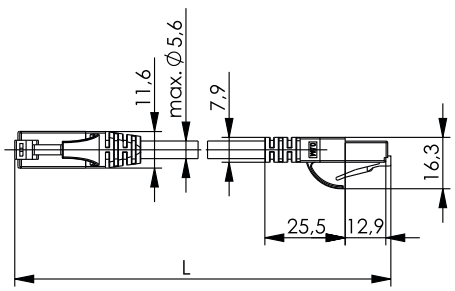




Order no.	Short name	Length	Colour
L00000E0063	MP8 100-0,5	0,5 m	blue
L00000E0068	MP8 100-1,0	1,0 m	blue
L00001E0067	MP8 100-2,0	2,0 m	blue
L00002E0101	MP8 100-3,0	3,0 m	blue
L00003E0048	MP8 100-5,0	5,0 m	blue
L00004E0051	MP8 100-7,5	7,5 m	blue
L00005E0025	MP8 100-10,0	10,0 m	blue



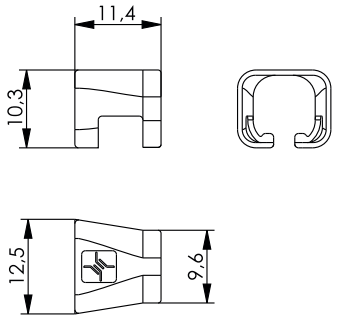
Order no.	Short name	Length	Colour
L00000E0066	MP8 100-0,5	0,5 m	yellow
L00000E0071	MP8 100-1,0	1,0 m	yellow
L00001E0070	MP8 100-2,0	2,0 m	yellow
L00002E0104	MP8 100-3,0	3,0 m	yellow
L00003E0051	MP8 100-5,0	5,0 m	yellow
L00004E0054	MP8 100-7,5	7,5 m	yellow
L00005E0028	MP8 100-10,0	10,0 m	yellow



Order no.	Short name	Length	Colour
L00000E0000	MP8 100-0,5	0,5 m	black
L00000E0001	MP8 100-1,0	1,0 m	black
L00001E0000	MP8 100-2,0	2,0 m	black
L00002E0000	MP8 100-3,0	3,0 m	black
L00003E0000	MP8 100-5,0	5,0 m	black
L00004E0000	MP8 100-7,5	7,5 m	black
L00005E0000	MP8 100-10,0	10,0 m	black

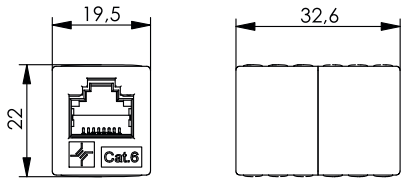
5 Patch Cords and Plugs

5.8 Colour Coding Clip for Moulded RJ45 Patch Cords Ø 5,5 - 5,8 mm



Order no.	Short name	Remarks	Colour
B00081A0048	Colour coding clip for moulded RJ45 patch cord	for cable boots moulded on cable with diameter 5,5 - 5,8 mm	green
B00081A0049	Colour coding clip for moulded RJ45 patch cord	for cable boots moulded on cable with diameter 5,5 - 5,8 mm	red
B00081A0050	Colour coding clip for moulded RJ45 patch cord	for cable boots moulded on cable with diameter 5,5 - 5,8 mm	blue
B00081A0051	Colour coding clip for moulded RJ45 patch cord	for cable boots moulded on cable with diameter 5,5 - 5,8 mm	yellow
B00081A0052	Colour coding clip for moulded RJ45 patch cord	for cable boots moulded on cable with diameter 5,5 - 5,8 mm	black
B00081A0053	Colour coding clip for moulded RJ45 patch cord	for cable boots moulded on cable with diameter 5,5 - 5,8 mm	white

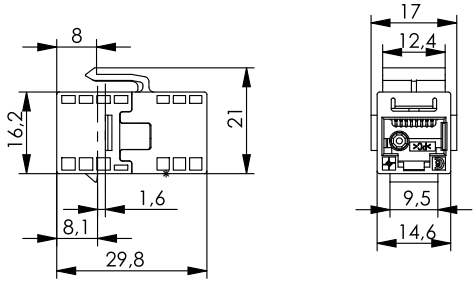
5.9 Coupler for Patch Cords - shielded



Order no.	Short name	Remarks	Colour
J00029A0062	AMJ Coupler K Cat.6, insulated, f-f*	suitable for RJ45/11/12 plugs	alpine white
J00029K0052	AMJ Coupler K Cat.5e, insulated, f-f*	suitable for RJ45/11/12 plugs	alpine white

*) loose coupler for patch cords, no snap-in mounting

5.10 Coupler for Patch Cords - unshielded



Order no.	Short name	Remarks	Mount. dim.
J00029A0064	UMJ Coupler K Cat.6, f-f	suitable for RJ45/11/12 plugs	Z121
J00029K0054	UMJ Coupler K Cat.5e, f-f	suitable for RJ45/11/12 plugs	Z121

RJ45 Plugs (shielded and unshielded) and Cable Boots 5.11

Performance Characteristics

- RJ45 connectors with 360° shielding
- RJ45 connectors for solid and stranded wire
- Boots: grey, red, blue, yellow, green, black
- RJ45 crimp tool with durability ≥ 10.000 crimp cycles

	Plug MFP8 Cat.6_A	Plug MP8(8)FS Cat.6_A
Standards		
Connectors	IEC 60603-7-51	IEC 60603-7-51
Mechanical Characteristics		
Insertion force	≤ 30N	≤ 30N
Durability (mating cycles)	≥ 750	≥ 750
Reusable IDC	≤4 cycles	-
Material: contacts	spring steel	Phosphor bronze
Material: contact finish	Ni1,2Au0,8	Ni2.54Au0.8
Material: connector housing	PC UL94 V0	PC UL94 V0
Material: insertion	-	PC UL94 V0
Material: PCB	FR4 UL 94 V0	-
Material: piercing contacts	phosphor bronze tinned	-
Material: shield contact	brass, nickel-plated	-
Material: wire pair presorting	PC UL94 V0 white	-
Material: uplock hook	PBT UL94 V0	-
Material: shielding housing	zinc diecast, nickel-plated	0.5 mm brass, 2 µm Ni
Material: cable clamp	PBT UL94 V0	-
Material: dust cap	PBT UL94 V0	-
Material: cable boot	-	PVC UL94 V0 (Ø 6.3 mm / Ø 7.0 mm); PA6 UL94 V0 (Ø 6.0 mm)
Mating Requirements Cu-Conductor diameter: solid	0.51 - 0.64 mm (AWG24/1-22/1)	0.36 - 0.51 mm (AWG27/1 - 24/1)
Mating Requirements Cu-Conductor diameter: stranded	0.46 - 0.76 mm (AWG27/7-22/7)	0.46 - 0.61 mm (AWG27/7 - 24/7)
Core Diameter	0.85 - 1.6 mm	0.85 - 1.05 mm
Overall cable diameter	5.0 - 9.0 mm	5.5 - 7.3 mm
Crimp tool	-	N00001A0002
Climatic Characteristics		
Temperature range	-40°C ... 70°C	-40°C ... 70°C
UL	E244889	E244889
Electrical Characteristics		
Current carrying capacity at 50°C	1 A	1 A
PoE+ acc to IEEE 802.3at	Adequate for Power over Ethernet+	
Transmission Chracteristics		
Gigabit Ethernet acc. to IEEE 802.3	-	-
10 Gigabit Ethernet acc. to IEEE 802.3an	Adequate for 10 Gigabit Ethernet	Adequate for 10 Gigabit Ethernet

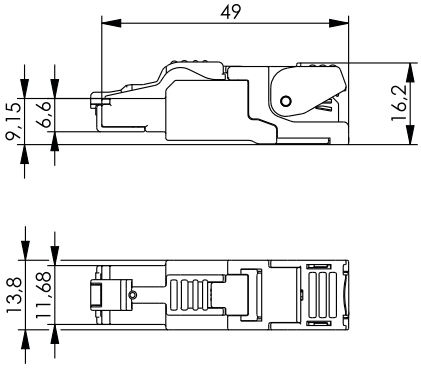
5 Patch Cords and Plugs

5.11 RJ45 Plugs (shielded and unshielded) and Cable Boots

	Plug MP8(8) Cat.6	Plug MP6(6)
Standards		
Connectors	IEC 60603-7-4	IEC 60603-7
Mechanical Characteristics		
Insertion force	≤ 20 N	≤ 20 N
Durability (mating cycles)	≥ 750	≥ 750
Material: contacts	phosphor bronze	phosphor bronze
Material: contact finish	Ni2.54Au0.8	Ni2.54Au0.8
Material: connector housing	PC UL94 V0	PC UL94 V0
Material: insertion	PC UL94 V0	PC UL94 V0
Material: shielding housing	-	-
Material: cable boot	PVC UL94 V0 (Ø 5.5 mm)	PP Ø4,0
Mating Requirements Cu-Conductor diameter: solid	0.36 - 0.51 mm (AWG27/1 - 24/1)	0.36-0.51 mm (AWG27/1 - 24/1)
Mating Requirements Cu-Conductor diameter: stranded	0.46 - 0.61 mm (AWG27/7 - 24/7)	0.46 - 0.61 mm (AWG27/7 - 24/7)
Core Diameter	0.85 - 1.02 mm	0.85 - 1.02 mm
Overall cable diameter	3.-2 - 5.5 mm	2 mm - 3.5 mm
Crimp tool	N00001A0011	N00001A0006
Climatic Characteristics		
Temperature range	-40°C ... 70°C	-40°C ... 70°C
Electrical Characteristics		
Current carrying capacity at 50°C	1 A	1 A
PoE+ acc to IEEE 802.3at	Adequate for Power over Ethernet+	-
Transmission Chracteristics		
Gigabit Ethernet acc. to IEEE 802.3	Adequate for Gigabit Ethernet	-

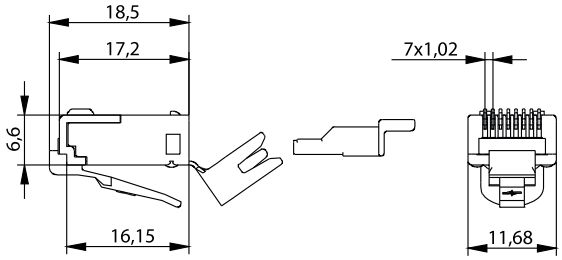
Performance Characteristics for MFP8

- preassembled protection cap
- robust zinc diecast housing
- 360° shielding
- full metal shielding between pairs of wires
- three strain relief settings (cable diameters 5.0 mm to 9.0 mm)
- can be assembled in 60 seconds without any special tools
- four-chamber wire manager (available with colour code T568A or T568B)
- optimised for the field, including demanding applications
- suitable for cablings in office buildings, data centers, industrial facilities and home networks
- supreme reliability
- secure transmission even with outside interference
- ideal for network repairs, special length and extensions
- piercing contacts suitable for conductor cross-sections AWG27/7 - 22/7; AWG24/1 - 22/1

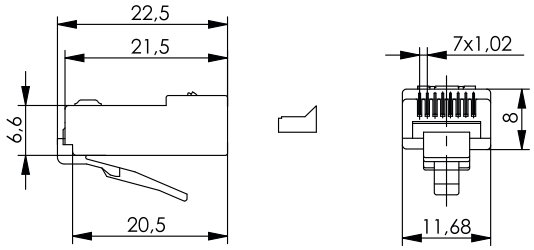


Order no.	Short name	Remarks	Type
J00026A2000	MFP8 T568 A Cat.6$_A$	AWG 27/7-22/7, AWG 24/1-22/, incl. preassembled dust protection cap	
J00026A2001	MFP8 T568 B Cat.6$_A$	AWG 27/7-22/7, AWG 24/1-22/, incl. preassembled dust protection cap	
J00026A2110	MFP8 T568 A Cat.6$_A$	AWG 27/7-22/7, AWG 24/1-22/, incl. preassembled dust protection cap	blister package (10 pcs.)
J00026A2111	MFP8 T568 B Cat.6$_A$	AWG 27/7-22/7, AWG 24/1-22/, incl. preassembled dust protection cap	blister package (10 pcs.)

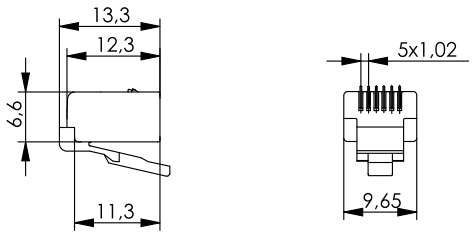
Patch Cords and Plugs



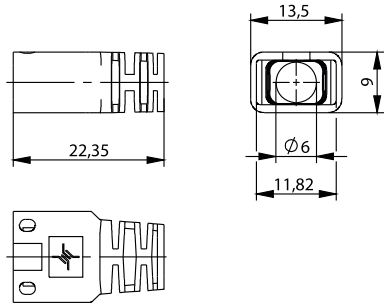
Order no.	Short name	Remarks
J00026A0165	RJ45 plug MP8(8) FS Cat.6_A	8-way fully shielded with wire presorting; AWG 24-27 (stranded and solid); please order cable boot separately



Order no.	Short name	Remarks
J00026A0182	MP8(8) Cat.6, short wire presorting	8-way, unshielded with wire presorting; AWG 24-26 (stranded and solid); please order cable boot separately



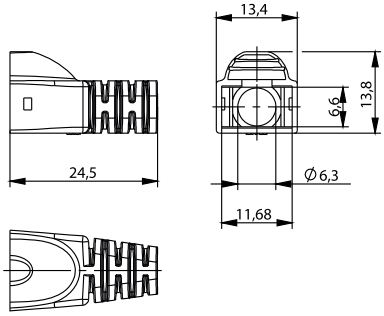
Order no.	Short name	Remarks
J00026A0183	RJ45 plug MP6(6)	6-way, unshielded; AWG 24-26 (stranded)



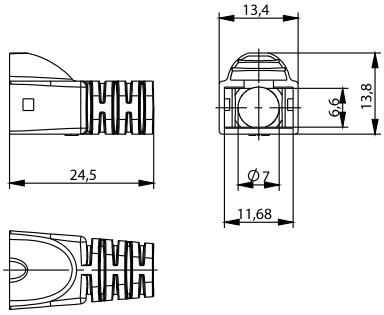
Order no.	Short name	Remarks
B00081A0031	Cable boot for MP8 FS (J00026A0165)	Cable boot, black RAL 9011, Ø 6.0 mm, without latch protection
B00081B0031	Cable boot for MP8 FS (J00026A0165)	Cable boot, red RAL 3017, Ø 6.0 mm, without latch protection
B00081C0031	Cable boot for MP8 FS (J00026A0165)	Cable boot, blue RAL 5015, Ø 6.0 mm, without latch protection
B00081D0031	Cable boot for MP8 FS (J00026A0165)	Cable boot, yellow RAL 1021, Ø 6.0 mm, without latch protection
B00081E0031	Cable boot for MP8 FS (J00026A0165)	Cable boot, green RAL 6016, Ø 6.0 mm, without latch protection

5.11

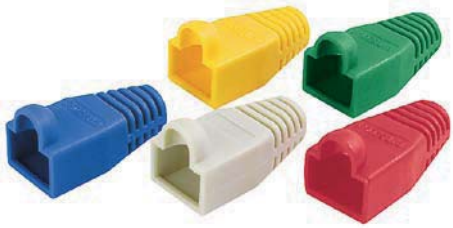
5.11 RJ45 Plugs (shielded and unshielded) and Cable Boots

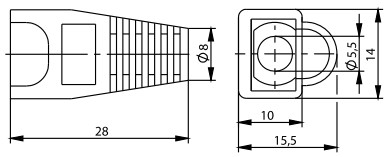


Order no.	Short name	Remarks
B00080A0089	Cable boot for MP8 FS (J00026A0165)	Cable boot, grey RAL 7035, Ø 6,3 mm, with latch protection
B00080B0089	Cable boot for MP8 FS (J00026A0165)	Cable boot, red RAL 3017, Ø 6,3 mm, with latch protection
B00080C0089	Cable boot for MP8 FS (J00026A0165)	Cable boot, blue RAL 5015, Ø 6,3 mm, with latch protection
B00080D0089	Cable boot for MP8 FS (J00026A0165)	Cable boot, yellow RAL 1021, Ø 6,3 mm, with latch protection
B00080E0089	Cable boot for MP8 FS (J00026A0165)	Cable boot, green RAL 6016, Ø 6,3 mm, with latch protection
B00080F0089	Cable boot for MP8 FS (J00026A0165)	Cable boot, black RAL 9011, Ø 6,3 mm, with latch protection

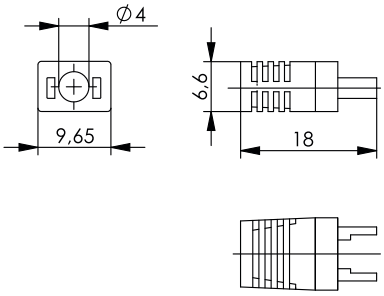


Order no.	Short name	Remarks
B00080A0090	Cable boot for MP8 FS (J00026A0165)	Cable boot, grey RAL 7035, Ø 7,0 mm, with latch protection
B00080B0090	Cable boot for MP8 FS (J00026A0165)	Cable boot, red RAL 3017, Ø 7,0 mm, with latch protection
B00080C0090	Cable boot for MP8 FS (J00026A0165)	Cable boot, blue RAL 5015, Ø 7,0 mm, with latch protection
B00080D0090	Cable boot for MP8 FS (J00026A0165)	Cable boot, yellow RAL 1021, Ø 7,0 mm, with latch protection
B00080E0090	Cable boot for MP8 FS (J00026A0165)	Cable boot, green RAL 6016, Ø 7,0 mm, with latch protection
B00080F0090	Cable boot for MP8 FS (J00026A0165)	Cable boot, black RAL 9011, Ø 7,0 mm, with latch protection





Order no.	Short name	Remarks
B00081A0036	Cable boot for MP8 (J00026A0182)	Cable boot, grey RAL 7035, Ø 5.5 mm, with latch protection
B00081B0036	Cable boot for MP8 (J00026A0182)	Cable boot, red RAL 3017, Ø 5.5 mm, with latch protection
B00081C0036	Cable boot for MP8 (J00026A0182)	Cable boot, blue RAL 5015, Ø 5.5 mm, with latch protection
B00081D0036	Cable boot for MP8 (J00026A0182)	Cable boot, yellow RAL 1021, Ø 5.5 mm, with latch protection
B00081E0036	Cable boot for MP8 (J00026A0182)	Cable boot, green RAL 6016, Ø 5.5 mm, with latch protection
B00081F0036	Cable boot for MP8 (J00026A0182)	Cable boot, black, Ø 5.5 mm, with latch protection



Order no.	Short name	Remarks
B00080A0098	Cable boot for MP6(6) (J00026A0183)	Cable boot, black, Ø 4.0 mm

Crimp Tools and Crimp Dies for RJ45 Plugs 5.12

Order no.	Description	Remarks
N00001A0002	Crimp Tool Professional (for frequent use) with insert for shielded MP8(8) FS plug; diameter of screen crimp die=5.5 mm; for cable diameter=5.5 - 6.2 mm; life ≥ 10.000 crimping operations	for MP8(8) FS plug (J80026A0000, J80026A0001, J00026A0165, J80026A0002)

Order no.	Description	Remarks
N00001A0011	Crimp tool with insert for unshielded MP8(8)-plug; life ≥ 1.000 crimping operations	for MP8(8) plug (J00026A0182)

Order no.	Description	Remarks
N00001A0006	Crimp tool with insert for unshielded MP6(6) plug; life ≥ 1.000 crimping operations	for MP6(6) plug (J00026A0183)

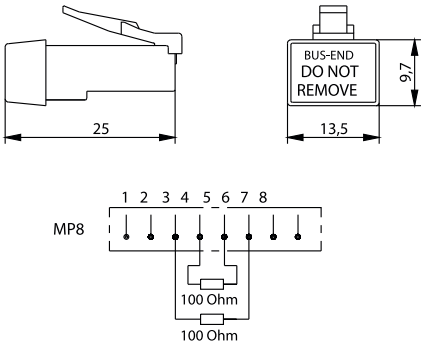
5.12

5 Patch Cords and Plugs

5.12 Crimp Tools and Crimp Dies for RJ45 Plugs

Order no.	Short name	Type
N00000B0020	Parallel pressing tool	auxiliary tool for AMJ, UMJ, STX Module and MFP8 plug assembly

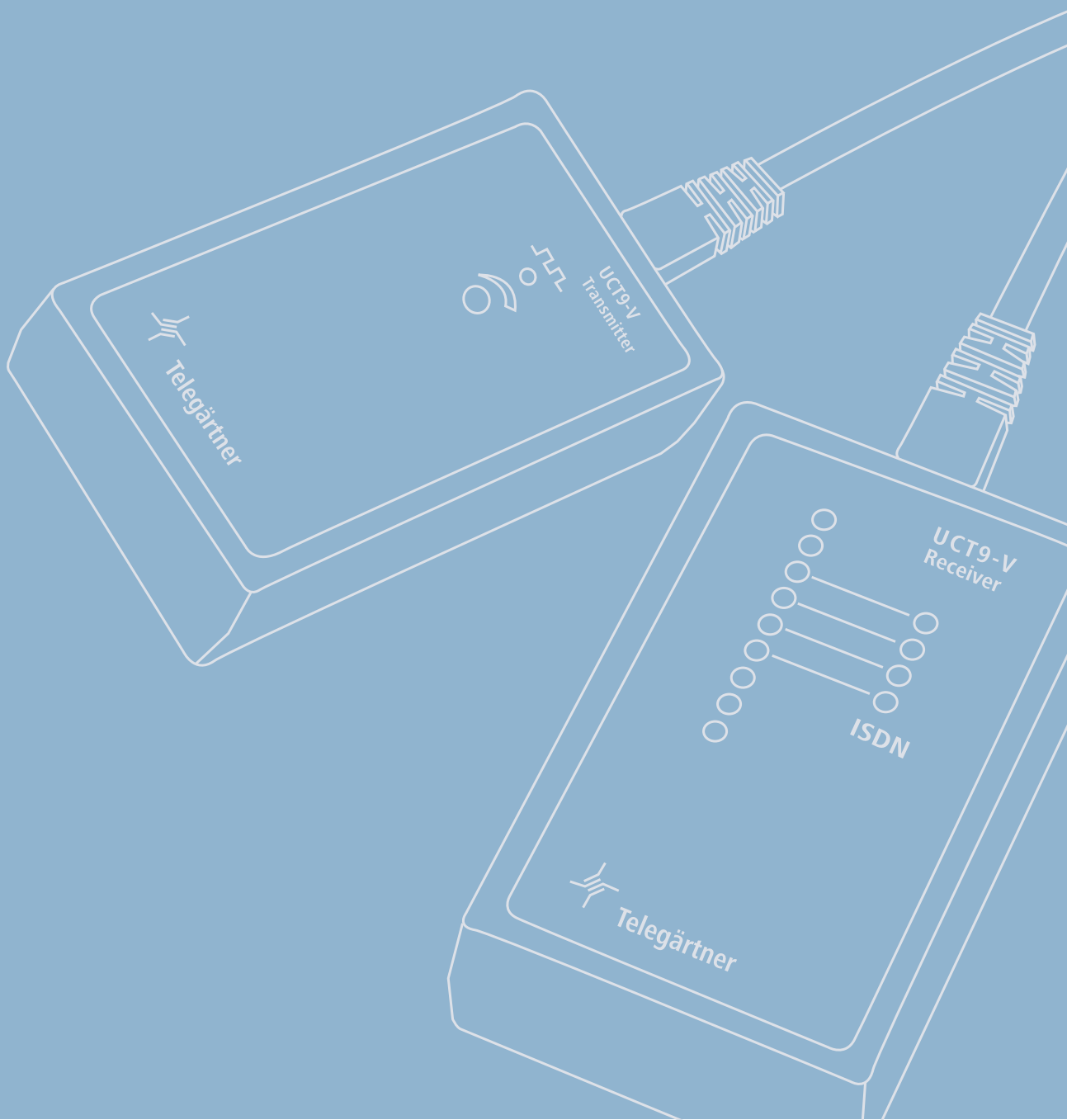
5.13 RJ45 Terminator 100 Ωs for ISDN Applications

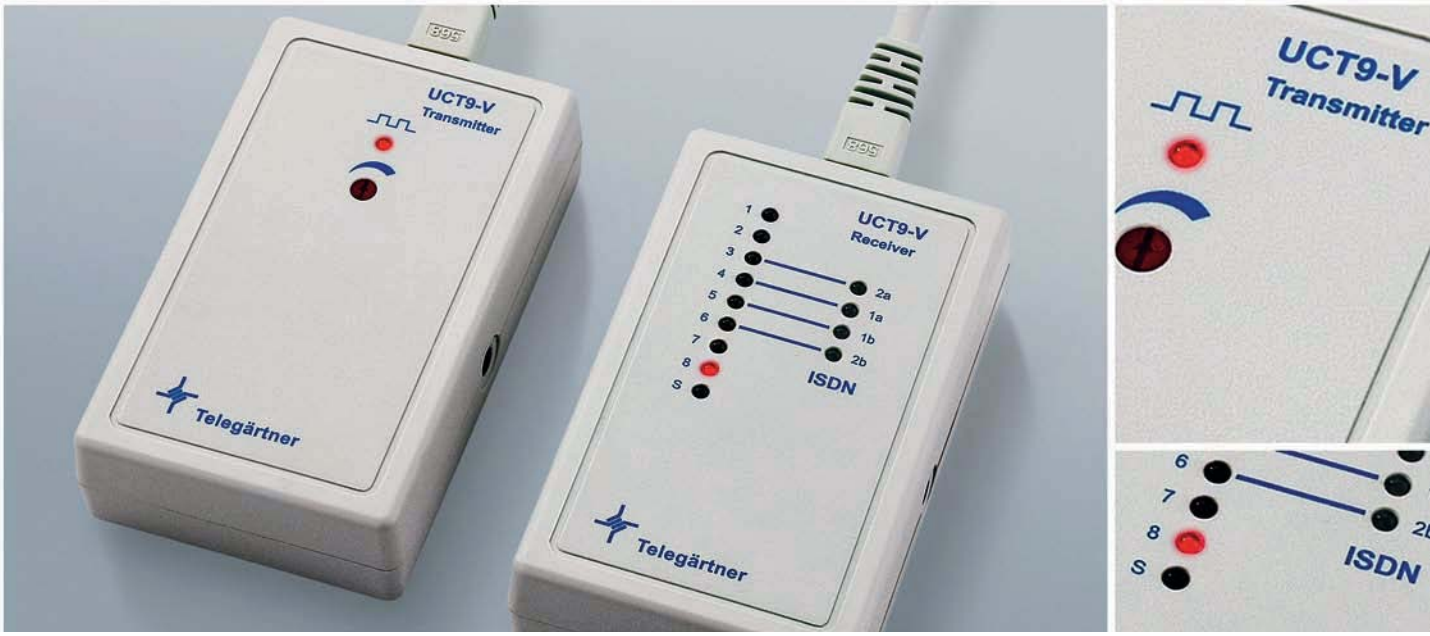


Order no.	Remarks
J00026A0142	RJ45 Terminator 100 Ω for ISDN applications

6

UCT - Wiring Tester





6 UCT - Wiring Tester

UCT - Wiring Tester

The UCT9 Type II Test Set, comprising separate transmit and receive modules, makes it possible for one person to check that the wiring of his Twisted Pair local network has been connected up correctly.
Dependant on the selected test-speed, it takes the UTC9 just 2 to 3 seconds to test fully automatically a 9 core shielded cable run (including screen), or an 8-core unshielded cable run, for cable breaks, crossed wires, or shorts. Faults located in the LAN wiring system are signalled-up on a 9 digit LED-display, and are repeatedly displayed until stopped by the user. Since it has become common practice to distribute ISDN-S0-Bus via LAN, Telegärtner has integrated an S0-Bus test facility in a single unit, at an attractive price-performance ratio. ISDN-S0-Bus wiring faults can be checked using the receiver module only, and a 4 digit LED-display.
It is imperative that the ISDN wiring is checked if more than one piece of ISDN equipment is used in the network – in such a configuration, none of the wires may be crossed. With point-to-point wiring, 2 people are able to test cable runs and with the integrated facility of voice communication using head-sets (M06010A0018).

Performance Characteristics

- attractive price-performance ratio for a 2 in 1 device (LAN and ISDN)
- simple to operate and simple interpretation of the most common wiring faults: short-circuits, crossed-wires, cable breaks
- fault display for each individual conductor
- automatic test operation and repetition of fault display until the fault is rectified
- adjustable test-speed
- Standard 4 pair RJ45 patch cable (shielded or unshielded) interface to wiring system
- fool-proof battery connection
- external voltage proof up to 60 V
- integrated voice communication facility between 2 people using headsets (only available with M06010A0018)

Scope of Delivery

- transmitter with adjustable test speed
- receiver with error display (LED)
- 9 V battery
- instruction manual
- optional extra: 2 headsets for UCT9-V

Please find the instruction manual for UCT9 Type II on our homepage www.telegaertner.com

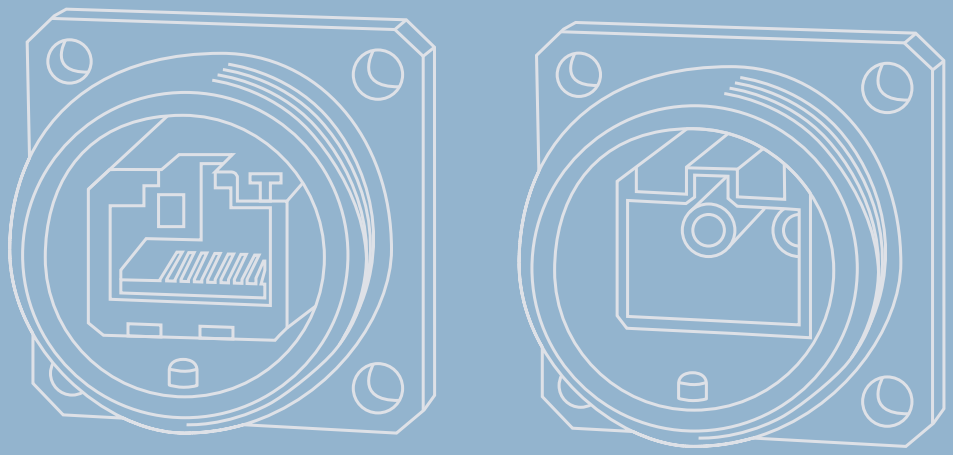
Order no.	Description	Colour
M06010A0017	Wiring Tester UCT9 Type II	grey
M06010A0018	Wiring Tester UCT9-V Type II with connection for voice communication facility	grey

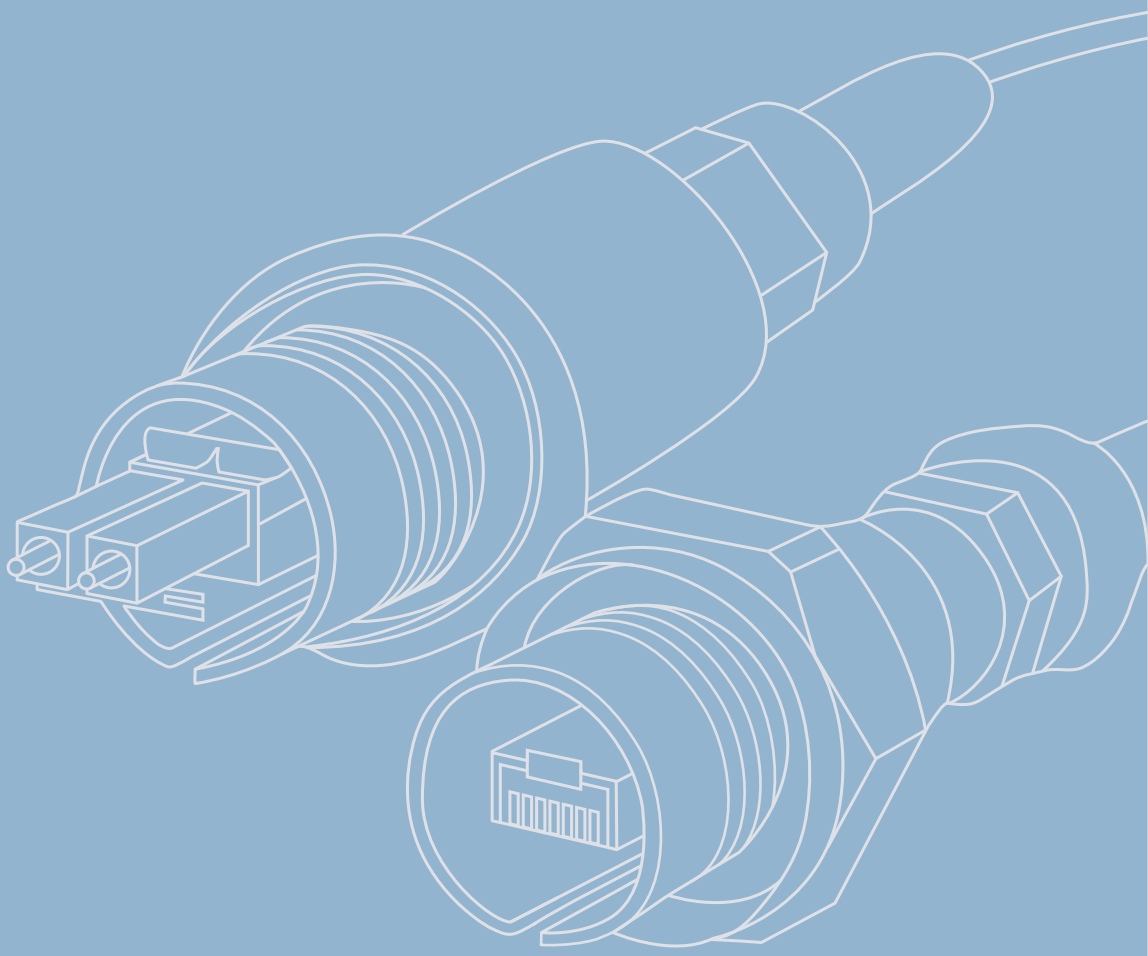
UCT - Wiring Tester

Order no.	Description
M03030A0000	2x Head set for M06010A0018

7

TOC - Outdoor Connectors





7 TOC – Outdoor Connectors

TOC - Outdoor Connectors

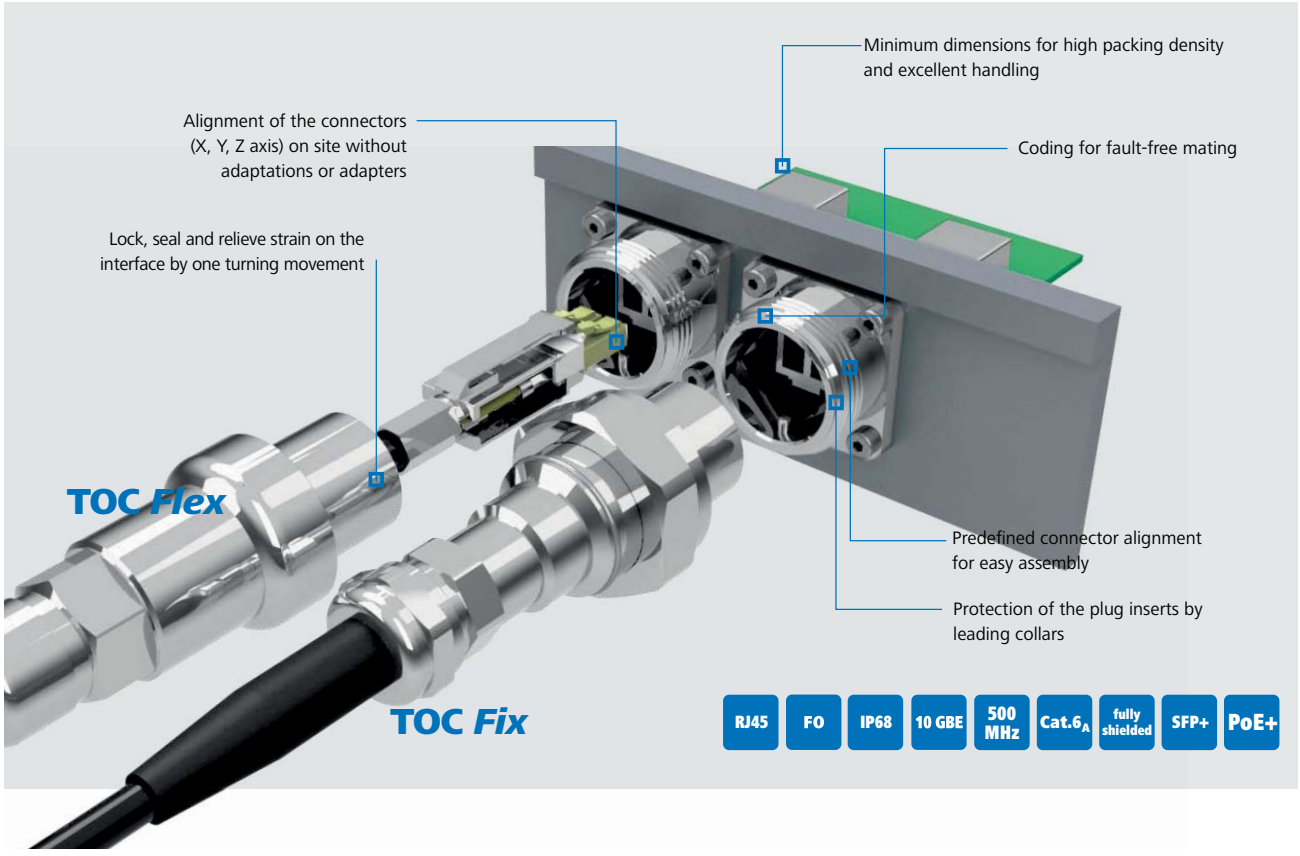
A new dimension in outdoor cabling

TOC stands for Telecommunications Outdoor Connectors and offers network professionals the reliability and flexibility they need for outdoor applications.

The handy, easy to install TOC connectors are used for data- and telecommunications in mobile radio, process-, utility- and traffic automation but also in harsh environment applications of machine and plant engineering.

The TOC series is suitable for integration into any electronic SFP+ interface or as a stand-alone interface (IP68 outlets). All connectors of the TOC series are compliant with the specifications of the IP68 protection class and can be used in a temperature range from -40 °C to 85 °C due to their excellent material properties. In addition to the standard range, customized versions with other materials such as stainless steel or plastic are available on request.

The advantages of the TOC connectors at a glance



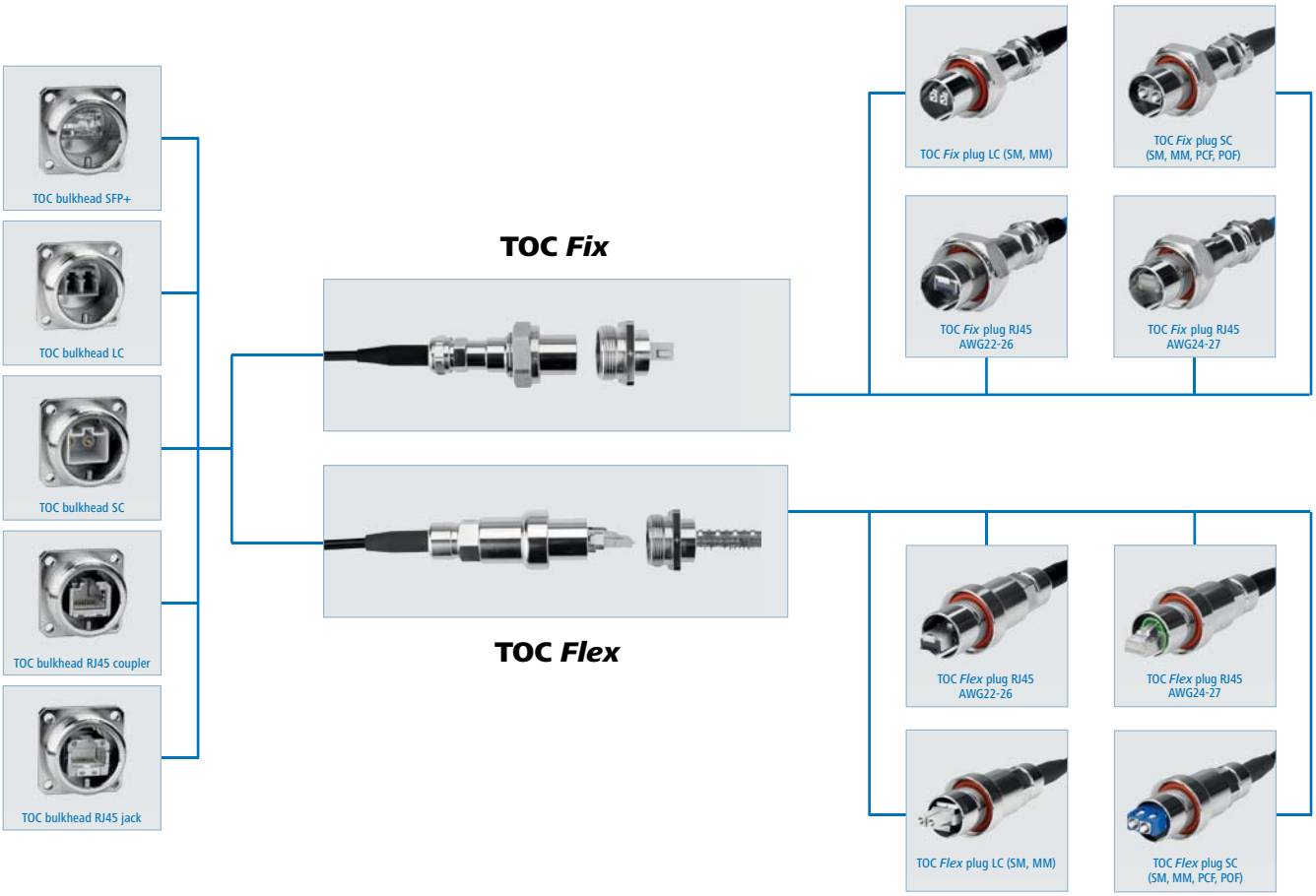
TOC connectors and applications

TOC connectors are used in outdoor applications for data- and telecommunications in mobile radio, process-, plant- and traffic automation but also in applications in machine and plant engineering.

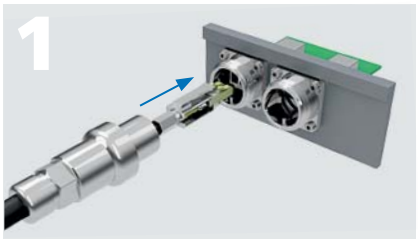
7 TOC - Outdoor Connectors

Minimum dimensions. Maximum possibillities.

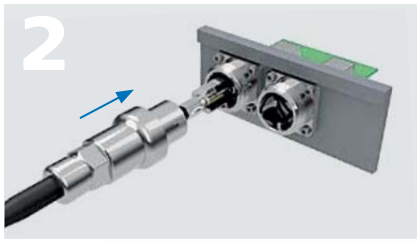
The TOC *Fix* with adjusted connector alignment for RJ45 or FO inserts, the TOC *Flex* for individual on-site adaptation of the connectors without adapters.
The special feature: Both housing versions can be equipped with different inserts such as RJ45 Cat.6A, SC or LC. Customers benefit: more freedom of combination, more transmission reliablity and more flexibility in the network design.



TOC *Flex* assembly steps



Plug the plug insert into the insert inside of the bulkhead regardless of the connector alignment

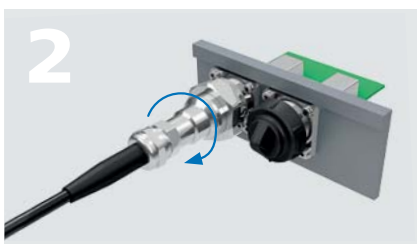


Push the plug housing over the plug insert

Screw the plug to the bulkhead – interface is locked, sealed and relieved of strain by one turning movement

TOC *Fix* assembly steps

Insert the plug into the bulkhead – connector alignment is predefined



Screw the plug to the bulkhead

TOC - Outdoor Connectors

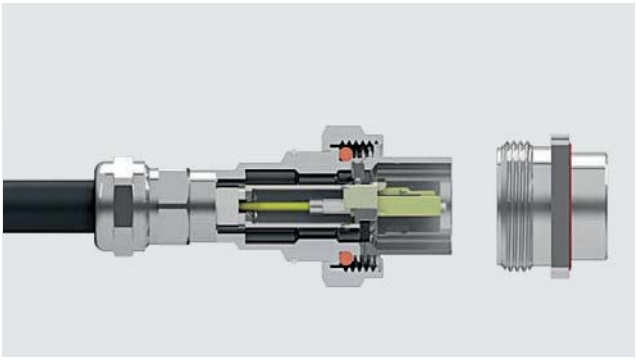
One series. Two types.

The TOC connectors are available both as RJ45 Cat.6A and as FO interface. They are available in two types:

TOC *Fix*

The TOC *Fix* features defined integration of the RJ45 Cat.6A or FO plug and bulkhead inserts.

The plug and bulkhead inserts have a fixed position in the plug housing and are adjusted to each other.

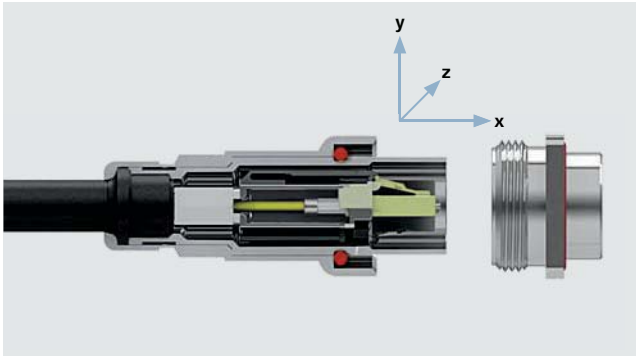


The plug insert and the plug housing are screwed to the bulkhead in one motion during installation.

TOC *Flex*

The TOC *Flex* has been developed especially for adaptation to different connector alignments between the plug and bulkhead inserts.

It is suitable for applications in which the plug axis can be optimally adjusted on site (x, y, z axis) by the choice of different bulkhead inserts (SFP+ Transceiver). The TOC *Flex* therefore especially simplifies the printed circuit board integration in electronic equipment.



The respective pluggable transceiver (RJ45, SC or LC) can be installed in and removed from the bulkhead from the front during installation. The plug insert and the plug housing are attached to the flange insert one after another whereby special attention has been paid to easy handling.

Technical data

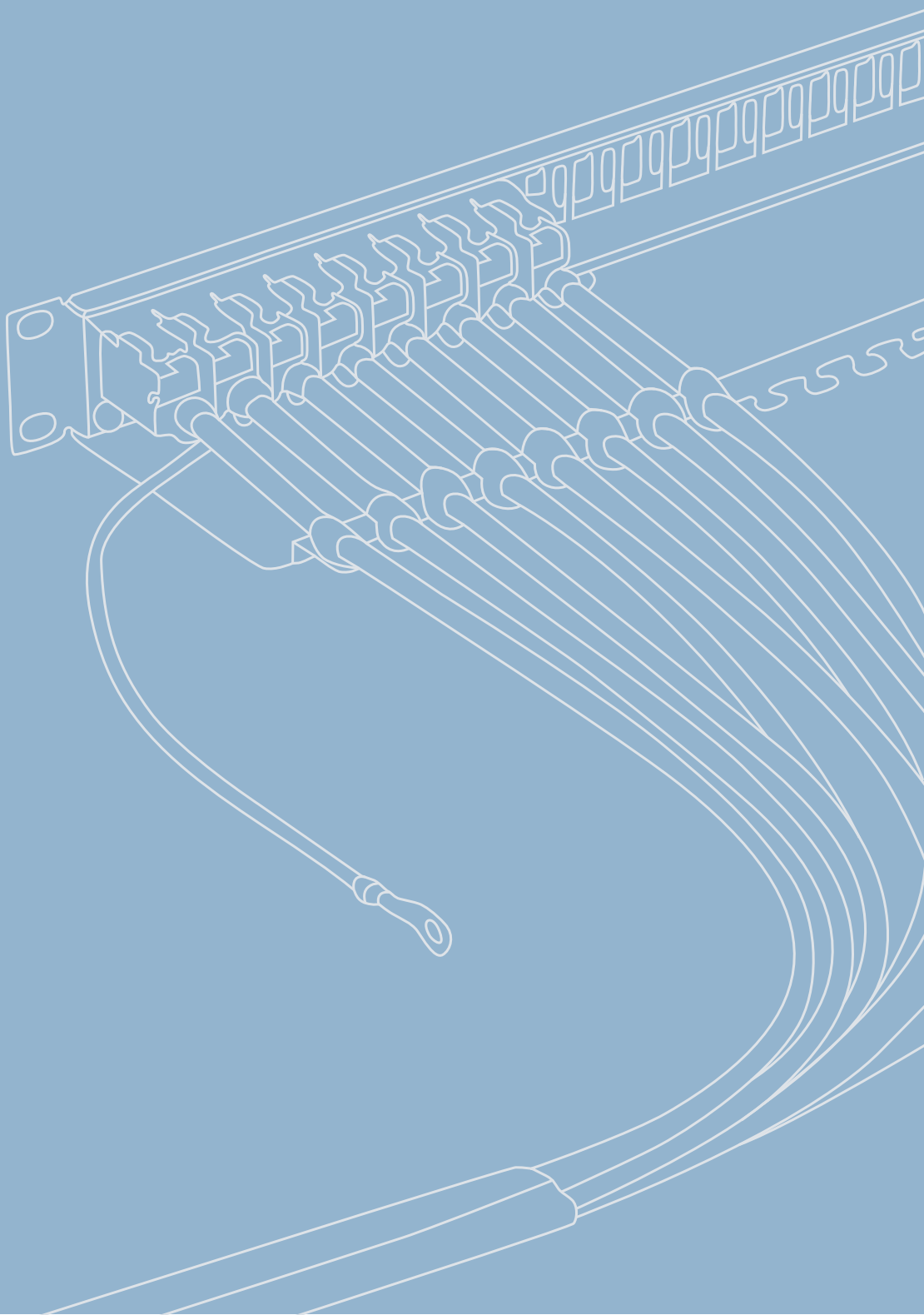
RJ45 plug and bulkhead inserts	
RJ45	IEC 60603-7-51 (500 MHz)
Cat.6A	ISO/IEC 11801:2010
IEEE 802.3an	10 Gigabit Ethernet
PoE+ 802.3at	adequate for PoE+
Mating cycles	< 750
RJ45 jack cu-conductor	AWG26/7-AWG22/7 / AWG26/1-AWG22/1
RJ45 jack core diameter	0.85 - 1.6 mm
RJ45 plug AWG24-27 cu-conductor	AWG27/7-AWG24/7 / AWG26/1-AWG24/1
RJ45 plug AWG24-27 core diameter	0.85 - 1.05 mm
RJ45 plug AWG22-26 cu-conductor	AWG26/7-AWG22/7 / AWG26/1-AWG22/1
RJ45 plug AWG22-26 core diameter	0.85 – 1.6 mm

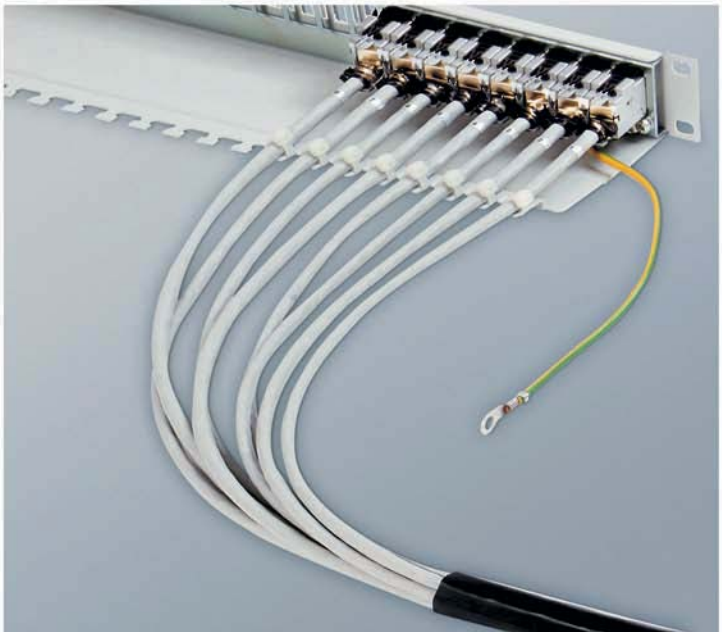
FO plug and bulkhead inserts	
SC	IEC 61754-4
LC	IEC 61754-20
Mating cycles	< 500
Buffered optical fiber diameter	0,9 mm
Subcable diameter	up to 2,8 mm
Insertion loss	SM max. 0,5 dB, MM max. 0,4 dB, SM APC max. 0,5 dB
Return loss	min. 40 dB, min. 65 dB (APC)
Polish type	PC or APC 8°
suitable for SM, MM, PCF or POF (SC) fibers	

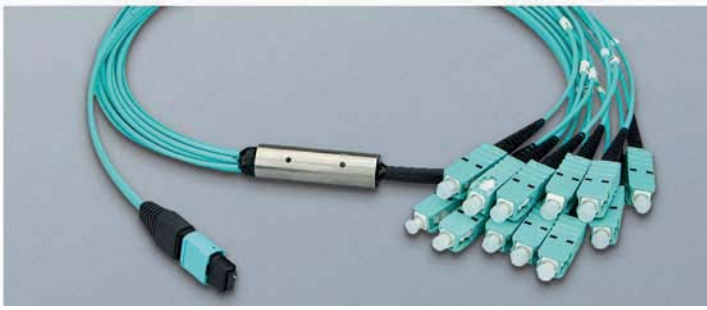
FO plug and bulkhead housings	
Housing material	nickel-plated brass, stainless steel or plastics; others on request
Locking mechanism	screw type, coupling torque 25-35 Nm
Mounting	round cutout 24 mm, 4 screws
Mating cycles	> 500
Operating temperature	-40 °C - +85 °C
Protection class	IP68 acc. to IEC 60529
Cable diameter	5 … 9 mm
RoHS	compliant

8

Data Center Solutions







8 Data Center Solutions

Data Center Solutions

The cabling infrastructure of a data center has to take special conditions into consideration. Limited space makes high density solutions necessary, whilst at the same time highest possible performance, availability, and flexibility are needed. All this leads to a long list of parameters which have to be met 100 percent.

Availability

- Short installation time
- Plug & play solutions
- Reliability due to own manufacturing plants, including documentation
- Customer specific solutions
- Different kinds of bonding and grounding

MACs (moves, adds, and changes)

- Scalability
- Components optimized for real-life installations
- Simple use due to pulling aids
- Pre-terminated solutions
- Minimum disruptions at rebuilds, adds, and new constructions

Performance

- RJ45 components Cat.6_A up to 500 MHz
- 360° fully shielded
- High quality twisted pair cables AMJ 900 / AMJ 1500
- High quality patch cords Cat.6_A for 10 GBE
- Factory pre-terminated fiber optic cables with e.g. MPO/MTP®, SC, LC connectors
- Low insertion loss, high return loss
- High quality pre-terminated connections singlemode OS2 / G.657.x, multimode OM3 / OM4
- For applications at 10 Gbps, 40 Gbps, or 100 Gbps
- Ethernet, Fiber Channel (FCoE)

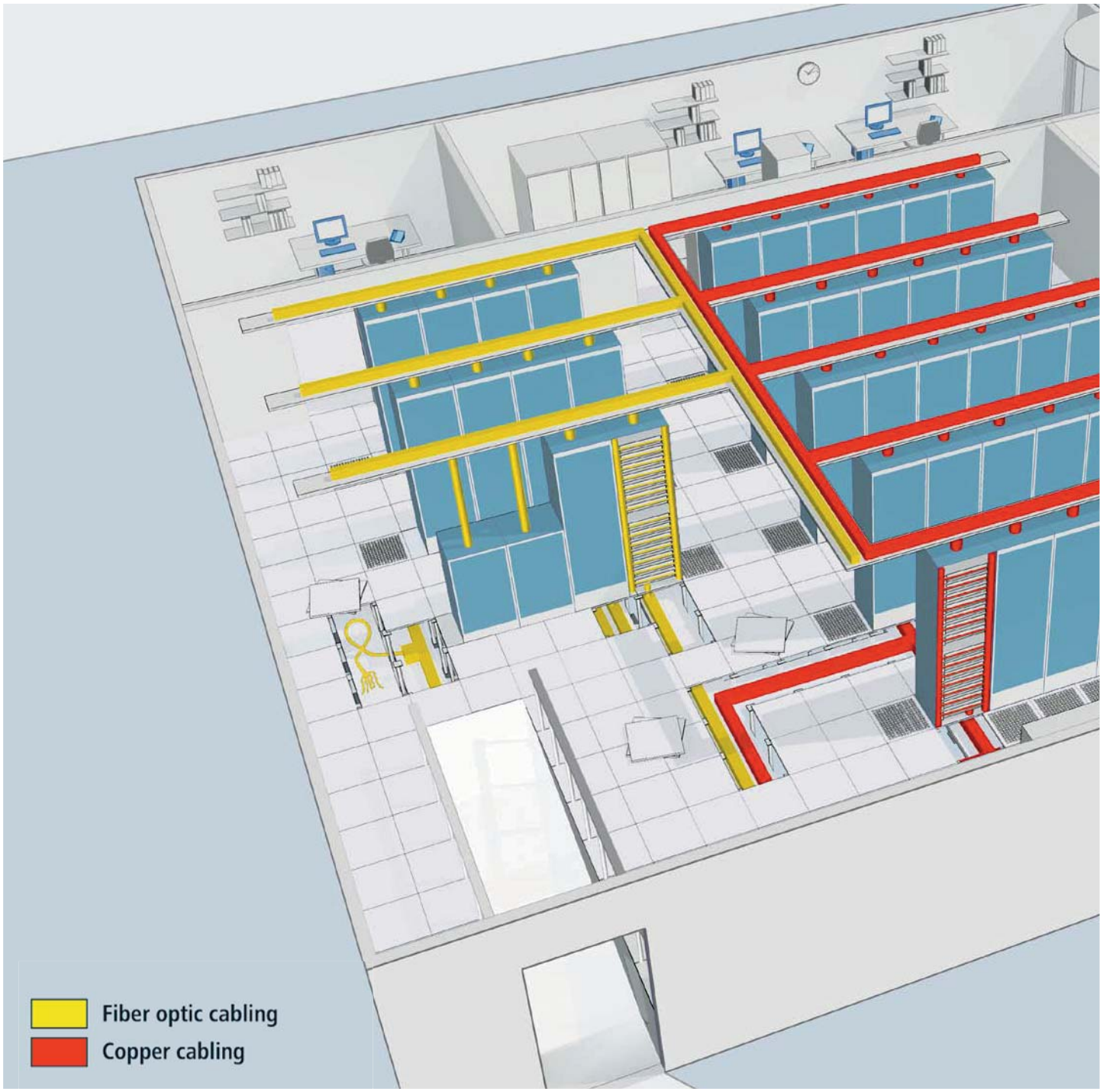
High density

- Standard compliant components
- SFF – small form factor
- MPO/MTP® connector
- High density RJ45 modules, 48 ports using just 1 HU
- High density fiber optic modules, 48 ports/96 fibers using just 1 HU
- Hybrid solutions with copper and fiber optic modules

8 Data Center Solutions

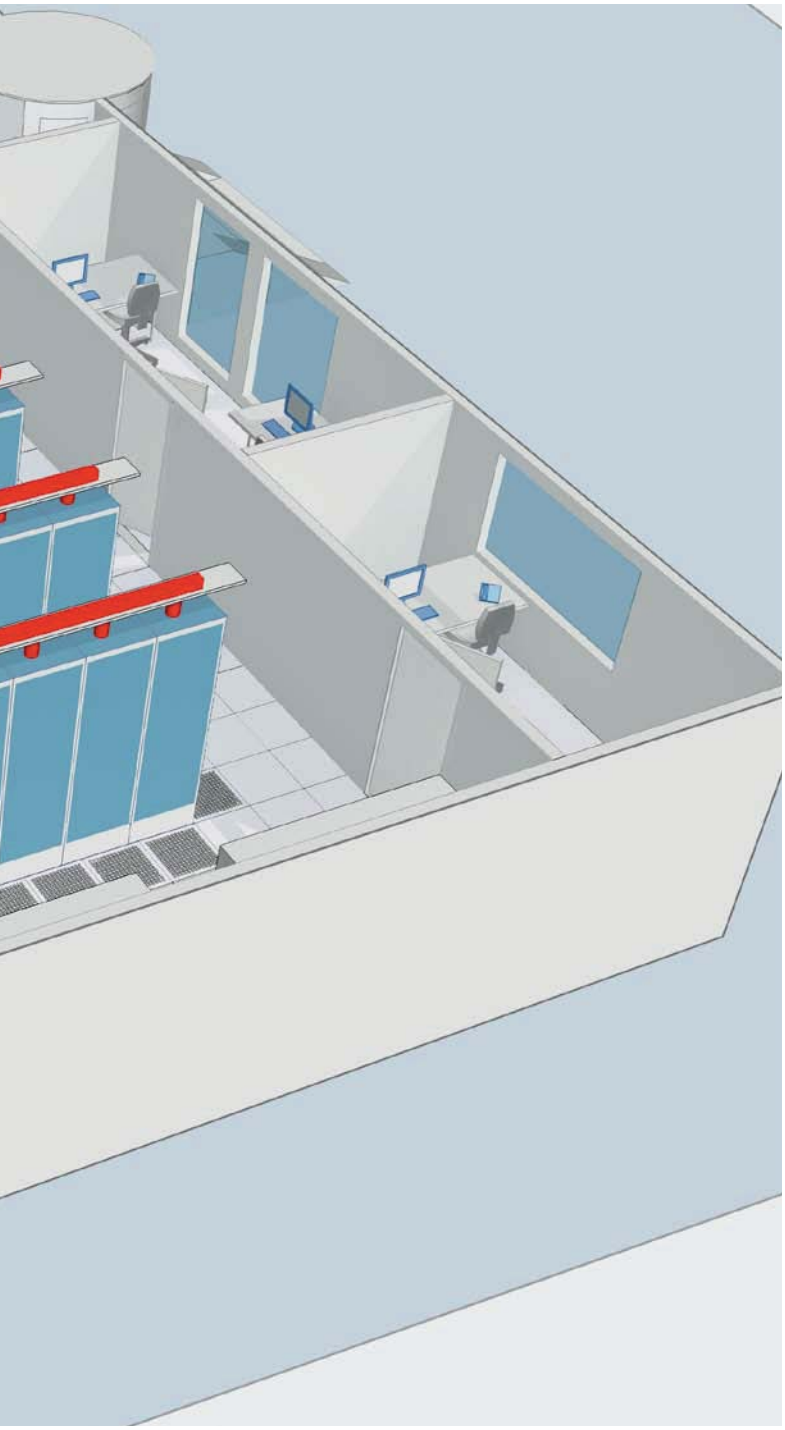
Highest quality, flexibility and minimum disruptions at the same time are the demands for today's data center infrastructure. To address this challenging environment, Telegärtner offers pre-terminated solutions. A major benefit of pre-terminated cables is that they can be installed whenever data center processes allow, very often even during live operations. Whenever new servers, switches, or mainframes are installed or moved, the pre-terminated cables are already in place, ready for service. Time consuming cable cutting and stripping, terminating, curing, and polishing belong to the past. Pulling grips protect the connectors during cable installation and guarantee factory-proven quality even under rough installation conditions. Single-mode fiber and OM3/OM4 multimode fiber for data rates up to 10/40/100 Gbps are most recommendable. Cables with 12, 24, or 48 fibers are terminated with 12-fiber MPO/MTP® connectors or with duplex LC or duplex SC connectors. For shorter

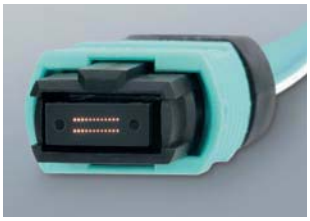
Data center cabling

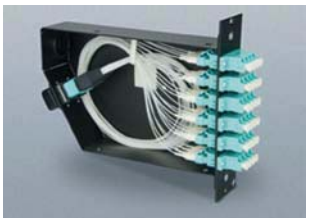


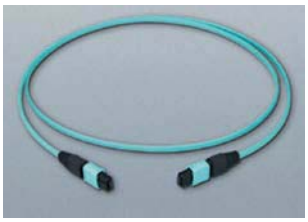
distances, high-quality AMJ 900 / AMJ 1500 copper hydra cable solutions, which offer 10 Gbps over distances up to 90 m, can be used as well. Telegärtner's hydra cables are available with RJ45 AMJ / AMJ-S modules for patch panels and with RJ45 plugs as fan-out patch cables, which saves a lot of time when connecting larger amounts of switch ports.

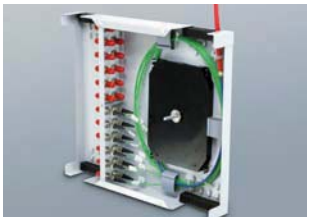
Detailed information is available at datacenter@telegaertner.com.









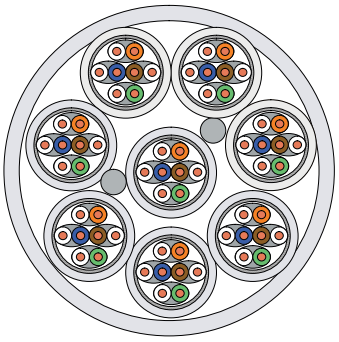


8 Data Center Solutions

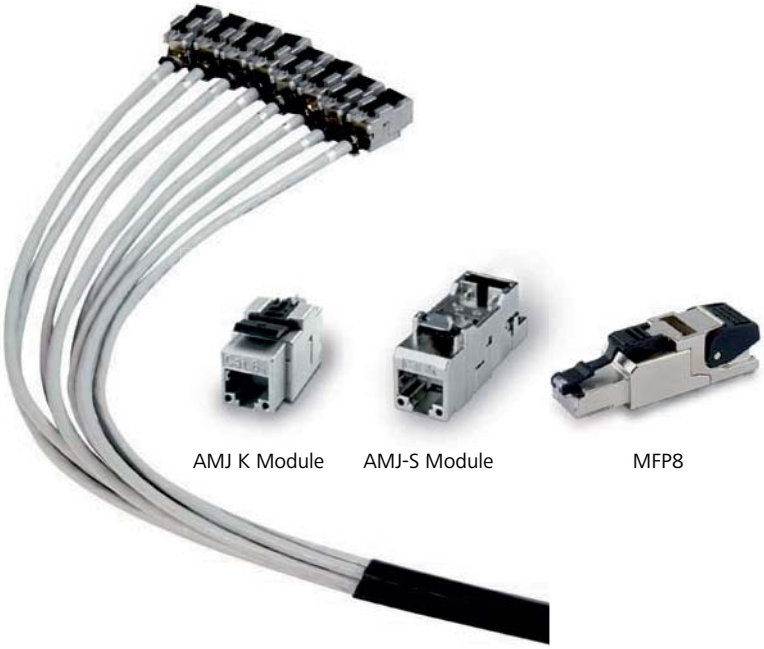
Hydra cables

Telegärtner's hydra cable solutions 8x AMJ 900 S/FTP Cat. 7 offer 8 individual, factory-terminated cables with either RJ45 plugs or AMJ modules, according to the specific infrastructure demands. Reliable data transmission up to 10 Gbps and flexible, easy, and time-saving installation make plug & play solutions the preferred solutions in data centers.

The factory termination is done according to the needs and circumstances of the installation site. Pulling aids ensure fast and safe installation, and the test document supplied with the hydra cable guarantees proven quality and Cat.6_A performance up to 500 MHz according to ISO/IEC 11801.



Cross-Section of a Hydra Cable



Technical data AMJ 900 S/FTP 8x(4x2xAWG23/1) FRNC, Cat.7	
Description	AMJ 900 S/FTP 8x4P AWG23
Colour (overall jacket)	grey RAL 7035
Colour (breakout cable)	grey RAL 7035
Cable structure	8x4x2AWG23/1 PIMF
Conductor	AWG23 (1x0,56 mm)
Pair shielding	Al-foil, outside conducting
Overall shielding	Tin plated copper braid
Outer diameter overall	27,1 mm
Outer diameter breakout	8,0 mm

Environmental requirements	
Flame-retardant test	IEC 60332-1/IEC 60332-3-24
Operating temperature	-20°C up to +60°C
Installation temperature	0°C up to +50°C
Bending radius whilst installation	8x outer diameter
Bending radius whilst operation	4x outer diameter

Transmission characteristics

Next		Insertion loss	
typical values at 100 MHz	100 dB	typical values at 100 MHz	17,4 dB/80 m
typical values at 250 MHz	90 dB	typical values at 250 MHz	25,0 dB/80 m
typical values at 300 MHz	89 dB	typical values at 300 MHz	30,9 dB/80 m
typical values at 600 MHz	85 dB	typical values at 600 MHz	44,8 dB/80 m
typical values at 900 MHz	82 dB	typical values at 900 MHz	59,4 dB/80 m

Technical data AMJ Modular System Cat.6_A – see chapter 2: "Modular System AMJ/UMJ"
Technical data RJ45 Plug Cat.6_A – see chapter 5: "Patch Cords and Plugs"

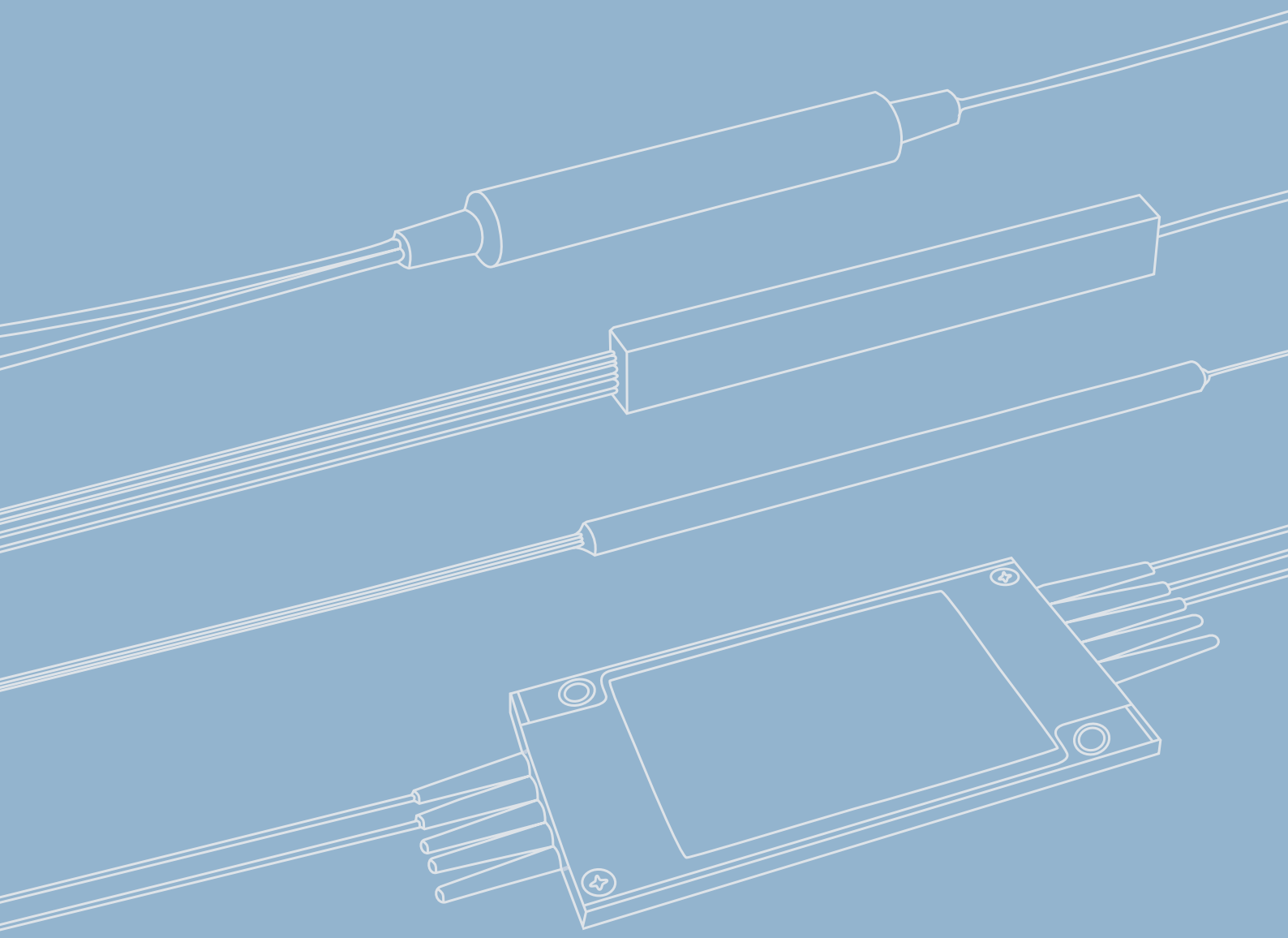
MPO/MTP® connectors

Telegärtner's MPO/MTP® connectors offer a maximum of optical fibers within a minimum of space. Based on the proven MT ferrule, MPO/MTP® connectors accept 4, 8, 12 or 24 multimode or singlemode fibers. Short installation time, flexible cabling, and maximum port density are the benefits of this high fiber count data center solution. MPO/MTP® connectors are used with PC or APC ferrules in patch cords, pigtails, hybrid fan-out patch cords and pre-terminated TICNET cables with optimized enclosures.

Mechanical characteristics		
Fiber count	4, 8, 12 or 24 pcs.	
Fiber type	Singlemode 9/125 µm – specification: OS2 Multimode 50/125 µm – specification: OM2/OM3/OM4	
Assemblies	Pigtail, patch cord, harness, fan out, FO trunks, enclosures	
Environmental Requirements		
Operating temperature	-5°C up to +55°C (subject to applied cable type)	
Storage temperature	-30°C up to +70°C (subject to applied cable type)	
Optical characteristics		
Fiber type	Singlemode 9/125 µm	Multimode 50/125 µm, Multimode 62,5/125 µm
Ferrule type	APC	PC
Insertion loss	max. 0,7 dB (typ. 0,3 dB)	max. 0,5 dB (typ. 0,2 dB)
Return loss	APC > 60 dB, PC > 40 dB	PC > 30 dB
Durability (mating cycle)	≥ 500 pcs.	≥ 500 pcs.

9

Fiber-To-The-Home Solutions

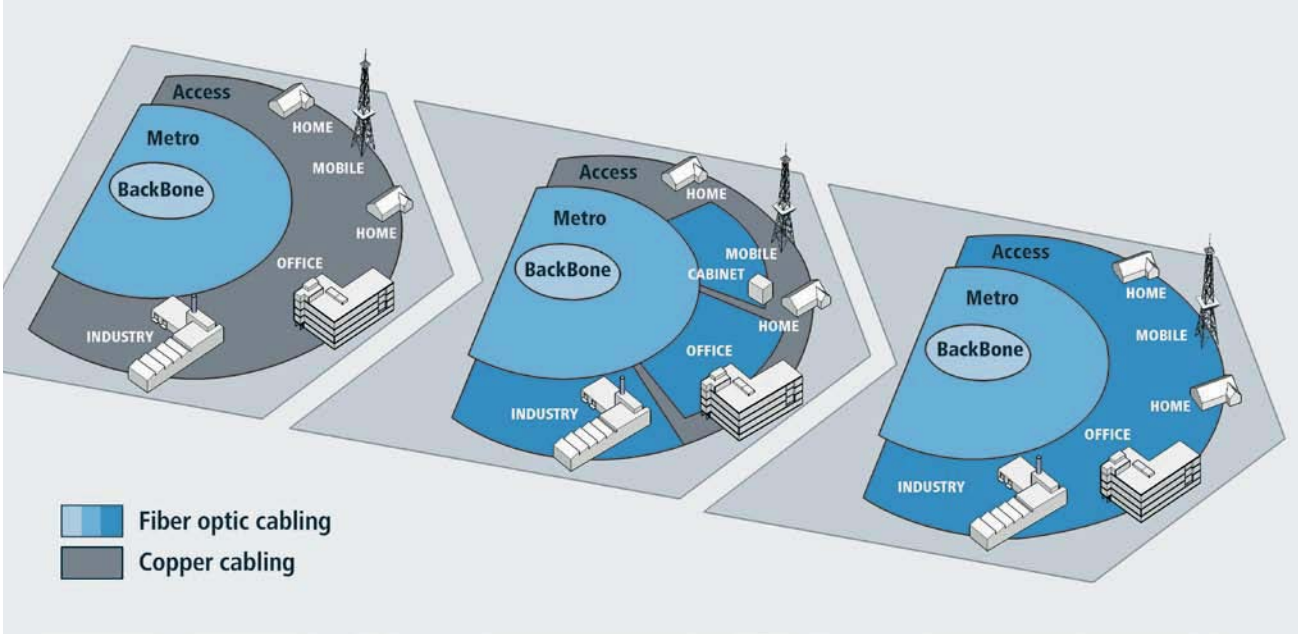


9 Fiber-To-The-Home Solutions

Fiber-To-The-Home Solutions

The ever growing demands for higher data rates and more bandwidth, especially from private users, are pushing the existing networks to their limits. To establish future-proof solutions, the option of extending optical networks is indispensable. To achieve this, cabling components which fulfil all the demands of availability, performance, and high-density, are an absolute must.

Migration from copper to FTTx (Fiber-To-The-...) networks



Availability

- IP rating IP20, IP67 (RJ45 / fiber optic), IP68/69k (coax / RJ45 / fiber optic)
- Customer specific solutions
- Development, manufacturing, and quality assurance by Telegärtner
- External audits and proofs by independent labs

High density

- Optical couplers up to 2x128
- Optical fibers optimized for tight bend radius (≥ 15 mm)
- RJ45 and fiber optic connecting hardware for electrical fuse boxes

Performance

- Transmission performance

Coax	900 / 1800 MHz (GSM)
	2.3 / 4 GHz (UMTS)
	2.7 GHz (LTE)
	3.5 GHz (Wimax)
RJ45	up to 500 MHz (Cat.6_A)
Fiber optic	OS2, G.657A/B

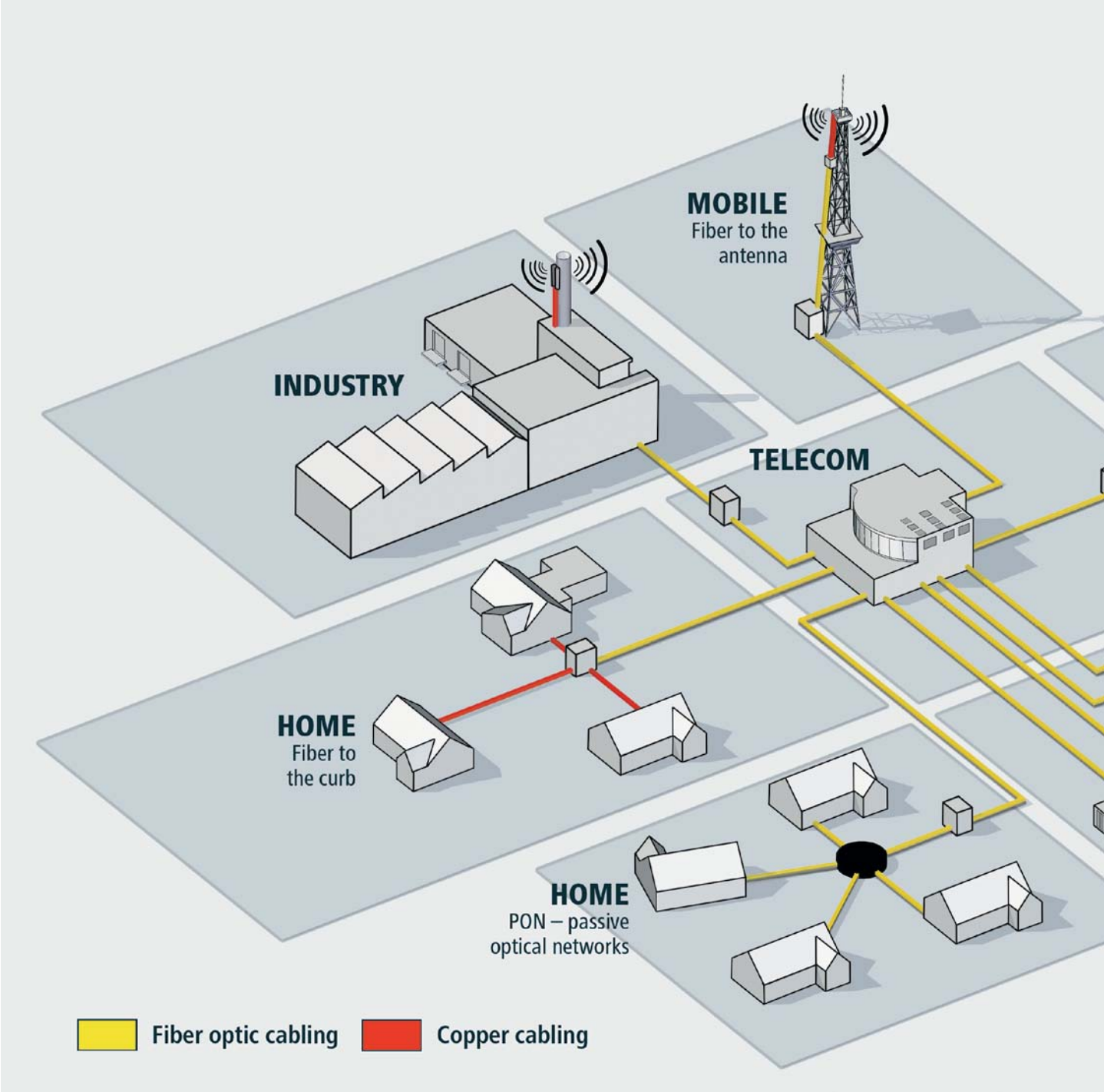
- Access net solutions for high bit rates with well-established coaxial, RJ45, and fiber optic connecting hardware
- Short installation times through easy installation

9 Fiber-To-The-Home Solutions

When the existing infrastructure of the access network, which has grown over the last decades, can not cope anymore with the continuously growing demands, it is only logical to use the high-performance fiber optical networks closer to the end-user – whether this might be a company or a private person.

The technical demands can not always be fulfilled easily, as the technical solutions have to be as individually designed as the cities and urban areas are. It is good to rely on a manufacturer who can look back on decades of experience and who has been a partner for technological development

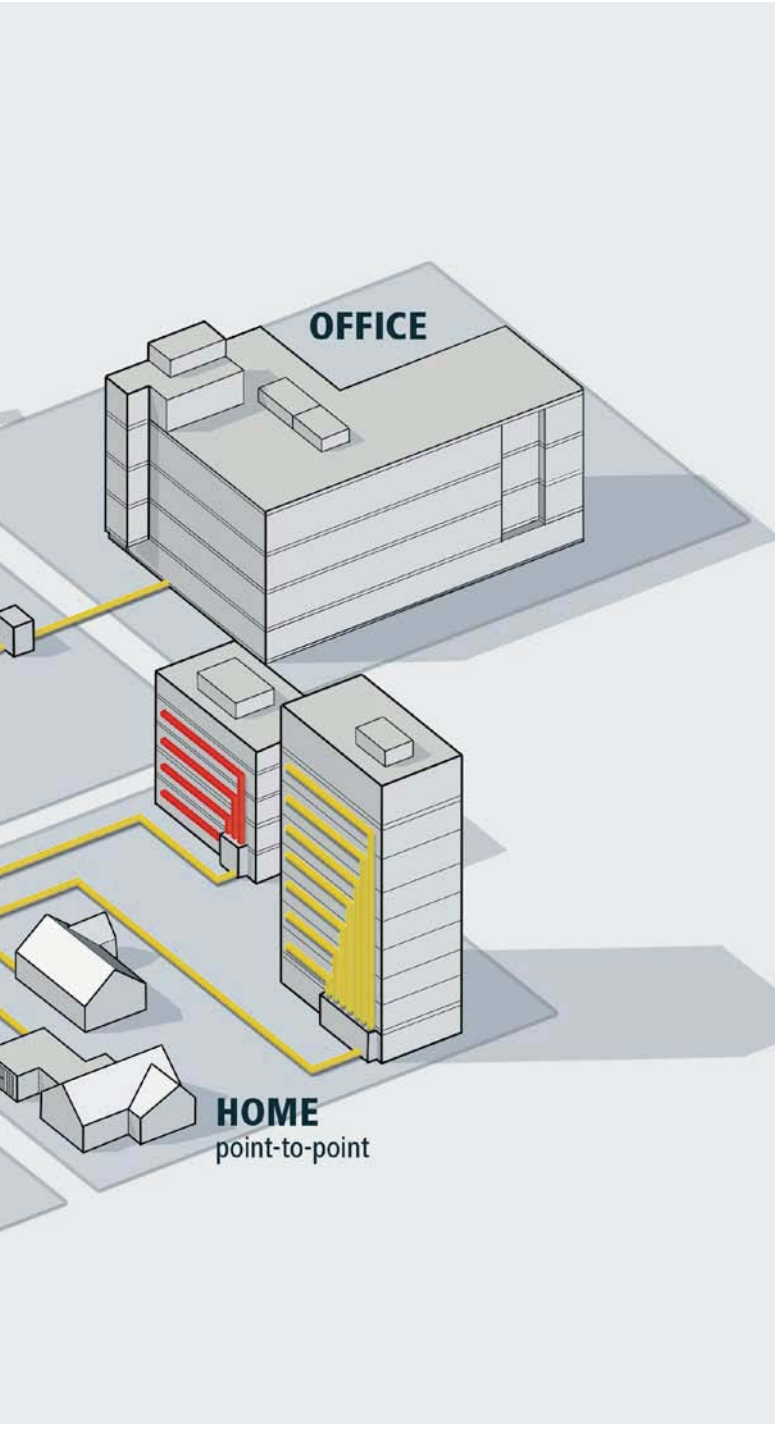
FTTx (Fiber-to-the-...) cabling solutions



Fiber-To-The-Home Solutions

ever since. Telegärtner offers a wide variety of Fiber-to-the-... solutions for all the different types of access networks from optical couplers/wavelength multiplexers, enclosures, fiber optic and coaxial connectors.

Detailed information is available at fttx@telegaertner.com.



9 Fiber-To-The-Home Solutions

Power splitting FBT couplers

Telegärtner's FBT (fused bi-conical taper) couplers are used to merge or separate optical signals at minimum loss. FBT couplers are used in worldwide telecommunications, CATV, and fiber-to-the-home networks, as well as for metrology and sensor applications.

These bi-directional couplers are available in a variety of different designs, enclosures, and in any coupling ratio.

FBT coupler 1x2/2x2					
Wave length range	1310 nm +/-40 nm & 1550 nm +/-40 nm				
Set-up	1x2/2x2				
Division ratio* in %	50/50	60/40	70/30	80/20	90/10
Insertion loss* in dB	3,6/3,6	2,7/4,7	2,0/6,1	1,4/8,4	0,8/11,7

FBT coupler 1x4/2x4	
Wave length range	1310 nm +/-40 nm & 1550 nm +/-40 nm
Set-up	1x4/2x4
Division ratio in %	25/25/25/25
Insertion loss* in dB	7,4

Technical data	
Return loss	≥ 55 dB
Directivity	≥ 55 dB
Fiber*	Singlemode - 9/125/250/…µm - G.652.D
Length*	1,00 m
Configuration*	Fiber 250 µm, secondary coated fiber 900 µm, cable 2,4 mm Coupler cassette: secondary coated fiber 900 µm or cable 2,4 mm Coupler housing: 19", LGX, wall box, special FTTX housings
Connector type*	ST, SC, FC, DIN, E2000, LC, MU / PC or APC ferrule type

*others on request

Power-splitting PLC couplers 1x and PLC couplers 2x

Telegärtner's PLC (planar light-wave circuit) couplers offer a very small form factor; they are used to merge or separate optical signals at minimum loss.

PLC couplers work at any wavelength over the entire spectrum of 1260 – 1650 nm and are used in worldwide telecommunications, CATV, and fiber-to-the-home networks, as well as for metrology and sensor applications. These bi-directional couplers are available in a variety of different designs, enclosures, and coupling ratios. The 2xN input of the PLC couplers 2x can be used for „online"-testing or redundant use.

PLC coupler 1x									
Wave length range	1260 nm – 1650 nm								
Set-up*	1x2	1x3	1x4	1x8	1x12	1x16	1x24	1x32	1x64
Insertion loss ≤/dB (version: low insertion loss on request)	3,8	6,6	7,2	10,7	13,0	13,9	16,2	17,2	22,0
PDL ≤/dB	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,3
Uniformity ≤/dB	0,6	0,6	0,8	1,0	1,0	1,4	1,5	1,6	2,5

PLC coupler 2x				
Wave length range	1260 nm – 1650 nm			
Set-up*	2x4	2x8	2x16	2x32
Insertion loss ≤/dB (version: low insertion loss on request)	7,6	10,8	14,0	17,5
PDL ≤/dB	0,3	0,3	0,3	0,3
Uniformity ≤/dB	1,0	1,0	1,5	1,8

Technical data	
Division ratio*	symmetrical
Return loss	≥ 55 dB
Directivity	≥ 55 dB
Fiber*	Singlemode - 9/125/250/…µm - G.652.D
Length*	1,00 m
Configuration	Fiber/ribbon 250 µm, secondary coated fiber/fan out 900 µm, cable 2,4 mm Coupler cassette: secondary coated fiber 900 µm Coupler housing: 19", LGX, wall box, special FTTX housings
Connector type*	ST, SC, FC, DIN, E2000, LC, MU / PC or APC ferrule type

*others on request

9 Fiber-To-The-Home Solutions

WDM couplers

For the multiple use of optical fibers, WDM couplers can be used with light of more than one wavelength. Telegärtner's WDM (wavelength division multiplexing) couplers merge and separate light of two different wavelengths with little effort in both directions and at minimum loss.

Telegärtner's WDM solutions are used in worldwide telecommunications, CATV, and fiber-to-the-home networks, as well as for metrology and sensor applications.

C-WDM couplers

Telegärtner's 1, 2, 4, 8 and 16 channel C-WDM (coarse wavelength division multiplexing) modules are known for their very small form factor; they are used merge or separate optical signals at 20 nm spacing.

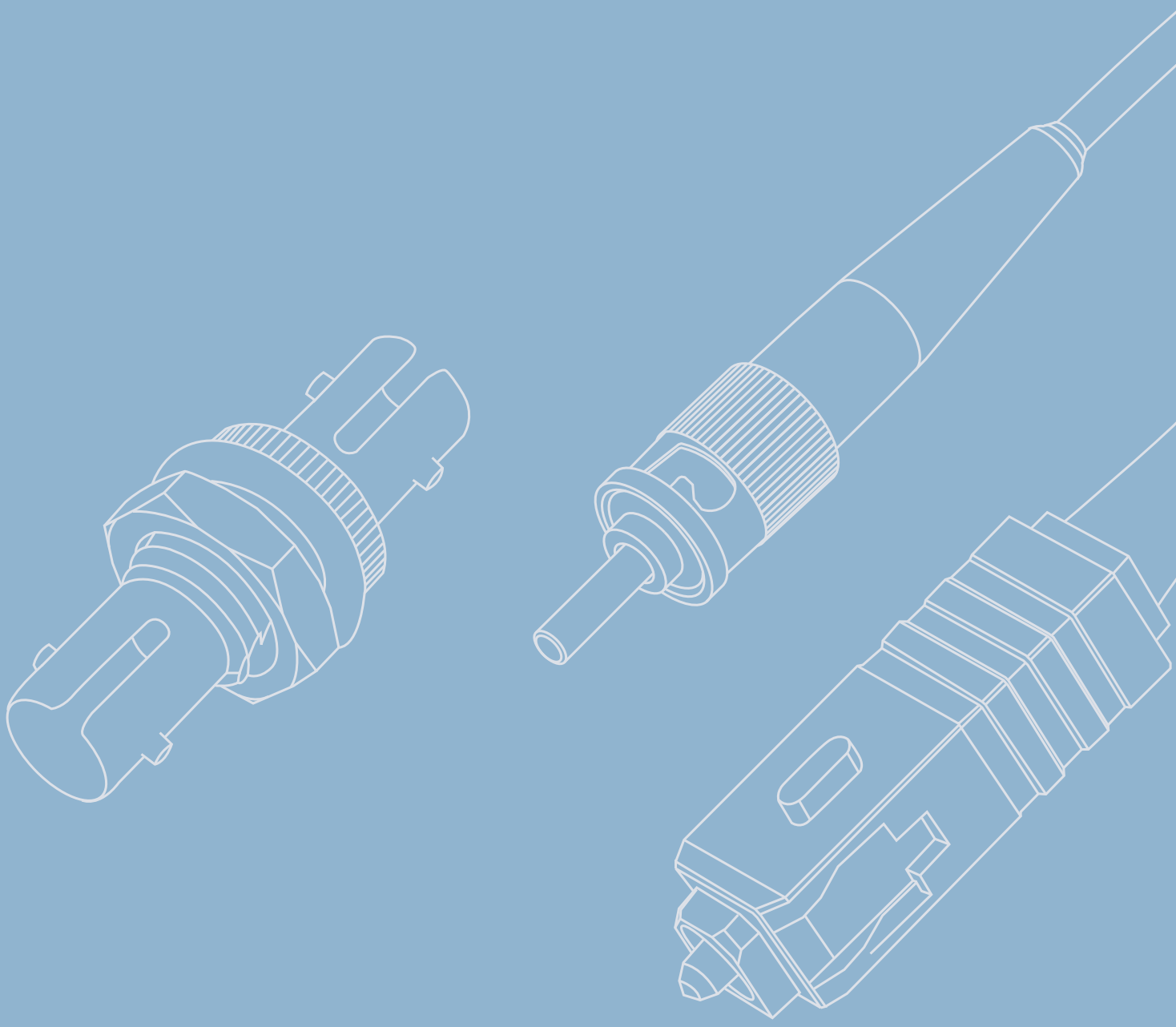
C-WDM solutions are used in worldwide telecommunications, CATV, and fiber-to-the-home networks. The MUX/DEMUX C-WDM modules work in both directions and are available in a wide variety of different designs and enclosures.

WDM coupler	
Set-up	1x2
Wave length	1310 &1550 nm; 1310/1490 &1550 nm; 1310 &1625 nm
Wave lengths range*	on request
Insulation	from > 18 dB up to > 45 dB
C-WDM coupler	
Set-up*	1 channel, 2 channel, 4 channel, 8 channel, 16 channel
Wave length	271, 1291, 1311,……., 1531, 1551, 1571, 1611 nm according to ITU-T G.692
Channel spacing	20 nm
Bandwidth	+/- 6,5 nm
Technical data	
Return loss	≥ 55 dB
Directivity	≥ 55 dB
Fiber*	Singlemode - 9/125/250/…µm - G.652.D
Length*	1,00 m
Configuration	Fiber 250 µm, secondary coated fiber 900 µm, cable 2,4 mm Coupler cassette: secondary coated fiber 900 µm or cable 2,4 mm Coupler housing: 19", LGX, wall box, special FTTX housings
Connector type*	ST, SC, FC, DIN, E2000, LC, MU / PC or APC ferrule type

*others on request

10

FO Connectors



10 FO Connectors

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Telegärtner FO connectors are equipped with ceramic ferrules and split sleeves which are essential for precision and endurance; termination to cables or fibers may be carried out using common tools and accessories. The preformed convex front end of the connector ferrule provides extremely short polishing duration and exceptional optical performance. All FO connectors comply with the current international standards.
The ST3 type provides an internal strain relief, which avoids signal interruption when pulling the cable (N.O.D.). For Plastic Fibers (POF) with 1 mm fiber diameter an economical metal connector is available providing extremely quick assembly using simple accessories without adhesive.
The current requirements to achieve in FO applications the same port density as with RJ45 connectors have led to newly developed FO connector systems named SFF (=Small Form Factor). Telegärtner offers the connector types MT-RJ and LC within this system. The space requirements in panels or outlets are only half of those required by common connector types such as ST or SC.
Telegärtner offers a complete range of components within this system: FO connectors, jacks for outlets prepared for direct field termination of fibers, adaptors, patch cables, adaptor cables, outlets with guaranteed bending radii and suitable for standard switching programs, patch panels with and without telescope operation as well as wall boxes in differerent sizes.
The SC/APC or LC/APC connector type (Angled Physical Contact) with 8° angled polished ferrule end face has been developed for transmission lines with particular high return loss requirements for better than 60 dB. The connectors are available as pigtails or cable assemblies, the connector and adapter housings are green for easy identification.

Plug Type	ST	SC	LC	E2000
Standard	IEC 61754-2	IEC 61754-4	IEC 61754-20	IEC 61754-15
Type of fiber	SM* (E9/125) MM** (G50/125, G62,5/125) PCF (S200/230) POF (S980/1000)	SM* (E9/125) MM** (G50/125, G62,5/125) PCF (S200/230) POF (S980/1000)	SM* (E9/125) MM** (G50/125, G62,5/125)	SM* (E9/125) MM** (G50/125, G62,5/125)
Insertion loss	SM*: max. 0,5 dB MM**: max. 0,4 dB PCF: max. 1,0 dB POF: typ. 1,5 dB	SM*: max. 0,5 dB MM**: max. 0,4 dB PCF: max. 1,0 dB POF: typ. 1,5 dB	SM*: max. 0,5 dB MM**: max. 0,4 dB	SM*: max. 0,3 dB MM**: max. 0,3 dB
Return loss	SM*: min. 40 dB MM**: min. 30 dB	SM*: min. 40 dB MM**: min. 30 DB	SM*: min. 40 dB MM**: min. 30 dB	SM*: min. 55 dB MM**: min. 30 dB
Durability	min. 1000 (POF/PCF: min. 500)	min. 1000 (POF/PCF: min. 500)	min. 1000	min. 1000
Plug ferrule	GOF: zirconia ceramics PCF: nickel POF: brass nickel-plated	GOF: zirconia ceramics PCF: nickel POF: ARCAP (German silver)	zirconia ceramics	zirconia ceramics
Adaptor split sleeve	SM*: zirconia ceramics MM**: zirconia ceramis or phosphorous bronze	SM*: zirconia ceramics MM**: zirconia ceramics or phosphorous bronze	SM*: zirconia ceramics MM**: phosphorous bronze	SM*: zirconia ceramics MM**: zirconia ceramics
Adaptor housing	metal	plastic or metal	plastic	plastic
Locking	bayonet	Push/Pull	snap-in	snap-in

Plug Type	MT-RJ	FC/PC	DIN (LSA)	F-SMA
Standard	IEC 61754-18	IEC 61754-13	IEC 61754-3	IEC 61754-22
Type of fiber	MM** (G50/125, G62,5/125)	SM* (E9/125) MM** (G50/125, G62,5/125)	SM* (E9/125) MM** (G50/125, G62,5/125)	MM** (G50/125, G62,5/125)
Insertion loss	max. 0.4 dB	SM*: max. 0,5 dB MM**: max. 0,4 dB	SM*: max. 0,5 dB MM**: max. 0,4 dB	max. 0,7 dB
Return loss	min. 30 dB	SM*: min. 40 dB MM**: min. 30 DB	SM*: min. 40 dB MM**: min. 30 dB	min. 30 dB
Durability	min. 500	min. 1000	min. 1000	min. 500
Plug ferrule	plastic	zirconia ceramics	zirconia ceramics	zirconia ceramics
Adaptor split sleeve	(metal guide pins in plug „male“)	SM*: zirconia ceramics MM**: phosphorous bronze	SM*: zirconia ceramics MM**: phosphorous bronze	none
Adaptor housing	plastic	metal	metal	metal
Locking	snap-in	screw mounting	screw mounting	screw mounting

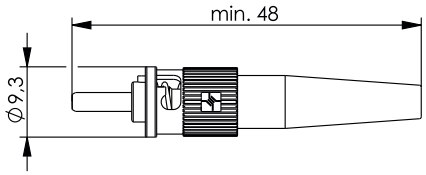
10 FO Connectors

10.1 ST Connectors

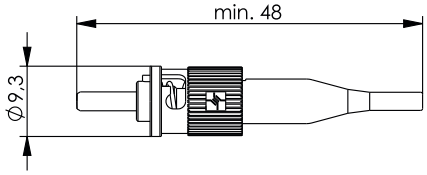
	ST and ST3 Connectors	ST Connectors for POF / PCF
Mechanical Characteristics		
Type	BFOC/2,5 acc. IEC 61754-2	BFOC/2,5 similar IEC 61754-2
Durability (mating cycles)	≥1000	≥500
Hex crimp size for strain relief	4.52 x 10 mm	4.52 x 10 mm (3.25 for cable Ø 2.2)
Strain relief	≥100 N	≥100 N (Ø 3.6); ≥60 N (Ø 2.2)
Material: connector ferrule	Zirkonia ceramic	-
Material: adapor split sleeve	Zirkonia ceramic or phosphor bronze	phosphor bronze
Material: connector body (ST3, ST for POF), fixing parts for adaptor	brass, nickel-plated	brass, nickel-plated
Material: bayonet coupling nut, connector body (ST), adaptor housing	zinc diecast, nickel-plated	zinc diecast, nickel-plated
Material: crimp sleeve	copper, nickel-plated	copper, nickel-plated
Material: cable boot, dust caps	elastomer, flame retardant, non halogen	elastomer, flame retardant, non halogen
Climatic Characteristics		
Operating temperature	-20°...80° C	-20°...80° C
Storage temperature	-40°...90° C	-40°...90° C
Optical Characteristics		
Insertion loss: Plug (factory assembly)	Multimode: max. 0.4 dB[1]; Singlemode: max. 0.5 dB[1]	POF: max. 1.5 dB; PCF: max. 1.0 dB
Insertion loss: Adapor (ceramic)	Multimode/Singlemode: max. 0.2 dB[1]	max. 1.5 dB
Insertion loss: Adaptor (phosphorous bronze)	Multimode: max. 0.2dB[1]	-
Return loss	Multimode: min. 30 dB[2]; Singlemode: min. 40 dB[2]	-

1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6

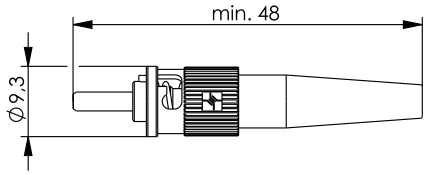
10.1.1 ST Plugs



Order no.	Description	Fiber type	Remarks
J08010A0008	ST Connector Singlemode, ceramic/metal	E9/125	for cable Ø 2,6 - 3,2 mm
J08010A0036	ST Connector Singlemode, ceramic/metal	E9/125	for cable Ø 1,8 - 2,2 mm
J08010A0027	ST3 Connector Singlemode, ceramic/metal, N.O.D	E9/125	for cable Ø 2,6 - 3,2 mm
J08010A0007	ST Connector Multimode, ceramic/metal	G50/125, G62,5/125	for cable Ø 2,6 - 3,2 mm
J08010A0035	ST Connector Multimode, ceramic/metal	G50/125, G62,5/125	for cable Ø 1,8 - 2,2 mm
J08010A0026	ST3 Connector Multimode, ceramic/ metal, N.O.D.	G50/125, G62,5/125	for cable Ø 2,6 - 3,2 mm
J08010A0056	ST plug for PCF, metal	200/230	for cable Ø 2,6 - 3,2 mm
J08010A0057	ST plug for PCF, metal	200/230	for cable Ø 1,8 - 2,2 mm

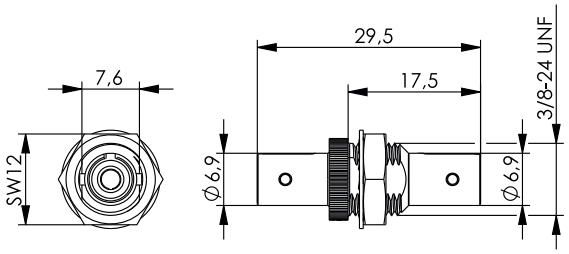


Order no.	Description	Fiber type	Remarks
J08010A0009	ST Connector Singlemode, ceramic/metal	E9/125	for fibers with secondary coating Ø 0,9 mm
J08010A0005	ST Connector Multimode, ceramic/metal	G50/125, G62,5/125	for fibers with secondary coating Ø 0,9 mm

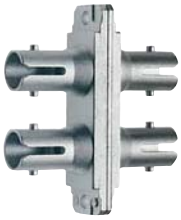


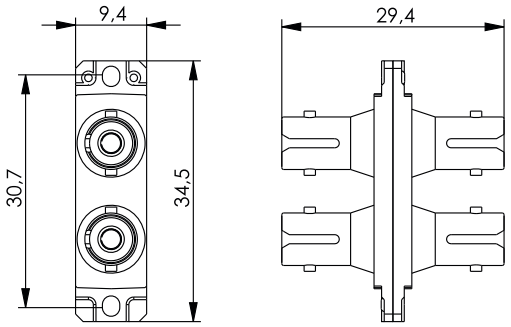
Order no.	Description	Fiber type	Remarks
J08010A0016	ST Connector for POF, metal	S980/1000	for cables Ø 2,2 mm without strain relief or Ø 3,6 mm with strain relief

ST Adaptors 10.1.2



Order no.	Description	Installation	Mount. dim.
J08011A0002	ST Adaptor, Multimode and Singlemode, ceramic sleeve, metal housing	single hole mounting	Z64
J08011A0003	ST Adaptor, Multimode, phosphor bronze sleeve, metal housing	single hole mounting	Z64





Order no.	Description	Installation	Mount. dim.
J08011A0017	ST-Duplex Adaptor, Multimode and Singlemode, Ceramic sleeve, metal housing, incl. tapping screws	Flange mounting	Z93
J08011A0014	ST-Duplex Adaptor, Multimode, Phosphorous bronze sleeve, Plastic housing, incl. tapping screws	Flange mounting	Z93
J08011A0018	ST Duplex Adaptor, Multimode, Phosphorous bronze sleeve, metal housing, incl. tapping screws	Flange mounting	Z93

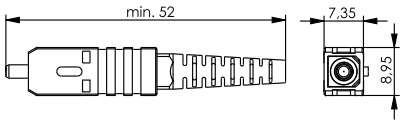
10 FO Connectors

10.2 SC Connectors

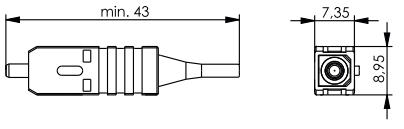
Mechanical Characteristics	
Type	
Durability (mating cycles)	≥1000
Hex crimp size for strain relief	4.52 x 10 mm
Strain relief	≥100 N
Material: connector ferrule	Zirkonia ceramic, POF: german silver , PCF nickel
Material: adapor split sleeve	Zirkonia ceramic or phosphor bronze
Material: connector body	copper alloy, nickel-plated
Material: plug housing, boot, dust caps	thermoplastic, flame retardant, non halogen
Material: adaptor housing	thermoplastic, flame retardant, non halogen, or zinc diecast, nickel-plated
Material: retaining clip (adaptor)	stainless steel
Colour: Connector housing / adaptor housing	Multimode: beige, blue, aqua, black; Singlemode: blue; Singlemode APC: green; POF: yellow; PCF: red
Climatic Characteristics	
Operating temperature	-20°...80° C
Storage temperature	-40°...90° C
Optical Characteristics	
Insertion loss: Plug (factory assembly)	Multimode: max. 0.4 dB[1]; Singlemode/Singlemode APC: max. 0.5 dB[1]; POF: 1.5 dB; PCF: 1.0 dB
Insertion loss: Adaptor	Multimode/Singlemode: max. 0.2 dB[1]; Singlemode APC: 0.5 dB[1]
Return loss: plug (factory assembly)	Multimode: min. 30 dB[2]; Singlemode: min. 40 dB[2]; Singlemode APC: min. 60 dB[2]

1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6

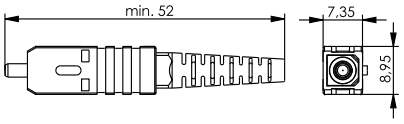
10.2.1 SC Plugs



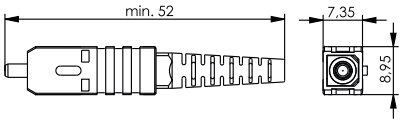
Order no.	Description	Fiber type	Remarks	Housing Colour
J08080A0005	SC Connector Singlemode, ceramic	E9/125	for cable Ø 2,6 - 3,2 mm	blue
J08080A0018	SC Connector Singlemode, ceramic	E9/125	for cable Ø 1,8 - 2,2 mm	blue
J08080A0001	SC Connector Multimode, ceramic	G50/125, G62,5/125	for cable Ø 2,6 - 3,2 mm	blue
J08080A0016	SC Connector Multimode, ceramic	G50/125, G62,5/125	for cable Ø 1,8 - 2,2 mm	blue
J08080A0036	SC Connector Multimode, ceramic	G50/125, G62,5/125	for cable Ø 2,6 - 3,2 mm	beige
J08080A0043	SC Connector Multimode, ceramic	G50/125, G62,5/125	for cable Ø 1,8 - 2,2 mm	beige
J08080A0046	SC Connector Multimode, ceramic	G50/125 OM3	for cable Ø 2,6 - 3,2 mm	aqua
J08080A0047	SC Connector Multimode, ceramic	G50/125 OM3	for cable Ø 1,8 - 2,2 mm	aqua
J08080A0051	SC Connector Multimode, ceramic	G50/125 OM4	for cable Ø 2,6 - 3,2 mm	black
J08080A0053	SC Connector Multimode, ceramic	G50/125 OM4	for cable Ø 1,8 - 2,2 mm	black



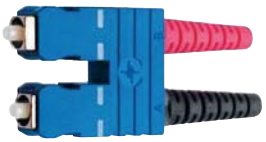
Order no.	Description	Fiber type	Remarks	Housing Colour
J08080A0006	SC Connector Singlemode, ceramic	E9/125	for fibers with secondary coating Ø 0,9 mm	blue
J08080A0002	SC Connector Multimode, ceramic	G50/125, G62,5/125	for fibers with secondary coating Ø 0,9 mm	blue
J08080A0037	SC Connector Multimode, ceramic	G50/125, G62,5/125	for fibers with secondary coating Ø 0,9 mm	beige
J08080A0048	SC Connector Multimode, ceramic	G50/125 OM3	for fibers with secondary coating Ø 0,9 mm	aqua
J08080A0052	SC Connector Multimode, ceramic	G50/125 OM4	for fibers with secondary coating Ø 0,9 mm	black

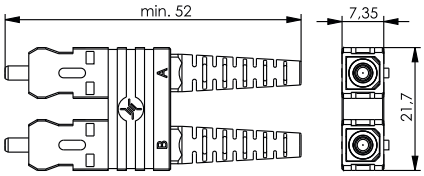


Order no.	Description	Fiber type	Remarks	Housing Colour
J88080A0000	STX IP20 SC Connector	POF, S980/1000	for cable Ø 2,2 mm	yellow

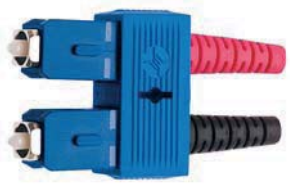


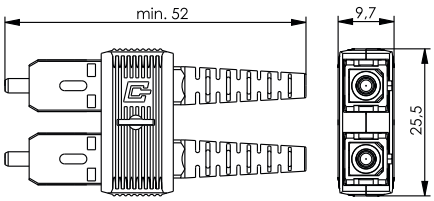
Order no.	Description	Fiber type	Remarks	Housing Colour
J88080A0008	STX IP20 SC Connector	PCF, S200/230	for cable Ø 2,6 - 3,2 mm	red
J88080A0009	STX IP20 SC Connector	PCF, S200/230	for cable Ø 1,8 - 2,2 mm	red





Order no.	Description	Fiber type	Remarks	Housing Colour
J08080B0012	SC Duplex Connector Singlemode, ceramic	E9/125	for cable Ø 2,6 - 3,2 mm	blue
J08080B0016	SC Duplex Connector Singlemode, ceramic	E9/125	for cable Ø 1,8 - 2,2 mm	blue
J08080B0007	SC Duplex Connector Multimode, ceramic	G50/125, G62,5/125	for cable Ø 2,6 - 3,2 mm	blue
J08080B0014	SC Duplex Connector Multimode, ceramic	G50/125, G62,5/125	for cable Ø 1,8 - 2,2 mm	blue
J08080B0019	SC Duplex Connector Multimode, ceramic	G50/125, G62,5/125	for cable Ø 2,6 - 3,2 mm	beige
J08080B0023	SC Duplex Connector Multimode, ceramic	G50/125, G62,5/125	for cable Ø 1,8 - 2,2 mm	beige
J08080B0024	SC Duplex Connector Multimode, ceramic	G50/125 OM3	for cable Ø 2,6 - 3,2 mm	aqua
J08080B0025	SC Duplex Connector Multimode, ceramic	G50/125 OM3	for cable Ø 1,8 - 2,2 mm	aqua
J08080B0002	SC Duplex Connector Multimode, ceramic	G50/125 OM4	for cable Ø 2,6 - 3,2 mm	black
J08080B0003	SC Duplex Connector Multimode, ceramic	G50/125 OM4	for cable Ø 1,8 - 2,2 mm	black





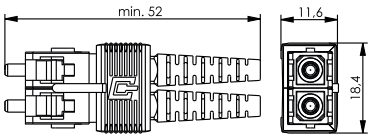
Order no.	Description	Fiber type	Remarks	Housing Colour
J88080A0002	STX IP20 SC Duplex Connector	E9/125	for cable Ø 2,6 - 3,2 mm	blue
J88080A0001	STX IP20 SC Duplex Connector	G50/125, G62,5/125	for cable Ø 2,6 - 3,2 mm	beige
J88080A0018	STX IP20 SC Duplex Connector	G50/125 OM3	for cable Ø 2,6 - 3,2 mm	aqua
J88080A0003	STX IP20 SC Duplex Connector	POF, S980/100	for cable Ø 2,6 - 3,2 mm	yellow

10.2

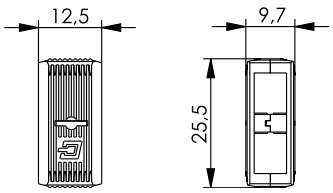
10 FO Connectors

10.2 SC Connectors

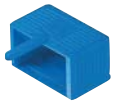
10.2.1 SC Plugs

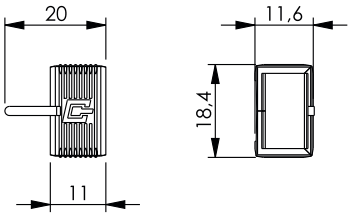


Order no.	Description	Fiber type	Remarks	Housing Colour
J88080A0005	STX IP20 SC-RJ Connector	E9/125	for cable Ø 2,6 - 3,2 mm	blue
J88080A0004	STX IP20 SC-RJ Connector	G50/125, G62,5/125	for cable Ø 2,6 - 3,2 mm	beige
J88080A0006	STX IP20 SC-RJ Connector	POF, S980/1000	for cable Ø 2,2 mm	yellow
J88080A0008	STX IP20 SC Connector	PCF, S200/230	for cable Ø 2,6 - 3,2 mm	red



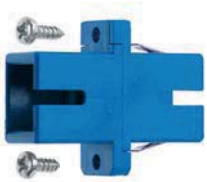
Order no.	Description	Remarks	Colour
B00042A0103	Clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	blue (Singlemode)
B00042A0102	Clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	green (APC)
B00042A0101	Clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	beige (Multimode)
B00042A0159	Clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	aqua (OM3)
B00042A0105	Clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	yellow (POF)
B00042A0107	Clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	red (PCF)
B00042A0104	Clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	black (OM4)

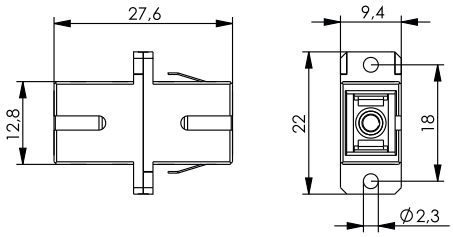




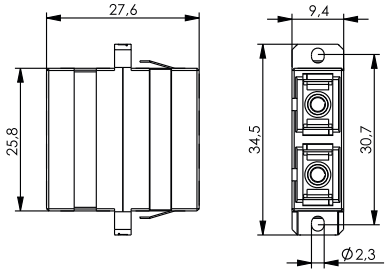
Order no.	Description	Remarks	Colour
B80042A0201	STX clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	beige (Multimode)
B80042A0203	STX clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	blue (Singlemode)
B80042A0208	STX clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	green (APC)
B80042A0205	STX clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	yellow (POF)
B80042A0207	STX clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	red (PCF)
B80042A0202	STX clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	aqua (OM3)
B80042A0204	STX clamp for SC connector (spacing acc. to SC Duplex)	packaging unit 10 pcs.	black (OM4)

SC Adaptors 10.2.2





Order no.	Description	Installation	Mount. dim.	Housing Colour
J08081A0000	SC Adaptor, Multimode and Singlemode, Ceramic sleeve, Plastic housing, incl. tapping screws	Snap-in or screw mounting	Z77	blue
J08081A0014	SC adaptor, Multimode, ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z77	beige
J08081A0004	SC Adaptor, Multimode and Singlemode, Ceramic sleeve, metal housing, incl. tapping screws	Snap-in or screw mounting	Z77	metal
J08081A0010	SC/APC Adaptor, Singlemode, Ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z77	green
J08081A0015	SC Adaptor, Multimode, Phosphorous bronze sleeve, Plastic housing, incl. tapping screws	Snap-in or screw mounting	Z77	beige
J08081A0032	SC adaptor, Multimode, ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z77	aqua
J08081A0033	SC Adaptor, Multimode, Phosphorous bronze sleeve, Plastic housing, incl. tapping screws	Snap-in or screw mounting	Z77	aqua
J08081A0036	SC adaptor, Multimode, ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z77	black
J08081A0039	SC Adaptor, Multimode, Phosphorous bronze sleeve, Plastic housing, incl. tapping screws	Snap-in or screw mounting	Z77	black



Order no.	Description	Installation	Mount. dim.	Housing Colour
J08081A0002	SC Duplex Adaptor, Multimode and Singlemode, Ceramic sleeve, Plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	blue
J08081A0006	SC Duplex Adaptor, Multimode and Singlemode, Ceramic sleeve, metal housing, incl. tapping screws	Snap-in or screw mounting	Z93	metal
J08081A0011	SC/APC Duplex Adaptor, Singlemode, Ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	green
J08081A0016	SC Duplex Adaptor, Multimode, Ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	beige
J08081A0017	SC Duplex Adaptor, Multimode, Phosphorous bronze sleeve, Plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	beige
J08081A0034	SC Duplex Adaptor, Multimode, Ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	aqua
J08081A0035	SC Duplex Adaptor, Multimode, Phosphorous bronze sleeve, Plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	aqua
J08081A0037	SC Duplex Adaptor, Multimode, Ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	black
J08081A0038	SC Duplex Adaptor, Multimode, Phosphorous bronze sleeve, Plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	black

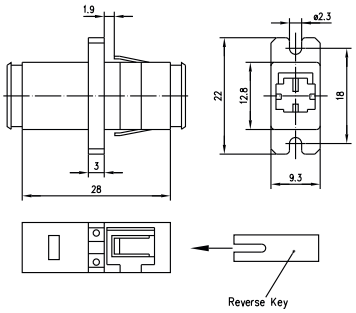
10 FO Connectors

10.2 SC Connectors

10.2.2 SC Adaptors

Order no.	Description	Housing Colour
B00012A0018	Dust cover, self-closing, for SC Duplex adaptor	blue

10.3 MT-RJ Adaptor



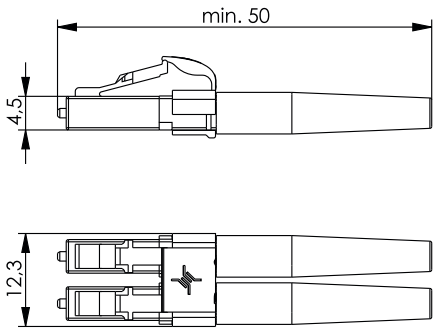
Order no.	Description	Installation	Mount. dim.
J08031A0002	MT-RJ Feedthrough Adaptor	Snap-in or screw mounting	Z77

10.4 LC Connectors

Mechanical Characteristics	
Type	connector type LC acc. to IEC 61754-20
Durability (mating cycles)	≥ 1000
Hex crimp size for strain relief	3.24 x 10 mm
Strain relief	≥ 100 N
Material: connector ferrule	Zirkonia ceramic
Material: adapor split sleeve	Zirkonia ceramic or phosphor bronze
Material: plug housing, boot, dust caps	thermoplastic, flame retardant, non halogen
Material: adaptor housing	thermoplastic, flame retardant, non halogen
Colour: Connector housing / adaptor housing	multimode: beige or aqua; singlemode: blue; singlemode APC: green
Climatic Characteristics	
Operating temperature	-20°...80° C
Storage temperature	-40°...90° C
Optical Characteristics	
Insertion loss: Plug (factory assembly)	Multimode: max. 0.4 dB[1]; Singlemode/Singlemode APC: max. 0.5 dB[1]
Insertion loss: Adaptor	Multimode/Singlemode: max. 0.2 dB[1]; Singlemode APC: 0.5 dB[1]
Return loss: plug (factory assembly)	Multimode: min. 30 dB[2]; Singlemode: min. 40 dB[2]; Singlemode APC: min. 60 dB[2]

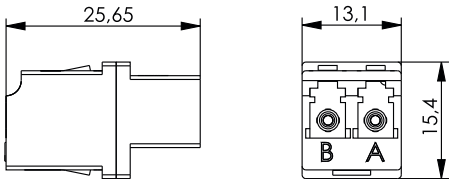
1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6

LC Plug 10.4.1



Order no.	Description	Fiber type	Remarks	Housing Colour
J08070A0005	LC connector, singlemode, ceramic	E9/125	for cable Ø 1,8 - 2,2 mm	blue
J08070A0007	LC connector, multimode, ceramic	G50/125	for cable Ø 1,8 - 2,2 mm	beige
J08070A0035	LC connector, multimode, ceramic	G50/125 OM3	for cable Ø 1,8 - 2,2 mm	aqua
J08070A0047	LC connector, multimode, ceramic	G50/125 OM4	for cable Ø 1,8 - 2,2 mm	black
J08070A0009	LC Duplex Connector, Singlemode, ceramic	E9/125	for cables Ø 2,6 - 3,0 mm	blue
J08070A0000	LC Duplex Connector, Singlemode, ceramic	E9/125	for cable Ø 1,8 - 2,2 mm	blue
J08070A0010	LC Duplex Connector, Multimode, ceramic	G50/125; G62,5/125	for cables Ø 2,6 - 3,0 mm	beige
J08070A0002	LC Duplex Connector, Multimode, ceramic	G50/125; G62,5/125	for cable Ø 1,8 - 2,2 mm	beige
J08070A0033	LC Duplex Connector, Multimode, ceramic	G50/125 OM3	for cables Ø 2,6 - 3,0 mm	aqua
J08070A0034	LC Duplex Connector, Multimode, ceramic	G50/125 OM3	for cable Ø 1,8 - 2,2 mm	aqua
J08070A0043	LC Duplex Connector, Multimode, ceramic	G50/125 OM4	for cables Ø 2,6 - 3,0 mm	black
J08070A0044	LC Duplex Connector, Multimode, ceramic	G50/125 OM4	for cable Ø 1,8 - 2,2 mm	black

LC Adaptors 10.4.2



Order no.	Description	Installation	Mount. dim.	Housing Colour
J08071A0000	LC Duplex adaptor, Multimode and Singlemode, ceramic sleeve, plastic housing	Snap-in mounting	Z99	blue
J08071A0004	LC/APC Duplex adaptor, singlemode, ceramic sleeve, plastic housing	Snap-in mounting	Z99	green
J08071A0002	LC-Duplex adaptor, Multimode, Phosphor bronze sleeve, plastic housing	Snap-in mounting	Z99	beige
J08071A0017	LC-Duplex adaptor, Multimode, Phosphor bronze sleeve, plastic housing	Snap-in mounting	Z99	aqua
J08071A0030	LC-Duplex adaptor, Multimode, Phosphor bronze sleeve, plastic housing	Snap-in mounting	Z99	black

10.4

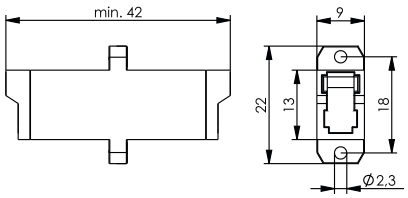
10 FO Connectors

10.4 LC Connectors

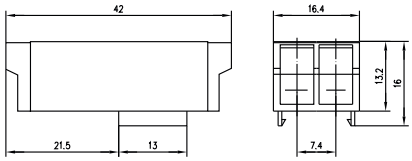
10.4.2 LC Adaptors

Order no.	Description	Installation	Mount. dim.	Housing Colour
J08071A0019	LC Quad Adaptor, Multimode and Singlemode, ceramic sleeve, plastic housing	Snap-in or screw mounting	Z93	blue
J08071A0029	LC Quad adaptor APC, singlemode, ceramic sleeve, plastic housing	Snap-in or screw mounting	Z93	green
J08071A0018	LC Quad adaptor, multimode, phosphor bronze sleeve, plastic housing	Snap-in or screw mounting	Z93	beige
J08071A0020	LC Quad adaptor, multimode, phosphor bronze sleeve, plastic housing	Snap-in or screw mounting	Z93	aqua
J08071A0031	LC Quad adaptor, multimode, phosphor bronze sleeve, plastic housing	Snap-in or screw mounting	Z93	black

10.5 E 2000 Adaptors

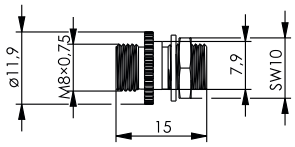


Order no.	Description	Installation	Mount. dim.	Housing Colour	Remarks
J08051A0011	E2000 adaptor, SM and MM, ceramic sleeve, plastic housing, incl. screws M2	screw mounting	Z66	blue	without mechanical coding
J08051A0012	E2000/APC adaptor, SM, ceramic sleeve, plastic housing, incl. screws M2	screw mounting	Z66	green	without mechanical coding
J08051A0016	E2000 adaptor, Multimode, ceramic sleeve, plastic housing, incl. screws M2	screw mounting	Z66	black/orange	without mechanical coding



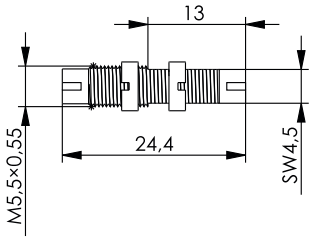
Order no.	Description	Installation	Housing Colour	Remarks
J08051A0013	E2000 Compact Adaptor, MM and SM, ceramic sleeve, plastic housing	Snap-in mounting	blue	incl. snap-in frame; without mechanical coding
J08051A0014	E2000/APC Compact Adaptor, SM, ceramic sleeve, plastic housing	Snap-in mounting	green	incl. snap-in frame; without mechanical coding
J08051A0017	E2000 Compact adaptor, Multimode, ceramic sleeve, plastic housing	Snap-in mounting	black/orange	incl. snap-in frame; without mechanical coding

FC/PC Adaptor 10.6



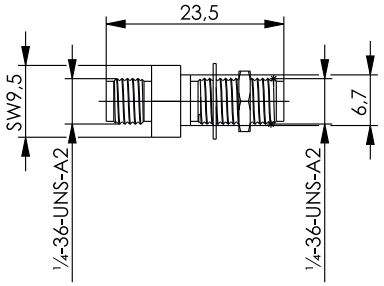
Order no.	Description	Installation	Mount. dim.	Remarks
J08021A0002	FC/PC adaptor, singlemode and multimode, cermic sleeve, metal housing	single hole mounting	Z73	Insertion Loss ≤0,2 dB

DIN Adaptor 10.7



Order no.	Description	Installation	Mount. dim.	Remarks
J08041A0001	DIN 47256 adaptor, singlemode and multimode	single hole mounting	Z74	Insertion Loss ≤0,2 dB

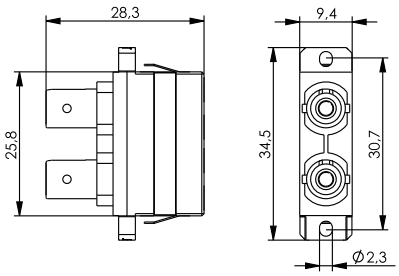
F-SMA Adaptor 10.8



Order no.	Description	Installation	Mount. dim.	Remarks
J08001A0002	F-SMA Adaptor, Multimode, metal housing	single hole mounting	Z27	Insertion Loss ≤0,7 dB

10 FO Connectors

10.9 ST/SC Duplex Adaptors



Order no.	Description	Installation	Mount. dim.	Housing Colour
J08082A0002	ST/SC-Duplex Adaptor, Multimode and Singlemode, ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	blue
J08082A0010	ST/SC-Duplex Adaptor, Multimode, Phosphorous bronze sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	beige
J08082A0011	ST/SC Duplex adaptor, Multimode, ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	beige
J08082A0013	ST/SC Duplex adaptor, Multimode, ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	aqua
J08082A0012	ST/SC-Duplex Adaptor, Multimode, Phosphorous bronze sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	aqua
J08082A0007	ST/SC-Duplex Adaptor, Multimode and Singlemode, ceramic sleeve, metal housing, incl. tapping screws	Snap-in or screw mounting	Z93	metal
J08082A0008	ST/SC Duplex adaptor, multimode, phosphor bronze sleeve, metal housing, incl. tapping screws	Snap-in or screw mounting	Z93	metal
J08082A0015	ST/SC Duplex adaptor, Multimode, ceramic sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	black
J08082A0016	ST/SC-Duplex Adaptor, Multimode, Phosphorous bronze sleeve, plastic housing, incl. tapping screws	Snap-in or screw mounting	Z93	black

FO Attenuators 10.10

Attenuators are used to adapt the transmitted light power to the characteristics of the implanted receiver. The Telegärtner SC and LC single mode inline attenuator brings together the benefits of an attenuation performed using special doped fiber and the innovative features of the SC and LC connector system. Different insertion loss values are achieved using specially doped fibers, thus ensuring availability over the full range of wavelengths from 1250 to 1360 nm and 1480 to 1580 nm. The standard product range includes attenuators in 5 dB and 10 dB; max. 30 dB with 1 dB increments are also available on request. Telegärtner attenuators are characterized by low tolerance, constant attenuation values over the entire service life, a robust design with metal housing and by simple, economic handling.

Climatic Characteristics	
Operating temperature	-5°...70° C
Storage temperature	-25°...80° C
Optical Characteristics	
Connector type: Singlemode PC	SC, LC
Fiber	9/125 µm
Wavelength	1250 nm - 1360 nm; 1480 nm - 1580 nm
Attenuation	for 5 dB, 10 dB, 15 dB, 20 dB, 25 dB, 30 dB, on request in 1 dB steps
Maximal attenuation tolerance	for 1-5 dB: ±0.5 dB[1]; for 6-10: ±1 dB[1]; for 11-20 dB: ±1.5 dB[1]; for 21-30 dB: ±2 dB[1]
Durability (mating cycles)	≥500
Return loss: Singlemode APC	≥65 dB[2]
Return loss: Singlemode PC	≥43 dB[2]
Ferrule split sleeve	ceramic, slotted sleeve

1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6

Order no.	Description	Insertion loss
J08093A0205	Attenuator SC, E9/125, 1310/1550 nm	5 dB
J08093A0210	Attenuator SC, E9/125, 1310/1550 nm	10 dB

Minimum order quantity 10 pcs. (different types possible)

Order no.	Description	Insertion loss
J08093A1205	Attenuator SC/APC, E9/125, 1310/1550 nm	5 dB
J08093A1210	Attenuator SC/APC, E9/125, 1310/1550 nm	10 dB

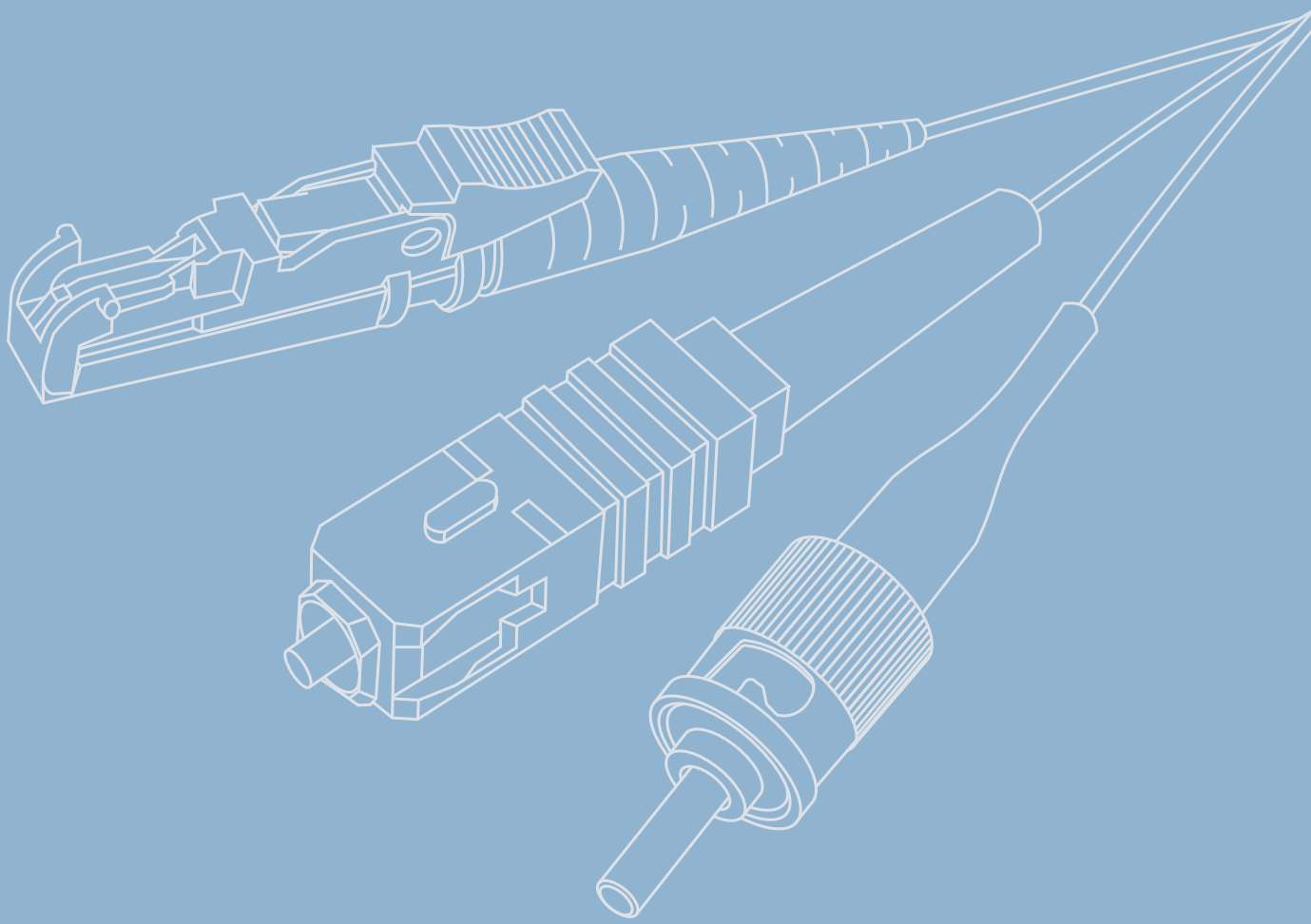
Minimum order quantity 10 pcs. (different types possible)

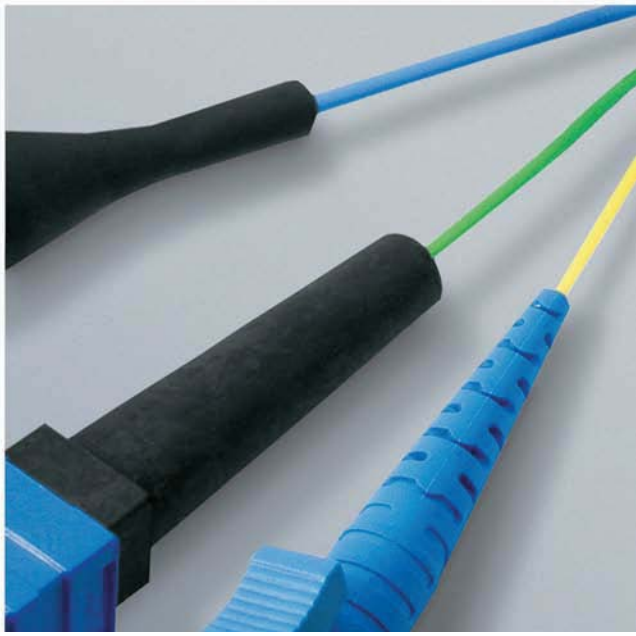
Order no.	Description	Insertion loss
J08093A5205	Attenuator LC, E9/125, 1310/1550 nm	5 dB
J08093A5210	Attenuator LC, E9/125, 1310/1550 nm	10 dB

Minimum order quantity 10 pcs. (different types possible)

11

FO Fiber Pigtails





11 FO Fiber Pigtails

11.1 Connector Type: ST 205
11.2 Connector Type: SC 206
11.3 Connector Type: LC 206
11.4 Connector Type: E2000 207
11.5 Connector Type: FC 207

FO pigtails with connectors assembled on one end are mainly used for distribution of multifiber cables by means of splicing technology. For optimized splice preparation we use loose-buffered fibers providing stripping up to 1 m in one step. Fiber pigtails are assembled with connectors without strain relief, as patch panels and splice boxes offer sufficient environmental protection. The quality of connectors and fibers used determines to a great degree the insertion loss and reflexion performance of the transmission line. Factory-assembled FO pigtails guarantee exceptional optical and mechanical characteristics and a long lifetime due to use of optimized components and of a constantly controlled manufacturing process.

Connector Type: ST 11.1

Mechanical Characteristics	
Fiber structure: Secondary coating dimensions	Ø 0.9 ±0,1 mm
Fiber structure: Secondary coating colours	yellow (9/125), green (50/125), aqua (50/125 OM3), violet (50/125 OM4), blue (62,5/125)
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Climatic Characteristics	
Operating temperature	-5°...55° C
Storage temperature	-30°...70° C
Optical Characteristics	
Insertion loss	Singlemode: max. 0.5 dB[1]; Multimode: max. 0.4 dB[1]
Return loss	Singlemode: min. 40 dB[2]; Multimode: min. 30 dB[2]
Life	≥ 1000

1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6

Order no.	Fiber type	Connector type	Length
L00819A0007	E9/125 OS2	ST	2,0 m
L00819A0013	G50/125 OM2	ST	2,0 m
L00819A0045	G50/125 OM3	ST	2,0 m
L00819A0068	G50/125 OM4	ST	2,0 m
L00819A0019	G62,5/125 OM1	ST	2,0 m

Other lengths on request.

11 FO Fiber Pigtails

11.2 Connector Type: SC

Mechanical Characteristics	
Fiber structure: Secondary coating dimensions	Ø 0.9 ±0.1 mm
Fiber structure: Secondary coating colours	yellow (9/125), green (50/125), aqua (50/125 OM3), violet (50/125 OM4), blue (62,5/125)
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Climatic Characteristics	
Operating temperature	-5°...55° C
Storage temperature	-30°...70° C
Optical Characteristics	
Insertion loss	Singlemode: max. 0.5 dB[1]; Multimode: max. 0.4 dB[1]
Return loss	Singlemode: min. 40 dB[2] (APC: min. 60 dB); Multimode: min. 30 dB[2]
Life	≥ 1000

1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6

Order no.	Fiber type	Connector type	Length	Housing Colour
L00889W0007	E9/125 OS2	SC	2,0 m	blue
L00889W0039	E9/125 OS2	SC/APC	2,0 m	green
L00889W0016	G50/125 OM2	SC	2,0 m	beige
L00889W0051	G50/125 OM3	SC	2,0 m	aqua
L00889A0028	G50/125 OM4	SC	2,0 m	black
L00889W0017	G62,5/125 OM1	SC	2,0 m	beige

Other lengths on request.

11.3 Connector Type: LC

Mechanical Characteristics	
Fiber structure: Secondary coating dimensions	Ø 0.9 ±0.1 mm
Fiber structure: Secondary coating colours	yellow (9/125), green (50/125), aqua (50/125 OM3), violet (50/125 OM4), blue (62,5/125)
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Climatic Characteristics	
Operating temperature	-5°...55° C
Storage temperature	-30°...70° C
Optical Characteristics	
Insertion loss	Singlemode: max. 0.5 dB[1]; Multimode: max. 0.4 dB[1]
Return loss	Singlemode: min. 40 dB[2] (APC min. 60 dB[2]); Multimode: min. 30 dB[2]
Life	≥ 1000

Order no.	Fiber type	Connector type	Length	Housing Colour
L00879A0000	E9/125 OS2	LC	2,0 m	blue
L00879A0013	E9/125 OS2	LC/APC	2,0 m	green
L00879A0001	G50/125 OM2	LC	2,0 m	beige
L00879A0004	G50/125 OM3	LC	2,0 m	aqua
L00879A0018	G50/125 OM4	LC	2,0 m	black
L00879A0002	G62,5/125 OM1	LC	2,0 m	beige

Other lengths on request.

Connector Type: E2000 11.4

Mechanical Characteristics	
Fiber structure: Secondary coating dimensions	Ø 0.9 ±0.1 mm
Fiber structure: Secondary coating colours	yellow (9/125), green (50/125), aqua (50/125 OM3), violet (50/125 OM4), blue (62,5/125)
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Climatic Characteristics	
Operating temperature	-5°...55° C
Storage temperature	-30°...70° C
Optical Characteristics	
Insertion loss	Singlemode: max. 0.3 dB[1]; Multimode: max. 0.3 dB[1]
Return loss	Singlemode: min. 40 dB[2] (APC min. 60 dB[2]); Multimode: min. 30 dB[2]
Life	≥ 1000

1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6

Order no.	Fiber type	Connector type	Length	Housing Colour
L00859A0006	E9/125 OS2	E2000	2,0 m	blue
L00859A0003	E9/125 OS2	E2000/APC	2,0 m	green
L00859A0007	G50/125 OM2	E2000	2,0 m	black/orange
L00859A0004	G50/125 OM3	E2000	2,0 m	black/orange
L00859A0021	G50/125 OM4	E2000	2,0 m	black/red
L00859A0012	G62,5/125 OM1	E2000	2,0 m	black/orange

Other lengths on request.

Connector Type: FC 11.5

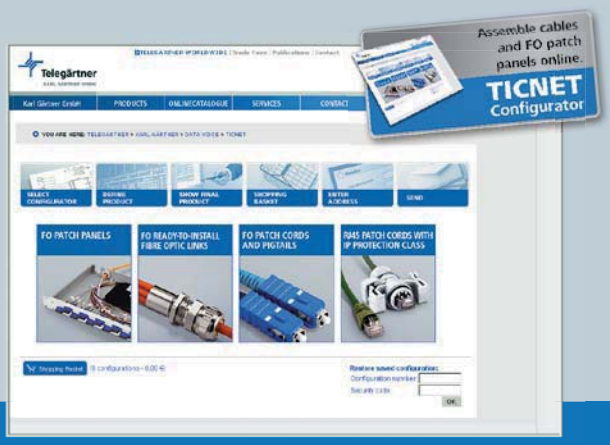
Mechanical Characteristics	
Fiber structure: Secondary coating dimensions	Ø 0.9 ±0.1 mm
Fiber structure: Secondary coating colours	yellow (9/125), green (50/125), aqua (50/125 OM3), violet (50/125 OM4), blue (62,5/125)
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Climatic Characteristics	
Operating temperature	-5°...55° C
Storage temperature	-30°...70° C
Optical Characteristics	
Insertion loss	Singlemode: max. 0.3 dB[1]; Multimode: max. 0.3 dB[1]
Return loss	Singlemode: min. 40 dB[2] (APC min. 60 dB[2]); Multimode: min. 30 dB[2]
Life	≥ 1000

Order no.	Fiber type	Connector type	Length
L00819A0059	E9/125	FC/PC	2,0 m
L00829A0003	E9/125	FC/APC	2,0 m
L00829A0004	G50/125 OM2	FC/PC	2,0 m
L00829A0005	G50/125 OM3	FC/PC	2,0 m
L00829A0008	G50/125 OM4	FC/PC	2,0 m
L00829A0006	G62,5/125 OM1	FC/PC	2,0 m

Other lengths on request.

FO Fiber Pigtails

Ideal for planners and installers: Simply assemble cables and fiber optic patch panels online



Do you want to assemble cables and connectors online or a fibre optic patch panel to meet your specific needs and then send an order inquiry to your local specialist retailer straight away? Then the TICNET configurator developed by Telegärtner is just what you need:

TICNET is simple
TICNET is available around the clock.

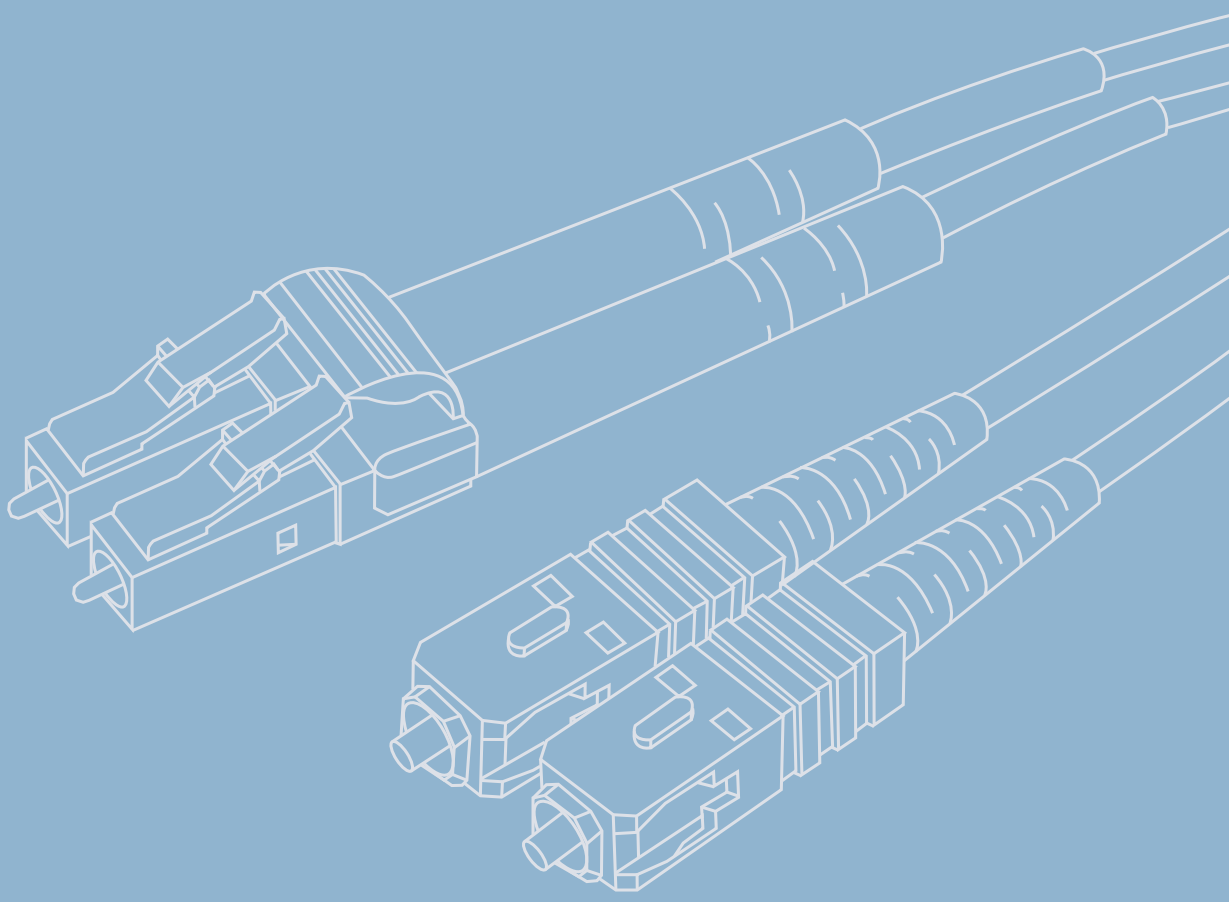
TICNET is fast
The user interface is so clear and easy to follow that even complex combinations can be assembled in just a few clicks.

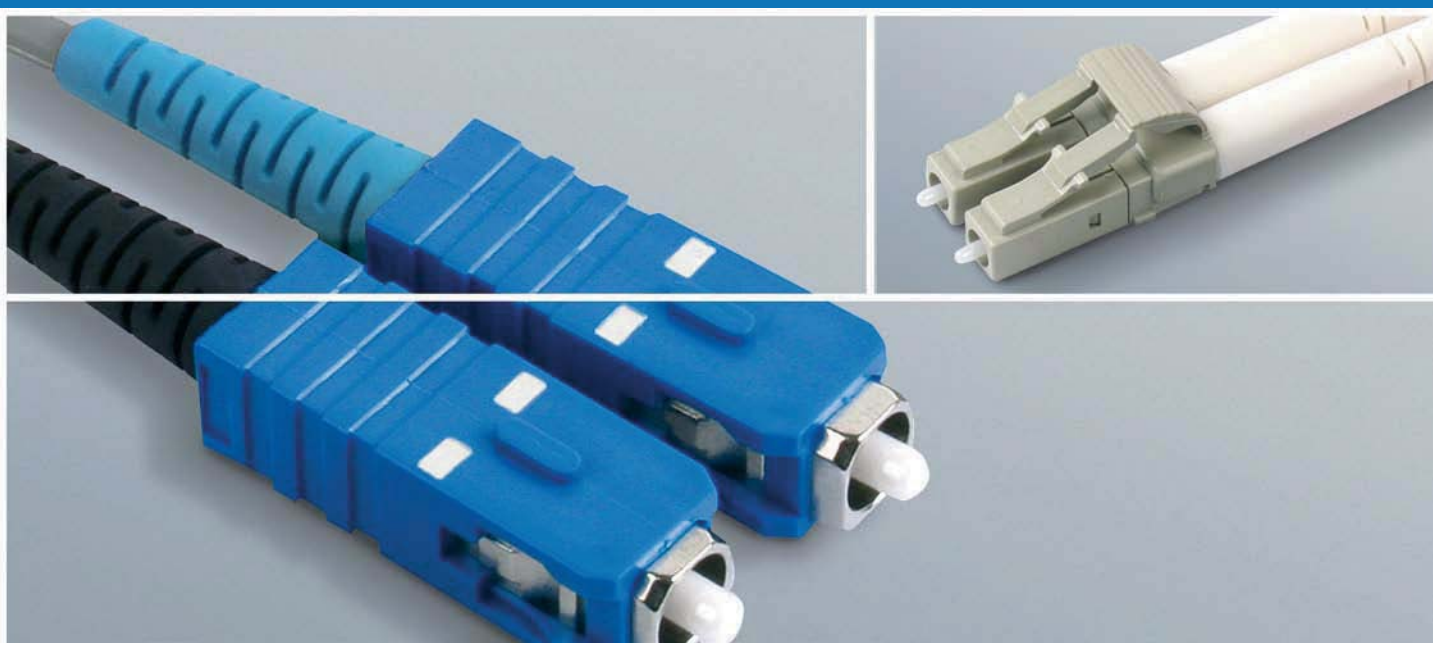
TICNET is user-friendly
Whether you are a retailer or an end customer, TICNET provides the information and options you require for your work.

www.telegaertner.com/ticnet

12

FO Patch Cords





12 FO Patch Cords

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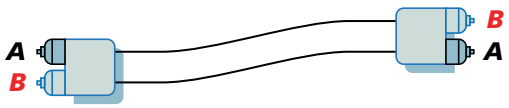
FO patch cords are mainly used in patch panels or for connection between outlets and terminals. Duplex cables with duplex connectors prevent from changing transmission and reception lines. The quality of connectors and fibers used determines to a great degree the insertion loss and reflexion performance of the transmission line. Factory-assembled FO patch cables guarantee exceptional optical and mechanical characteristics and a long lifetime due to use of optimized components and of a constantly controlled manufacturing process. Flame-retardant and halogen-free cable sheath material provides low environmental load.

FO Duplex Patch Cords 12.1

For Duplex connectors the fiber channels are crossed, i.e. channel termination A on the 1st side is connected to channel termination B on 2nd side. On simplex connectors the channels A/B are marked by differently coloured cable boots (A=black, B=red).



Connector Type: ST 12.1.1

Mechanical Characteristics	
Fiber structure: Secondary coating	Ø 0.9 ±0.1 mm
Colour coding	yellow (9/125), green (50/125), aqua (50/125 OM3), violet (50/125 OM4), blue (62,5/125)
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Cable structure: Strength members	Aramid (Kevlar)
Cable structure: Cable jacket	Polymer, yellow (9/125), orange (50/125 OM2; 62,5/125), aqua (50/125 OM3), violet (50/125 OM4)
Cable structure: Dimensions	(2.8 x 5.7) ±0.2 mm (Zipcord)
Climatic Characteristics	
Operating temperature	-5°...55° C
Storage temperature	-30°...70° C
Optical Characteristics	
Insertion loss	Singlemode: max. 0.5 dB[1]; Multimode: max. 0.4 dB[1]
Return loss	Singlemode: min. 40 dB[2]; Multimode: min. 30 dB[2]
Life	≥ 1000

1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6

Order no.	Fiber type	Connector type	Length	Cable Colour
L00810A0005	E9/125 OS2	ST	1,0 m	yellow
L00811A0012	E9/125 OS2	ST	2,0 m	yellow
L00812A0011	E9/125 OS2	ST	3,0 m	yellow
L00813A0005	E9/125 OS2	ST	5,0 m	yellow
L00816A0005	E9/125 OS2	ST	10,0 m	yellow

12.1

Other lengths on request.

12 FO Patch Cords

12.1 FO Duplex Patch Cords

12.1.1 Connector Type: ST

Order no.	Fiber type	Connector type	Length	Cable Colour
L00810A0003	G50/125 OM2	ST	1,0 m	orange
L00811A0007	G50/125 OM2	ST	2,0 m	orange
L00812A0007	G50/125 OM2	ST	3,0 m	orange
L00813A0003	G50/125 OM2	ST	5,0 m	orange
L00816A0003	G50/125 OM2	ST	10,0 m	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Cable Colour
L00810A0010	G50/125 OM3	ST	1,0 m	aqua
L00811A0028	G50/125 OM3	ST	2,0 m	aqua
L00812A0018	G50/125 OM3	ST	3,0 m	aqua
L00813A0008	G50/125 OM3	ST	5,0 m	aqua
L00815A0006	G50/125 OM3	ST	10,0 m	aqua

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Cable Colour
L00810A0014	50/125 OM4	ST	1,0 m	violet
L00811A0034	50/125 OM4	ST	2,0 m	violet
L00812A0021	50/125 OM4	ST	3,0 m	violet
L00813A0014	50/125 OM4	ST	5,0 m	violet
L00815A0008	50/125 OM4	ST	10,0 m	violet

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Cable Colour
L00810A0004	G62,5/125 OM1	ST	1,0 m	orange
L00811A0009	G62,5/125 OM1	ST	2,0 m	orange
L00812A0009	G62,5/125 OM1	ST	3,0 m	orange
L00813A0004	G62,5/125 OM1	ST	5,0 m	orange
L00816A0004	G62,5/125 OM1	ST	10,0 m	orange

Other lengths on request.

Connector Type: SC 12.1.2

Mechanical Characteristics	
Fiber structure: Secondary coating	Ø 0.9 ±0.1 mm
Colour coding	yellow (9/125), green (50/125), aqua (50/125 OM3), violet (50/125 OM4), blue (62,5/125)
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Cable structure: Strength members	Aramid (Kevlar)
Cable structure: Cable jacket	Polymer, yellow (9/125), orange (50/125 OM2; 62,5/125), aqua (50/125 OM3), violet (50/125 OM4)
Cable structure: Dimensions	(2.8 x 5.7)±0.2 mm (Zipcord)
Climatic Characteristics	
Operating temperature	-5°...55° C
Storage temperature	-30°...70° C
Optical Characteristics	
Insertion loss	Singlemode: max. 0.5 dB[1]; Multimode: max. 0.4 dB[1]
Return loss	Singlemode: min. 40 dB[2]; Multimode: min. 30 dB[2]
Life	≥ 1000

1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00880A0003	E9/125 OS2	SC	1,0 m	blue	yellow
L00881A0003	E9/125 OS2	SC	2,0 m	blue	yellow
L00882A0005	E9/125 OS2	SC	3,0 m	blue	yellow
L00883A0005	E9/125 OS2	SC	5,0 m	blue	yellow
L00885A0005	E9/125 OS2	SC	10,0 m	blue	yellow
L00881A0021	E9/125 OS2	SC/APC	1,0 m	green	yellow
L00881A0020	E9/125 OS2	SC/APC	2,0 m	green	yellow
L00882A0011	E9/125 OS2	SC/APC	3,0 m	green	yellow
L00883A0012	E9/125 OS2	SC/APC	5,0 m	green	yellow
L00885A0012	E9/125 OS2	SC/APC	10,0 m	green	yellow

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00880C0004	G50/125 OM2	SC	1,0 m	beige	orange
L00881C0004	G50/125 OM2	SC	2,0 m	beige	orange
L00882C0006	G50/125 OM2	SC	3,0 m	beige	orange
L00883C0006	G50/125 OM2	SC	5,0 m	beige	orange
L00885C0006	G50/125 OM2	SC	10,0 m	beige	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00880C0015	G50/125 OM3	SC	1,0 m	aqua	aqua
L00881C0024	G50/125 OM3	SC	2,0 m	aqua	aqua
L00882C0000	G50/125 OM3	SC	3,0 m	aqua	aqua
L00883C0025	G50/125 OM3	SC	5,0 m	aqua	aqua
L00885C0020	G50/125 OM3	SC	10,0 m	aqua	aqua

Other lengths on request.

12 FO Patch Cords

12.1 FO Duplex Patch Cords

12.1.2 Connector Type: SC

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00880A0017	G50/125 OM4	SC	1,0 m	black	violet
L00881A0027	G50/125 OM4	SC	2,0 m	black	violet
L00882A0019	G50/125 OM4	SC	3,0 m	black	violet
L00883A0028	G50/125 OM4	SC	5,0 m	black	violet
L00885A0025	G50/125 OM4	SC	10,0 m	black	violet

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00880C0005	G62,5/125 OM1	SC	1,0 m	beige	orange
L00881C0005	G62,5/125 OM1	SC	2,0 m	beige	orange
L00882C0007	G62,5/125 OM1	SC	3,0 m	beige	orange
L00883C0007	G62,5/125 OM1	SC	5,0 m	beige	orange
L00885C0007	G62,5/125 OM1	SC	10,0 m	beige	orange

Other lengths on request.

12.1.3 Connector Type: SC Duplex

Mechanical Characteristics	
Fiber structure: Secondary coating	Ø 0.9 ±0.1 mm
Colour coding	yellow (9/125), green (50/125), aqua (50/125 OM3), violet (50/125 OM4), blue (62,5/125)
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Cable structure: Strength members	Aramid (Kevlar)
Cable structure: Cable jacket	Polymer, yellow (9/125), orange (50/125 OM2; 62,5/125), aqua (50/125 OM3), violet (50/125 OM4)
Cable structure: Dimensions	(2.8 x 5.7)±0.2 mm (Zipcord)
Climatic Characteristics	
Operating temperature	-5°...55° C
Storage temperature	-30°...70° C
Optical Characteristics	
Insertion loss	Singlemode: max. 0.5 dB[1]; Multimode: max. 0.4 dB[1]
Return loss	Singlemode: min. 40 dB[2]; Multimode: min. 30 dB[2]
Life	≥ 1000

1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00880A0006	E9/125 OS2	SC Duplex	1,0 m	blue	yellow
L00881A0006	E9/125 OS2	SC Duplex	2,0 m	blue	yellow
L00882A0002	E9/125 OS2	SC Duplex	3,0 m	blue	yellow
L00883A0002	E9/125 OS2	SC Duplex	5,0 m	blue	yellow
L00885A0002	E9/125 OS2	SC Duplex	10,0 m	blue	yellow

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00880C0007	G50/125 OM2	SC Duplex	1,0 m	beige	orange
L00881C0007	G50/125 OM2	SC Duplex	2,0 m	beige	orange
L00882C0003	G50/125 OM2	SC Duplex	3,0 m	beige	orange
L00883C0003	G50/125 OM2	SC Duplex	5,0 m	beige	orange
L00885C0003	G50/125 OM2	SC Duplex	10,0 m	beige	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00880C0010	G50/125 OM3	SC Duplex	1,0 m	aqua	aqua
L00881C0023	G50/125 OM3	SC Duplex	2,0 m	aqua	aqua
L00882C0015	G50/125 OM3	SC Duplex	3,0 m	aqua	aqua
L00883C0017	G50/125 OM3	SC Duplex	5,0 m	aqua	aqua
L00885C0000	G50/125 OM3	SC Duplex	10,0 m	aqua	aqua

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00880A0018	G50/125 OM4	SC Duplex	1,0 m	black	violet
L00881A0028	G50/125 OM4	SC Duplex	2,0 m	black	violet
L00882A0020	G50/125 OM4	SC Duplex	3,0 m	black	violet
L00883A0029	G50/125 OM4	SC Duplex	5,0 m	black	violet
L00885A0026	G50/125 OM4	SC Duplex	10,0 m	black	violet

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00880C0008	G62,5/125 OM1	SC Duplex	1,0 m	beige	orange
L00881C0008	G62,5/125 OM1	SC Duplex	2,0 m	beige	orange
L00882C0004	G62,5/125 OM1	SC Duplex	3,0 m	beige	orange
L00883C0004	G62,5/125 OM1	SC Duplex	5,0 m	beige	orange
L00885C0004	G62,5/125 OM1	SC Duplex	10,0 m	beige	orange

Other lengths on request.

12.1

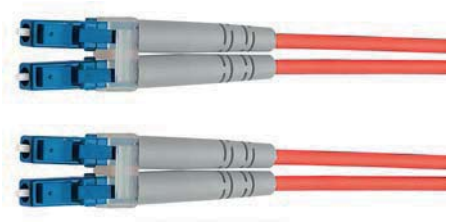
12 FO Patch Cords

12.1 FO Duplex Patch Cords

12.1.4 Connector Type: LC Duplex

Mechanical Characteristics	
Fiber structure: Secondary coating	Ø 0.9 ±0.1 mm
Colour coding	yellow (9/125), green (50/125), aqua (50/125 OM3), violet (50/125 OM4), blue (62,5/125)
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Cable structure: Strength members	Aramid (Kevlar)
Cable structure: Cable jacket	Polymer, yellow (9/125), orange (50/125 OM2; 62,5/125), aqua (50/125 OM3), violet (50/125 OM4)
Cable structure: Dimensions	(2.8x5.7) ±0.2 mm (Duplex, Zipcord)
Climatic Characteristics	
Operating temperature	-5°...55° C
Storage temperature	-30°...70° C
Optical Characteristics	
Insertion loss	Singlemode: max. 0.5 dB[1]; Multimode: max. 0.4 dB[1]
Return loss	Singlemode: min. 40 dB[2] (APC min. 60 dB[2]); Multimode: min. 30 dB[2]
Life	≥ 1000

1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6



Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00870A0002	E9/125 OS2	LC Duplex	1,0 m	blue	yellow
L00871A0003	E9/125 OS2	LC Duplex	2,0 m	blue	yellow
L00872A0002	E9/125 OS2	LC Duplex	3,0 m	blue	yellow
L00873A0002	E9/125 OS2	LC Duplex	5,0 m	blue	yellow
L00875A0002	E9/125 OS2	LC Duplex	10,0 m	blue	yellow

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00870A0000	G50/125 OM2	LC Duplex	1,0 m	beige	orange
L00871A0004	G50/125 OM2	LC Duplex	2,0 m	beige	orange
L00872A0000	G50/125 OM2	LC Duplex	3,0 m	beige	orange
L00873A0000	G50/125 OM2	LC Duplex	5,0 m	beige	orange
L00875A0000	G50/125 OM2	LC Duplex	10,0 m	beige	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00870A0003	G50/125 OM3	LC Duplex	1,0 m	aqua	aqua
L00871A0006	G50/125 OM3	LC Duplex	2,0 m	aqua	aqua
L00872A0003	G50/125 OM3	LC Duplex	3,0 m	aqua	aqua
L00873A0003	G50/125 OM3	LC Duplex	5,0 m	aqua	aqua
L00875A0003	G50/125 OM3	LC Duplex	10,0 m	aqua	aqua

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00870A0005	G50/125 OM4	LC Duplex	1,0 m	black	violet
L00871A0008	G50/125 OM4	LC Duplex	2,0 m	black	violet
L00872A0006	G50/125 OM4	LC Duplex	3,0 m	black	violet
L00873A0009	G50/125 OM4	LC Duplex	5,0 m	black	violet
L00875A0007	G50/125 OM4	LC Duplex	10,0 m	black	violet

Other lengths on request.

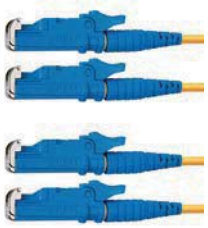
Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00870A0001	G62,5/125 OM1	LC Duplex	1,0 m	beige	orange
L00871A0005	G62,5/125 OM1	LC Duplex	2,0 m	beige	orange
L00872A0001	G62,5/125 OM1	LC Duplex	3,0 m	beige	orange
L00873A0001	G62,5/125 OM1	LC Duplex	5,0 m	beige	orange
L00875A0001	G62,5/125 OM1	LC Duplex	10,0 m	beige	orange

Other lengths on request.

Connector Type: E2000 12.1.5

Mechanical Characteristics	
Fiber structure: Secondary coating	Ø 0.9 ±0.1 mm
Colour coding	yellow (9/125), green (50/125), aqua (50/125 OM3), violet (50/125 OM4), blue (62,5/125)
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Cable structure: Strength members	Aramid (Kevlar)
Cable structure: Cable jacket	Polymer, yellow (9/125), orange (50/125 OM2; 62,5/125), aqua (50/125 OM3), violet (50/125 OM4)
Cable structure: Dimensions	(2.8 x 5.7)±0.2 mm (Zipcord)
Climatic Characteristics	
Operating temperature	-5°...55° C
Storage temperature	-30°...70° C
Optical Characteristics	
Insertion loss	Singlemode: max. 0.3 dB[1]; Multimode: max. 0.3 dB[1]
Return loss	Singlemode: min. 40 dB[2] (APC min. 60 dB[2]); Multimode: min. 30 dB[2]

1) Measurement procedure acc. to IEC 61300-3-4
2) Measurement procedure acc. to IEC 61300-3-6



Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00850A0000	E9/125 OS2	E2000	1,0 m	blue	yellow
L00851A0009	E9/125 OS2	E2000	2,0 m	blue	yellow
L00852A0001	E9/125 OS2	E2000	3,0 m	blue	yellow
L00853A0000	E9/125 OS2	E2000	5,0 m	blue	yellow
L00855A0000	E9/125 OS2	E2000	10,0 m	blue	yellow

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00850A0001	E9/125 OS2	E2000/APC	1,0 m	green	yellow
L00851A0008	E9/125 OS2	E2000/APC	2,0 m	green	yellow
L00852A0000	E9/125 OS2	E2000/APC	3,0 m	green	yellow
L00853A0001	E9/125 OS2	E2000/APC	5,0 m	green	yellow
L00855A0001	E9/125 OS2	E2000/APC	10,0 m	green	yellow

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00850A0002	G50/125 OM2	E2000	1,0 m	black/orange	orange
L00851A0010	G50/125 OM2	E2000	2,0 m	black/orange	orange
L00852A0002	G50/125 OM2	E2000	3,0 m	black/orange	orange
L00853A0002	G50/125 OM2	E2000	5,0 m	black/orange	orange
L00855A0002	G50/125 OM2	E2000	10,0 m	black/orange	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00850A0004	G50/125 OM3	E2000	1,0 m	black/orange	aqua
L00851A0011	G50/125 OM3	E2000	2,0 m	black/orange	aqua
L00852A0004	G50/125 OM3	E2000	3,0 m	black/orange	aqua
L00853A0004	G50/125 OM3	E2000	5,0 m	black/orange	aqua
L00855A0004	G50/125 OM3	E2000	10,0 m	black/orange	aqua

Other lengths on request.

12 FO Patch Cords

12.1 FO Duplex Patch Cords

12.1.5 Connector Type: E2000

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00850A0006	G50/125 OM4	E2000	1,0 m	black/red	violet
L00851A0013	G50/125 OM4	E2000	2,0 m	black/red	violet
L00852A0006	G50/125 OM4	E2000	3,0 m	black/red	violet
L00853A0006	G50/125 OM4	E2000	5,0 m	black/red	violet
L00855A0006	G50/125 OM4	E2000	10,0 m	black/red	violet

Other lengths on request.

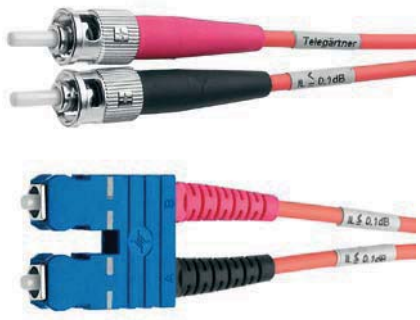
12.2 FO Duplex Adaptor Cords

12.2.1 Connector Types: 1st end 2xST, 2nd end 2xSC

Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00811A0019	E9/125 OS2	1st end 2xST, 2nd end 2xSC	2,0 m	blue	yellow
L00891C0069	G50/125 OM2	1st end 2xST, 2nd end 2xSC	2,0 m	beige	orange
L00891C0047	G50/125 OM3	1st end 2xST, 2nd end 2xSC	2,0 m	aqua	aqua
L00891A0086	G50/125 OM4	1st end 2xST, 2nd end 2xSC	2,0 m	black	violet
L00891C0070	G62,5/125 OM1	1st end 2xST, 2nd end 2xSC	2,0 m	beige	orange

Other lengths on request.

12.2.2 Connector Types: 1st end 2xST, 2nd end SC Duplex



Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00890A0018	E9/125 OS2	1st end 2xST, 2nd end SC Duplex	1,0 m	blue	yellow
L00811A0022	E9/125 OS2	1st end 2xST, 2nd end SC Duplex	2,0 m	blue	yellow
L00892A0005	E9/125 OS2	1st end 2xST, 2nd end SC Duplex	3,0 m	blue	yellow
L00893A0005	E9/125 OS2	1st end 2xST, 2nd end SC Duplex	5,0 m	blue	yellow
L00895A0004	E9/125 OS2	1st end 2xST, 2nd end SC Duplex	10,0 m	blue	yellow

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00890C0019	G50/125 OM2	1st end 2xST, 2nd end SC Duplex	1,0 m	beige	orange
L00891C0071	G50/125 OM2	1st end 2xST, 2nd end SC Duplex	2,0 m	beige	orange
L00892C0001	G50/125 OM2	1st end 2xST, 2nd end SC Duplex	3,0 m	beige	orange
L00893C0003	G50/125 OM2	1st end 2xST, 2nd end SC Duplex	5,0 m	beige	orange
L00895C0003	G50/125 OM2	1st end 2xST, 2nd end SC Duplex	10,0 m	beige	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00890C0059	G50/125 OM3	1st end 2xST, 2nd end SC Duplex	1,0 m	aqua	aqua
L00891C0026	G50/125 OM3	1st end 2xST, 2nd end SC Duplex	2,0 m	aqua	aqua
L00892C0048	G50/125 OM3	1st end 2xST, 2nd end SC Duplex	3,0 m	aqua	aqua
L00893C0028	G50/125 OM3	1st end 2xST, 2nd end SC Duplex	5,0 m	aqua	aqua
L00895C0025	G50/125 OM3	1st end 2xST, 2nd end SC Duplex	10,0 m	aqua	aqua

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00890A0077	G50/125 OM4	1st end 2xST, 2nd end SC Duplex	1,0 m	black	violet
L00891A0079	G50/125 OM4	1st end 2xST, 2nd end SC Duplex	2,0 m	black	violet
L00892A0072	G50/125 OM4	1st end 2xST, 2nd end SC Duplex	2,0 m	black	violet
L00893A0076	G50/125 OM4	1st end 2xST, 2nd end SC Duplex	5,0 m	black	violet
L00895A0070	G50/125 OM4	1st end 2xST, 2nd end SC Duplex	10,0 m	black	violet

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00890C0021	G62,5/125 OM1	1st end 2xST, 2nd end SC Duplex	1,0 m	beige	orange
L00891C0072	G62,5/125 OM1	1st end 2xST, 2nd end SC Duplex	2,0 m	beige	orange
L00892C0009	G62,5/125 OM1	1st end 2xST, 2nd end SC Duplex	3,0 m	beige	orange
L00893C0001	G62,5/125 OM1	1st end 2xST, 2nd end SC Duplex	5,0 m	beige	orange
L00895C0001	G62,5/125 OM1	1st end 2xST, 2nd end SC Duplex	10,0 m	beige	orange

Other lengths on request.

Connector Types: 1st end 2xST, 2nd end MT-RJ female 12.2.3

Order no.	Fiber type	Connector type	Length	Cable Colour
L00890A0032	G50/125 OM2	1st end 2xST, 2nd end MT-RJ	1,0 m	orange
L00891A0032	G50/125 OM2	1st end 2xST, 2nd end MT-RJ	2,0 m	orange
L00892A0032	G50/125 OM2	1st end 2xST, 2nd end MT-RJ	3,0 m	orange
L00893A0032	G50/125 OM2	1st end 2xST, 2nd end MT-RJ	5,0 m	orange
L00895A0032	G50/125 OM2	1st end 2xST, 2nd end MT-RJ	10,0 m	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Cable Colour
L00891A0027	G50/125 OM3	1st end 2xST, 2nd end MT-RJ	2,0 m	aqua

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Cable Colour
L00891A0085	G50/125 OM4	1st end 2xST, 2nd end MT-RJ	2,0 m	violet

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Cable Colour
L00890A0033	G62,5/125 OM1	1st end 2xST, 2nd end MT-RJ	1,0 m	orange
L00891A0033	G62,5/125 OM1	1st end 2xST, 2nd end MT-RJ	2,0 m	orange
L00892A0033	G62,5/125 OM1	1st end 2xST, 2nd end MT-RJ	3,0 m	orange
L00893A0033	G62,5/125 OM1	1st end 2xST, 2nd end MT-RJ	5,0 m	orange
L00895A0033	G62,5/125 OM1	1st end 2xST, 2nd end MT-RJ	10,0 m	orange

Other lengths on request.

12.2

12 FO Patch Cords

12.2 FO Duplex Adaptor Cords

12.2.4 Connector Types: 1st end 2xST, 2nd end LC Duplex

Order no.	Fiber type	Connector type	Length	Housing Colour LC	Cable Colour
L00890A0040	E9/125 OS2	1st end 2xST, 2nd end LC Duplex	1,0 m	blue	yellow
L00891A0014	E9/125 OS2	1st end 2xST, 2nd end LC Duplex	2,0 m	blue	yellow
L00892A0039	E9/125 OS2	1st end 2xST, 2nd end LC Duplex	3,0 m	blue	yellow
L00893A0042	E9/125 OS2	1st end 2xST, 2nd end LC Duplex	5,0 m	blue	yellow
L00895A0039	E9/125 OS2	1st end 2xST, 2nd end LC Duplex	10,0 m	blue	yellow

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour LC	Cable Colour
L00890A0036	G50/125 OM2	1st end 2xST, 2nd end LC Duplex	1,0 m	beige	orange
L00891A0015	G50/125 OM2	1st end 2xST, 2nd end LC Duplex	2,0 m	beige	orange
L00892A0035	G50/125 OM2	1st end 2xST, 2nd end LC Duplex	3,0 m	beige	orange
L00893A0038	G50/125 OM2	1st end 2xST, 2nd end LC Duplex	5,0 m	beige	orange
L00895A0035	G50/125 OM2	1st end 2xST, 2nd end LC Duplex	10,0 m	beige	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour LC	Cable Colour
L00890A0058	G50/125 OM3	1st end 2xST, 2nd end LC Duplex	1,0 m	aqua	aqua
L00891A0029	G50/125 OM3	1st end 2xST, 2nd end LC Duplex	2,0 m	aqua	aqua
L00892A0029	G50/125 OM3	1st end 2xST, 2nd end LC Duplex	3,0 m	aqua	aqua
L00893A0027	G50/125 OM3	1st end 2xST, 2nd end LC Duplex	5,0 m	aqua	aqua
L00895A0024	G50/125 OM3	1st end 2xST, 2nd end LC Duplex	10,0 m	aqua	aqua

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour LC	Cable Colour
L00890A0078	G50/125 OM4	1st end 2xST, 2nd end LC Duplex	1,0 m	black	violet
L00891A0080	G50/125 OM4	1st end 2xST, 2nd end LC Duplex	2,0 m	black	violet
L00892A0073	G50/125 OM4	1st end 2xST, 2nd end LC Duplex	3,0 m	black	violet
L00893A0077	G50/125 OM4	1st end 2xST, 2nd end LC Duplex	5,0 m	black	violet
L00895A0071	G50/125 OM4	1st end 2xST, 2nd end LC Duplex	10,0 m	black	violet

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour LC	Cable Colour
L00890A0037	G62,5/125 OM1	1st end 2xST, 2nd end LC Duplex	1,0 m	beige	orange
L00891A0016	G62,5/125 OM1	1st end 2xST, 2nd end LC Duplex	2,0 m	beige	orange
L00892A0036	G62,5/125 OM1	1st end 2xST, 2nd end LC Duplex	3,0 m	beige	orange
L00893A0039	G62,5/125 OM1	1st end 2xST, 2nd end LC Duplex	5,0 m	beige	orange
L00895A0036	G62,5/125 OM1	1st end 2xST, 2nd end LC Duplex	10,0 m	beige	orange

Other lengths on request.

Connector Types: 1st end 2xST, 2nd end 2xE2000

Order no.	Fiber type	Connector type	Length	Housing Colour E2000	Cable Colour
L00890A0065	E9/125 OS2	1st end 2x ST, 2nd end 2xE2000	1,0 m	blue	yellow
L00891A0069	E9/125 OS2	1st end 2x ST, 2nd end 2xE2000	2,0 m	blue	yellow
L00892A0057	E9/125 OS2	1st end 2x ST, 2nd end 2xE2000	3,0 m	blue	yellow
L00893A0062	E9/125 OS2	1st end 2x ST, 2nd end 2xE2000	5,0 m	blue	yellow
L00895A0056	E9/125 OS2	1st end 2x ST, 2nd end 2xE2000	10,0 m	blue	yellow

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour E2000	Cable Colour
L00890A0051	G50/125 OM2	1st end 2x ST, 2nd end 2xE2000	1,0 m	black/orange	orange
L00891A0054	G50/125 OM2	1st end 2x ST, 2nd end 2xE2000	2,0 m	black/orange	orange
L00892A0020	G50/125 OM2	1st end 2x ST, 2nd end 2xE2000	3,0 m	black/orange	orange
L00893A0018	G50/125 OM2	1st end 2x ST, 2nd end 2xE2000	5,0 m	black/orange	orange
L00895A0017	G50/125 OM2	1st end 2x ST, 2nd end 2xE2000	10,0 m	black/orange	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour E2000	Cable Colour
L00890A0066	G50/125 OM3	1st end 2x ST, 2nd end 2xE2000	1,0 m	black/orange	aqua
L00891A0070	G50/125 OM3	1st end 2x ST, 2nd end 2xE2000	2,0 m	black/orange	aqua
L00892A0058	G50/125 OM3	1st end 2x ST, 2nd end 2xE2000	3,0 m	black/orange	aqua
L00893A0063	G50/125 OM3	1st end 2x ST, 2nd end 2xE2000	5,0 m	black/orange	aqua
L00895A0057	G50/125 OM3	1st end 2x ST, 2nd end 2xE2000	10,0 m	black/orange	aqua

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour E2000	Cable Colour
L00890A0079	G50/125 OM4	1st end 2x ST, 2nd end 2xE2000	1,0 m	black/red	violet
L00891A0081	G50/125 OM4	1st end 2x ST, 2nd end 2xE2000	2,0 m	black/red	violet
L00892A0074	G50/125 OM4	1st end 2x ST, 2nd end 2xE2000	3,0 m	black/red	violet
L00893A0078	G50/125 OM4	1st end 2x ST, 2nd end 2xE2000	5,0 m	black/red	violet
L00895A0072	G50/125 OM4	1st end 2x ST, 2nd end 2xE2000	10,0 m	black/red	violet

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour E2000	Cable Colour
L00890A0067	G62,5/125 OM1	1st end 2x ST, 2nd end 2xE2000	1,0 m	black/orange	orange
L00891A0071	G62,5/125 OM1	1st end 2x ST, 2nd end 2xE2000	2,0 m	black/orange	orange
L00892A0059	G62,5/125 OM1	1st end 2x ST, 2nd end 2xE2000	3,0 m	black/orange	orange
L00893A0064	G62,5/125 OM1	1st end 2x ST, 2nd end 2xE2000	5,0 m	black/orange	orange
L00895A0058	G62,5/125 OM1	1st end 2x ST, 2nd end 2xE2000	10,0 m	black/orange	orange

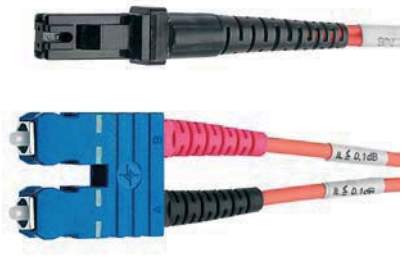
Other lengths on request.

12.2

12 FO Patch Cords

12.2 FO Duplex Adaptor Cords

12.2.6 Connector Types: 1st end SC, 2nd end MT-RJ female



Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00890C0030	G50/125 OM2	1st end SC Duplex, 2nd end MT-RJ	1,0 m	beige	orange
L00891C0030	G50/125 OM2	1st end SC Duplex, 2nd end MT-RJ	2,0 m	beige	orange
L00892C0030	G50/125 OM2	1st end SC Duplex, 2nd end MT-RJ	3,0 m	beige	orange
L00893C0030	G50/125 OM2	1st end SC Duplex, 2nd end MT-RJ	5,0 m	beige	orange
L00895C0030	G50/125 OM2	1st end SC Duplex, 2nd end MT-RJ	10,0 m	beige	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00891C0028	G50/125 OM3	1st end SC Duplex, 2nd end MT-RJ	2,0 m	aqua	aqua

Other lengths on request.

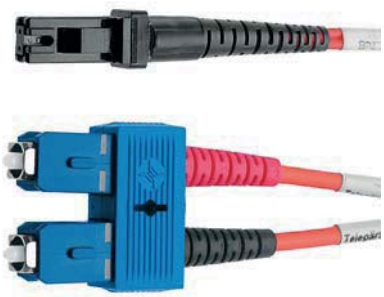
Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00891A0083	G50/125 OM4	1st end SC Duplex, 2nd end MT-RJ	2,0 m	black	violet

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00890C0031	G62,5/125 OM1	1st end SC Duplex, 2nd end MT-RJ	1,0 m	beige	orange
L00891C0031	G62,5/125 OM1	1st end SC Duplex, 2nd end MT-RJ	2,0 m	beige	orange
L00892C0031	G62,5/125 OM1	1st end SC Duplex, 2nd end MT-RJ	3,0 m	beige	orange
L00893C0031	G62,5/125 OM1	1st end SC Duplex, 2nd end MT-RJ	5,0 m	beige	orange
L00895C0031	G62,5/125 OM1	1st end SC Duplex, 2nd end MT-RJ	10,0 m	beige	orange

Other lengths on request.

12.2.7 Connector Types: 1st end SC Duplex (with clamp for flexible A/B setting), 2nd end MT-RJ female



Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00890C0024	G50/125 OM2	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	1,0 m	beige	orange
L00891C0036	G50/125 OM2	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	2,0 m	beige	orange
L00892C0016	G50/125 OM2	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	3,0 m	beige	orange
L00893C0013	G50/125 OM2	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	5,0 m	beige	orange
L00895C0013	G50/125 OM2	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	10,0 m	beige	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00891C0048	G50/125 OM3	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	2,0 m	aqua	aqua

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00891A0084	G50/125 OM4	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	2,0 m	black	violet

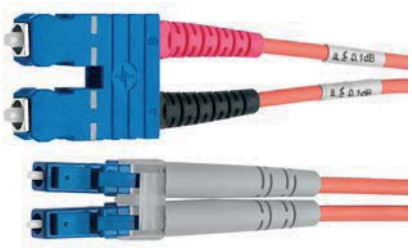
Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour SC	Cable Colour
L00890C0025	G62,5/125 OM1	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	1,0 m	beige	orange
L00891C0037	G62,5/125 OM1	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	2,0 m	beige	orange
L00892C0017	G62,5/125 OM1	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	3,0 m	beige	orange
L00893C0014	G62,5/125 OM1	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	5,0 m	beige	orange
L00895C0014	G62,5/125 OM1	1st end T-SC Duplex (with clamp), 2nd end MT-RJ	10,0 m	beige	orange

Other lengths on request.

Connector Types: 1st end SC Duplex, 2nd end LC Duplex

12.2.8



Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00890A0041	E9/125 OS2	1st end SC Duplex, 2nd end LC Duplex	1,0 m	blue	yellow
L00891A0017	E9/125 OS2	1st end SC Duplex, 2nd end LC Duplex	2,0 m	blue	yellow
L00892A0040	E9/125 OS2	1st end SC Duplex, 2nd end LC Duplex	3,0 m	blue	yellow
L00893A0043	E9/125 OS2	1st end SC Duplex, 2nd end LC Duplex	5,0 m	blue	yellow
L00895A0040	E9/125 OS2	1st end SC Duplex, 2nd end LC Duplex	10,0 m	blue	yellow

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00890C0038	G50/125 OM2	1st end SC Duplex, 2nd end LC Duplex	1,0 m	beige	orange
L00891C0018	G50/125 OM2	1st end SC Duplex, 2nd end LC Duplex	2,0 m	beige	orange
L00892C0037	G50/125 OM2	1st end SC Duplex, 2nd end LC Duplex	3,0 m	beige	orange
L00893C0040	G50/125 OM2	1st end SC Duplex, 2nd end LC Duplex	5,0 m	beige	orange
L00895C0037	G50/125 OM2	1st end SC Duplex, 2nd end LC Duplex	10,0 m	beige	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00890C0055	G50/125 OM3	1st end SC Duplex, 2nd end LC Duplex	1,0 m	aqua	aqua
L00891C0042	G50/125 OM3	1st end SC Duplex, 2nd end LC Duplex	2,0 m	aqua	aqua
L00892C0024	G50/125 OM3	1st end SC Duplex, 2nd end LC Duplex	3,0 m	aqua	aqua
L00893C0022	G50/125 OM3	1st end SC Duplex, 2nd end LC Duplex	5,0 m	aqua	aqua
L00895C0021	G50/125 OM3	1st end SC Duplex, 2nd end LC Duplex	10,0 m	aqua	aqua

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00890A0080	G50/125 OM4	1st end SC Duplex, 2nd end LC Duplex	1,0 m	black	violet
L00891A0082	G50/125 OM4	1st end SC Duplex, 2nd end LC Duplex	2,0 m	black	violet
L00892A0075	G50/125 OM4	1st end SC Duplex, 2nd end LC Duplex	3,0 m	black	violet
L00893A0079	G50/125 OM4	1st end SC Duplex, 2nd end LC Duplex	5,0 m	black	violet
L00895A0073	G50/125 OM4	1st end SC Duplex, 2nd end LC Duplex	10,0 m	black	violet

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour	Cable Colour
L00890C0039	G62,5/125 OM1	1st end SC Duplex, 2nd end LC Duplex	1,0 m	beige	orange
L00891C0019	G62,5/125 OM1	1st end SC Duplex, 2nd end LC Duplex	2,0 m	beige	orange
L00892C0038	G62,5/125 OM1	1st end SC Duplex, 2nd end LC Duplex	3,0 m	beige	orange
L00893C0041	G62,5/125 OM1	1st end SC Duplex, 2nd end LC Duplex	5,0 m	beige	orange
L00895C0038	G62,5/125 OM1	1st end SC Duplex, 2nd end LC Duplex	10,0 m	beige	orange

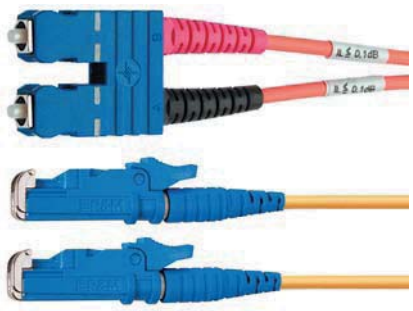
Other lengths on request.

12.2

12 FO Patch Cords

12.2 FO Duplex Adaptor Cords

12.2.9 Connector type: 1st end SC Duplex, 2nd end 2xE2000



Order no.	Fiber type	Connector type	Length	Housing Colour E2000, SC	Cable Colour
L00890A0056	E9/125 OS2	1st end SC Duplex, 2nd end 2xE2000	1,0 m	blue	yellow
L00891A0062	E9/125 OS2	1st end SC Duplex, 2nd end 2xE2000	2,0 m	blue	yellow
L00892A0061	E9/125 OS2	1st end SC Duplex, 2nd end 2xE2000	3,0 m	blue	yellow
L00893A0066	E9/125 OS2	1st end SC Duplex, 2nd end 2xE2000	5,0 m	blue	yellow
L00895A0060	E9/125 OS2	1st end SC Duplex, 2nd end 2xE2000	10,0 m	blue	yellow

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour E2000	Housing Colour SC	Cable Colour
L00890C0053	G50/125 OM2	1st end SC Duplex, 2nd end 2xE2000	1,0 m	black/orange	beige	orange
L00891C0056	G50/125 OM2	1st end SC Duplex, 2nd end 2xE2000	2,0 m	black/orange	beige	orange
L00892C0062	G50/125 OM2	1st end SC Duplex, 2nd end 2xE2000	3,0 m	black/orange	beige	orange
L00893C0067	G50/125 OM2	1st end SC Duplex, 2nd end 2xE2000	5,0 m	black/orange	beige	orange
L00895C0061	G50/125 OM2	1st end SC Duplex, 2nd end 2xE2000	10,0 m	black/orange	beige	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour E2000	Housing Colour SC	Cable Colour
L00890C0069	G50/125 OM3	1st end SC Duplex, 2nd end 2xE2000	1,0 m	black/orange	aqua	aqua
L00891C0073	G50/125 OM3	1st end SC Duplex, 2nd end 2xE2000	2,0 m	black/orange	aqua	aqua
L00892C0063	G50/125 OM3	1st end SC Duplex, 2nd end 2xE2000	3,0 m	black/orange	aqua	aqua
L00893C0068	G50/125 OM3	1st end SC Duplex, 2nd end 2xE2000	5,0 m	black/orange	aqua	aqua
L00895C0062	G50/125 OM3	1st end SC Duplex, 2nd end 2xE2000	10,0 m	black/orange	aqua	aqua

Other lengths on request.

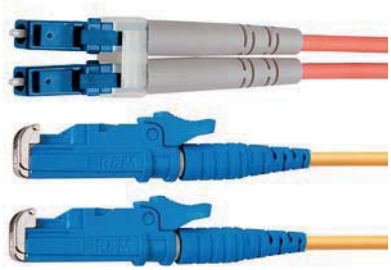
Order no.	Fiber type	Connector type	Length	Housing Colour E2000	Housing Colour SC	Cable Colour
L00890A0081	G50/125 OM4	1st end SC Duplex, 2nd end 2xE2000	1,0 m	black/red	black	violet
L00891A0073	G50/125 OM4	1st end SC Duplex, 2nd end 2xE2000	2,0 m	black/red	black	violet
L00892A0063	G50/125 OM4	1st end SC Duplex, 2nd end 2xE2000	3,0 m	black/red	black	violet
L00893A0068	G50/125 OM4	1st end SC Duplex, 2nd end 2xE2000	5,0 m	black/red	black	violet
L00895A0062	G50/125 OM4	1st end SC Duplex, 2nd end 2xE2000	3,0 m	black/red	black	violet

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour E2000	Housing Colour SC	Cable Colour
L00890C0070	G62,5/125 OM1	1st end SC Duplex, 2nd end 2xE2000	1,0 m	black/orange	beige	orange
L00891C0057	G62,5/125 OM1	1st end SC Duplex, 2nd end 2xE2000	2,0 m	black/orange	beige	orange
L00892C0064	G62,5/125 OM1	1st end SC Duplex, 2nd end 2xE2000	3,0 m	black/orange	beige	orange
L00893C0069	G62,5/125 OM1	1st end SC Duplex, 2nd end 2xE2000	5,0 m	black/orange	beige	orange
L00895C0063	G62,5/125 OM1	1st end SC Duplex, 2nd end 2xE2000	5,0 m	black/orange	beige	orange

Other lengths on request.

Connector type: 1st end LC Duplex, 2. end 2xE2000 12.2.10



Order no.	Fiber type	Connector type	Length	Housing Colour LC	Housing Colour E2000	Cable Colour
L00890A0057	E9/125 OS2	1st end LC Duplex, 2nd end 2xE2000	1,0 m	blue	blue	yellow
L00891A0061	E9/125 OS2	1st end LC Duplex, 2nd end 2xE2000	2,0 m	blue	blue	yellow
L00892A0025	E9/125 OS2	1st end LC Duplex, 2nd end 2xE2000	3,0 m	blue	blue	yellow
L00893A0025	E9/125 OS2	1st end LC Duplex, 2nd end 2xE2000	5,0 m	blue	blue	yellow
L00895A0023	E9/125 OS2	1st end LC Duplex, 2nd end 2xE2000	10,0 m	blue	blue	yellow

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour LC	Housing Colour E2000	Cable Colour
L00890C0073	G50/125 OM2	1st end LC Duplex, 2nd end 2xE2000	1,0 m	beige	black/orange	orange
L00891C0074	G50/125 OM2	1st end LC Duplex, 2nd end 2xE2000	2,0 m	beige	black/orange	orange
L00892C0065	G50/125 OM2	1st end LC Duplex, 2nd end 2xE2000	3,0 m	beige	black/orange	orange
L00893C0071	G50/125 OM2	1st end LC Duplex, 2nd end 2xE2000	5,0 m	beige	black/orange	orange
L00895C0065	G50/125 OM2	1st end LC Duplex, 2nd end 2xE2000	10,0 m	beige	black/orange	orange

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour LC	Housing Colour E2000	Cable Colour
L00890C0074	G50/125 OM3	1st end LC Duplex, 2nd end 2xE2000	1,0 m	aqua	black/orange	aqua
L00891C0075	G50/125 OM3	1st end LC Duplex, 2nd end 2xE2000	2,0 m	aqua	black/orange	aqua
L00892C0052	G50/125 OM3	1st end LC Duplex, 2nd end 2xE2000	3,0 m	aqua	black/orange	aqua
L00893C0072	G50/125 OM3	1st end LC Duplex, 2nd end 2xE2000	5,0 m	aqua	black/orange	aqua
L00895C0066	G50/125 OM3	1st end LC Duplex, 2nd end 2xE2000	10,0 m	aqua	black/orange	aqua

Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour LC	Housing Colour E2000	Cable Colour
L00890A0074	G50/125 OM4	1st end LC Duplex, 2nd end 2xE2000	1,0 m	black	black/red	violet
L00891A0075	G50/125 OM4	1st end LC Duplex, 2nd end 2xE2000	2,0 m	black	black/red	violet
L00892A0071	G50/125 OM4	1st end LC Duplex, 2nd end 2xE2000	3,0 m	black	black/red	violet
L00893A0072	G50/125 OM4	1st end LC Duplex, 2nd end 2xE2000	5,0 m	black	black/red	violet
L00895A0066	G50/125 OM4	1st end LC Duplex, 2nd end 2xE2000	10,0 m	black	black/red	violet

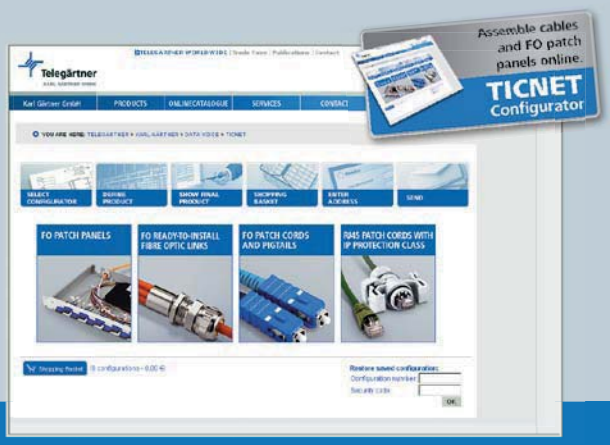
Other lengths on request.

Order no.	Fiber type	Connector type	Length	Housing Colour LC	Housing Colour E2000	Cable Colour
L00890C0075	G62,5/125 OM1	1st end LC Duplex, 2nd end 2xE2000	1,0 m	beige	black/orange	orange
L00891C0076	G62,5/125 OM1	1st end LC Duplex, 2nd end 2xE2000	2,0 m	beige	black/orange	orange
L00892C0066	G62,5/125 OM1	1st end LC Duplex, 2nd end 2xE2000	3,0 m	beige	black/orange	orange
L00893C0073	G62,5/125 OM1	1st end LC Duplex, 2nd end 2xE2000	5,0 m	beige	black/orange	orange
L00895C0067	G62,5/125 OM1	1st end LC Duplex, 2nd end 2xE2000	10,0 m	beige	black/orange	orange

Other lengths on request.

12 FO Patch Cords

Ideal for planners and installers: Simply assemble cables and fiber optic patch panels online



Do you want to assemble cables and connectors online or a fibre optic patch panel to meet your specific needs and then send an order inquiry to your local specialist retailer straight away? Then the TICNET configurator developed by Telegärtner is just what you need:

TICNET is simple
TICNET is available around the clock.

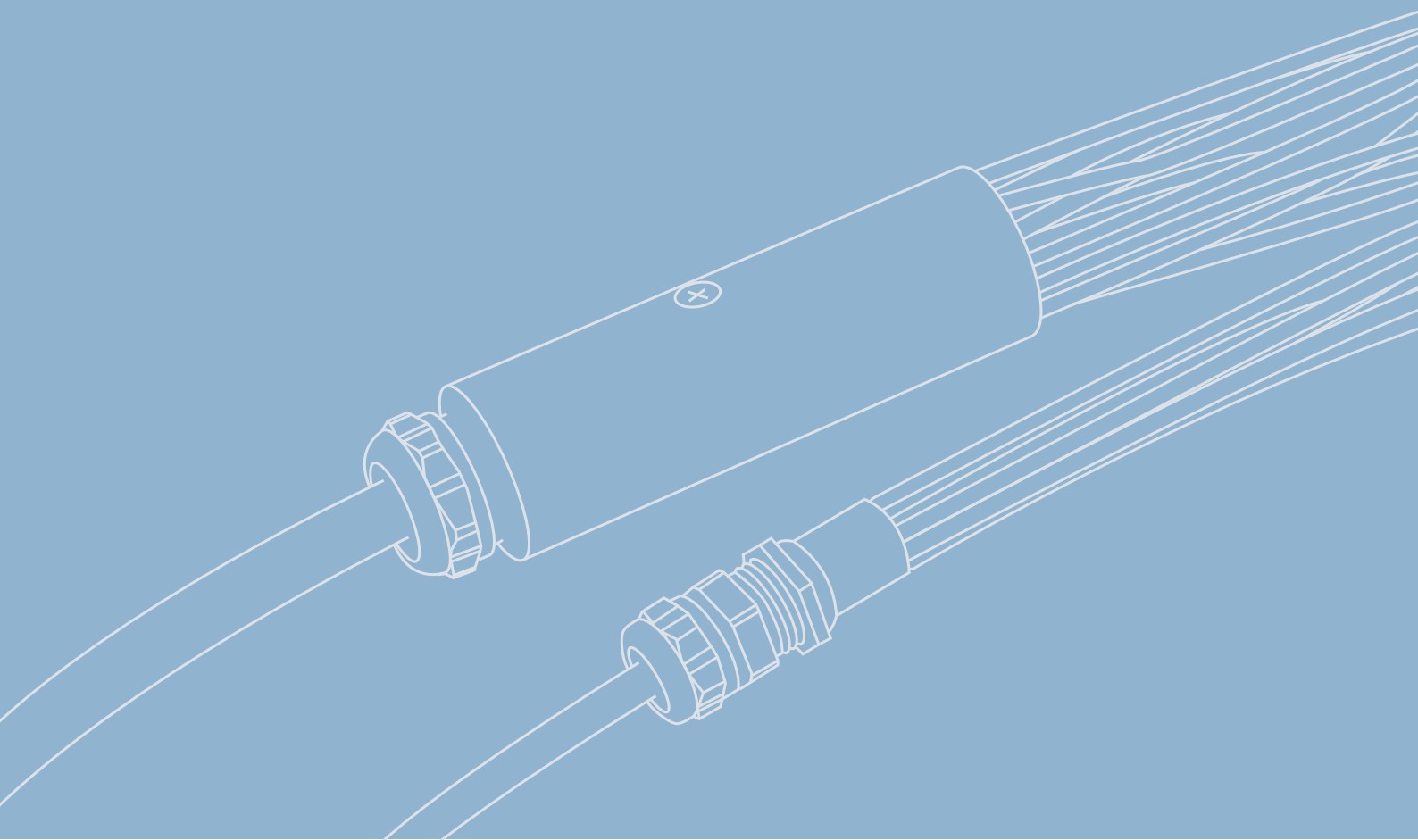
TICNET is fast
The user interface is so clear and easy to follow that even complex combinations can be assembled in just a few clicks.

TICNET is user-friendly
Whether you are a retailer or an end customer, TICNET provides the information and options you require for your work.

www.telegaertner.com/ticnet

13

FO Ready-to-install Fiber Optic Links



13 FO Ready-to-install Fiber Optic Links

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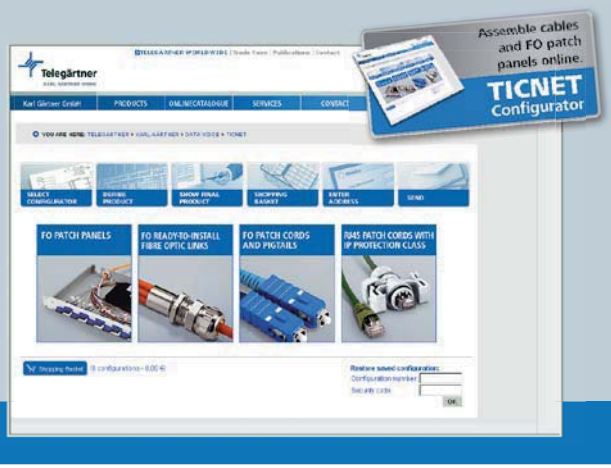
Ideal for planners and installers: Simply assemble cables and fiber optic patch panels online



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FO Ready-to-install Fiber Optic Links

Optical fiber cables are being used on an increasingly wider front for horizontal wiring systems and especially for "collapsed backbones", where wiring is run directly from the main distribution panel into the various floors without disribution panels on each storey.
Normally, the cable installer requires either splicing equipment or termination kits when installing optical fiber cables. This equipment is expensive, and assembly on-site is time-consuming.
As an alternative, Telegärtner offers the TICNET system of factory-made FO cable assemblies for installation in cable ducts and manholes.
Where cable lengths, cable and fiber-types are known, the installer can obtain a wiring system, pre-assembled under factory conditions, which can be installed into conduits, ducts and manholes without risk of damage using the rugged non-crush drawing-in tube. When this has been done, all that is left to do is to attach the connector to the adapter in the distribution panel or wall outlet; these are also available, completely equipped with corresponding adaptors.

Performance Characteristics

- Ready-to-install optical-fiber cable runs with cables to IEC 60794-1 and design to DIN/VDE 0888; with halogen-free, flame retardant jacket
- with between 4 and 48 fibers G50/125 and G62,5/125 to IEC 60793 in different link classes.
- with assembled splitters and non-crush pulling tube
- with connector types ST, SC, SC Duplex, MT-RJ, LC, FC/PC, DIN, F-SMA
- patch panels for 19"or wall distribution panels, and wall outlets to complement the system
- test certification showing insertion loss
- 15 years guarantee on the system

FO Universal Cables 13.1

	Central Loose Tube OS2	Central Loose Tube OM2	Central Loose Tube OM3	Central Loose Tube OM4	Central Loose Tube OM1
Standards					
Standard	ITU G.652 D (low water peak)	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10
Mechanical Characteristics					
Calbe structure acc. DIN/VDE 0888	A/I-DQ(ZN) BH …	A/I-DQ(ZN) BH …	A/I-DQ(ZN) BH …	A/I-DQ(ZN) BH …	A/I-DQ(ZN) BH …
Cable diameter in mm (4-24 fibers)	≤ 6,1	≤ 6,1	≤ 6,1	≤ 6,1	≤ 6,1
Max. pulling tension short-term/long-term in N	1500 / 700	1500 / 700	1500 / 700	1500 / 700	1500 / 700
Max. Crush resistance in N/m	10000	10000	10000	10000	10000
Min. bending radius short-term/long-term	15 x Ø / 10 x Ø	15 x Ø / 10 x Ø	15 x Ø / 10 x Ø	15 x Ø / 10 x Ø	15 x Ø / 10 x Ø
Colour of outer jacket	orange	orange	orange	orange	orange
Weight in kg/km	37	37	37	37	37
Climatic Characteristics					
Operating temperature / Storage temperature in °C	-30 / +70	-30 / +70	-30 / +70	-30 / +70	-30 / +70
Installation temperature in °C	-5 / +50	-5 / +50	-5 / +50	-5 / +50	-5 / +50
Flame retardancy	IEC 60332-1	IEC 60332-1	IEC 60332-1	IEC 60332-1	IEC 60332-1
Halogen-free	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2
Watertightness	IEC 60794-1-2-F5	IEC 60794-1-2-F5	IEC 60794-1-2-F5	IEC 60794-1-2-F5	IEC 60794-1-2-F5
UV resistance	ISO 4892-2	ISO 4892-2	ISO 4892-2	ISO 4892-2	ISO 4892-2
Optical Characteristics					
Fiber Class acc. to ISO/IEC 11801	OS2	OM2	OM3	OM4	OM1
Max. attenuation in dB/km at 850/1300 nm	-	2,8 / 0,90	3,0 / 1,0	3,0 / 1,0	3,2 / 1,1
Max. attenuation in dB/km at 1310/1550 nm	0,40 / 0,30	-	-	-	-
Bandwidth in MHz x km at 850/1300 nm	-	600 / 1200	1500 / 500	3500 / 500	200 / 600
Dispersion in ps/nm x km	≤ 3,5 / ≤ 18	-	-	-	-
Link Class OF in m at 1310/1550 nm: 1 Gbit/10 Gbit	10000 / 10000	-	-	-	-
Link Class OF in m at 850 nm: 1 Gbit/10 Gbit	-	600 /82	900 / 300	900 / 550	275 / 33
Link Class OF in m at 1300 nm: 1 Gbit/10 Gbit	-	600 /n.a.	550 / n.a.	550 / n.a.	550 / n.a.
Technical Characteristics					
Application	outdoor, for direct burial/indoor				

13.1

13 FO Ready-to-install Fiber Optic Links

13.1 FO Universal Cables

	Stranded Loose Tube OS2	Stranded Loose Tube OM2	Stranded Loose Tube OM3	Stranded Loose Tube OM4	Stranded Loose Tube OM1
Standards					
Standard	ITU G.652 D (low water peak)	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10
Mechanical Characteristics					
Calbe structure acc. DIN/VDE 0888	A/I-DQ(ZN) BH 1..48x12	A/I-DQ(ZN) BH 1..48x12	A/I-DQ(ZN) BH 1..48x12	A/I-DQ(ZN) BH 1..48x12	A/I-DQ(ZN) BH 1..48x12
Cable diameter in mm (4-24 fibers)	≤ 12,5	≤ 12,5	≤ 12,5	≤ 12,5	≤ 12,5
Max. pulling tension short-term/long-term in N	6000	6000	6000	6000	6000
Max. Crush resistance in N/m	30000	30000	30000	30000	30000
Min. bending radius short-term/long-term	250 / 190	250 / 190	250 / 190	250 / 190	250 / 190
Colour of outer jacket	yellow	yellow	yellow	yellow	yellow
Weight in kg/km	185	185	185	185	185
Climatic Characteristics					
Operating temperature	-25 / +60	-25 / +60	-25 / +60	-25 / +60	-25 / +60
Storage temperature	-25 / +70	-25 / +70	-25 / +70	-25 / +70	-25 / +70
Installation temperature in °C	-5 / +50	-5 / +50	-5 / +50	-5 / +50	-5 / +50
Flame retardancy	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2
Halogen-free	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2
Watertightness	IEC 60794-1-2-F5B	IEC 60794-1-2-F5B	IEC 60794-1-2-F5B	IEC 60794-1-2-F5B	IEC 60794-1-2-F5B
Optical Characteristics					
Fiber Class acc. to ISO/IEC 11801	OS2	OM2	OM3	OM4	OM1
Max. attenuation in dB/km at 850/1300 nm	-	2,8 / 0,90	3,0 / 1,0	3,0 / 1,0	3,2 / 1,1
Max. attenuation in dB/km at 1310/1550 nm	0,40 / 0,30	-	-	-	-
Bandwidth in MHz x km at 850/1300 nm	-	600 / 1200	1500 / 500	3500 / 500	200 / 600
Dispersion in ps/nm x km	≤ 3,5 / ≤ 18	-	-	-	-
Link Class OF in m at 1310/1550 nm: 1 Gbit/10 Gbit	10000 / 10000	-	-	-	-
Link Class OF in m at 850 nm: 1 Gbit/10 Gbit	-	600 /82	900 / 300	900 / 550	275 / 33
Link Class OF in m at 1300 nm: 1 Gbit/10 Gbit	-	600 /n.a.	550 / n.a.	550 / n.a.	550 / n.a.
Technical Characteristics					
Application	outdoor, not for direct burial/indoor				

Order no.	Fiber type	Number of Fibers	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08020A0112	E9/125 OS2	12	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08020A0124	E9/125 OS2	24	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08020B9001	E9/125 OS2	48	≤ 12,5 mm	≥6000 / ≥3000	yellow	185

Order no.	Fiber type	Number of Fibers	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08021A0104	G50/125 OM2	4	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08021A0106	G50/125 OM2	6	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08021A0108	G50/125 OM2	8	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08021A0112	G50/125 OM2	12	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08021A0324	G50/125 OM2	24	≤ 6,1 mm	≥1500 / ≥700	orange	37

FO Ready-to-install Fiber Optic Links

Order no.	Fiber type	Number of Fibers	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08021B0304	G50/125 OM3	4	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08021B0308	G50/125 OM3	8	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08021B0312	G50/125 OM3	12	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08021B0324	G50/125 OM3	24	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08021B9001	G50/125 OM3	48	≤ 12,5 mm	≥6000 / ≥3000	orange	185

Order no.	Fiber type	Number of Fibers	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08021C0304	G50/125 OM4	4	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08021C0308	G50/125 OM4	8	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08021C0312	G50/125 OM4	12	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08021C0324	G50/125 OM4	24	≤ 6,1 mm	≥1500 / ≥700	orange	37

Order no.	Fiber type	Number of Fibers	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08022A0104	G62,5/125 OM1	4	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08022A0106	G62,5/125 OM1	6	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08022A0108	G62,5/125 OM1	8	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08022A0112	G62,5/125 OM1	12	≤ 6,1 mm	≥1500 / ≥700	orange	37
L08022A0324	G62,5/125 OM1	24	≤ 6,1 mm	≥1500 / ≥700	orange	37

Order no.	Description	Remarks
U01100A0129	Cable handling for FO cable up to 30 m	wrapped to a ring
U01100A0130	Cable handling for FO cable 31 to 75 m	on coil D=400 mm, W=200 mm
U01100A0131	Cable handling for FO cable 76 to 150 m	on coil D=580 mm, W=200 mm
U01100A0132	Cable handling for FO cable more than 151 m	on coil D=580 mm, W=430mm

FO Mini Breakout Cables 13.2

	OM2	OM3	OM4	OM1
Standards				
Standard	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10
Mechanical Characteristics				
Calbe structure acc. DIN/VDE 0888	I-K(ZN)H n…	I-K(ZN)H n…	I-K(ZN)H n…	I-K(ZN)H n…
Cable dia. in mm (4/8 fibers)	4,8 / 5,3	4,8 / 5,3	4,8 / 5,3	4,8 / 5,3
Max. pulling tension short-term/long-term in N with 4 fibers	800 / 400	800 / 400	800 / 400	800 / 400
Max. pulling tension short-term/long-term in N with 8 fibers	900 / 450	900 / 450	900 / 450	900 / 450
Max. Crush resistance in N/m	4000	4000	4000	4000
Min. bending radius short-term/long-term	10x Ø	10x Ø	10x Ø	10x Ø
Colour of outer jacket	orange	orange	orange	orange
Weight in kg/km	37	37	37	37
Weight in kg/km with 4 fibers	19	19	19	19
Weight in kg/km with 8 fibers	25	25	25	25
Climatic Characteristics				
Operating temperature	-5 / +55	-5 / +55	-5 / +55	-5 / +55
Storage temperature	-30 / +70	-30 / +70	-30 / +70	-30 / +70
Installation temperature in °C	-5 / +50	-5 / +50	-5 / +50	-5 / +50
Flame retardancy	IEC 60332-2	IEC 60332-2	IEC 60332-2	IEC 60332-2
Halogen-free	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2
Optical Characteristics				
Fiber Class acc. to ISO/IEC 11801	OM2	OM3	OM4	OM1
Max. attenuation in dB/km at 850/1300 nm	2,8 / 0,90	3,0 / 1,0	3,0 / 1,0	3,2 / 1,1
Bandwidth in MHz x km at 850/1300 nm	600 / 1200	1500 / 500	3500 / 500	200 / 600
Link Class OF in m at 850 nm: 1 Gbit/10 Gbit	600 /82	900 / 300	900 / 550	275 / 33
Link Class OF in m at 1300 nm: 1 Gbit/10 Gbit	600 /n.a.	550 / n.a.	550 / n.a.	550 / n.a.
Technical Characteristics				
Application	Inhouse cabling			

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13 FO Ready-to-install Fiber Optic Links

13.2 FO Mini Breakout Cables

Order no.	Fiber type	Number of Fibers	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08021K1104	G50/125 OM2	4	≤ 5,5 mm	≥800 / ≥400	orange	19
L08021K1108	G50/125 OM2	8	≤ 5,5 mm	≥900 / ≥450	orange	25

Order no.	Fiber type	Number of Fibers	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08021B1204	G50/125 OM3	4	≤ 5,5 mm	≥800 / ≥400	orange	19
L08021B1208	G50/125 OM3	8	≤ 5,5 mm	≥900 / ≥450	orange	25

Order no.	Fiber type	Number of Fibers	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08021C1204	G50/125 OM4	4	≤ 5,5 mm	≥800 / ≥400	orange	19
L08021C1208	G50/125 OM4	8	≤ 5,5 mm	≥900 / ≥450	orange	25

Order no.	Fiber type	Number of Fibers	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08022K1104	G62,5/125 OM1	4	≤ 5,5 mm	≥800 / ≥400	orange	19
L08022K1108	G62,5/125 OM1	8	≤ 5,5 mm	≥900 / ≥450	orange	25

Order no.	Description	Remarks
U01100A0129	Cable handling for FO cable up to 30 m	wrapped to a ring
U01100A0130	Cable handling for FO cable 31 to 75 m	on coil D=400 mm, W=200 mm
U01100A0131	Cable handling for FO cable 76 to 150 m	on coil D=580 mm, W=200 mm
U01100A0132	Cable handling for FO cable more than 151 m	on coil D=580 mm, W=430mm

13.3 FO Breakout Cables

	OS2	OM2	OM3	OM4	OM1
Standards					
Standard	ITU G.652 D (low water peak)	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10
Mechanical Characteristics					
Calbe structure acc. DIN/VDE 0888	I-K(ZN)HH n…/I-V...				
Max. Crush resistance in N/m	7500	7500	7500	7500	7500
Min. bending radius short-term/long-term	10x Ø	10x Ø	10x Ø	10x Ø	10x Ø
Climatic Characteristics					
Operating temperature	-5 / +55	-5 / +55	-5 / +55	-5 / +55	-5 / +55
Storage temperature	-30 / +70	-30 / +70	-30 / +70	-30 / +70	-30 / +70
Installation temperature in °C	-5 / +50	-5 / +50	-5 / +50	-5 / +50	-5 / +50
Flame retardancy	IEC 60332-1	IEC 60332-1	IEC 60332-1	IEC 60332-1	IEC 60332-1
Halogen-free	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2
Optical Characteristics					
Fiber Class acc. to ISO/IEC 11801	OS2	OM2	OM3	OM4	OM1
Max. attenuation in dB/km at 850/1300 nm	-	2,8 / 0,90	3,0 / 1,0	3,0 / 1,0	3,2 / 1,1
Max. attenuation in dB/km at 1310/1550 nm	0,50 / 0,30	-	-	-	-
Bandwidth in MHz x km at 850/1300 nm	-	600 / 1200	1500 / 500	3500 / 500	200 / 600
Dispersion in ps/nm x km	≤ 3,5 / ≤ 18	-	-	-	-
Link Class OF in m at 1310/1550 nm: 1 Gbit/10 Gbit	10000 / 10000	-	-	-	-
Link Class OF in m at 850 nm: 1 Gbit/10 Gbit	-	600 /82	900 / 300	900 / 550	275 / 33
Link Class OF in m at 1300 nm: 1 Gbit/10 Gbit	-	600 /n.a.	550 / n.a.	550 / n.a.	550 / n.a.
Technical Characteristics					
Application	Inhouse cabling				

FO Ready-to-install Fiber Optic Links

Order no.	Fiber type	Number of Fibers	Secondary coating	cable diameter mm	Pulling tension short-term/long-term in N	Cable Colour
L08020K1202	E9/125 OS2	2	Semi-tight buffer	3,8 x 6,7 (flat, 2xØ 2,8)	≥800 / ≥400	yellow
L08010A0006	E9/125 OS2	2	Semi-tight buffer	3,1 x 5,2 (flat, 2xØ 2,1)	≥600 / ≥300	yellow
L08020K1212	E9/125 OS2	12	Semi-tight buffer	Ø 10,5 (12x Ø2,1)	≥2400 / ≥1200	yellow

Order no.	Fiber type	Number of Fibers	Secondary coating	cable diameter mm	Pulling tension short-term/long-term in N	Cable Colour
L08021K1202	G50/125 OM2	2	Semi-tight buffer	3,8 x 6,7 (flat, 2xØ 2,8)	≥800 / ≥400	orange
L08011A0016	G50/125 OM2	2	Tight buffer	2,9 x 4,7 (flat, 2xØ 1,8)	≥200 / ≥100	orange
L08021K1204	G50/125 OM2	4	Semi-tight buffer	Ø 6,2 (4xØ 2,1)	≥800 / ≥400	orange
L08021K1206	G50/125 OM2	6	Semi-tight buffer	Ø 8,0 (6xØ 2,1)	≥1200 / ≥600	orange
L08021K1208	G50/125 OM2	8	Semi-tight buffer	Ø 9,4 (8xØ 2,1)	≥1600 / ≥800	orange
L08021K1212	G50/125 OM2	12	Semi-tight buffer	Ø 10,5 (12xØ 2,1)	≥2400 / ≥1200	orange

Order no.	Fiber type	Number of Fibers	Secondary coating	cable diameter mm	Pulling tension short-term/long-term in N	Cable Colour
L08011A0025	G50/125 OM3	2	Semi-tight buffer	3,1 x 5,2 (flat, 2xØ 2,1)	≥600 / ≥300	orange
L08011A0029	G50/125 OM3	2	Semi-tight buffer	3,1 x 5,2 (flat, 2xØ 2,1)	≥600 / ≥300	aqua
L08011A0026	G50/125 OM3	2	Tight buffer	2,9 x 4,7 (flat, 2xØ 1,8)	≥200 / ≥100	orange
L08011A0027	G50/125 OM3	2	Tight buffer	2,9 x 4,7 (flat, 2xØ 1,8)	≥200 / ≥100	aqua
L08021B1404	G50/125 OM3	4	Semi-tight buffer	Ø 6,2 (4xØ 2,1)	≥800 / ≥400	orange
L08021B1406	G50/125 OM3	6	Semi-tight buffer	Ø 8,0 (6xØ 2,1)	≥1200 / ≥600	orange

Order no.	Fiber type	Number of Fibers	Secondary coating	cable diameter mm	Pulling tension short-term/long-term in N	Cable Colour
L08011A0035	G50/125 OM4	2	Semi-tight buffer	3,1 x 5,2 (flat, 2xØ 2,1)	≥600 / ≥300	violet
L08011A0036	G50/125 OM4	2	Semi-tight buffer	3,1 x 5,2 (flat, 2xØ 2,1)	≥600 / ≥300	orange
L08021C1404	G50/125 OM4	4	Semi-tight buffer	Ø 6,2 (4xØ 2,1)	≥800 / ≥400	orange
L08021C1406	G50/125 OM4	6	Semi-tight buffer	Ø 8,0 (6xØ 2,1)	≥1200 / ≥600	orange

Order no.	Fiber type	Number of Fibers	Secondary coating	cable diameter mm	Pulling tension short-term/long-term in N	Cable Colour
L08022K1202	G62,5/125 OM1	2	Semi-tight buffer	3,8 x 6,7 (flat, 2xØ 2,8)	≥800 / ≥400	orange
L08022K1204	G62,5/125 OM1	4	Semi-tight buffer	Ø 6,2 (4xØ 2,1)	≥800 / ≥400	orange
L08022K1206	G62,5/125 OM1	6	Semi-tight buffer	Ø 8,0 (6xØ 2,1)	≥1200 / ≥600	orange
L08022K1208	G62,5/125 OM1	8	Semi-tight buffer	Ø 9,4 (8xØ 2,1)	≥1600 / ≥800	orange
L08022K1212	G62,5/125 OM1	12	Semi-tight buffer	Ø 10,5 (12x Ø2,1)	≥2400 / ≥1200	orange

13 FO Ready-to-install Fiber Optic Links

13.4 FO Simplex Cables

	OS2	OM2	OM3	OM4	OM1
Standards					
Standard	ITU G.652 D (low water peak, ≥ 15 mm)	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10
Mechanical Characteristics					
Calbe structure acc. DIN/VDE 0888	I-K(ZN)H …	I-K(ZN)H …	I-K(ZN)H …	I-K(ZN)H …	I-K(ZN)H …
Cable diameter	2,8/1,8	2,8/1,8	2,8/1,8	2,8/1,8	2,8/1,8
Max. pulling tension short-term/long-term in N: Ø 2,8	200 / 100	200 / 100	200 / 100	200 / 100	200 / 100
Max. pulling tension short-term/long-term in N: Ø 1,8	140 / 70	140 / 70	140 / 70	140 / 70	140 / 70
Max. Crush resistance in N/m	5000	5000	5000	5000	5000
Min. bending radius short-term/long-term	15x Ø	15x Ø	15x Ø	15x Ø	15x Ø
Colour of outer jacket	yellow	orange	orange/aqua	orange	orange
Weight in kg/km: Ø 2,8	7,2	7,2	7,2	7,2	7,2
Weight in kg/km: Ø 1,8	3,2	3,2	3,2	3,2	3,2
Climatic Characteristics					
Operating temperature	-5 / +55	-5 / +55	-5 / +55	-5 / +55	-5 / +55
Storage temperature	-30 / +70	-30 / +70	-30 / +70	-30 / +70	-30 / +70
Installation temperature in °C	-5 / +50	-5 / +50	-5 / +50	-5 / +50	-5 / +50
Flame retardancy	IEC 60332-1	IEC 60332-1	IEC 60332-1	IEC 60332-1	IEC 60332-1
Halogen-free	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2
Optical Characteristics					
Fiber Class acc. to ISO/IEC 11801	OS2	OM2	OM3	OM4	OM1
Max. attenuation in dB/km at 850/1300 nm	-	2,8 / 0,90	3,0 / 1,0	3,0 / 1,0	3,2 / 1,1
Max. attenuation in dB/km at 1310/1550 nm	0,50 / 0,30	-	-	-	-
Bandwidth in MHz x km at 850/1300 nm	-	600 / 1200	1500 / 500	6000 / 500	200 / 600
Dispersion in ps/nm x km	≤ 3,5 / ≤ 18	-	-	-	-
Link Class OF in m at 1310/1550 nm: 1 Gbit/10 Gbit	10000 / 10000	-	-	-	-
Link Class OF in m at 850 nm: 1 Gbit/10 Gbit	-	600 /82	900 / 300	900 / 550	275 / 33
Link Class OF in m at 1300 nm: 1 Gbit/10 Gbit	-	600 /n.a.	550 / n.a.	550 / n.a.	550 / n.a.
Technical Characteristics					
Application	Patch cords	Patch cords	Patch cords	Patch cords	Patch cords

Order no.	Fiber type	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08000A0005	E9/125 OS2	Ø 2,8 mm	≥200 / ≥100	yellow	9,1
L08000A0006	E9/125 OS2	Ø 1,8 mm	≥140 / ≥70	yellow	3,2

Order no.	Fiber type	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08001A0002	G50/125 OM2	Ø 2,8 mm	≥200 / ≥100	orange	9,1

Order no.	Fiber type	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08001A0005	G50/125 OM3	Ø 2,8 mm	≥200 / ≥100	orange	9,1

Order no.	Fiber type	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08002A0002	G62,5/125 OM1	Ø 2,8 mm	≥200 / ≥100	orange	9,1

Order no.	Fiber type	Cable diameter	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08100A0001	S980/1000 POF	Ø 2,2 mm	≥15 / ≥5	schwarz	3,8
L08120A0000	S980/1000 POF	Ø 3,6 mm	≥60 / ≥10	orange	4,3

FO Ready-to-install Fiber Optic Links

FO Duplex Cables 13.5

	Zipcord OS2	Zipcord OM2	Zipcord OM3	Zipcord OM4	Zipcord OM1
Standards					
Standard	ITU G.652 D (low water peak, ≥ 15 mm)	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10
Mechanical Characteristics					
Calbe structure acc. DIN/VDE 0888	I-K(ZN)H 2x1 …	I-K(ZN)H 2x1 …	I-K(ZN)H 2x1 …	I-K(ZN)H 2x1 …	I-K(ZN)H 2x1 …
Cable dimensions in mm: Zipcord	2,8 x 5,7	2,8 x 5,7	2,8 x 5,7	2,8 x 5,7	2,8 x 5,7
Cable dimensions in mm: Minizip (2x0,6)	1,8 x 3,7	1,8 x 3,7	1,8 x 3,7	1,8 x 3,7	1,8 x 3,7
Max. pulling tension short-term/long-term in N: Zipcord	400 / 200	400 / 200	400 / 200	400 / 200	400 / 200
Max. pulling tension short-term/long-term in N: Minizip (2x0,6)	- / 400	- / 400	- / 400	- / 400	- / 400
Max. Crush resistance in N/m	5000	5000	5000	5000	5000
Min. bending radius short-term/long-term	25	25	25	25	25
Colour of outer jacket	yellow	orange	orange/aqua	orange/purple	orange
Weight in kg/km: Zipcord	14,5	14,5	14,5	14,5	14,5
Weight in kg/km: Minizip (2x0,6)	7,4	7,4	7,4	7,4	7,4
Climatic Characteristics					
Operating temperature	-5 / +55	-5 / +55	-5 / +55	-5 / +55	-5 / +55
Storage temperature	-30 / +70	-30 / +70	-30 / +70	-30 / +70	-30 / +70
Installation temperature in °C	-5 / +50	-5 / +50	-5 / +50	-5 / +50	-5 / +50
Flame retardancy	IEC 60332-1	IEC 60332-1	IEC 60332-1	IEC 60332-1	IEC 60332-1
Halogen-free	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2
Optical Characteristics					
Fiber Class acc. to ISO/IEC 11801	OS2	OM2	OM3	OM4	OM1
Max. attenuation in dB/km at 850/1300 nm	-	2,8 / 0,90	3,0 / 1,0	3,0 / 1,0	3,2 / 1,1
Max. attenuation in dB/km at 1310/1550 nm	0,50 / 0,30	-	-	-	-
Bandwidth in MHz x km at 850/1300 nm	-	600 / 1200	1500 / 500	6000 / 500	200 / 600
Dispersion in ps/nm x km	≤ 3,5 / ≤ 18	-	-	-	-
Link Class OF in m at 1310/1550 nm: 1 Gbit/10 Gbit	10000 / 10000	-	-	-	-
Link Class OF in m at 850 nm: 1 Gbit/10 Gbit	-	600 /82	900 / 300	900 / 550	275 / 33
Link Class OF in m at 1300 nm: 1 Gbit/10 Gbit	-	600 /n.a.	550 / n.a.	550 / n.a.	550 / n.a.
Technical Characteristics					
application	Patch cords	Patch cords	Patch cords	Patch cords	Patch cords

	Round OM2	Round OM1
Standards		
Standard	IEC60793-2-10	IEC60793-2-10
Mechanical Characteristics		
Calbe structure acc. DIN/VDE 0888	I-K(ZN)H 1x2 …/I-V...	I-K(ZN)H 1x2 …/I-V...
Max. Crush resistance in N/m	≥5000	≥5000
Min. bending radius short-term/long-term	25	25
Colour of outer jacket	orange	orange
Weight in kg/km: round	9,1	9,1
Climatic Characteristics		
Operating temperature	-5 / +55	-5 / +55
Storage temperature	-30 / +70	-30 / +70
Installation temperature in °C	-5 / +50	-5 / +50
Flame retardancy	IEC 60332-1	IEC 60332-1
Halogen-free acc.	IEC 60754-2	IEC 60754-2
Optical Characteristics		
Fiber Class acc. to ISO/IEC 11801	OM2	OM1
Max. attenuation in dB/km at 850/1300 nm	2,8 / 0,90	3,2 / 1,1
Max. attenuation in dB/km at 1310/1550 nm	-	-
Bandwidth in MHz x km at 850/1300 nm	600 / 1200	200 / 600
Dispersion in ps/nm x km	-	-
Link Class OF in m at 1310/1550 nm: 1 Gbit/10 Gbit	-	-
Link Class OF in m at 850 nm: 1 Gbit/10 Gbit	600 /82	275 / 33
Link Class OF in m at 1300 nm: 1 Gbit/10 Gbit	600 /n.a.	550 / n.a.
Technical Characteristics		
application	Patch cords	Patch cords

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13.5 FO Duplex Cables

Order no.	Fiber type	Secondary Coating	Cable diameter mm	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08010A0002	E9/125 OS2	Semi-tight buffer	2,8 x 5,7 (Zipcord)	≥400 / ≥200	yellow	14,5
L08010A0004	E9/125 OS2	Tight buffer	1,8 x 3,4 (Minizip)	≥240 / ≥140	yellow	6,5

Order no.	Fiber type	Secondary Coating	Cable diameter mm	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08011A0001	G50/125 OM2	Semi-tight buffer	2,8 x 5,7 (Zipcord)	≥400 / ≥200	orange	14,5
L08011A0004	G50/125 OM2	Tight buffer	1,8 x 3,4 (Minizip)	≥240 / ≥140	orange	6,5

Order no.	Fiber type	Secondary Coating	Cable diameter mm	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08011A0010	G50/125 OM3	Semi-tight buffer	2,8 x 5,7 (Zipcord)	≥400 / ≥200	orange	14,5
L08011A0024	G50/125 OM3	Semi-tight buffer	2,8 x 5,7 (Zipcord)	≥400 / ≥200	aqua	14,5
L08011A0011	G50/125 OM3	Tight buffer	1,8 x 3,4 (Minizip)	≥240 / ≥140	orange	6,5
L08011A0028	G50/125 OM3	Tight buffer	1,8 x 3,4 (Minizip)	≥240 / ≥140	aqua	6,5

Order no.	Fiber type	Secondary Coating	Cable diameter mm	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08011A0033	G50/125 OM4	Semi-tight buffer	2,8 x 5,7 (Zipcord)	≥400 / ≥200	purple	14,5
L08011A0034	G50/125 OM4	Semi-tight buffer	2,8 x 5,7 (Zipcord)	≥400 / ≥200	aqua	14,5
L08011A0032	G50/125 OM4	Semi-tight buffer	2,8 x 5,7 (Zipcord)	≥400 / ≥200	orange	14,5
L08011A0031	G50/125 OM4	Tight buffer	1,8 x 3,4 (Minizip)	≥240 / ≥140	orange	14,5

Order no.	Fiber type	Secondary Coating	Cable diameter mm	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08012A0001	G62,5/125 OM1	Semi-tight buffer	2,8 x 5,7 (Zipcord)	≥400 / ≥200	orange	14,5
L08012A0004	G62,5/125 OM1	Tight buffer	1,8 x 3,4 (Minizip)	≥240 / ≥140	orange	6,5

Order no.	Fiber type	Secondary Coating	Cable diameter mm	Pulling tension short-term/long-term in N	Cable Colour	Weight
L08110A0000	S980/1000 POF	Semi-tight buffer	2,2 x 4,6 (Zipcord)	≥20 / ≥10	black	7,6
L08130A0000	S980/1000 POF	Semi-tight buffer	3,6 x 7,4 (Zipcord)	≥400 / ≥100	orange	28

FO Ready-to-install Fiber Optic Links

FO Fibers 13.6

	OS2	OM2	OM3	OM4	OM1
Standards					
Standard	ITU G.652 D (low water peak, ≥ 15 mm)	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10	IEC60793-2-10
Mechanical Characteristics					
	I-K…	I-K…	I-K…	I-K…	I-K…
Dimensions Ø in mm, primary/secondary coating	0,25/0,9	0,25/0,9	0,25/0,9	0,25/0,9	0,25/0,9
Max. pulling tension short-term/long-term in N	3	3	3	3	3
Max. Crush resistance in N/m	4000	4000	4000	4000	4000
Min. bending radius short-term/long-term	25	25	25	25	25
Fiber colour	yellow	green	aqua	violet	blue
Weight in kg/km	0,67	0,67	0,67	0,67	0,67
Climatic Characteristics					
Operating temperature	-5 / +55	-5 / +55	-5 / +55	-5 / +55	-5 / +55
Storage temperature	-30 / +70	-30 / +70	-30 / +70	-30 / +70	-30 / +70
Installation temperature in °C	-5 / +50	-5 / +50	-5 / +50	-5 / +50	-5 / +50
Halogen-free acc.	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2	IEC 60754-2
Optical Characteristics					
Fiber Class acc. to ISO/IEC 11801	OS2	OM2	OM3	OM4	OM1
Max. attenuation in dB/km at 850/1300 nm	-	2,8 / 0,90	3,0 / 1,0	3,0 / 1,0	3,2
Max. attenuation in dB/km at 1310/1550 nm	0,50 / 0,30	-	-	-	-
Bandwidth in MHz x km at 850/1300 nm	-	600 / 1200	1500 / 500	6000 / 500	200 / 600
Dispersion in ps/nm x km	3,5 / 18	-	-	-	-
Link Class OF in m at 1310/1550 nm: 1 Gbit/10 Gbit	10000 / 10000	-	-	-	-
Link Class OF in m at 850 nm: 1 Gbit/10 Gbit	-	600 /82	900 / 300	900 / 550	275 / 33
Link Class OF in m at 1300 nm: 1 Gbit/10 Gbit	-	600 /n.a.	550 / n.a.	550 / n.a.	550 / n.a.
Technical Characteristics					
Application	Pigtail	Pigtail	Pigtail	Pigtail	Pigtail

Order no.	Fiber type	Diameter	Colour	Weight kg/km
L08000A0001	E9/125 OS2	0,9 mm	yellow	0,67
L08001A0001	G50/125 OM2	0,9 mm	green	0,67
L08001A0028	G50/125 OM3	0,9 mm	aqua	0,67
L08001A0033	G50/125 OM4	0,9 mm	violet	0,67
L08002A0001	G62,5/125 OM1	0,9 mm	blue	0,67

FO Ready-to-install Fiber Optic Links

Short Names of Cables acc. to VDE 0888

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

- 15: Lg = Stranded tube structure
- 14: Bandwidth in MHz x km or Dispersion
- 13: Wavelength: B =850 nm / F =1300 nm / H =1550 nm
- 12: Attenuation in dB/km
- 11: Performance class OM1, OM2, OM3, OM4, OS1, OS2
- 10: Core diameter/Cladding diameter in µm
- 9: Type: G - Graded index Multimode fibre, E - Singlemode fiber
- 8: Number of fibres or Number of tubes x number of fibers per tube
- 7: H - Halogen-free outer jacket Y - PVC jacket 2Y - Polyethylene jacket
- 6: B - Non-metallic rodent protection, SR - metallic rodent protection
- 5: ZN - Non-metallic strength members
- 4: Q - Longitudinal watertightness with swellable yarn; F - Cable center Petrolat-filled
- 3: S - Metallic central element
- 2: V - Tight buffered fibre, K - Loose buffered fiber, D - Central tube, jelly-filled, W - Loose tube, jelly-filled
- 1: A - Outdoor cable, I - Indoor cable, A/I - Universal (Outdoor/Indoor) cable

Short Names of Cables acc. to VDE 0888 (example)

A/I -	D	Q	ZN	B	H	12	G	50/125	OM2	2,7	B	0,8	F	600
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
1	2	4	5	6	7	8	9	10	11	12	13	12	13	14

Colour code for multi-fiber loose tube cables (Standard code acc. to IEC 60304)

Fiber no.	Fiber colour code	Fiber no.	Fiber colour code with ring marking
1	red	13	red
2	green	14	green
3	blue	15	blue
4	yellow	16	yellow
5	white	17	white
6	grey	18	grey
7	brown	19	brown
8	violet	20	violet
9	aqua	21	aqua
10	black	22	transparent (no ring marking)
11	orange	23	orange
12	pink	24	pink

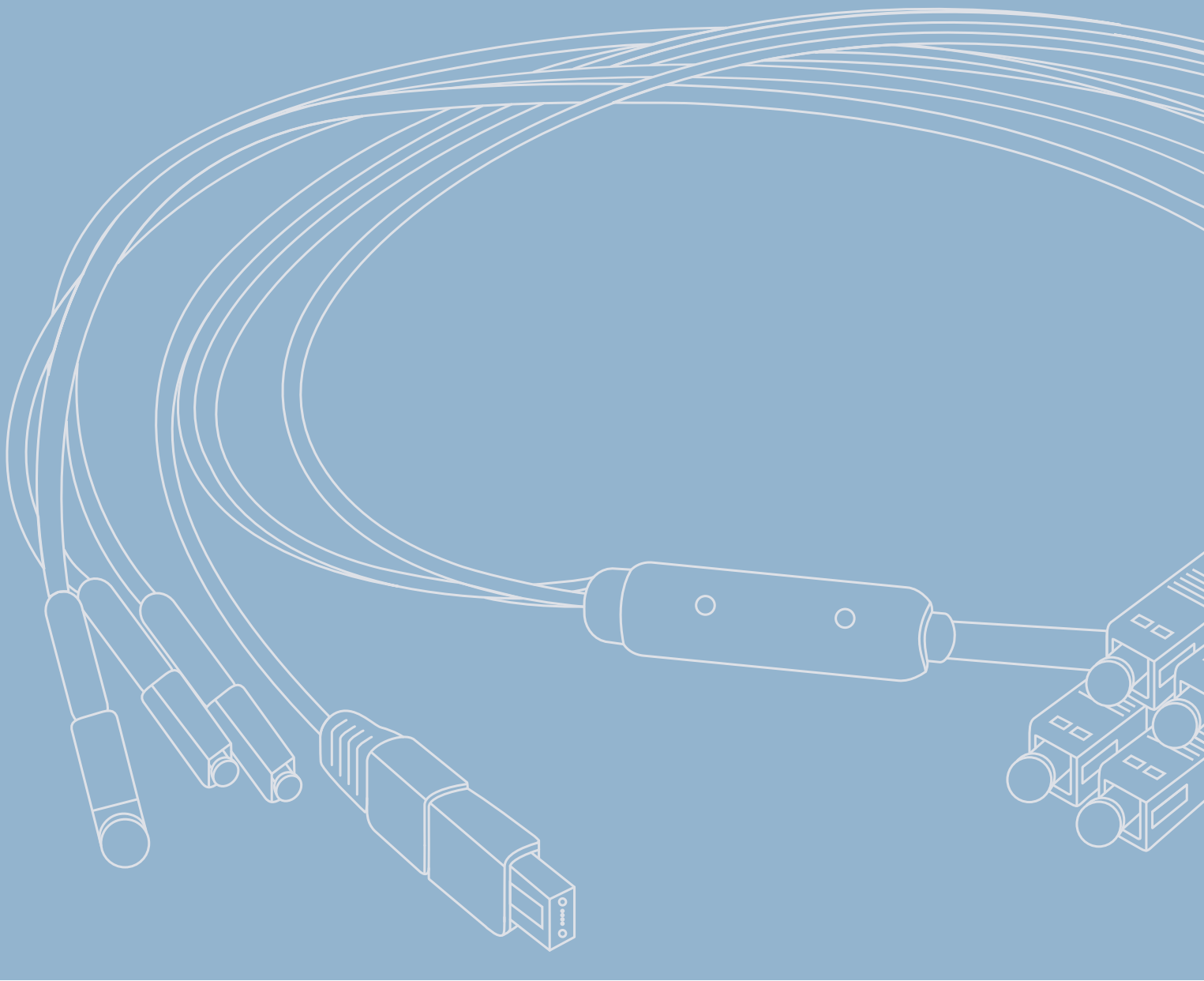
Standards

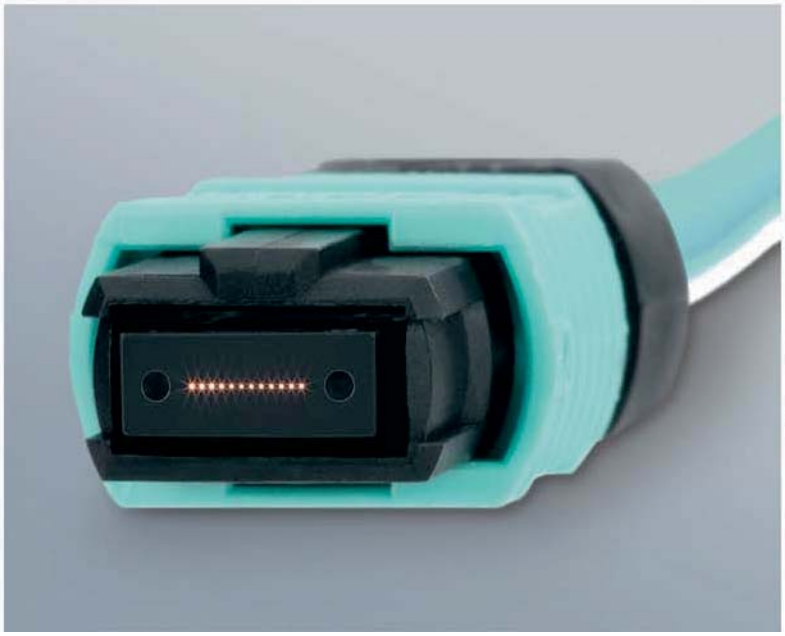
Optical cables from Telegärtner fulfil the following standards:

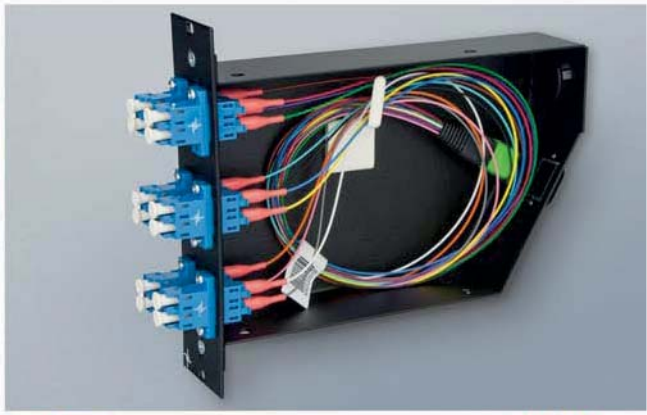
- DIN VDE 0888
- DIN VDE 0899
- DIN VDE 0472
- DIN VDE 0473
- EN 50 173
- EN 187 000 bis 187 105
- EN 188 000
- ITU-T Rec G.651 bis G.657
- IEC 60793
- IEC 60794

14

FO MPO / MTP® Cabling System







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FO MPO/MTP® Cabling System

The Telegärtner MPO/MTP® cabling system, due to its modularity, offers installers and operators reduced time & effort for installations, modification and maintenance of a structured communication cabling for today´s and future demands of data centers (acc. to EN50173-5:2007 and ISO/IEC 24764:2010). The MPO/MTP® connector, specified and standardized in IEC 61754-7 and TIA/EIA 604-5, beside the LC fiber optic interface is the first choice for ITS (Information Telecomunication System) in tomorrow's bandwidth-hungry, high speed commercial buildings and data centers. It can be either used for parallel optics applications such as Infiniband with data rates up to 120 Gb/s and for the upcoming 40 Gb/s and 100 Gb/s Ethernet protocols via Multimode OM3, OM4 and OS2 fiber. Similar to the well-known MT-RJ connector, the MPO/MTP® houses several fibers in one single high-precision ferrule that can be PC or APC polished with a typical insertion loss of 0.25 dB, return loss of >60 dB for Singlemode and insertion loss 0.2 dB return loss >30 dB for Multimode.

MPO/MTP® Patch Cords 14.1

In order to offer users the migration path from 10 Gbit/s to 40 Gbit/s the Telegärtner MPO/MTP® product family refers to polarity A. The channel termination A/B is done by fiber optic duplex patch cords on one side of the link at the FanOut modules.

Mechanical Characteristics	
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Cable structure: Cable jacket	Polymer, yellow (9/125), orange (50/125 OM2; 62,5/125), aqua (50/125 OM3), violet (50/125 OM4)
Cable structure: Dimensions	4.6 x 2.4 mm
Cable structure: Strength members	Aramid (Kevlar)
Bending radius	15x outer diameter
Mating Face	female
Climatic Characteristics	
Operating temperature	-40°...75° C
Optical Characteristics	
Polarity	Type A
Life	≥500
Insertion loss with fiber 9/125	<0.7 (typ. 0.25) dB
Insertion loss with fiber 50/125	<0.5 (typ. 0.2) dB
Return loss: Singlemode APC	>60 dB
Return Loss: Multimode PC	>30 dB

14.1

14 FO MPO/MTP® Cabling System

14.1 MPO/MTP® Patch Cords

14.1.1 MPO APC OS2

Order no.	Fiber type	Connector type	Cable Colour	Housing Colour	Length
L00830A0007	E9/125 OS2	MPO APC female	yellow	green	1,0 m
L00831A0007	E9/125 OS2	MPO APC female	yellow	green	2,0 m
L00832A0007	E9/125 OS2	MPO APC female	yellow	green	3,0 m
L00833A0007	E9/125 OS2	MPO APC female	yellow	green	5,0 m
L00835A0007	E9/125 OS2	MPO APC female	yellow	green	10,0 m
L00836A0013	E9/125 OS2	MPO APC female	yellow	green	15,0 m
L00836A0017	E9/125 OS2	MPO APC female	yellow	green	20,0 m
L00836A0021	E9/125 OS2	MPO APC female	yellow	green	25,0 m
L00836A0025	E9/125 OS2	MPO APC female	yellow	green	30,0 m
L00836A0029	E9/125 OS2	MPO APC female	yellow	green	35,0 m
L00836A0033	E9/125 OS2	MPO APC female	yellow	green	40,0 m
L00836A0037	E9/125 OS2	MPO APC female	yellow	green	50,0 m
L00836A0041	E9/125 OS2	MPO APC female	yellow	green	60,0 m
L00836A0045	E9/125 OS2	MPO APC female	yellow	green	70,0 m
L00836A0049	E9/125 OS2	MPO APC female	yellow	green	80,0 m
L00836A0053	E9/125 OS2	MPO APC female	yellow	green	90,0 m
L00836A0057	E9/125 OS2	MPO APC female	yellow	green	100,0 m

14.1.2 MPO PC OM2

Order no.	Fiber type	Connector type	Cable Colour	Housing Colour	Length
L00830A0004	G50/125 OM2	MPO PC female	orange	beige	1,0 m
L00831A0004	G50/125 OM2	MPO PC female	orange	beige	2,0 m
L00832A0004	G50/125 OM2	MPO PC female	orange	beige	3,0 m
L00833A0004	G50/125 OM2	MPO PC female	orange	beige	5,0 m
L00835A0004	G50/125 OM2	MPO PC female	orange	beige	10,0 m
L00836A0010	G50/125 OM2	MPO PC female	orange	beige	15,0 m
L00836A0014	G50/125 OM2	MPO PC female	orange	beige	20,0 m
L00836A0018	G50/125 OM2	MPO PC female	orange	beige	25,0 m
L00836A0022	G50/125 OM2	MPO PC female	orange	beige	30,0 m
L00836A0026	G50/125 OM2	MPO PC female	orange	beige	35,0 m
L00836A0030	G50/125 OM2	MPO PC female	orange	beige	40,0 m
L00836A0034	G50/125 OM2	MPO PC female	orange	beige	50,0 m
L00836A0038	G50/125 OM2	MPO PC female	orange	beige	60,0 m
L00836A0042	G50/125 OM2	MPO PC female	orange	beige	70,0 m
L00836A0046	G50/125 OM2	MPO PC female	orange	beige	80,0 m
L00836A0050	G50/125 OM2	MPO PC female	orange	beige	90,0 m
L00836A0054	G50/125 OM2	MPO PC female	orange	beige	100,0 m

FO MPO/MTP® Cabling System

MPO PC OM3 14.1.3

Order no.	Fiber type	Connector type	Cable Colour	Housing Colour	Length
L00830A0005	G50/125 OM3	MPO PC female	aqua	aqua	1,0 m
L00831A0005	G50/125 OM3	MPO PC female	aqua	aqua	2,0 m
L00832A0005	G50/125 OM3	MPO PC female	aqua	aqua	3,0 m
L00833A0005	G50/125 OM3	MPO PC female	aqua	aqua	5,0 m
L00835A0005	G50/125 OM3	MPO PC female	aqua	aqua	10,0 m
L00836A0001	G50/125 OM3	MPO PC female	aqua	aqua	15,0 m
L00836A0015	G50/125 OM3	MPO PC female	aqua	aqua	20,0 m
L00836A0019	G50/125 OM3	MPO PC female	aqua	aqua	25,0 m
L00836A0023	G50/125 OM3	MPO PC female	aqua	aqua	30,0 m
L00836A0027	G50/125 OM3	MPO PC female	aqua	aqua	35,0 m
L00836A0031	G50/125 OM3	MPO PC female	aqua	aqua	40,0 m
L00836A0035	G50/125 OM3	MPO PC female	aqua	aqua	50,0 m
L00836A0039	G50/125 OM3	MPO PC female	aqua	aqua	60,0 m
L00836A0043	G50/125 OM3	MPO PC female	aqua	aqua	70,0 m
L00836A0047	G50/125 OM3	MPO PC female	aqua	aqua	80,0 m
L00836A0051	G50/125 OM3	MPO PC female	aqua	aqua	90,0 m
L00836A0055	G50/125 OM3	MPO PC female	aqua	aqua	100,0 m

MPO PC OM4 14.1.4

Order no.	Fiber type	Connector type	Cable Colour	Housing Colour	Length
L00830A0006	G50/125 OM4	MPO PC female	violet	black	1,0 m
L00831A0006	G50/125 OM4	MPO PC female	violet	black	2,0 m
L00832A0006	G50/125 OM4	MPO PC female	violet	black	3,0 m
L00833A0006	G50/125 OM4	MPO PC female	violet	black	5,0 m
L00835A0006	G50/125 OM4	MPO PC female	violet	black	10,0 m
L00836A0012	G50/125 OM4	MPO PC female	violet	black	15,0 m
L00836A0016	G50/125 OM4	MPO PC female	violet	black	20,0 m
L00836A0020	G50/125 OM4	MPO PC female	violet	black	25,0 m
L00836A0024	G50/125 OM4	MPO PC female	violet	black	30,0 m
L00836A0028	G50/125 OM4	MPO PC female	violet	black	35,0 m
L00836A0032	G50/125 OM4	MPO PC female	violet	black	40,0 m
L00836A0036	G50/125 OM4	MPO PC female	violet	black	50,0 m
L00836A0040	G50/125 OM4	MPO PC female	violet	black	60,0 m
L00836A0044	G50/125 OM4	MPO PC female	violet	black	70,0 m
L00836A0048	G50/125 OM4	MPO PC female	violet	black	80,0 m
L00836A0052	G50/125 OM4	MPO PC female	violet	black	90,0 m
L00836A0056	G50/125 OM4	MPO PC female	violet	black	100,0 m

14 FO MPO/MTP® Cabling System

14.2 MPO/MTP® Harness

The MPO/MTP® Harness is used to connect active equipment having LC or SC interfaces with a MPO/MTP® backbone. On one side they are terminated with MPO/MTP® male connectors,on the other side with a splitter to LC or SC connectors and 2,1 mm simplex cables.

Mechanical Characteristics	
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Cable structure: Cable jacket	Polymer, yellow (9/125), orange (50/125 OM2; 62,5/125), aqua (50/125 OM3), violet (50/125 OM4)
Cable structure: Dimensions	Ribbon: 4.6 x 2.4 mm; Single fiber: 2.1 mm
Cable structure: Strength members	Aramid (Kevlar)
Splitter: Dimensions (diameter)	15 mm
Splitter: Length	50 mm
Bending radius	Ribbon cable: 15x outer diameter; single fiber: min. 30 mm
Mating Face	male
Climatic Characteristics	
Operating temperature	-5°...55° C
Optical Characteristics	
Polarity	Type A
Life	≥500 (MPO); ≥1000 (SC/LC)
Insertion loss with fiber 9/125	MPO APC: <0.7 (typ. 0.25) dB; LC/SC: <0.5 dB
Insertion loss with fiber 50/125	MPO PC: <0.5 (typ. 0.2) dB; LC/SC: <0.4 dB
Return loss: Singlemode APC	MPO: >60 dB; LC/SC: >60 dB
Return loss: Singlemode PC	LC/SC: >40 dB
Return Loss: Multimode PC	MPO: >30 dB; LC/SC: >30 dB

14.2.1 MPO APC OS2

Order no.	Fiber type	Connector type	Length	Cable Colour	Housing Colour
L00830A0030	E9/125 OS2	1st end MPO APC; 2nd end LC APC	1,0 m	yellow	MPO APC: green; LC APC: green
L00831A0030	E9/125 OS2	1st end MPO APC; 2nd end LC APC	2,0 m	yellow	MPO APC: green; LC APC: green
L00832A0030	E9/125 OS2	1st end MPO APC; 2nd end LC APC	3,0 m	yellow	MPO APC: green; LC APC: green
L00833A0030	E9/125 OS2	1st end MPO APC; 2nd end LC APC	5,0 m	yellow	MPO APC: green; LC APC: green
L00835A0030	E9/125 OS2	1st end MPO APC; 2nd end LC APC	10,0 m	yellow	MPO APC: green; LC APC: green

Order no.	Fiber type	Connector type	Length	Cable Colour	Housing Colour
L00830A0031	E9/125 OS2	1st end MPO APC; 2nd end SC APC	1,0 m	yellow	MPO APC: green; SC APC: green
L00831A0031	E9/125 OS2	1st end MPO APC; 2nd end SC APC	2,0 m	yellow	MPO APC: green; SC APC: green
L00832A0031	E9/125 OS2	1st end MPO APC; 2nd end SC APC	3,0 m	yellow	MPO APC: green; SC APC: green
L00833A0031	E9/125 OS2	1st end MPO APC; 2nd end SC APC	5,0 m	yellow	MPO APC: green; SC APC: green
L00835A0031	E9/125 OS2	1st end MPO APC; 2nd end SC APC	10,0 m	yellow	MPO APC: green; SC APC: green

FO MPO/MTP® Cabling System

Order no.	Fiber type	Connector type	Length	Cable Colour	Housing Colour
L00830A0032	E9/125 OS2	1st end MPO APC; 2nd end LC PC	1,0 m	yellow	MPO APC: green; LC PC: blue
L00831A0032	E9/125 OS2	1st end MPO APC; 2nd end LC PC	2,0 m	yellow	MPO APC: green; LC PC: blue
L00832A0032	E9/125 OS2	1st end MPO APC; 2nd end LC PC	3,0 m	yellow	MPO APC: green; LC PC: blue
L00833A0032	E9/125 OS2	1st end MPO APC; 2nd end LC PC	5,0 m	yellow	MPO APC: green; LC PC: blue
L00835A0032	E9/125 OS2	1st end MPO APC; 2nd end LC PC	10,0 m	yellow	MPO APC: green; LC PC: blue

Order no.	Fiber type	Connector type	Length	Cable Colour	Housing Colour
L00830A0033	E9/125 OS2	1st end MPO APC; 2nd end SC PC	1,0 m	yellow	MPO APC: green; SC PC: blue
L00831A0033	E9/125 OS2	1st end MPO APC; 2nd end SC PC	2,0 m	yellow	MPO APC: green; SC PC: blue
L00832A0033	E9/125 OS2	1st end MPO APC; 2nd end SC PC	3,0 m	yellow	MPO APC: green; SC PC: blue
L00833A0033	E9/125 OS2	1st end MPO APC; 2nd end SC PC	5,0 m	yellow	MPO APC: green; SC PC: blue
L00835A0033	E9/125 OS2	1st end MPO APC; 2nd end SC PC	10,0 m	yellow	MPO APC: green; SC PC: blue

MPO PC OM2 14.2.2

Order no.	Fiber type	Connector type	Length	Cable Colour	Housing Colour
L00830A0024	G50/125 OM2	1st end MPO PC; 2nd end LC PC	1,0 m	orange	MPO PC: beige; LC PC: beige
L00831A0024	G50/125 OM2	1st end MPO PC; 2nd end LC PC	2,0 m	orange	MPO PC: beige; LC PC: beige
L00832A0024	G50/125 OM2	1st end MPO PC; 2nd end LC PC	3,0 m	orange	MPO PC: beige; LC PC: beige
L00833A0024	G50/125 OM2	1st end MPO PC; 2nd end LC PC	5,0 m	orange	MPO PC: beige; LC PC: beige
L00835A0024	G50/125 OM2	1st end MPO PC; 2nd end LC PC	10,0 m	orange	MPO PC: beige; LC PC: beige

Order no.	Fiber type	Connector type	Length	Cable Colour	Housing Colour
L00830A0025	G50/125 OM2	1st end MPO PC; 2nd end SC PC	1,0 m	orange	MPO PC: beige; SC PC: beige
L00831A0025	G50/125 OM2	1st end MPO PC; 2nd end SC PC	2,0 m	orange	MPO PC: beige; SC PC: beige
L00832A0025	G50/125 OM2	1st end MPO PC; 2nd end SC PC	3,0 m	orange	MPO PC: beige; SC PC: beige
L00833A0025	G50/125 OM2	1st end MPO PC; 2nd end SC PC	5,0 m	orange	MPO PC: beige; SC PC: beige
L00835A0025	G50/125 OM2	1st end MPO PC; 2nd end SC PC	10,0 m	orange	MPO PC: beige; SC PC: beige

14.2

14 FO MPO/MTP® Cabling System

14.2 MPO/MTP® Harness

14.2.3 MPO PC OM3

Order no.	Fiber type	Connector type	Length	Cable Colour	Housing Colour
L00830A0026	G50/125 OM3	1st end MPO PC; 2nd end LC PC	1,0 m	aqua	MPO PC: aqua; LC PC: aqua
L00831A0026	G50/125 OM3	1st end MPO PC; 2nd end LC PC	2,0 m	aqua	MPO PC: aqua; LC PC: aqua
L00832A0026	G50/125 OM3	1st end MPO PC; 2nd end LC PC	3,0 m	aqua	MPO PC: aqua; LC PC: aqua
L00833A0026	G50/125 OM3	1st end MPO PC; 2nd end LC PC	5,0 m	aqua	MPO PC: aqua; LC PC: aqua
L00835A0026	G50/125 OM3	1st end MPO PC; 2nd end LC PC	10,0 m	aqua	MPO PC: aqua; LC PC: aqua

Order no.	Fiber type	Connector type	Length	Cable Colour	Housing Colour
L00830A0027	G50/125 OM3	1st end MPO PC; 2nd end SC PC	1,0 m	aqua	MPO PC: aqua; SC PC: aqua
L00831A0027	G50/125 OM3	1st end MPO PC; 2nd end SC PC	2,0 m	aqua	MPO PC: aqua; SC PC: aqua
L00832A0027	G50/125 OM3	1st end MPO PC; 2nd end SC PC	3,0 m	aqua	MPO PC: aqua; SC PC: aqua
L00833A0027	G50/125 OM3	1st end MPO PC; 2nd end SC PC	5,0 m	aqua	MPO PC: aqua; SC PC: aqua
L00835A0027	G50/125 OM3	1st end MPO PC; 2nd end SC PC	10,0 m	aqua	MPO PC: aqua; SC PC: aqua

14.2.4 MPO PC OM4

Order no.	Fiber type	Connector type	Length	Cable Colour	Housing Colour
L00830A0028	G50/125 OM4	1st end MPO PC; 2nd end LC PC	1,0 m	violet	MPO PC: black; LC PC: black
L00831A0028	G50/125 OM4	1st end MPO PC; 2nd end LC PC	2,0 m	violet	MPO PC: black; LC PC: black
L00832A0028	G50/125 OM4	1st end MPO PC; 2nd end LC PC	3,0 m	violet	MPO PC: black; LC PC: black
L00833A0028	G50/125 OM4	1st end MPO PC; 2nd end LC PC	5,0 m	violet	MPO PC: black; LC PC: black
L00835A0028	G50/125 OM4	1st end MPO PC; 2nd end LC PC	10,0 m	violet	MPO PC: black; LC PC: black

Order no.	Fiber type	Connector type	Length	Cable Colour	Housing Colour
L00830A0029	G50/125 OM4	1st end MPO PC; 2nd end SC PC	1,0 m	violet	MPO PC: black; SC PC: black
L00831A0029	G50/125 OM4	1st end MPO PC; 2nd end SC PC	2,0 m	violet	MPO PC: black; SC PC: black
L00832A0029	G50/125 OM4	1st end MPO PC; 2nd end SC PC	3,0 m	violet	MPO PC: black; SC PC: black
L00833A0029	G50/125 OM4	1st end MPO PC; 2nd end SC PC	5,0 m	violet	MPO PC: black; SC PC: black
L00835A0029	G50/125 OM4	1st end MPO PC; 2nd end SC PC	10,0 m	violet	MPO PC: black; SC PC: black

MPO/MTP® FanOut Modules 14.3

The MPO/MTP® FanOut Modules areused to connect active equipment having LC or SC interfaces with a MPO/MTP® backbone. On one side they are terminated with MPO/MTP® male connectors,on the other side with LC or SC connectors and 0,9 mm simplex cables. This unit is protected by metal 3 HU slots which can be slided into the 19“ module carriers on site.

Mechanical Characteristics	
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Cable structure: Dimensions	Single fiber: 0.9 mm
Bending radius	Single fiber: min. 30 mm
Climatic Characteristics	
Operating temperature	-5°...55° C
Optical Characteristics	
Polarity	Type A
Life	≥500 (MPO); ≥1000 (SC/LC)
Insertion loss with fiber 9/125	MPO APC: <0.7 (typ. 0.25) dB; LC/SC: <0.5 dB
Insertion loss with fiber 50/125	MPO PC: <0.5 (typ. 0.2) dB; LC/SC: <0.4 dB
Return loss: Singlemode APC	MPO: >60 dB; LC/SC: >60 dB
Return loss: Singlemode PC	LC/SC: >40 dB
Return Loss: Multimode PC	MPO: >30 dB; LC/SC: >30 dB

FanOut Modules including FanOut Kit 14.3.1

Order no.	Fiber type	Adaptor Type	Number of Adaptors	Connector type	Housing Colour
H02050F4231	E9/125 OS2	LC Quad	6	1st end 2xMPO APC; 2nd end 24xLC PC	MPO APC: green; LC PC: blue
H02050F4241	E9/125 OS2	LC Quad	6	1st end 2xMPO APC; 2nd end 24xLC APC	MPO APC: green; LC APC: green
H02050F4211	G50/125 OM2	LC Quad	6	1st end 2xMPO PC; 2nd end 24xLC PC	MPO PC: beige; LC PC: beige
H02050F4221	G50/125 OM3	LC Quad	6	1st end 2xMPO PC; 2nd end 24xLC PC	MPO PC: aqua; LC PC: aqua

Order no.	Fiber type	Adaptor Type	Number of Adaptors	Connector type	Housing Colour
H02050F4131	E9/125 OS2	LC Duplex	6	1st end 1xMPO APC; 2nd end 12xLC PC	MPO APC: green; LC PC: blue
H02050F4141	E9/125 OS2	LC Duplex	6	1st end 1xMPO APC; 2nd end 12xLC APC	MPO APC: green; LC APC: green
H02050F4111	G50/125 OM2	LC Duplex	6	1st end 1xMPO PC; 2nd end 12xLC PC	MPO PC: beige; LC PC: beige
H02050F4121	G50/125 OM3	LC Duplex	6	1st end 1xMPO PC; 2nd end 12xLC PC	MPO PC: aqua; LC PC: aqua

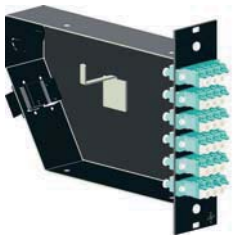
14 FO MPO/MTP® Cabling System

14.3 MPO/MTP® FanOut Modules

14.3.1 FanOut Modules including FanOut Kit

Order no.	Fiber type	Adaptor Type	Number of Adaptors	Connector type	Housing Colour
H02050F4031	E9/125 OS2	SC Duplex	6	1st end 1xMPO APC; 2nd end 12xSC PC	MPO APC: green; SC PC: blue
H02050F4041	E9/125 OS2	SC Duplex	6	1nd end 1xMPO APC; 2nd end 12xSC APC	MPO APC: green; SC APC: green
H02050F4011	G50/125 OM2	SC Duplex	6	1st end 1xMPO PC; 2nd end 12xSC PC	MPO PC: beige; SC PC: beige
H02050F4021	G50/125 OM3	SC Duplex	6	1st end 1xMPO PC; 2nd end 12xSC PC	MPO PC: aqua; SC PC: aqua

14.3.2 FanOut Modules for TICNET Mini-ODS



Order no.	Adaptor Type	Number of Adaptors	Housing Colour	Remarks
H02050F4230	LC Quad	6	blue	for TICNET Mini-ODS splitter
H02050F4240	LC Quad	6	green	for TICNET Mini-ODS splitter
H02050F4210	LC Quad	6	beige	for TICNET Mini-ODS splitter
H02050F4220	LC Quad	6	aqua	for TICNET Mini-ODS splitter

Order no.	Adaptor Type	Number of Adaptors	Housing Colour	Remarks
H02050F4130	LC Duplex	6	blue	for TICNET Mini-ODS splitter
H02050F4140	LC Duplex	6	green	for TICNET Mini-ODS splitter
H02050F4110	LC Duplex	6	beige	for TICNET Mini-ODS splitter
H02050F4120	LC Duplex	6	aqua	for TICNET Mini-ODS splitter

Order no.	Adaptor Type	Number of Adaptors	Housing Colour	Remarks
H02050F4030	SC Duplex	6	blue	for TICNET Mini-ODS splitter
H02050F4040	SC Duplex	6	green	for TICNET Mini-ODS splitter
H02050F4010	SC Duplex	6	beige	for TICNET Mini-ODS splitter
H02050F4020	SC Duplex	6	aqua	for TICNET Mini-ODS splitter

FO MPO/MTP® Cabling System

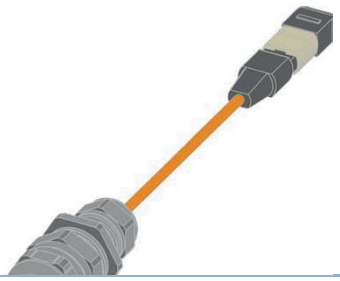
MPO/MTP® Module Carrier 14.4

Order no.	Description	Colour	Remarks
H02032A0030	19" FO Module Carrier 3 HU / 84 PU	Aluminium	
H02032A0021	19" Module Carrier with flange 3 HU / 84 PU	Aluminium	
H02030A4625	19" FO module carrier 1 HU for FanOut modules	black	for maximal 3 FanOut modules 3HU/7PU

MPO/MTP® Cable Splitter Mini-ODS 14.5

The Telegärtner MPO/MTP® Cabling System is completed with the Mini-ODS cable splitters. The Mini-ODS splitters form the perfect adoption for loose-tube cables with 12-48 fiber to be supplied factory-assembled with the MPO/MTP® connectors attached to round single-cables containing 12 fibers.

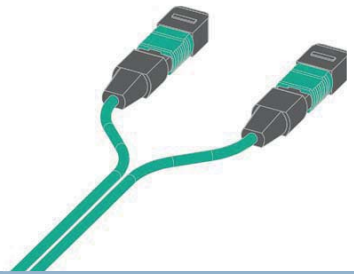
Cable Splitter Mini-ODS for 12 Fibers 14.5.1



Mechanical Characteristics	
Type	Connector type MPO acc. to IEC 61754-7
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Cable structure: Dimensions	Single fiber: 3.0 mm
Cable structure: Strength members	Aramid (Kevlar)
Splitter: Dimensions (diameter)	25
Splitter: Length	55 mm
Bending radius	Single fiber: min. 30 mm
Mating Face	female
Climatic Characteristics	
Operating temperature	-40°...75° C
Optical Characteristics	
Polarity	Type A
Life	≥500
Insertion loss with fiber 9/125	MPO APC: <0.7 (typ. 0.25) dB
Insertion loss with fiber 50/125	MPO PC: <0.5 (typ. 0.2) dB
Return loss: Singlemode APC	MPO: >60 dB
Return Loss: Multimode PC	MPO: >30 dB

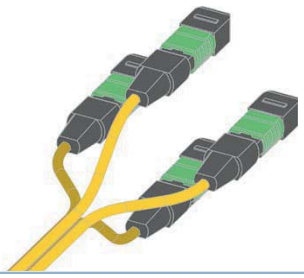
14.5 MPO/MTP® Cable Splitter Mini-ODS

14.5.2 Cable Splitter Mini-ODS for 24 Fibers



Mechanical Characteristics	
Type	Connector type MPO acc. to IEC 61754-7
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Cable structure: Dimensions	Single fiber: 3.0 mm
Cable structure: Strength members	Aramid (Kevlar)
Splitter: Dimensions (diameter)	25
Splitter: Length	55 mm
Bending radius	Single fiber: min. 30 mm
Mating Face	female
Climatic Characteristics	
Operating temperature	-40°...75° C
Optical Characteristics	
Polarity	Type A
Life	≥500
Insertion loss with fiber 9/125	MPO APC: <0.7 (typ. 0.25) dB
Insertion loss with fiber 50/125	MPO PC: <0.5 (typ. 0.2) dB
Return loss: Singlemode APC	MPO: >60 dB
Return Loss: Multimode PC	MPO: >30 dB

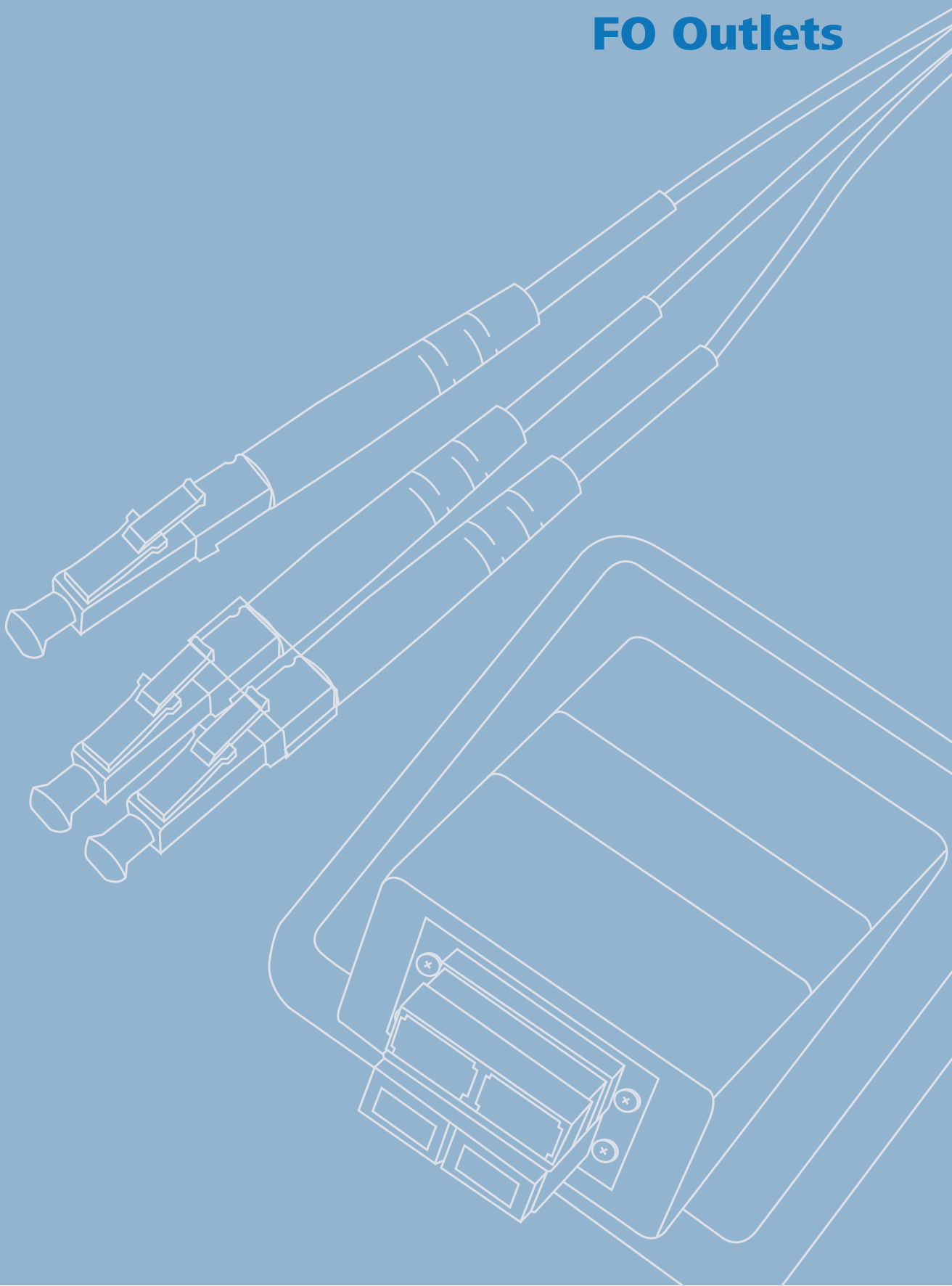
14.5.3 Cable Splitter Mini-ODS for 48 Fibers



Mechanical Characteristics	
Type	Connector type MPO acc. to IEC 61754-7
Fiber structure: Primary coating	Acrylate, Ø 250 ±15 µm
Cable structure: Dimensions	Single fiber: 3.0 mm
Cable structure: Strength members	Aramid (Kevlar)
Splitter: Dimensions (diameter)	25
Splitter: Length	55 mm
Bending radius	Single fiber: min. 30 mm
Mating Face	female
Climatic Characteristics	
Operating temperature	-40°...75° C
Optical Characteristics	
Polarity	Type A
Life	≥500
Insertion loss with fiber 9/125	MPO APC: <0.7 (typ. 0.25) dB
Insertion loss with fiber 50/125	MPO PC: <0.5 (typ. 0.2) dB
Return loss: Singlemode APC	MPO: >60 dB
Return Loss: Multimode PC	MPO: >30 dB

15

FO Outlets



15 FO Outlets

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15.2 FO Outlets OAD/S 256
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15.4 FO Outlet OAD/BS, OAD/B for Floor Tank Installation 264
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The benefits of fiber optic networks can be fully used only if the fiber optic cable is installed up to the subscriber's desk (Fiber To The Desk). Network installations via FO cables require plugable, repeatable at constant function and robust connections between the cables installed in the channel and the subscriber cables. The adaptors have to be safely fixed and protected in a wall outlet or in a floor tank in a way that the connected plugs can be easily connected and disconnected as well as to ensure a minimum radius of 25 mm of the fiber cables.
If splice connections in conjunction with FO pigtails are used, storage spaces for splices and reserve loops as well as strain reliefs must be provided. Even in case of of Breakout cable or Mini-Breakout cable applications strain relief means and bending radius limiting should be available. For simple outlets containing covers and adapter carriers these requirements are not fullfilled.

FO Outlets OAD/K 15.1

This outlet for max. 2 subscribers has been developed especially for installation into cable ducts. The extrem flat design as well as the subscriber connections facing downwards, with integrated dust cover, offer a safe function in office environment. Installation into all common ducts with top hat rails can be carried out in vertical or horizontal direction without need of an installation box. Connection to single cables, Breakout cables or Mini-Breakout cables is provided. Additional advantages are strain relief, space for cable reserve and marking label with transparent cover.

Performance Characteristics

- two users can be connected
- strain relief with cable ties for incoming cables from different directions
- winding drum for fiber or cable reserve with ensured radius of 25 mm
- vertical output direction for subscriber cable connections
- covering cab dimensions 97x80 mm, with integrated dust cover, alpine white, cream white or grey RAL 7035
- available with adaptors type SC, SC Duplex, MT-RJ, LC Duplex, E2000
- marking label with removable plastic cover
- installation without installation box into standard cable ducts with top hat rail, C-rail or combi-rail for channel heights 47-55 mm
- horizontal or vertical mounting into the cable duct is possible
- OAD/K can be installed also into the new cabling duct system BR netway from Hager Tehalit (BRN Ecoline and Inline)

Complete outlets OAD/K with assembled adaptors 15.1.1

Order no.	Description	Type	Colour
H02051A0260	OAD/K with 2xT-SC Duplex	OAD/K Outlet for cable duct, with SC Duplex adaptors, ceramic/metal	alpine white
H02051A0270	OAD/K with 2xT-SC Duplex	OAD/K Outlet for cable duct, with SC Duplex adaptors, ceramic/metal	cream white RAL 9001
H02051A0261	OAD/K with 2xST/SC Duplex	OAD/K Outlet for cable duct, with ST/SC Duplex adaptors, ceramic/metal	alpine white
H02051A0271	OAD/K with 2xST/SC Duplex	OAD/K Outlet for cable duct, with ST/SC Duplex adaptors, ceramic/metal	cream white RAL 9001

15.1

15 FO Outlets

15.1 FO Outlets OAD/K

15.1.1 Complete outlets OAD/K with assembled adaptors

Order no.	Description	Type	Colour
H02051A0264	OAD/K with 2xLC Duplex	OAD/K Outlet for cable duct installation, with 2 LC Duplex adaptors	alpine white
H02051A0274	OAD/K with 2xLC Duplex	OAD/K Outlet for cable duct installation, with 2 LC Duplex adaptors	cream white RAL 9001

Order no.	Description	Type	Colour
H02051A0268	OAD/K with 2xLC Quad	OAD/K outlet for cable duct installation, with 2 LC Quad adaptors, ceramic; cable termination with mini breakout required	alpine white
H02051A0278	OAD/K with 2xLC Quad	OAD/K outlet for cable duct installation, with 2 LC Quad adaptors, ceramic; cable termination with mini breakout required	cream white RAL 9001

Outlet parts OAD/K for individual ordering 15.1.2

Order no.	Description	Type	Fixing
H02051A0251	Outlet kit for 2xSC-D / 2xLC Quad	Outlet kit for 2xSC Duplex or ST/SC Duplex or ST Duplex or 2xLC Quad (cable termination with mini breakout recommended)	for snap-in mounting or tapping screws
H02051A0253	Outlet kit for 4xSC/E2000/MT-RJ	Outlet kit for 4xSC-Duplex or ST/SC-Duplex or E2000 or MT-RJ adaptor	for snap-in mounting or tapping screws
H02051A0254	Outlet kit for 2x LC Duplex	Outlet kit for 2xLC Duplex	for snap-in mounting
H02051A0255	Outlet kit for 2xE2000 Compact RJ	Outlet kit for 2xE2000 Compact RJ	for screws M2

Order no.	Description	Type	Colour
H02051A0240	Covering cap for OAD/K	with marking label and transparent plastic cover	alpine white
H02051A0241	Covering cap for OAD/K	with marking label and transparent plastic cover	cream white RAL 9001
H02051A0242	Covering cap for OAD/K	with marking label and transparent plastic cover	grey RAL 7035

Adaptors see chapter „FO Connectors".
Covers for unused cutout see chapter „Accessories for 19" FO Patch Panels".
Order specifications (if you wish on diskette using the format Excel) can be sent without charge upon request.

15 FO Outlets

15.2 FO Outlets OAD/S

Two participants maximum can be connected using different connector types. The outlet may be installed in cable ducts as well as in flush or surface mounting boxes with arbitrary positions. Simplex/Duplex and Breakout cables as well as Mini-Breakout cables can be connected and strain relieved.

For cable and fiber reserves sufficient space is available with controlled and restricted radii. The automatic height adjustment and the cover dimensions of 50x50 mm ensures the combination with most of the standard switching programmes.

Performance Characteristics

- two users can be connected
- strain relief with cable ties for incoming cables from different directions
- winding drum for fiber or cable reserve loops with ensured radius of 25 mm minimum
- installation in standard data channel boxes or flush or surface mounting boxes with fixing spacing 60 mm
- surface mount housing available
- output direction 20° to vertical direction
- suitable for adaptors type ST Duplex, SC, SC Duplex, MT-RJ, LC Duplex or E2000 Compact RJ
- 5 mm automatic height adjustment for cover frames acc. to DIN 49075 or 50x50 mm
- suits most of the standard switching programmes
- covering cap available in alpine white and pearl white colour
- marking label with removable plastic cover

OAD/S is compatible with the following switching programmes*

Busch-Jäger	PEHA	Jung	GIRA	Kopp	ELSO	Merten	Berker
Alpha nea	Standard	ST550	Standard	Color	Novia	Octo-Color	Arsys
Reflex SI	Dialog	CD500	System 55	Denver	Fashion	Atelier	Cliptec
Reflex SI Linear	Tangenta	LS990	S-Color	Vision	Scala	Standard	Modul 2
Impuls		CD plus	Basic	Noblesse	Classic		
SF solo		A500					
		A plus					

*This table display is only a selection and does not claim to be complete. When in doubt please contact your supplier.
Remark: Adaptor frame for 50x50 mm required.

15.2.1 Complete outlets OAD/S with assembled adaptors

Order no.	Description	Type	Colour
H02051C0514	OAD/S with 2xSC Duplex, assembled	OAD/S Outlet for cable duct, with 2 SC Duplex adaptors, ceramic/metal	alpine white
H02051B0514	OAD/S with 2xSC Duplex, assembled	OAD/S Outlet for cable duct, with 2 SC Duplex adaptors, ceramic/metal	pearl white RAL 1013
H02051C0515	OAD/S with 2xST/SC Duplex, assembled	OAD/S Outlet for cable duct, with 2 ST/SC Duplex adaptors, ceramic/metal	alpine white
H02051B0515	OAD/S with 2xST/SC Duplex, assembled	OAD/S Outlet for cable duct, with 2 ST/SC Duplex adaptors, ceramic/metal	pearl white RAL 1013

Order no.	Description	Type	Colour
H02051C0510	OAD/S with 2xST Duplex, assembled	OAD/S Outlet for cable duct, with 2 ST Duplex adaptors, ceramic/metal	alpine white
H02051B0510	OAD/S with 2xST Duplex, assembled	OAD/S Outlet for cable duct, with 2 ST Duplex adaptors, ceramic/metal	pearl white RAL 1013

Order no.	Description	Type	Colour
H02051C0534	OAD/S with 2xLC Duplex, assembled	OAD/S Outlet for cable duct, with 2 LC Duplex adaptors, ceramic	alpine white
H02051B0534	OAD/S with 2xLC Duplex, assembled	OAD/S Outlet for cable duct, with 2 LC Duplex adaptors, ceramic	pearl white RAL 1013

Order no.	Description	Type	Colour
H02051C0544	OAD/S with 2xLC Quad, assembled	OAD/S outlet for cable duct, with 2 LC Quad adaptors, ceramic; cable termination with mini breakout required	alpine white
H02051B0544	OAD/S with 2xLC Quad, assembled	OAD/S outlet for cable duct, with 2 LC Quad adaptors, ceramic; cable termination with mini breakout required	pearl white RAL 1013

Order no.	Description	Type	Colour
H02051C0538	OAD/S with 1xE2000 Compact	OAD/S outlet for cable duct with 1xE2000 Compact adaptor, ceramic	alpine white
H02051B0538	OAD/S with 1xE2000 Compact	OAD/S outlet for cable duct with 1xE2000 Compact adaptor, ceramic	pearl white RAL 1013

15 FO Outlets

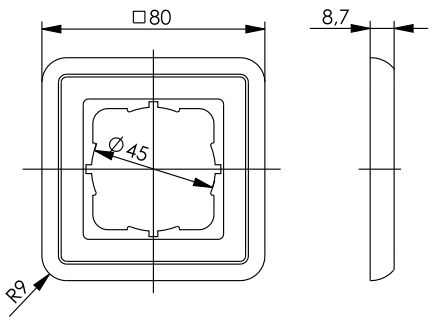
15.2 FO Outlets OAD/S

15.2.2 Outlet parts OAD/S for individual ordering

Order no.	Description	Type
H02051A0500	OAD/S 2xSC-D	Outlet kit for 2xSC Duplex or 2xST/SC Duplex or 2xST Duplex adaptor or 2xLC Quad
H02051A0501	OAD/S 2xSC	Outlet kit for 2xSC or 2xST/SC or 2xMT-RJ adaptor
H02051A0505	OAD/S 2xE2000	Outlet kit for 2xE2000
H02051A0507	OAD/S 1xE2000 Compact (R&M)	Outlet kit for 1xE2000 Compact (R&M)
H02051A0503	OAD/S 2xLCD	Outlet kit for 2xLC Duplex adaptor
H02051A0504	OAD/S 2xMT-RJ jack	Outlet kit for 2xMT-RJ jack

Design for subfloor mounting in subfloor boxes GB2/GB

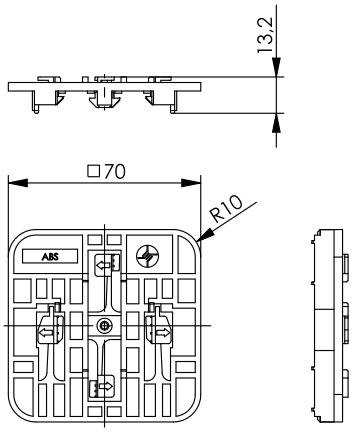
Order no.	Description	Type	Colour
B00043A0045	Covering cap for OAD/S	with marking label and transparent plastic cover	alpine white
B00043A0041	Covering cap for OAD/S	with marking label and transparent plastic cover	pearl white RAL 1013



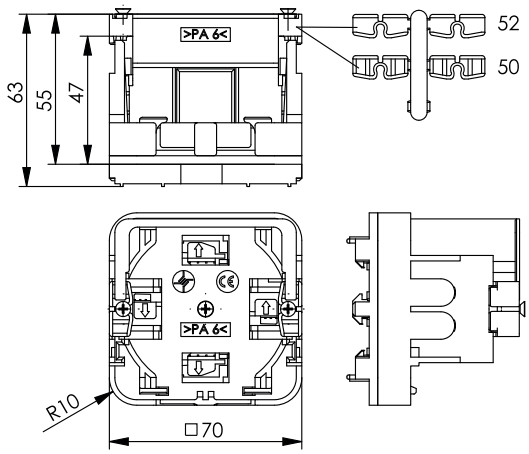
Order no.	Short name	Type	Series	Colour
B00004A0021	Cover frame for flush mounting (UP)	single, 80x80	AMJ45, UMJ45, Modular System AMJ/UMJ, OAD/S	alpine white
B00004A0019	Cover frame for flush mounting (UP)	single, 80x80	AMJ45, UMJ45, Modular System AMJ/UMJ, OAD/S	pearl white RAL 1013

Accessories for OAD/S 15.2.3

Order no.	Description	Type	Colour
H02000C0060	Surface Mount Set for OAD/S	Surface Mount Set for OAD/S data channel outlet, carrier with cover, 80x80x49 mm	alpine white
H02000C0058	Surface Mount Set for OAD/S	Surface Mount Set for OAD/S data channel outlet, carrier with cover, 80x80x49 mm	pearl white RAL 1013



Order no.	Short name	Type
H02000A0054	Top hat rail adaptor for Surface Mount Set	for top hat rails DIN 50022



Order no.	Short name	Type
H02010B0013	Universal Equipment Mounting Set for installation of outlets AMJ45, UMJ45 in cable ducts for heights 47, 50, 52 and 55 mm and for top hat rails, C-rails, Combi-rails	with 1 half shell
H02010B0014	Universal Equipment Mounting Set for installation of outlets AMJ45, UMJ45 in cable ducts for heights 47, 50, 52 and 55 mm and for top hat rails, C-rails, Combi-rails	without half shell

15 FO Outlets

15.3 FO Outlet OAD with Splice Holder

This optical outlet provides termination for up to four users via ST® or SC connectors. The outlet can be mounted in various positions into wall cable channels or in surface mounting boxes. Multifiber bundle cables or breakout cables may be used and can be secured by clamps or cable ties.

Sufficient space for fiber loops is provided, and grooves for up to 8 crimp splice protectors are available. The FO ports can be turned by 4 x 90° steps and provide also vertical adjustability in order to suit most of the standard switching programmes. For the floor-tank installation a special type is available.

Performance Characteristics

- "Fiber to the Desk" application
- integrated splice holder for 8 crimp splices system ANT/NOKIA
- for termination of multifiber loose-tube cables or Breakout cables or Mini-Breakout cables
- strain relief and bending radius limiting
- connection of up to 8 fibers
- horizontal or vertical installation in cable ducts
- Suitable for standard double mounting boxes and DIN mounting plates (Ø 45 mm) or 50x50 mm cutout
- suits all standard switching programmes (see table), surface mounting with standard double boxes
- space for fiber loops
- material: thermoplast, halogen-free

OAD is compatible with the following switching programs*

Busch-Jäger	PEHA	Jung	GIRA	Kopp	ELSO	Merten	Berker
Alpha nea	Standard	ST550	Standard	Color	Novia	Octo-Color	Arsys
Reflex SI	Dialog	CD500	System 55	Denver	Fashion	Atelier	Cliptec
Reflex SI Linear	Tangenta	LS990	S-Color	Vision	Scala	Standard	Modul 2
Impuls		CD plus	Basic	Noblesse	Classic		
SF solo		A500					
		A plus					

*This table display is only a selection and does not claim to be complete. When in doubt please contact your supplier.
Remark: Adaptor frame for 50x50 mm required.

15.3.1 Complete outlets OAD with assembled adaptors

Order no.	Description	Type	Colour
H02051C0050	OAD Single Outlet with 4xST, assembled	OAD Outlet with 4 ST Adaptors, ceramic/metal	alpine white
H02051A0020	OAD Single Outlet with 4xST, assembled	OAD Outlet with 4 ST Adaptors, ceramic/metal	pearl white RAL 1013

Order no.	Description	Type	Colour
H02051C0052	OAD Double Outlet with 8xST, assembled	OAD Outlet, with 8 ST Adaptors, ceramic/metal	alpine white
H02051A0021	OAD Double Outlet with 8xST, assembled	OAD Outlet, with 8 ST Adaptors, ceramic/metal	pearl white RAL 1013

Order no.	Description	Type	Colour
H02051C0058	OAD Single Outlet with 2xSC-D, assembled	OAD Outlet with 2 SC Duplex-Adaptors, ceramic/plastic	alpine white
H02051A0022	OAD Single Outlet with 2xSC-D, assembled	OAD Outlet with 2 SC Duplex-Adaptors, ceramic/plastic	pearl white RAL 1013
H02051C0066	OAD Single Outlet with 2xST/SC-D, assembled	OAD Outlet with 2 ST/SC Duplex-Adaptors, ceramic/plastic	alpine white
H02051A0067	OAD Single Outlet with 2xST/SC-D, assembled	OAD Outlet with 2 ST/SC Duplex-Adaptors, ceramic/plastic	pearl white RAL 1013

Order no.	Description	Type	Colour
H02051C0072	OAD single outlet with 2xLC Quad, assembled	OAD outlet, with 2xLC Quad adaptors, ceramic	alpine white
H02051A0072	OAD single outlet with 2xLC Quad, assembled	OAD outlet, with 2xLC Quad adaptors, ceramic	pearl white RAL 1013

Order no.	Description	Type	Colour
H02051C0060	OAD Double Outlet with 4xSC-D, assembled	OAD Outlet, with 4 SC Duplex Adaptors, ceramic/plasticg	alpine white
H02051A0023	OAD Double Outlet with 4xSC-D, assembled	OAD Outlet, with 4 SC Duplex Adaptors, ceramic/plastic	pearl white RAL 1013
H02051C0068	OAD Double Outlet with 4xST/SC-D, assembled	OAD Outlet, with 4 ST/SC Duplex, ceramic/plastic	alpine white
H02051A0069	OAD Double Outlet with 4xST/SC-D, assembled	OAD Outlet, with 4 ST/SC Duplex, cceramic/plastic	pearl white RAL 1013

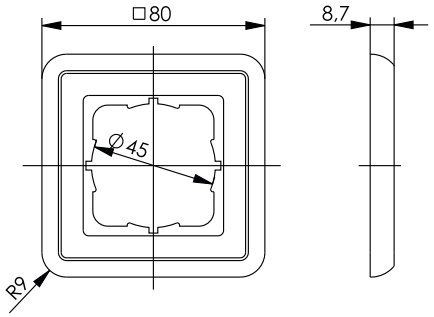
15 FO Outlets

15.3 FO Outlet OAD with Splice Holder

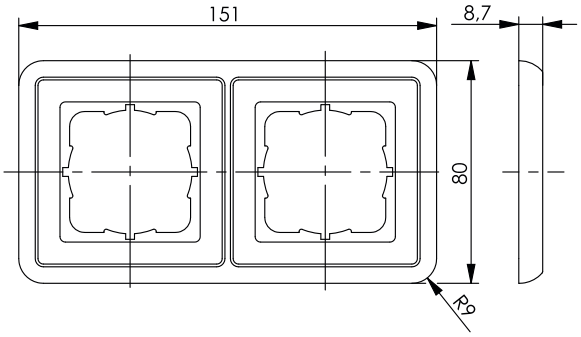
15.3.2 Outlet parts OAD for individual ordering

Order no.	Description	Type
H02051A0000	Outlet part OAD for 4 x ST	Housing with 1 adaptor plate for 4 ST adaptors
H02051A0001	Outlet part OAD for 8 x ST	Housing with 2 adaptor plates for 8 ST adaptors
H02051A0002	Outlet part OAD for 2 x SC-Duplex / 2 x LC Quad	Housing with 1 adaptor plate for 2 SC Duplex adaptors or 2 LC Quad adaptors
H02051A0003	Outlet part OAD for 4 x SC-Duplex	Housing with 2 adaptor plates for 4 SC Duplex adaptors

Order no.	Description	Type
B00044A0079	Covering cap alpine white	with marking label
B00044A0036	Covering cap pearl white RAL 1013	with marking label



Order no.	Short name	Type	Series	Colour
B00004A0021	Cover frame for flush mounting (UP)	single, 80x80	AMJ45, UMJ45, Modular System AMJ/UMJ, OAD/S	alpine white
B00004A0019	Cover frame for flush mounting (UP)	single, 80x80	AMJ45, UMJ45, Modular System AMJ/UMJ, OAD/S	pearl white RAL 1013



Order no.	Short name	Type	Series	Colour
B00005A0009	Cover frame for flush mounting (UP)	double, 80x151	AMJ45, UMJ45, Modular System AMJ/UMJ	alpine white
B00005A0007	Cover frame for flush mounting (UP)	double, 80x151	AMJ45, UMJ45, Modular System AMJ/UMJ	pearl white RAL 1013

Accessories for OAD 15.3.3

Order no.	Description	Type	Colour
H02000A0085	surface mount box for OAD	inclusive blind cover	alpine white

15 FO Outlets

15.4 FO Outlet OAD/BS, OAD/B for Floor Tank Installation

This is an optical connection outlet for subfloor installation in addition to the OAD channel version and provides also termination for up to four users via ST® or SC connectors. The outlet can be mounted into subfloor tanks of various suppliers and can be adjusted to the specific tank dimensions in order to cover it completely.
For Multifiber loose-tube cables the version with splice storage housing is applicable, for breakout cables the outlet is available without splice storage housing. Sufficient space for fiber loops is provided.

Performance Characteristics

- "Fiber to the Desk" application
- integrated splice holder for 8 arc fusion splices (OAD/BS)
- for FO loose-tube cables and breakout cables
- strain relief via cable ties
- connection of up to 8 fibers, i. e. up to 4 users
- suits all standard sub-floor boxes
- space for fiber loops
- secured bending radius of 25 mm minimum
- marking strap with plastic cover
- material: thermoplast, halogen-free and flame-retardant

15.4.1 Complete outlets OAD/BS and OAD/B with assembled adaptors

Order no.	Description	Type
H02041A0072	FO Outlet OAD/BS with 8 x ST, assembled	OAD Floor tank outlet with crimp splice holder, incl. 8 T-ST adaptors, ceramic sleeve
H02041A0057	FO Outlet OAD/BS with 4 x SC-D, assembled	OAD Floor tank outlet with crimp splice holder, incl. 4 SC Duplex adaptors, ceramic sleeve
H02041A0073	FO Outlet OAD/BS with 4 x ST/SC-D, assembled	OAD Floor tank outlet with crimp splice holder, incl. 4 ST/SC Duplex adaptors, ceramic sleeve

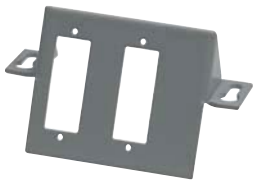
Order no.	Description	Type
H02041A0059	FO Outlet OAD/B with 4 x ST, assembled	OAD Floor tank outlet for Breakout-/Mini-Breakout cables, incl. 4 ST adaptors, ceramic sleeve
H02041A0060	FO Outlet OAD/B with 2x SC-D, assembled	OAD Floor tank outlet for Breakout-/Mini-Breakout cables, incl. 2 SC Duplex adaptors, ceramic sleeve
H02041A0061	FO Outlet OAD/B with 2 x ST/SC-D, assembled	OAD Floor tank outlet for Breakout-/Mini-Breakout cables, incl. 2 ST/SC Duplex adaptors, ceramic sleeve
H02041A0064	FO Outlet OAD/B with 8 x ST, assembled	OAD Floor tank outlet for Breakout-/Mini-Breakout cables, incl. 8 ST adaptors, ceramic sleeve
H02041A0062	FO Outlet OAD/B with 4 x SC-D, assembled	OAD Floor tank outlet for Breakout-/Mini-Breakout cables, incl. 4 SC Duplex adaptors, ceramic sleeve
H02041A0063	FO Outlet OAD/B with 4 x ST/SC-D, assembled	OAD Floor tank outlet for Breakout-/Mini-Breakout cables, incl. 4 ST/SC Duplex adaptors, ceramic sleeve

Outlet parts OAD/BS and OAD/B for individual ordering 15.4.2

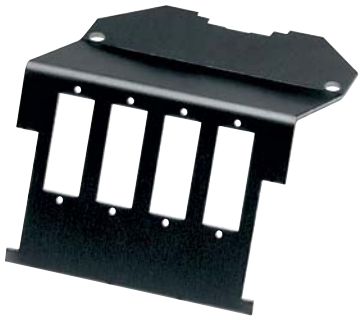
Order no.	Description	Type
H02041A0005	Outlet part OAD/BS for 8 x ST	Housing with splice holders and mounting plate for 8 ST adaptors
H02041A0006	Outlet part OAD/BS for 4 x SC Duplex / 4 x LC Quad	Housing with splice holders and mounting plate for 4 SC-Duplex adaptors
H02041A0007	Outlet part OAD/B for 8 x ST	for Breakout cables, with mounting plate for 8 ST adaptors
H02041A0008	Outlet part OAD/B for 4 x SC Duplex	for Breakout cables, with mounting plate for 4 SC Duplex adaptors

Further designs with additional connector types on request.
Adaptors see chapter „FO Connectors“. Covers for unused cutout see chapter „Accessories for 19“ FO Patch Panels“.
Order specifications (if you wish on diskette using the format Excel) can be sent without charge upon request.

Mounting Plates for Floor Tank Installation 15.5



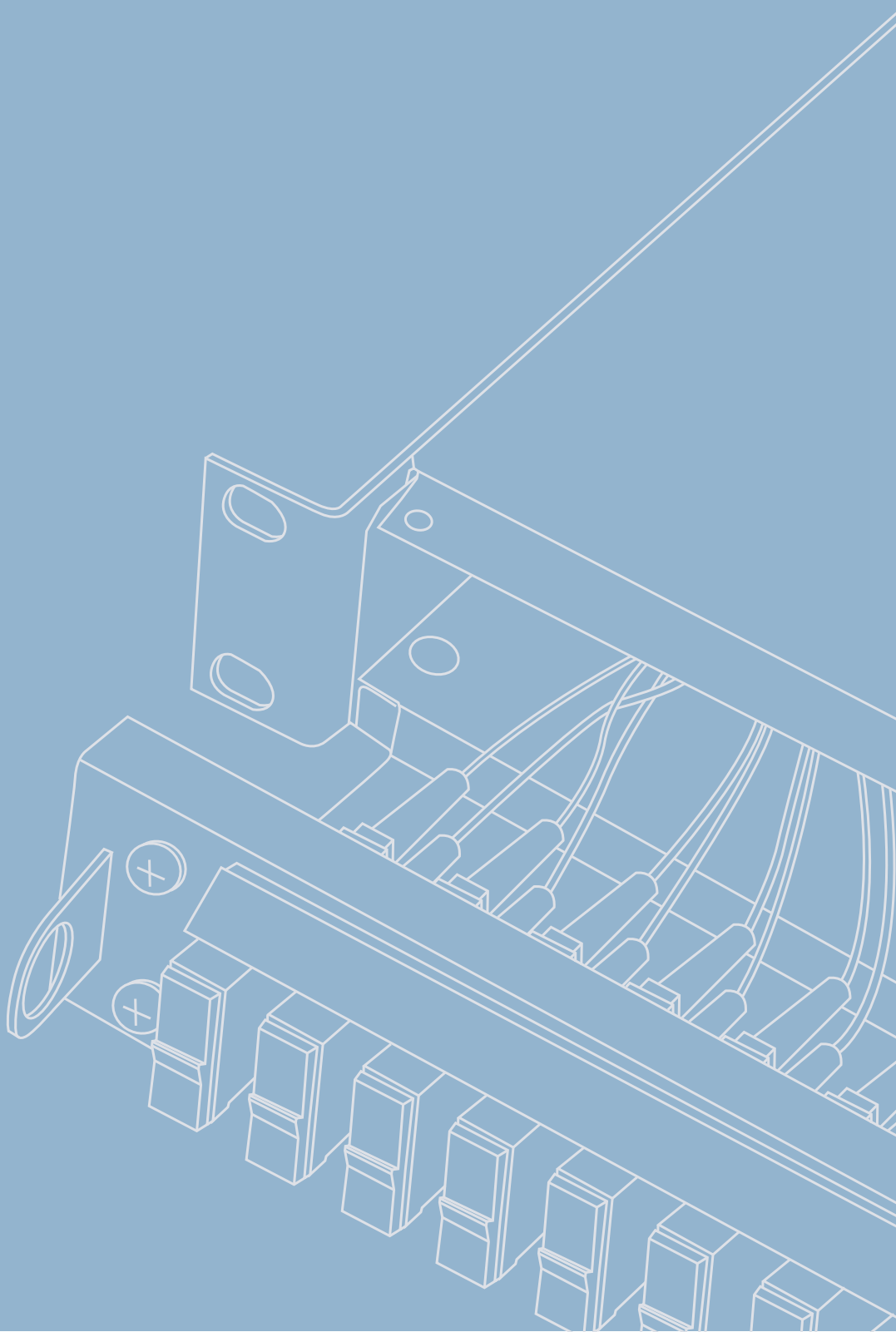
Order no.	Description	Panel piercing	Type
B06015A0045	Mounting plate for floor tank installation, for 4 x ST	Z64	for subfloor tanks EXCEPT Ackermann type GB2/GB3
B06015A0046	Mounting plate for floor tank installation, for 4 x SC	Z77	for subfloor tanks EXCEPT Ackermann type GB2/GB3
B06015A0047	Mounting plate for floor tank installation, for 2 x SC-Duplex / 2xLC Quad	Z93	for subfloor tanks EXCEPT Ackermann type GB2/GB3
B06015A0048	Mounting plate for floor tank installation, for 4 x E2000	Z66	for subfloor tanks EXCEPT Ackermann type GB2/GB3

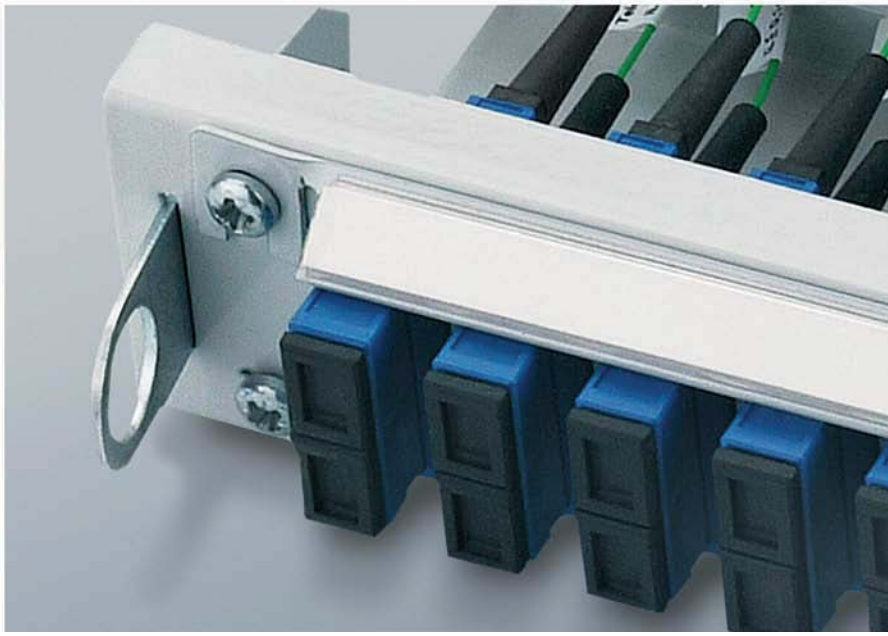


Order no.	Description	Panel piercing	Type
B06015A0143	Mounting plate for floor tank installation, for 4 x SC / MT-RJ adaptor	Z77	for subfloor tanks Ackermann type GB2/GB3
B06015A0144	Mounting plate for floor tank installation, for 4 x SC / ST/SC Duplex / ST Duplex / LC Quad	Z70	for subfloor tanks Ackermann type GB2/GB3
B06015A0145	Mounting plate for floor tank installation, for 2 x MT-RJ Jack	-	for subfloor tanks Ackermann type GB2/GB3

16

FO Patch Panels





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FO Patch Panels

19“ Patch Panels for Fiber Optic Cables are suitable for distribution of multifiber cables to single cables, either as a distribution frame or - with closed housing - for storage of splice cassettes. They may be integrated into all standard 19“ racks and - due to the modular design - be varied in accordance with the individual requirements of the customer. Housings and front plates are available in up to 3 HU. All the neccessary accessories such as cable glands, splice cassettes, FO adaptors and fixing parts may be individually combined and also assembled, if required. There is also available a selection of completely assembled patch panels supplied with efficient accessories, suitable for most of the applications. The 19“ Patch Panel series includes the types ECONOMY V, BASIS V, BASIS eco, PROFI V and PROFI Plus, PROFI T.

	ECONOMY V	BASIS V				BASIS eco		PROFI V		PROFI Plus		PROFI T
Mechanical Characteristics												
Housing	sheet steel 1 mm, powder-laminated, light grey RAL 7035					sheet steel 1 mm zinc-plated		sheet steel 1 mm, powder-laminated, light grey RAL 7035				
Protection class acc. To IEC 60529	IP20	IP20				IP20		IP20		IP20		IP20
Front plates	sheet aluminum 1,5 mm, powder-laminated, light grey RAL 7035, port no. imprinted, marking strip with plastic cover optional											
Cable entries	strain relief bar for cable ties	M20 for 5-9 mm; M25 for 9-20 mm cable; diameter in 4 steps				M25 for 8-12 mm cable diameter		M20 for 5-9 mm M25 for 9-20 mm cable diameter in 4 steps				
Panel piercings	for ST, SC, SC Duplex, E2000, E2000 Compact, MT-RJ-adaptor, LC Duplex, DIN, FC/PC, F-SMA					for ST, SC, SC Duplex, E2000, E2000 Compact, MT-RJ adaptor, LC Duplex		for ST, SC, SC Duplex, E2000, E2000 Compact, MT-RJ Jack, LC Duplex, DIN, FC/PC, F-SMA				
Dimensions in mm:	**1 HU**	**2 HU**	**1 HU**	**2 HU**	**3 HU**	**1 HU**	**2 HU**	**1 HU**	**2 HU**	**1 HU**	**2 HU**	**1 HU**
Width	482	482	482	482	482	482	-	482	482	482	482	482
Height	44	88	44	88	132	44	-	44	88	44	88	44
Depth	175	175	265	265	265	265	-	300	300	230	230	265

16 FO Patch Panels

16.1 19" FO Patch Panel ECONOMY V

ECONOMY V is used for splitting of Breakout cables or Mini Breakout cables and therefore needs no splice storage. Using the two fixing brackets supplied the panel may be also installed in the rack at 50 mm backward displacement from the rack front. Incoming cables are secured to the strain relief rail by means of cable ties.

Scope of delivery:
Housing, front plate, cable ties, adaptors with ceramic sleeve

16.1.1 ECONOMY V with assembled adaptors

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Remarks
H02030A0018	ECONOMY V 1 HU	12	ST, ceramic sleeve, metal housing	metal	for singlemode and multimode
H02030A0021	ECONOMY V 1 HU	24	ST, ceramic sleeve, metal housing	metal	for singlemode and multimode

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Remarks
H02030A0016	ECONOMY V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	blue	for singlemode and multimode
H02030M0016	ECONOMY V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	beige	for multimode
H02030T0016	ECONOMY V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	aqua	for multimode OM3
H02030V0016	ECONOMY V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	black	for multimode OM4
H02030A0019	ECONOMY V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	blue	for singlemode and multimode
H02030M0019	ECONOMY V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	beige	for multimode
H02030T0019	ECONOMY V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	aqua	for multimode OM3
H02030V0019	ECONOMY V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	black	for multimode OM4
H02030A0022	ECONOMY V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	blue	for singlemode and multimode
H02030M0022	ECONOMY V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	beige	for multimode
H02030T0022	ECONOMY V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	aqua	for multimode OM3
H02030V0022	ECONOMY V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	black	for multimode OM4

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Remarks
H02030A0608	ECONOMY V 1 HU	6	LC Duplex, ceramic sleeve, plastic housing	blue	for singlemode and multimode
H02030M0608	ECONOMY V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	beige	for multimode
H02030T0608	ECONOMY V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	for multimode OM3
H02030V0608	ECONOMY V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	black	for multimode OM4
H02030A0609	ECONOMY V 1 HU	12	LC Duplex, ceramic sleeve, plastic housing	blue	for singlemode and multimode
H02030M0609	ECONOMY V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	beige	for multimode
H02030T0609	ECONOMY V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	for multimode OM3
H02030V0609	ECONOMY V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	black	for multimode OM4
H02030A0610	ECONOMY V 1 HU	24	LC Duplex, ceramic sleeve, plastic housing	blue	for singlemode and multimode
H02030M0610	ECONOMY V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	beige	for multimode
H02030T0610	ECONOMY V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	for multimode OM3
H02030V0610	ECONOMY V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	black	for multimode OM4

ECONOMY V for individual ordering 16.1.2

Order no.	Description	Type
H02030A0048	Housing ECONOMY V 1 HU	19" patch panel with fixing bar for cables
H02030A0435	Cover for ECONOMY 1HU	incl. sealing foam strap at cable entry
H02031A0027	Housing ECONOMY V 2 HU	19" patch panel with fixing bar for cables
H02030A0436	Cover for ECONOMY 2HU	incl. sealing foam strap at cable entry

front plates and accessories see chapter „Front plates for Housing Types ECONOMY V / BASIS V / PROFI V / PROFI Plus“

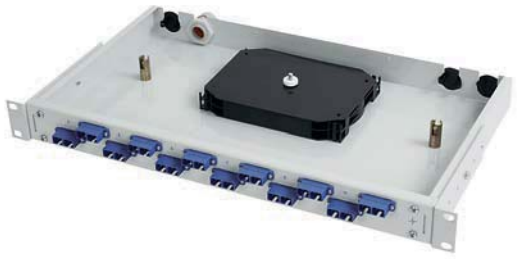
16 FO Patch Panels

16.2 19" FO Patch Panel BASIS V

BASIS V allows installation of up to 4 incoming multifiber cables with total 144 fibers maximum and distribution of them via up to 4 splice cassettes. Using two fixing brackets the panel may be also installed in the rack at 50 mm backward displacement from the rack front.

Scope of delivery:
Housing with each 2 cable entries for M20 and M25 glands, front plate, 1 cable gland M25 for 9-13 mm dia., 1 cable gland M20 for 5-9 mm dia., each 2 covers for M20 amd M25 entries, 1 splice cassette system NOKIA with 2 integrated crimp splice holders for 12 fibers each, cover for splice cassette, adaptor with ceramic sleeves or phosphorous bronze sleeve and pigtails see tables, completely assembled.
Panels with pigtail 9/125 or 50/125 include crimp splice protectors type Telekom and marking strip.

16.2.1 BASIS V with assembled adaptors



Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030A0000	BASIS V 1 HU	12	ST, ceramic sleeve, metal housing	metal	1	for singlemode and multimode
H02030A0001	BASIS V 1 HU	24	ST, ceramic sleeve, metal housing	metal	2	for singlemode and multimode

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030A0004	BASIS V 1 HU	12	SC, ceramic sleeve, plastic housing	blue	1	for singlemode and multimode
H02030M0004	BASIS V 1 HU	12	SC, ceramic sleeve, plastic housing	beige	1	for multimode
H02030T0004	BASIS V 1 HU	12	SC, ceramic sleeve, plastic housing	aqua	1	for multimode OM3
H02030V0004	BASIS V 1 HU	12	SC, ceramic sleeve, plastic housing	black	1	for multimode OM4
H02030A0005	BASIS V 1 HU	24	SC, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030M0005	BASIS V 1 HU	24	SC, ceramic sleeve, plastic housing	beige	2	for multimode
H02030T0005	BASIS V 1 HU	24	SC, ceramic sleeve, plastic housing	aqua	2	for multimode OM3
H02030V0005	BASIS V 1 HU	24	SC, ceramic sleeve, plastic housing	black	2	for multimode OM4

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030A0008	BASIS V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	blue	1	for singlemode and multimode
H02030M0008	BASIS V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	beige	1	for multimode
H02030T0008	BASIS V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	aqua	1	for multimode OM3
H02030V0008	BASIS V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	black	1	for multimode OM4
H02030A0009	BASIS V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030M0009	BASIS V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	beige	2	for multimode
H02030T0009	BASIS V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	aqua	2	for multimode OM3
H02030V0009	BASIS V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	black	2	for multimode OM4
H02030A0034	BASIS V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030M0034	BASIS V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	beige	2	for multimode
H02030T0034	BASIS V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	aqua	2	for multimode OM3
H02030V0034	BASIS V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	black	2	for multimode OM4

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030A0590	BASIS V 1 HU	6	LC Duplex, ceramic sleeve, plastic housing	blue	1	for singlemode and multimode
H02030M0590	BASIS V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	beige	1	for multimode
H02030T0590	BASIS V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	1	for multimode OM3
H02030V0590	BASIS V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	black	1	for multimode OM4
H02030A0491	BASIS V 1 HU	12	LC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030M0491	BASIS V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	beige	2	for multimode
H02030T0491	BASIS V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	2	for multimode OM3
H02030V0491	BASIS V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	black	2	for multimode OM4
H02030A0492	BASIS V 1 HU	24	LC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030M0492	BASIS V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	beige	2	for multimode
H02030T0492	BASIS V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	2	for multimode OM3
H02030V0492	BASIS V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	black	2	for multimode OM4

16.2

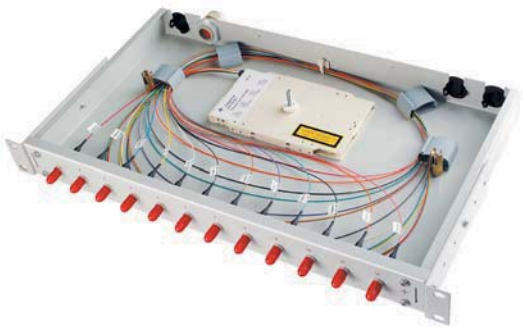
16 FO Patch Panels

16.2 19" FO Patch Panel BASIS V

16.2.1 BASIS V with assembled adaptors

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030A0550	BASIS V 1 HU	12	E2000, ceramic sleeve, plastic housing	blue	1	for singlemode and multimode
H02030A0554	BASIS V 1 HU	12	E2000/APC, ceramic sleeve, plastic housing	green	1	for singlemode
H02030M0550	BASIS V 1 HU	12	E2000, ceramic sleeve, plastic housing	black/orange	1	for multimode
H02030A0592	BASIS V 1 HU	24	E2000, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030A0594	BASIS V 1 HU	24	E2000/APC, ceramic sleeve, plastic housing	green	2	for singlemode
H02030M0592	BASIS V 1 HU	24	E2000, ceramic sleeve, plastic housing	black/orange	2	for multimode

16.2.2 BASIS V with assembled adaptors and pigtails



Order no.	Housing type	Number of Adaptors	Adaptor Type	Fiber Pigtails	Colour	Remarks
H02030E0000	BASIS V 1 HU	12	ST, ceramic sleeve, metal housing	12x 9/125, OS2, 2 m, ST	metal	coloured, stripped for splicing
H02030F0000	BASIS V 1 HU	12	ST, ceramic sleeve, metal housing	12x 50/125, OM2, 2 m, ST	metal	coloured, stripped for splicing
H02030K0000	BASIS V 1 HU	12	ST, ceramic sleeve, metal housing	12x 50/125, OM3, 2 m, ST	metal	coloured, stripped for splicing
H02030G0000	BASIS V 1 HU	12	ST, ceramic sleeve, metal housing	12x50/125, OM4, 2 m, ST	metal	stripped for splicing
H02030E0001	BASIS V 1 HU	24	ST, ceramic sleeve, metal housing	24x 9/125, OS2, 2 m, ST	metal	coloured, stripped for splicing
H02030F0001	BASIS V 1 HU	24	ST, ceramic sleeve, metal housing	24x 50/125, OM2, 2 m, ST	metal	coloured, stripped for splicing
H02030K0001	BASIS V 1 HU	24	ST, ceramic sleeve, metal housing	24x 50/125, OM3, 2 m, ST	metal	coloured, stripped for splicing
H02030G0001	BASIS V 1 HU	24	ST, ceramic sleeve, metal housing	12x50/125, OM4, 2 m, ST	metal	stripped for splicing

Order no.	Housing type	Number of Adaptors	Adaptor Type	Fiber Pigtails	Colour	Remarks
H02030E0004	BASIS V 1 HU	12	SC, ceramic sleeve, plastic housing	12x 9/125, OS2, 2 m, SC	blue	coloured, stripped for splicing
H02030F0004	BASIS V 1 HU	12	SC, ceramic sleeve, plastic housing	12x 50/125, OM2, 2 m, SC	beige	coloured, stripped for splicing
H02030K0004	BASIS V 1 HU	12	SC, ceramic sleeve, plastic housing	12x 50/125, OM3, 2 m, SC	aqua	coloured, stripped for splicing
H02030G0004	BASIS V 1 HU	12	SC, ceramic sleeve, plastic housing	12x 50/125, OM4, 2 m, SC	black	coloured, stripped for splicing
H02030E0005	BASIS V 1 HU	24	SC, ceramic sleeve, plastic housing	24x 9/125, OS2, 2 m, SC	blue	coloured, stripped for splicing
H02030F0005	BASIS V 1 HU	24	SC, ceramic sleeve, plastic housing	24x 50/125, OM2, 2 m, SC	beige	coloured, stripped for splicing
H02030K0005	BASIS V 1 HU	24	SC, ceramic sleeve, plastic housing	24x 50/125, OM3, 2 m, SC	aqua	coloured, stripped for splicing
H02030G0005	BASIS V 1 HU	24	SC, ceramic sleeve, plastic housing	12x 50/125, OM4, 2 m, SC	black	coloured, stripped for splicing

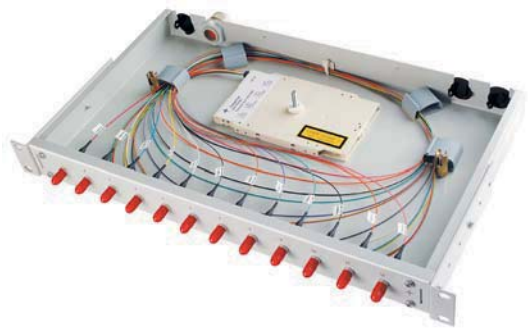
Order no.	Housing type	Number of Adaptors	Adaptor Type	Fiber Pigtails	Colour	Remarks
H02030E0008	BASIS V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	12x 9/125 OS2, 2 m, SC	blue	coloured, stripped for splicing
H02030F0008	BASIS V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	12x 50/125 OM2, 2 m, SC	beige	coloured, stripped for splicing
H02030K0008	BASIS V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	12x 50/125 OM3, 2 m, SC	aqua	coloured, stripped for splicing
H02030G0008	BASIS V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	12x 50/125 OM4, 2 m, SC	black	coloured, stripped for splicing
H02030E0009	BASIS V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	24x 9/125 OS2, 2 m, SC	blue	coloured, stripped for splicing
H02030F0009	BASIS V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	24x 50/125 OM2, 2 m, SC	beige	coloured, stripped for splicing
H02030K0009	BASIS V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	24x 50/125 OM3, 2 m, SC	aqua	coloured, stripped for splicing
H02030G0009	BASIS V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	24x 50/125 OM4, 2 m, SC	black	coloured, stripped for splicing
H02030E0034	BASIS V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	48x 9/125 OS2, 2 m, SC	blue	coloured, stripped for splicing
H02030F0034	BASIS V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	48x 50/125 OM2, 2 m, SC	beige	coloured, stripped for splicing
H02030K0034	BASIS V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	48x 50/125 OM3, 2 m, SC	aqua	coloured, stripped for splicing
H02030G0034	BASIS V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	48x 50/125 OM4, 2 m, SC	black	coloured, stripped for splicing

16.2

16 FO Patch Panels

16.2 19" FO Patch Panel BASIS V

16.2.2 BASIS V with assembled adaptors and pigtails



Order no.	Housing type	Number of Adaptors	Adaptor Type	Fiber Pigtails	Colour	Remarks
H02030E0590	BASIS V 1 HU	6	LC Duplex, ceramic sleeve, plastic housing	12x 9/125 OS2, 2 m, LC	blue	coloured, stripped for splicing
H02030F0590	BASIS V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	12x 50/125 OM2, 2 m, LC	beige	coloured, stripped for splicing
H02030K0590	BASIS V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	12x 50/125 OM3, 2 m, LC	aqua	coloured, stripped for splicing
H02030G0590	BASIS V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	12x 50/125 OM4, 2 m, LC	black	coloured, stripped for splicing
H02030E0491	BASIS V 1 HU	12	LC Duplex, ceramic sleeve, plastic housing	24x 9/125 OS2, 2 m, LC	blue	coloured, stripped for splicing
H02030F0491	BASIS V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	24x 50/125 OM2, 2 m, LC	beige	coloured, stripped for splicing
H02030K0491	BASIS V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	24x 50/125 OM3, 2 m, LC	aqua	coloured, stripped for splicing
H02030G0491	BASIS V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	24x 50/125 OM4, 2 m, LC	black	coloured, stripped for splicing
H02030E0492	BASIS V 1 HU	24	LC Duplex, ceramic sleeve, plastic housing	48x 9/125 OS2, 2 m, LC	blue	coloured, stripped for splicing
H02030F0492	BASIS V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	48x 50/125 OM2, 2 m, LC	beige	coloured, stripped for splicing
H02030K0492	BASIS V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	48x 50/125 OM3, 2 m, LC	aqua	coloured, stripped for splicing
H02030G0492	BASIS V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	48x 50/125 OM4, 2 m, LC	black	coloured, stripped for splicing

Order no.	Housing type	Number of Adaptors	Adaptor Type	Fiber Pigtails	Colour	Remarks
H02030E0550	BASIS V 1 HU	12	E2000, ceramic sleeve, plastic housing	12x 9/125, OS2, 2 m, E2000	blue	coloured, stripped for splicing
H02030E0554	BASIS V 1 HU	12	E2000/APC, ceramic sleeve, plastic housing	12x 9/125, OS2, 2 m, E2000/APC	green	coloured, stripped for splicing
H02030F0550	BASIS V 1 HU	12	E2000, ceramic sleeve, plastic housing	12x 50/125, OM2, 2 m, E2000	black/ orange	coloured, stripped for splicing
H02030K0550	BASIS V 1 HU	12	E2000, ceramic sleeve, plastic housing	12x 50/125, OM3, 2 m, E2000	black/ orange	coloured, stripped for splicing
H02030G0550	BASIS V 1 HU	12	E2000, ceramic sleeve, plastic housing	12x 50/125, OM4, 2 m, E2000	black/ red	coloured, stripped for splicing
H02030E0592	BASIS V 1 HU	24	E2000, ceramic sleeve, plastic housing	24x 9/125, OS2, 2 m, E2000	blue	coloured, stripped for splicing
H02030E0594	BASIS V 1 HU	24	E2000/APC, ceramic sleeve, plastic housing	24x 9/125, OS2, 2 m, E2000/APC	green	coloured, stripped for splicing
H02030F0592	BASIS V 1 HU	24	E2000, ceramic sleeve, plastic housing	24x 50/125, OM2, 2 m, E2000	black/ orange	coloured, stripped for splicing
H02030K0592	BASIS V 1 HU	24	E2000, ceramic sleeve, plastic housing	24x 50/125, OM3, 2 m, E2000	black/ orange	coloured, stripped for splicing
H02030G0592	BASIS V 1 HU	24	E2000, ceramic sleeve, plastic housing	12x 50/125, OM4, 2 m, E2000	black/ orange	coloured, stripped for splicing

BASIS V for individual ordering 16.2.3

Order no.	Description	Remarks
H02030A0293	Housing BASIS V 1 HU	Closed 19" housing for storage of maximum 3 splice or Combi cassettes, with integrated cable entry holes each one for M20 and one for M25 gland on the left and right, with additional strain relief clamps and guiding clips for fibers and cables, protection class IP 20
H02031A0023	Housing BASIS V 2 HU	Closed 19" housing for storage of maximum 5 splice or Combi cassettes, with integrated cable entry holes each for one M20 and one M25 gland on the left and right, with additional strain relief clamps and guiding clips for fibers and cables, protection class IP 20

front plates and accessories see chapter „Front plates for Housing Types ECONOMY V / BASIS V / PROFI V / PROFI Plus"

Order no.	Description	Remarks
H02032A0024	Housing BASIS V 3 HU	Closed 19" housing for storage of maximum 12 splice or Combi cassettes, with integrated cable entry holes each 2 for M25 glands on the left and right, with additional strain relief clamps and guiding clips for fibers and cables, protection class IP 20

front plates and accessories see chapter „Front plates for Housing Types ECONOMY V / BASIS V / PROFI V / PROFI Plus"

16 FO Patch Panels

16.2 19" FO Patch Panel BASIS V

16.2.4 Accessories for BASIS V 3 HU

Order no.	Description
H02050A0158	Base plate for splice cassette (stackable) for BASIS V 3 HU

Order no.	Description
H02050A0159	Base plate for splice cassettes (swivel) for BASIS V 3 HU

Order no.	Description
H02050A0160	Carrier plate for splice cassettes (swivel) for BASIS V 3 HU

16.3 19" FO Patch Panel BASIS eco

BASIS eco is a fiber optic patch panel for fixed installation completely equipped with ST, SC and LC adaptors or additionally with G50/125 OM2/OM3/OM4 or E9/125 OS2 pigtails ready for splicing, coloured in accordance with DIN VDE 0888. This ensures a consistent colour sequence of optical fibers from the installation cable through the pigtails to the adaptor and thus safe, troublefree connection. The stripped fiber ends additionally save time when preparing the splice.

scope of delivery:
Housing with each 2 cable entries for M20 and M25 glands, front plate, 1 cable gland M25 for 9-13 mm dia., 1 cable gland M20 for 5-9 mm dia., each 2 covers for M20 and M25 entries, 1 splice cassette system NOKIA with 2 integrated crimp splice holders for max. 24 fibers each, cover for splice cassette, adaptor with ceramic sleeves or phosphorous bronze sleeve and pigtails see tables, completely assembled.

BASIS eco with assembled adaptors 16.3.1

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030S9000	BASIS eco 1 HU	12	ST, ceramic sleeve, metal housing	metal	1	for singlemode and multimode
H02030A9000	BASIS eco 1 HU	12	ST, phosphor bronze sleeve, metal housing	metal	1	for multimode
H02030S9001	BASIS eco 1 HU	24	ST, ceramic sleeve, metal housing	metal	2	for singlemode and multimode
H02030A9001	BASIS eco 1 HU	24	ST, phosphor bronze sleeve, metal housing	metal	2	for multimode

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030S9008	BASIS eco 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	blue	1	for singlemode and multimode
H02030A9008	BASIS eco 1 HU	6	SC Duplex, phosphor bronze sleeve, plastic housing	beige	1	for multimode
H02030T9008	BASIS eco 1 HU	6	SC Duplex, phosphor bronze sleeve, plastic housing	aqua	1	for multimode OM3
H02030V9008	BASIS eco 1 HU	6	SC Duplex, phosphor bronze sleeve, plastic housing	black	1	for multimode OM4
H02030S9009	BASIS eco 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030A9009	BASIS eco 1 HU	12	SC Duplex, phosphor bronze sleeve, plastic housing	beige	2	for multimode
H02030T9009	BASIS eco 1 HU	12	SC Duplex, phosphor bronze sleeve, plastic housing	aqua	2	for multimode OM3
H02030V9009	BASIS eco 1 HU	12	SC Duplex, phosphor bronze sleeve, plastic housing	black	2	for multimode OM4
H02030S9034	BASIS eco 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030A9034	BASIS eco 1 HU	24	SC Duplex, phosphor bronze sleeve, plastic housing	beige	2	for multimode
H02030T9034	BASIS eco 1 HU	24	SC Duplex, phosphor bronze sleeve, plastic housing	aqua	2	for multimode OM3
H02030V9034	BASIS eco 1 HU	24	SC Duplex, phosphor bronze sleeve, plastic housing	black	2	for multimode OM4

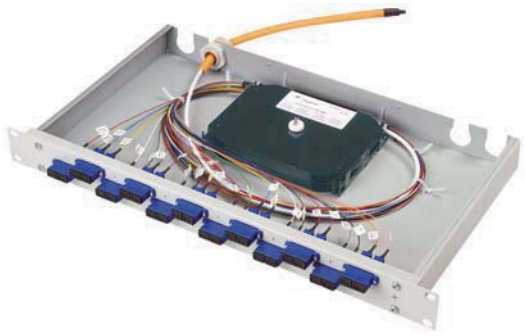
16 FO Patch Panels

16.3 19" FO Patch Panel BASIS eco

16.3.1 BASIS eco with assembled adaptors

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030S9590	BASIS eco 1 HU	6	LC Duplex, ceramic sleeve, plastic housing	blue	1	for singlemode and multimode
H02030A9590	BASIS eco 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	beige	1	for multimode
H02030T9590	BASIS eco 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	1	for multimode OM3
H02030V9590	BASIS eco 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	black	1	for multimode OM4
H02030S9451	BASIS eco 1 HU	12	LC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030A9451	BASIS eco 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	beige	2	for multimode
H02030T9451	BASIS eco 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	2	for multimode OM3
H02030V9451	BASIS eco 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	black	2	for multimode OM4
H02030S9452	BASIS eco 1 HU	24	LC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030A9452	BASIS eco 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	beige	2	for multimode
H02030T9452	BASIS eco 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	2	for multimode OM3
H02030V9452	BASIS eco 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	black	2	for multimode OM4

BASIS eco with assembled adaptors and coloured pigtails 16.3.2



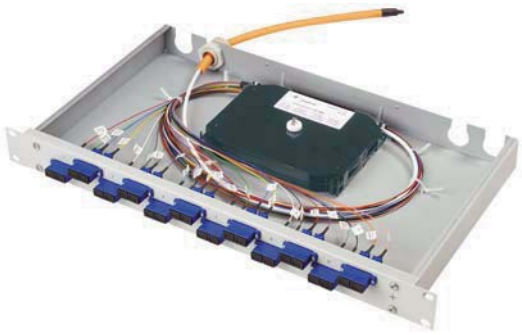
Order no.	Housing type	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Remarks
H02030D9000	BASIS eco 1 HU	12	ST, ceramic sleeve, metal housing	metal	12x 9/125, OS2, 2 m, ST	coloured, stripped for splicing
H02030B9000	BASIS eco 1 HU	12	ST, phosphor bronze sleeve, metal housing	metal	12x 50/125, OM2, 2 m, ST	coloured, stripped for splicing
H02030K9000	BASIS eco 1 HU	12	ST, phosphor bronze sleeve, metal housing	metal	12x 50/125, OM3, 2 m, ST	coloured, stripped for splicing
H02030G9000	BASIS eco 1 HU	12	ST, phosphor bronze sleeve, metal housing	metal	12x 50/125, OM4, 2 m, ST	coloured, stripped for splicing
H02030D9001	BASIS eco 1 HU	24	ST, ceramic sleeve, metal housing	metal	24x 9/125, OS2, 2 m, ST	coloured, stripped for splicing
H02030B9001	BASIS eco 1 HU	24	ST, phosphor bronze sleeve, metal housing	metal	24x 50/125, OM2, 2 m, ST	coloured, stripped for splicing
H02030K9001	BASIS eco 1 HU	24	ST, phosphor bronze sleeve, metal housing	metal	24x 50/125, OM3, 2 m, ST	coloured, stripped for splicing
H02030G9001	BASIS eco 1 HU	24	ST, phosphor bronze sleeve, metal housing	metal	12x 50/125, OM4, 2 m, ST	coloured, stripped for splicing

Order no.	Housing type	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Remarks
H02030D9008	BASIS eco 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	blue	12x 9/125, OS2, 2 m, SC	coloured, stripped for splicing
H02030B9008	BASIS eco 1 HU	6	SC Duplex, phosphor bronze sleeve, plastic housing	beige	12x 50/125, OM2, 2 m, SC	coloured, stripped for splicing
H02030K9008	BASIS eco 1 HU	6	SC Duplex, phosphor bronze sleeve, plastic housing	aqua	12x 50/125, OM3, 2 m, SC	coloured, stripped for splicing
H02030G9008	BASIS eco 1 HU	6	SC Duplex, phosphor bronze sleeve, plastic housing	black	12x 50/125, OM4, 2 m, SC	coloured, stripped for splicing
H02030D9009	BASIS eco 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	blue	24x 9/125, OS2, 2 m, SC	coloured, stripped for splicing
H02030B9009	BASIS eco 1 HU	12	SC Duplex, phosphor bronze sleeve, plastic housing	beige	24x 50/125, OM2, 2 m, SC	coloured, stripped for splicing
H02030K9009	BASIS eco 1 HU	12	SC Duplex, phosphor bronze sleeve, plastic housing	aqua	24x 50/125, OM3, 2 m, SC	coloured, stripped for splicing
H02030G9009	BASIS eco 1 HU	12	SC Duplex, phosphor bronze sleeve, plastic housing	black	24x 50/125, OM4, 2 m, SC	coloured, stripped for splicing
H02030D9034	BASIS eco 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	blue	48x 9/125, OS2, 2 m, SC	coloured, stripped for splicing
H02030B9034	BASIS eco 1 HU	24	SC Duplex, phosphor bronze sleeve, plastic housing	beige	48x 50/125, OM2, 2 m, SC	coloured, stripped for splicing
H02030K9034	BASIS eco 1 HU	24	SC Duplex, phosphor bronze sleeve, plastic housing	aqua	48x 50/125, OM3, 2 m, SC	coloured, stripped for splicing
H02030G9034	BASIS eco 1 HU	24	SC Duplex, phosphor bronze sleeve, plastic housing	black	48x 50/125, OM4, 2 m, SC	coloured, stripped for splicing

16 FO Patch Panels

16.3 19" FO Patch Panel BASIS eco

16.3.2 BASIS eco with assembled adaptors and coloured pigtails



Order no.	Housing type	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Remarks
H02030D9590	BASIS eco 1 HU	6	LC Duplex, ceramic sleeve, plastic housing	blue	12x 9/125, OS2, 2 m, LC	coloured, stripped for splicing
H02030B9590	BASIS eco 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	beige	12x 50/125, OM2, 2 m, LC	coloured, stripped for splicing
H02030K9590	BASIS eco 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	12x 50/125, OM3, 2 m, LC	coloured, stripped for splicing
H02030G9590	BASIS eco 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	black	12x 50/125, OM4, 2 m, LC	coloured, stripped for splicing
H02030D9451	BASIS eco 1 HU	12	LC Duplex, ceramic sleeve, plastic housing	blue	24x 9/125, OS2, 2 m, LC	coloured, stripped for splicing
H02030B9451	BASIS eco 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	beige	24x 50/125, OM2, 2 m, LC	coloured, stripped for splicing
H02030K9451	BASIS eco 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	24x 50/125, OM3, 2 m, LC	coloured, stripped for splicing
H02030G9451	BASIS eco 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	black	24x 50/125, OM4, 2 m, LC	coloured, stripped for splicing
H02030D9452	BASIS eco 1 HU	24	LC Duplex, ceramic sleeve, plastic housing	blue	48x 9/125, OS2, 2 m, LC	coloured, stripped for splicing
H02030B9452	BASIS eco 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	beige	48x 50/125, OM2, 2 m, LC	coloured, stripped for splicing
H02030K9452	BASIS eco 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	48x 50/125, OM3, 2 m, LC	coloured, stripped for splicing
H02030G9452	BASIS eco 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	black	48x 50/125, OM4, 2 m, LC	coloured, stripped for splicing

19" FO Patch Panel PROFI V 16.4

PROFI V with pull-out drawer permits convenient access to the splice organizer at any time. The fixed rear panel permits fixed routing in the rack without unused cable lengths. For passing the fibers from rear wall to drawer a protection tube with 12 mm is included. An additional protection tube can be installed.

scope of delivery:
Housing, front plate, 1 cable gland M25 for 9-13 mm, 1 fiber protection tube, 1 splice cassette with 2 integarated crimp splice holder for 12 fibers each, cover for splice cassette, adaptors with ceramic sleeve and pigtails with ceramic ferrule connectors see table, completely assembled.
Panels with pigtails 9/125 or 50/125 include crimp splice protectors type Telekom and marking strip.

PROFI V with assembled adaptors 16.4.1

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030A0002	PROFI V 1 HU	12	ST, ceramic sleeve, metal housing	metal	1	for singlemode and multimode
H02030A0003	PROFI V 1 HU	24	ST, ceramic sleeve, metal housing	metal	2	for singlemode and multimode

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030A0006	PROFI V 1 HU	12	SC, ceramic sleeve, plastic housing	blue	1	for singlemode and multimode
H02030M0006	PROFI V 1 HU	12	SC, ceramic sleeve, plastic housing	beige	1	for multimode
H02030T0006	PROFI V 1 HU	12	SC, ceramic sleeve, plastic housing	aqua	1	for multimode OM3
H02030V0006	PROFI V 1 HU	12	SC, ceramic sleeve, plastic housing	black	1	for multimode OM4
H02030A0007	PROFI V 1 HU	24	SC, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030M0007	PROFI V 1 HU	24	SC, ceramic sleeve, plastic housing	beige	2	for multimode
H02030T0007	PROFI V 1 HU	24	SC, ceramic sleeve, plastic housing	aqua	2	for multimode OM3
H02030V0007	PROFI V 1 HU	24	SC, ceramic sleeve, plastic housing	black	2	for multimode OM4

16 FO Patch Panels

16.4 19" FO Patch Panel PROFI V

16.4.1 PROFI V with assembled adaptors

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030A0010	PROFI V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	blue	1	for singlemode and multimode
H02030M0010	PROFI V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	beige	1	for multimode
H02030T0010	PROFI V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	aqua	1	for multimode OM3
H02030V0010	PROFI V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	black	1	for multimode OM3
H02030A0011	PROFI V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030M0011	PROFI V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	beige	2	for multimode
H02030T0011	PROFI V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	aqua	2	for multimode OM3
H02030V0011	PROFI V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	black	2	for multimode OM3
H02030A0036	PROFI V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030M0036	PROFI V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	beige	2	for multimode
H02030T0036	PROFI V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	aqua	2	for multimode OM3
H02030V0036	PROFI V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	black	2	for multimode OM3

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030A0591	PROFI V 1 HU	6	LC Duplex, ceramic sleeve, plastic housing	blue	1	for singlemode and multimode
H02030M0591	PROFI V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	beige	1	for multimode
H02030T0591	PROFI V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	1	for multimode OM3
H02030V0591	PROFI V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	black	1	for multimode OM3
H02030A0506	PROFI V 1 HU	12	LC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030M0506	PROFI V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	beige	2	for multimode
H02030T0506	PROFI V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	2	for multimode OM3
H02030V0506	PROFI V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	black	2	for multimode OM3
H02030A0507	PROFI V 1 HU	24	LC Duplex, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030M0507	PROFI V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	beige	2	for multimode
H02030T0507	PROFI V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	2	for multimode OM3
H02030V0507	PROFI V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	black	2	for multimode OM3

Order no.	Housing type	Number of Adaptors	Adaptor Type	Adaptor: Colour	Number of Splice Cassettes System NOKIA	Remarks
H02030A0551	PROFI V 1 HU	12	E2000, ceramic sleeve, plastic housing	blue	1	for singlemode and multimode
H02030A0555	PROFI V 1 HU	12	E2000/APC, ceramic sleeve, plastic housing	green	1	for singlemode
H02030M0551	PROFI V 1 HU	12	E2000, ceramic sleeve, plastic housing	black/ orange	1	for multimode
H02030A0593	PROFI V 1 HU	24	E2000, ceramic sleeve, plastic housing	blue	2	for singlemode and multimode
H02030A0595	PROFI V 1 HU	24	E2000/APC, ceramic sleeve, plastic housing	green	2	for singlemode
H02030M0593	PROFI V 1 HU	24	E2000, ceramic sleeve, plastic housing	black/ orange	2	for multimode

16.4

16.4 19" FO Patch Panel PROFI V

16.4.2 PROFI V with assembled adaptors and pigtails

Order no.	Housing type	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Remarks
H02030E0002	PROFI V 1 HU	12	ST, ceramic sleeve, metal housing	metal	12x 9/125, OS2, 2 m, ST	coloured, stripped for splicing
H02030F0002	PROFI V 1 HU	12	ST, ceramic sleeve, metal housing	metal	12x 50/125, OM2, 2 m, ST	coloured, stripped for splicing
H02030K0002	PROFI V 1 HU	12	ST, ceramic sleeve, metal housing	metal	12x 50/125, OM3, 2 m, ST	coloured, stripped for splicing
H02030G0002	PROFI V 1 HU	12	ST, ceramic sleeve, metal housing	metal	12x 50/125, OM4, 2 m, ST	coloured, stripped for splicing
H02030E0003	PROFI V 1 HU	24	ST, ceramic sleeve, metal housing	metal	24x 9/125, OS2, 2 m, ST	coloured, stripped for splicing
H02030F0003	PROFI V 1 HU	24	ST, ceramic sleeve, metal housing	metal	24x 50/125, OM2, 2 m, ST	coloured, stripped for splicing
H02030K0003	PROFI V 1 HU	24	ST, ceramic sleeve, metal housing	metal	24x 50/125, OM3, 2 m, ST	coloured, stripped for splicing
H02030G0003	PROFI V 1 HU	24	ST, ceramic sleeve, metal housing	metal	24x 50/125, OM4, 2 m, ST	coloured, stripped for splicing

Order no.	Housing type	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Remarks
H02030E0006	PROFI V 1 HU	12	SC, ceramic sleeve, plastic housing	blue	12x 9/125, OS2, 2 m, SC	coloured, stripped for splicing
H02030F0006	PROFI V 1 HU	12	SC, ceramic sleeve, plastic housing	beige	12x 50/125, OM2, 2 m, SC	coloured, stripped for splicing
H02030K0006	PROFI V 1 HU	12	SC, ceramic sleeve, plastic housing	aqua	12x 50/125, OM3, 2 m, SC	coloured, stripped for splicing
H02030G0006	PROFI V 1 HU	12	SC, ceramic sleeve, plastic housing	black	12x 50/125, OM4, 2 m, SC	coloured, stripped for splicing
H02030E0007	PROFI V 1 HU	24	SC, ceramic sleeve, plastic housing	blue	24x 9/125, OS2, 2 m, SC	coloured, stripped for splicing
H02030F0007	PROFI V 1 HU	24	SC, ceramic sleeve, plastic housing	beige	24x 50/125, OM2, 2 m, SC	coloured, stripped for splicing
H02030K0007	PROFI V 1 HU	24	SC, ceramic sleeve, plastic housing	aqua	24x 50/125, OM3, 2 m, SC	coloured, stripped for splicing
H02030G0007	PROFI V 1 HU	24	SC, ceramic sleeve, plastic housing	black	12x 50/125, OM3, 2 m, SC	coloured, stripped for splicing

Order no.	Housing type	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Remarks
H02030E0010	PROFI V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	blue	12x 9/125, OS2, 2 m, SC	coloured, stripped for splicing
H02030F0010	PROFI V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	beige	12x 50/125, OM2, 2 m, SC	coloured, stripped for splicing
H02030K0010	PROFI V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	aqua	12x 50/125, OM3, 2 m, SC	coloured, stripped for splicing
H02030G0010	PROFI V 1 HU	6	SC Duplex, ceramic sleeve, plastic housing	black	12x 50/125, OM4, 2 m, SC	coloured, stripped for splicing
H02030E0011	PROFI V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	blue	24x 9/125, OS2, 2 m, SC	coloured, stripped for splicing
H02030F0011	PROFI V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	beige	24x 50/125, OM2, 2 m, SC	coloured, stripped for splicing
H02030K0011	PROFI V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	aqua	24x 50/125, OM3, 2 m, SC	coloured, stripped for splicing
H02030G0011	PROFI V 1 HU	12	SC Duplex, ceramic sleeve, plastic housing	black	24x 50/125, OM4, 2 m, SC	coloured, stripped for splicing
H02030E0036	PROFI V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	blue	48x 9/125, OS2, 2 m, SC	coloured, stripped for splicing
H02030F0036	PROFI V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	beige	48x 50/125, OM2, 2 m, SC	coloured, stripped for splicing
H02030K0036	PROFI V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	aqua	48x 50/125, OM3, 2 m, SC	coloured, stripped for splicing
H02030G0036	PROFI V 1 HU	24	SC Duplex, ceramic sleeve, plastic housing	black	48x 50/125, OM4, 2 m, SC	coloured, stripped for splicing

Order no.	Housing type	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Remarks
H02030E0591	PROFI V 1 HU	6	LC Duplex, ceramic sleeve, plastic housing	blue	12x 9/125, OS2, 2 m, LC	coloured, stripped for splicing
H02030F0591	PROFI V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	beige	12x 50/125, OM2, 2 m, LC	coloured, stripped for splicing
H02030K0591	PROFI V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	12x 50/125, OM3, 2 m, LC	coloured, stripped for splicing
H02030G0591	PROFI V 1 HU	6	LC Duplex, phosphor bronze sleeve, plastic housing	black	12x 50/125, OM4, 2 m, LC	coloured, stripped for splicing
H02030E0506	PROFI V 1 HU	12	LC Duplex, ceramic sleeve, plastic housing	blue	24x 9/125, OS2, 2 m, LC	coloured, stripped for splicing
H02030F0506	PROFI V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	beige	24x 50/125, OM2, 2 m, LC	coloured, stripped for splicing
H02030K0506	PROFI V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	24x 50/125, OM3, 2 m, LC	coloured, stripped for splicing
H02030G0506	PROFI V 1 HU	12	LC Duplex, phosphor bronze sleeve, plastic housing	black	24x 50/125, OM4, 2 m, LC	coloured, stripped for splicing
H02030E0507	PROFI V 1 HU	24	LC Duplex, ceramic sleeve, plastic housing	blue	48x 9/125, OS2, 2 m, LC	coloured, stripped for splicing
H02030F0507	PROFI V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	beige	48x 50/125, OM2, 2 m, LC	coloured, stripped for splicing
H02030K0507	PROFI V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	48x 50/125, OM3, 2 m, LC	coloured, stripped for splicing
H02030G0507	PROFI V 1 HU	24	LC Duplex, phosphor bronze sleeve, plastic housing	black	48x 50/125, OM4, 2 m, LC	coloured, stripped for splicing

16.4

16.4 19" FO Patch Panel PROFI V

16.4.2 PROFI V with assembled adaptors and pigtails

Order no.	Housing type	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Remarks
H02030E0551	PROFI V 1 HU	12	E2000, ceramic sleeve, plastic housing	blue	12x 9/125, OS2, 2 m, E2000	coloured, stripped for splicing
H02030E0555	PROFI V 1 HU	12	E2000/APC, ceramic sleeve, plastic housing	green	12x 9/125, OS2, 2 m, E2000/APC	coloured, stripped for splicing
H02030F0551	PROFI V 1 HU	12	E2000, ceramic sleeve, plastic housing	black/orange	12x 50/125, OM2, 2 m, E2000	coloured, stripped for splicing
H02030K0551	PROFI V 1 HU	12	E2000, ceramic sleeve, plastic housing	black/orange	12x 50/125, OM3, 2 m, E2000	coloured, stripped for splicing
H02030G0551	PROFI V 1 HU	12	E2000, ceramic sleeve, plastic housing	black/red	12x 50/125, OM4, 2 m, E2000	coloured, stripped for splicing
H02030E0593	PROFI V 1 HU	24	E2000, ceramic sleeve, plastic housing	blue	24x 9/125, OS2, 2 m, E2000	coloured, stripped for splicing
H02030E0595	PROFI V 1 HU	24	E2000/APC, ceramic sleeve, plastic housing	green	24x 9/125, OS2, 2 m, E2000/APC	coloured, stripped for splicing
H02030F0593	PROFI V 1 HU	24	E2000, ceramic sleeve, plastic housing	black/orange	24x 50/125, OM2, 2 m, E2000	coloured, stripped for splicing
H02030K0593	PROFI V 1 HU	24	E2000, ceramic sleeve, plastic housing	black/orange	24x 50/125, OM3, 2 m, E2000	coloured, stripped for splicing
H02030G0593	PROFI V 1 HU	24	E2000, ceramic sleeve, plastic housing	black/red	24x 50/125, OM4, 2 m, E2000	coloured, stripped for splicing

PROFI V for individual ordering 16.4.3

Order no.	Description	Remarks
H02030A0400	Housing PROFI V 1 HU	19" housing with closed slide-in unit, for storage of maximum 3 splice cassettes or combi cassettes, with integrated cable entry holes for 2 M25 glands at the left-hand-side of housing, with guiding for fibres and cables, protection class IP 20
H02031A0010	Housing PROFI V 2 HU	19" housing with closed slide-in unit, for storage of maximum 8 splice cassettes or combi cassettes, with integrated cable entry holes for 2 M25 glands at the left-hand-side of housing, with guiding for fibres and cables, protection class IP 20

19" FO Patch Panel PROFI Plus 16.5

PROFI Plus features an integrated cable storage in the lower part of the drawer and an extremely short installed depth of 230 mm. Cables can be introduced from the rear or sides and fixed with glands or with cable ties.

Order no.	Description	Remarks
H02030A0425	Housing PROFI Plus 1 HU	19" housing with closed slide-in unit, with fiber and cable storage in two separate levels within the slide-in, for max. 3 splice cassettes, with cable entry from the rear or from the side (M25 or cable tie), protection class IP 20
H02031A0037	Housing PROFI Plus 2 HU	19" housing with closed slide-in unit, with fiber and cable storage in two separate levels within the slide-in, for max. 5 splice cassettes, with cable entry from the rear or from the side (M25 or cable tie), protection class IP 20

16 FO Patch Panels

16.6 19" FO Patch Panel PROFI T

Order no.	Description	Remarks
H02030A0662	Housing PROFI T 1 HU	19" housing with closed slide-in unit, for storage of maximum 3 splice cassettes, with 2 integrated centrical cable entry holes for M25 glands, with guiding for fibres and cables, protection class IP 20

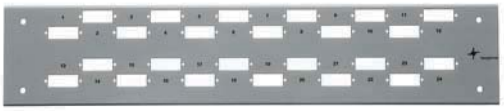
16.7 Accessories - Front plates for individual ordering

Front plates for BASIS V are also useful for ECONOMY V, PROFI V and PROFI Plus. Marking stripes, self-adhesive, with plastic cover see chapter „Accessories for 19'' FO Patch Panels". Order specifications (if you wish on diskette using the format Excel) can be sent without charge upon request or downloaded from the Telegärtner homepage. Front plates with panel piercings for other connector types upon request.

16.7.1 Front plates 1 HU for Housing Types ECONOMY V / BASIS V / PROFI V / PROFI Plus

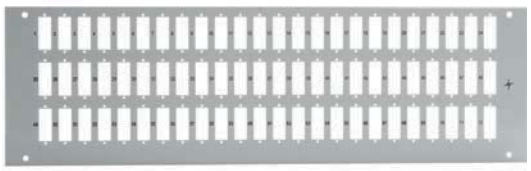
Order no.	HU	Number of panel piercings and connector type	Panel piercing	Number of rows x panel piercings	Port marking
H02025A0400	1	12 ST	Z64	1x12	x
H02025A0425	1	16 ST	Z64	1x16	x
H02025A0401	1	24 ST	Z64	2x12	x
H02025A0402	1	12 SC	Z77	1x12	x
H02025A0403	1	24 SC	Z77	1x24	x
H02025A0404	1	6 SC-D, LC Quad	Z93	1x6 horizontal	x
H02025A0405	1	12 SC Duplex, LC Quad	Z93	2x6 horizontal	x
H02025A0477	1	12 SC Duplex, LC Quad	Z93	1x12 vertical	x
H02025A0406	1	24 SC Duplex, LC Quad	Z93	1x24 vertical	x
H02025A0474	1	12 E2000	Z66	1x12	x
H02025A0538	1	12 E2000 Compact	Z108	1x12	x
H02025A0475	1	24 E2000	Z66	1x24	x
H02025A0543	1	6 LC Duplex	Z99	1x6	x
H02025A0493	1	12 LC Duplex	Z99	1x12	x
H02025A0486	1	24 LC Duplex	Z99	1x24	x
H02025A0451	1	12 DIN	Z74	1x12	x
H02025A0427	1	24 DIN	Z74	1x24	x
H02025A0426	1	12 FC/PC	Z73	1x12	x
H02025A0467	1	24 FC/PC	Z73	1x24	x
H02025A0443	1	Dummy plate	-	-	-

Front plates 2 HU for Housing Types ECONOMY V / BASIS V / PROFI V / PROFI Plus 16.7.2



Order no.	HU	Number of panel piercings and connector type	Panel piercing	Number of rows x panel piercings	Port marking
H02025A0414	2	24 ST	Z64	2x12	x
H02025A0415	2	36 ST	Z64	2x18	x
H02025A0416	2	48 ST	Z64	3x16	x
H02025A0417	2	24 SC	Z77	2x12	x
H02025A0418	2	36 SC	Z77	2x18	x
H02025A0419	2	48 SC	Z77	2x24	x
H02025A0420	2	12 SC Duplex, LC Quad	Z93	2x6 horizontal	x
H02025A0421	2	24 SC Duplex, LC Quad	Z93	4x6 horizontal	x
H02025A0452	2	48 SC Duplex, LC Quad	Z93	2x24 vertical	x
H02025A0481	2	24 E2000	Z66	2x12	x
H02025A0482	2	48 E2000	Z66	2x24	x
H02025A0539	2	24 E2000 Compact	Z108	2x12	x
H02025A0567	2	48 LC Duplex	Z99	2x24	x
H02025A0448	2	24 DIN	Z74	2x12	x
H02025A0407	2	48 DIN	Z74	3x16	x
H02025A0429	2	24 FC/PC	Z73	2x12	x
H02025A0490	2	48 FC/PC	Z73	3x16	x
H02025A0444	2	Dummy plate	-	-	-

Front plates 3 HU for Housing Types ECONOMY V / BASIS V / PROFI V / PROFI Plus 16.7.3



Order no.	Housing type	HU	Number of panel piercings and connector type	Panel piercing	Number of rows x panel piercings	Port marking
H02025A0522	BASIS V	3	72 SC Duplex, 72 LC Quad	Z93	3x 24 vertical	x
H02025A0523	BASIS V	3	48 SC Duplex, 48 LC Quad	Z93	2x24 vertical	x
H02025A0549	BASIS V	3	48 E2000 Compact	Z108	3x16 vertical	x
H02025A0526	BASIS V	3	96 ST	Z64	4x24	-
H02025A0527	BASIS V	3	144 ST	Z64	6x24	x
H02025A0528	BASIS V	3	72 LC Duplex	Z99	3x24	x
H02025A0529	BASIS V	3	Dummy plate			

16.8 Modular Fiber Optic Distribution System

The demands for reliable termination of multifiber loose-tube fiber optic cables in networks in accordance with users' individual requirements can be met with the Modular FO Distribution System. With this system, multifiber loose-tube cables containing up to 288 optical fibers can either be secured directly to the 3 HU module carrier or the FO cables can be split in the loop storage box or distribution panel and routed to the individual modules via cable guide tubes.

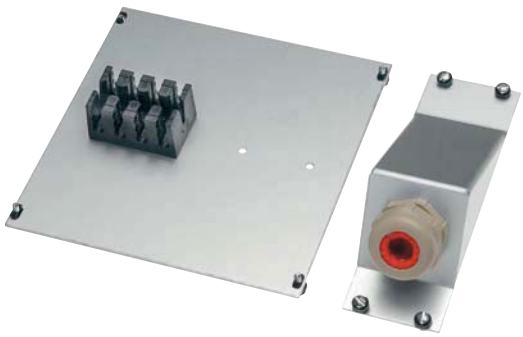
The modular design of the slide-in units allows most of the standard FO connectors to be used; among other things, up to 24 fibres can be accommodated in a single module when using LC or MT-RJ connectors. In addition, pre-assembled breakout cables or distribution cables (ODS) can be routed directly to the modules and secured with cable ties or glands into place.

Mechanical Characteristics	
module rack	anodized aluminum 2 mm / 1 mm
Front plates, housings	anodized aluminum 1,5 mm, port no. imprinted
Cable fixing set for module carrier	anodized aluminum 2 mm
Distribution panel	steel 1,25 mm / 1 mm, powder-laminated, light grey 7035
Loop storage box	sheet steel 1 mm, powder-laminated, light grey RAL 7035
Cable entries	M25 for 6-20 mm cable diameter in 4 steps; M20 for 6-12 mm cable diameter in 2 steps
Panel piercings	for ST, SC, SC Duplex, E2000, E2000 Compact, MT-RJ female, MT-RJ- adaptor, LC Duplex, (DIN, FC/PC optional)
Dimensions (W x H x D) Module carrier	482 x 132 x 345 mm
Dimensions (W x H x D) Distribution panel	482 x 44 x 168 mm
Dimensions (W x H x D) Loop storage box	482 x 44 x 300 mm

16.8.1 19" FO Module Carrier 3 HU / 84 PU

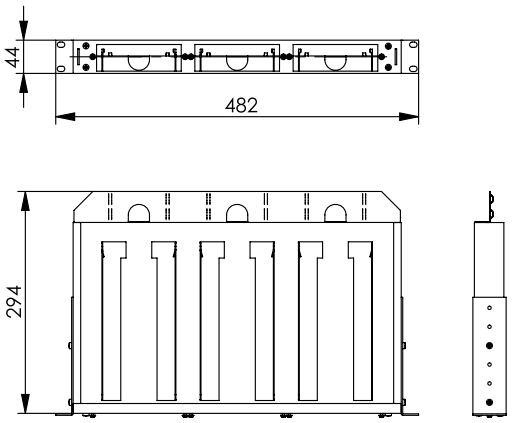
Order no.	Description	Colour
H02032A0030	19" FO Module Carrier 3 HU / 84 PU	Aluminium

16.8.2 Cable Fixing Set for 19" FO Module Carrier 3 HU



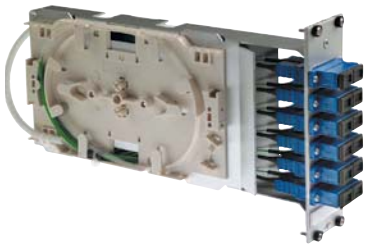
Order no.	Description	HU	PU	PG/Cable diameter
H02032A0031	Cable Fixing Set for Module Carrier	3	8 + 26	16 / 9-13 mm

19" FO Module Carrier 1 HU 16.8.3



Order no.	Description	HU	Remarks
H02030A0581	19" FO Module Carrier 1 HU	1	for max. 3 FO modules 3HU/7PU

Fiber Optic Modules 3 HU/7 PU - Complete Modules assembled with Pigtails 16.8.4



Order no.	Description	HU	PU	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Remarks
H02053D0168	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	ST Duplex, ceramic sleeve, metal housing	metal	12 x 9/125, OS2, 2m, ST	coloured, stripped for splicing
H02053B0168	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	ST Duplex, ceramic sleeve, metal housing	metal	12 x 50/125, OM2, 2m, ST	coloured, stripped for splicing
H02053K0168	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	ST Duplex, ceramic sleeve, metal housing	metal	12 x 50/125, OM3, 2m, ST	coloured, stripped for splicing
H02053G0168	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	ST Duplex, ceramic sleeve, metal housing	metal	12 x 50/125, OM4, 2m, ST	coloured, stripped for splicing
H02053D0165	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	SC Duplex, ceramic sleeve, plastic housing	blue	12 x 9/125, OS2, 2m, SC	coloured, stripped for splicing
H02053B0165	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	SC Duplex, ceramic sleeve, plastic housing	beige	12 x 50/125, OM2, 2m, SC	coloured, stripped for splicing
H02053K0165	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	SC Duplex, ceramic sleeve, plastic housing	aqua	12 x 50/125, OM3, 2m, SC	coloured, stripped for splicing
H02053G0165	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	SC Duplex, ceramic sleeve, plastic housing	black	12 x 50/125, OM4, 2m, SC	coloured, stripped for splicing

16.8 Modular Fiber Optic Distribution System

16.8.4 Fiber Optic Modules 3 HU/7 PU - Complete Modules assembled with Pigtails

Order no.	Description	HU	PU	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Remarks
H02053D0166	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	LC Duplex, ceramic sleeve, plastic housing	blue	12 x 9/125, OS2, 2m, LC	coloured, stripped for splicing
H02053B0166	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	LC Duplex, phosphor bronze sleeve, plastic housing	beige	12 x 50/125, OM2, 2m, LC	coloured, stripped for splicing
H02053K0166	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	LC Duplex, phosphor bronze sleeve, plastic housing	aqua	12 x 50/125 OM3, 2m, LC	coloured, stripped for splicing
H02053G0166	Housing incl. adaptors, splice cassette type Telekom, pigtails	3	7	6	LC Duplex, phosphor bronze sleeve, plastic housing	black	12 x 50/125 OM4, 2m, LC	coloured, stripped for splicing

16.8.5 Fiber Optic Modules 3 HU/7 PU - Housings for individual ordering

Order no.	Description	HU	PU	Splice cassettes
H02053A0164	Housing inkl. 1x Splice cassette and cover without splice holder	3	7	1

Order no.	Description	HU	PU	Splice cassettes
H02053A0160	Housing for pre-assembled cables	3	7	-

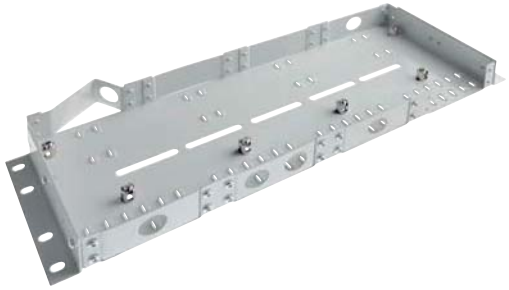
Fiber Optic Modules 3 HU/7 PU - Front plates, anodized, for individual ordering 16.8.6

Order no.	for Housing type	HU	PU	Number of panel piercings and connector type	Panel piercing
H02024A8100	FO Module	3	7	6xSC, ST/SC, MT-RJ	Z77
H02024A8101	FO Module	3	7	6xSC-D, ST/SC-D, LC Quad	Z93
H02024A8111	FO Module	3	7	12xST	Z64
H02024A8106	FO Module	3	7	6xE2000	Z66
H02024A8014	FO Module	3	8	6xE2000 Compact	Z108
H02024A8105	FO Module	3	7	6xLC-D	Z99
H02024A8125	FO Module	3	7	12xLC-D	Z99
H02023A8002	FO Module	3	7	Dummy plate for Module	-
H02023A8003	FO Module	3	7	Dummy plate for Module carrier	-

Fiber Optic Modules 3 HU/7 PU - Accessories 16.8.7

Order no.	Description	Remarks
H01011A0037	Cable gland M20 (for cable Ø 6 - 10 mm)	Polyamide PA6, grey

19" FO Distribution panel 1 HU 16.8.8



Order no.	Description	Mounting in rack	Colour
H02030A0429	19" FO Distribution panel 1 HU	vertical	RAL 7035
H02030A0428	19" FO Distribution panel 1 HU	horizontal	RAL 7035
H02025A0316	Dummy plate for distribution panel		RAL 7035
F05001A0008	Fiber protection tube, both ends with M25 gland, l = 2.5 m		

16.8

16.8 Modular Fiber Optic Distribution System

16.8.9 19" FO loop storage box 1 HU

Order no.	Description	Mounting in rack	Colour
H02030A0427	19" FO loop storage box 1 HU	horizontal	RAL 7035

16.8.10 Cable Entries for Distribution Panel and Loop Storage Box

Order no.	Description	HU	for M25	Cable entry
H02025A0311	Cable entry	1	1xM25	straight
H02025A0312	Cable entry	1	2xM25	straight
H02025A0313	Cable entry	1	1xM25	angular 30
H02025A0310	Cable entry	1	-	closed
H02025A0315	Cable entry	1	for cable ties	straight

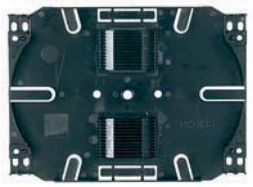
16.9 Accessories for 19" FO Patch Panels

16.9.1 Cable Glands, Fiber Protection Tube and Cover Plates

Order no.	Description	Remarks
H01012A0034	cable gland M25 for cable Ø 7-10 mm	Polyamide PA6, grey
H01012A0052	cable gland M25 for cable Ø 9-16 mm	Polyamide PA6, grey
H01012A0048	Cable gland M25x1,5 for cable diameter 16-20 mm	Polyamide PA6, grey
H01011A0037	Cable gland M20 (for cable Ø 6 - 10 mm)	Polyamide PA6, grey
H01012A0050	cable gland M20 (for cable Ø 7 - 13.5 mm)	Polyamide PA6, grey

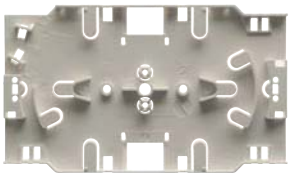
Order no.	Description	Remarks
F05001A0009	Fiber protection tube for PROFI V	for fiber protection between housing rear wall and slide-in unit, 12 mm inside dia., with adaptor for PG16 gland

Splice Cassettes, Splice Holders, Splice Protectors and Cable Tube 16.9.2



Order no.	Description	Remarks
H02050A0000	Splice cassette NOKIA incl. splice holders	162x120x10 mm for max. 24 crimp splices System TELEKOM

Order no.	Description	Remarks
B06015A0016	Cover for Splice cassette with integrated splice holders	162x120x1 mm



Order no.	Description	Remarks
H02050A0061	Splice cassette Telekom	155 x 92 x 8 mm, for 2 splice holders

Order no.	Description	Remarks
B06015A0086	Cover for splice cassette Telekom	155x92x2 mm

Order no.	Description	Remarks
F08001A0002	Wire strain relief for splice cassette Telekom	for 12 fibers with secondary coating 0,9 mm

16.9 Accessories for 19" FO Patch Panels

16.9.2 Splice Cassettes, Splice Holders, Splice Protectors and Cable Tube

Order no.	Description	Remarks
H02050A0011	Combi cassette	142x92x8 mm, for 2 splice holders or fiber storage for direct connector termination
F08002A0000	Right-side fiber retention	for fibers and cables Ø 2,2 mm max.
F08002A0001	Left-side fiber retention	for fibers and cables Ø 2,2 mm max.

Order no.	Description	Remarks
B00005A0003	Cover for Combi cassette	142x92x2 mm

Order no.	Description	Remarks
F08000A0002	Splice holder for 12 crimp splice protectors	System Telekom

Order no.	Description	Remarks
F08000A0003	Crimp splice protector	System Telekom
F08000A0014	Crimp splice protector	System Telekom, PU = 150 pcs.

Order no.	Description	Remarks
F08000A0008	Splice holder for 6 shrink splices	for shrink splice protector Ø 3 mm

Order no.	Description	Remarks
F08000A0010	Splice protector for shrink splice	Ø 3 mm, L=45 mm
F08000A0011	Splice protector for shrink splice	Ø 3 mm, L=60 mm
F08000A0015	Micro splice protector for shrink splice	Ø 1,3 mm, L=40 mm

Order no.	Description	Remarks
L08100A0002	Cable tube L=0,6m	prepared for direct connector termination with Combi cassette

Order no.	Description	Remarks	Dimensions
H02050A0166	Mini splice cassette with cover, for splice	for fibers with bending radius 15 mm min., storage for 1 shrink splice protector	100 x 40 x 8 mm
H02050A0167	Mini splice cassette with cover, for coupler	for fibers with bending radius 15 mm min., storage for 1 coupler	100 x 40 x 8 mm

Splice Cassettes with Pigtails coloured acc. to IEC 60304 (DIN VDE 0888) 16.9.3

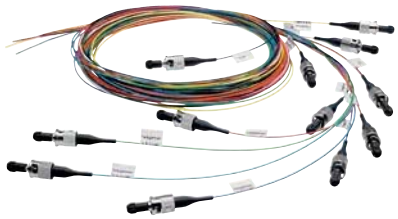
Order no.	Description	Pigtails	Plug: Colour	Remarks
H02050A0120	Splice cassette type NOKIA with pigtails, assembled	12 x 9/125, OS2, 2m, ST	metal	coloured, stripped for splicing
H02050W0121	Splice cassette type NOKIA with pigtails, assembled	12 x 9/125, OS2, 2m, SC	blue	coloured, stripped for splicing
H02050W0149	Splice cassette type NOKIA with pigtails, assembled	12 x 9/125, OS2, 2m, SC/APC	green	coloured, stripped for splicing
H02050A0125	Splice cassette type NOKIA with pigtails, assembled	12 x 9/125, OS2, 2m, LC	blue	coloured, stripped for splicing
H02050A0168	Splice cassette type NOKIA with pigtails, assembled	12 x 9/125, OS2, 2m, LC/APC	green	coloured, stripped for splicing
H02050A0225	Splice cassette type NOKIA with pigtails, assembled	12 x 9/125, OS2, 2m, E2000	black	coloured, stripped for splicing
H02050A0226	Splice cassette type NOKIA with pigtails, assembled	12 x 9/125, OS2, 2m, E2000/APC	green	coloured, stripped for splicing
H02050A0068	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM2, 2m, ST	metal	coloured, stripped for splicing
H02050W0073	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM2, 2m, SC	beige	coloured, stripped for splicing
H02050A0078	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM2, 2m, LC	beige	coloured, stripped for splicing
H02050A0227	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM2, 2m, E2000	black/ orange	coloured, stripped for splicing
H02050A0130	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM3, 2m, ST	metal	coloured, stripped for splicing
H02050W0131	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM3, 2m, SC	aqua	coloured, stripped for splicing
H02050A0133	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM3, 2m, LC	aqua	coloured, stripped for splicing
H02050A0224	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM3, 2m, E2000	black/ orange	coloured, stripped for splicing
H02050A0211	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM4, 2m, ST	metal	coloured, stripped for splicing
H02050A0212	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM4, 2m, SC	black	coloured, stripped for splicing
H02050A0213	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM4, 2m, LC	black	coloured, stripped for splicing
H02050A0214	Splice cassette type NOKIA with pigtails, assembled	12 x 50/125, OM4, 2m, E2000	black/red	coloured, stripped for splicing

16.9 Accessories for 19" FO Patch Panels

16.9.3 Splice Cassettes with Pigtails coloured acc. to IEC 60304 (DIN VDE 0888)

Order no.	Description	Pigtails	Plug: Colour	Remarks
H02050A0122	Splice cassette type TELEKOM with pigtails, assembled	12 x 9/125, OS2, 2m, ST	metal	coloured, stripped for splicing
H02050W0123	Splice cassette type TELEKOM with pigtails, assembled	12 x 9/125, OS2, 2m, SC	blue	coloured, stripped for splicing
H02050W0091	Splice cassette type TELEKOM with pigtails, assembled	12 x 9/125, OS2, 2m, SC/APC	green	coloured, stripped for splicing
H02050A0126	Splice cassette type TELEKOM with pigtails, assembled	12 x 9/125, OS2, 2m, LC	blue	coloured, stripped for splicing
H02050A0169	Splice cassette type TELEKOM with pigtails, assembled	12 x 9/125, OS2, 2m, LC/APC	green	coloured, stripped for splicing
H02050A0178	Splice cassette type TELEKOM with pigtails, assembled	12 x 9/125, OS2, 2m, E2000	green	coloured, stripped for splicing
H02050A0179	Splice cassette type TELEKOM with pigtails, assembled	12 x 9/125, OS2, 2m, E2000/APC	blue	coloured, stripped for splicing
H02050A0060	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM2, 2m, ST	metal	coloured, stripped for splicing
H02050W0072	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM2, 2m, SC	beige	coloured, stripped for splicing
H02050A0180	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM2, 2m, E2000	black/orange	coloured, stripped for splicing
H02050A0080	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM2, 2m, LC	beige	coloured, stripped for splicing
H02050A0134	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM3, 2m, ST	metal	coloured, stripped for splicing
H02050W0135	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM3, 2m, SC	aqua	coloured, stripped for splicing
H02050A0137	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM3, 2m, LC	aqua	coloured, stripped for splicing
H02050A0181	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM3, 2m, E2000	black/orange	coloured, stripped for splicing
H02050A0215	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM4, 2m, ST	metal	coloured, stripped for splicing
H02050A0216	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM4, 2m, SC	black	coloured, stripped for splicing
H02050A0217	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM4, 2m, LC	black	coloured, stripped for splicing
H02050A0218	Splice cassette type TELEKOM with pigtails, assembled	12 x 50/125, OM4, 2m, E2000	black/red	coloured, stripped for splicing

Pigtail-Set with coloured pigtails 16.9.4



Order no.	Description	Pigtails	Plug: Colour	Remarks
L00819A0064	Pigtail-Set	12 x 9/125, OS2, 2m, ST	metal	coloured acc. to VDE 0888
L00889W0056	Pigtail-Set	12 x 9/125, OS2, 2m, SC	blue	coloured acc. to VDE 0888
L00889W0029	Pigtail-Set	12 x 9/125, OS2, 2m, SC/APC	green	coloured acc. to VDE 0888
L00879A0009	Pigtail-Set	12 x 9/125, OS2, 2m, LC	blue	coloured acc. to VDE 0888
L00879A0017	Pigtail-Set	12 x 9/125, OS2, 2m, LC/APC	green	coloured acc. to VDE 0888
L00859A0008	Pigtail-Set	12 x 9/125, OS2, 2m, E2000	blue	coloured acc. to VDE 0888
L00859A0013	Pigtail-Set	12 x 9/125, OS2, 2m, E2000/APC	green	coloured acc. to VDE 0888
L00819A0060	Pigtail-Set	12 x 50/125, OM2, 2m, ST	metal	coloured acc. to VDE 0888
L00889W0033	Pigtail-Set	12 x 50/125, OM2, 2m, SC	beige	coloured acc. to VDE 0888
L00879A0015	Pigtail-Set	12 x 50/125, OM2, 2m, LC	beige	coloured acc. to VDE 0888
L00859A0009	Pigtail-Set	12 x 50/125, OM2, 2m, E2000	black/orange	coloured acc. to VDE 0888
L00819A0071	Pigtail-Set	12 x 50/125, OM3, 2m, ST	metal	coloured acc. to VDE 0888
L00889W0027	Pigtail-Set	12 x 50/125, OM3, 2m, SC	aqua	coloured acc. to VDE 0888
L00879A0010	Pigtail-Set	12 x 50/125, OM3, 2m, LC	aqua	coloured acc. to VDE 0888
L00859A0014	Pigtail-Set	12 x 50/125, OM3, 2m, E2000	black/orange	coloured acc. to VDE 0888
L00819A0073	Pigtail-Set	12 x 50/125, OM4, 2m, ST	metal	coloured acc. to VDE 0888
L00889A0065	Pigtail-Set	12 x 50/125, OM4, 2m, SC	black	coloured acc. to VDE 0888
L00879A0023	Pigtail-Set	12 x 50/125, OM4, 2m, LC	black	coloured acc. to VDE 0888
L00859A0022	Pigtail-Set	12 x 50/125, OM4, 2m, E2000	black/red	coloured acc. to VDE 0888

Covers for unused Panel Piercings 16.9.5

Order no.	Description	Remarks
B00012A0019	Cover for M25 hole	Plastic, black
B00012A0046	Cover for M20 hole	Plastic, black

Order no.	Description	Remarks
B00010A0004	Cover for ST or FC/PC adaptor cutout	Plastic, black
B00011A0027	Cover for SC, MT-RJ adaptor or E2000 adaptor cutout	Plastic, black
B00012A0011	Cover for SC Duplex adaptor cutout	Plastic, black
B00010A0008	Cover for MT-RJ jack	Plastic, black
B00010A0007	Cover for DIN snap-in adaptor cutout	Plastic, black
B00011A0043	Cover for panel piercing LC Duplex	Plastic, black
B00012A0020	Cover for panel piercing E2000 Compact (R&M)	Plastic, black

16.9 Accessories for 19" FO Patch Panels

16.9.6 Additional Accessories, Assembly

Order no.	Description
H10000A0000	Carrier with marking strip for 19" front plates, screw mounting
B05002A0002	Marking strip 380 x 12 mm, self-adhesive, for BASIS V/ECONOMY V/PROFI V/PROFI Plus
B05002A0008	Marking strip 35 x 12 mm, self-adhesive, for 7 PU front plates

Order no.	Short name
H02025A0084	19" Dummy plate 1 HE

Order no.	Short name
H02025A0343	19" Patch Panel with 5 cable guide bars (plastic)

Order no.	Description
H02025A0317	Cable Management for 19" FO Patch Panel 1 HU
H02025A0314	Cable Management for 19" FO Patch Panel 2 HU or use with Velcro fastener set
R00040A0023	Velcro fastener set (4 pcs.) for cable management

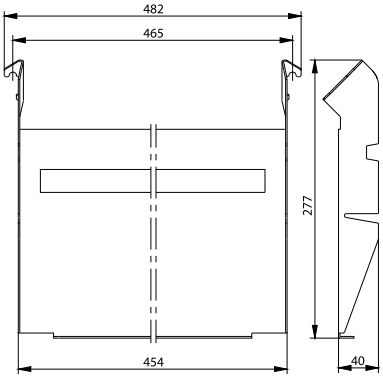
Order no.	Short name
H02025A0116	Cable Management plate for 19" patch panels 1 HU
H02025A0117	Cable Management plate for 19" patch panels 2 HU

FO Patch Panels

Order no.	Short name
B06013A0010	Cable Management bar for 19“ patch panels

Order no.	Short name
H06000A0001	Fixing set for Patch Panels (4 screws M6x16 with nuts)

Order no.	Description
H06000A0003	Screws (2 pcs.) for adaptors SC, SC-D, ST-D, ST/SC-D, MT-RJ



Order no.	Short name
M04022A0000	Mounting shelf for 19“ patch panels up to 250 mm housing depth

Order no.	Description
U01010A0003	Assembly ECONOMY V
U01010A0005	Assembly BASIS V
U01100A0066	Special bolt for BASIS V 1HU for max. 4 splice cassettes Telekom
U01010A0008	Assembly PROFI V/PROFI Plus
U01010A0007	Assembly FO Module
U01100A0010	Assembly of Adaptor in front plate (ST, LC, FC, DIN)
U01100A0013	Assembly flange fixing of adaptor in front plate (SC, MT-RJ, E2000)
U01100A0016	Pigtail preparation (Stripping by 0,7 m , Marking with labels, Plug-in)
U01100A0011	Assembly of cable tube in Combi Cassette

16 FO Patch Panels

16.10 10" FO Patch Panels

These patch panels are suitable for small wall boxes with 10'' installation space or for variable racks with 1/2 19'' and 10'' adaptation. FO cables can be directly connected without splice.

Mechanical Characteristics	
Housing	sheet steel 1 mm, powder-laminated, light grey RAL 7035
Front plates	sheet aluminum 1,5 mm, powder-laminated, light grey RAL 7035, port no. imprinted
Cable entries	strain relief bar for cable ties
Panel piercings	for ST, SC, SC Duplex, MT-RJ adaptor, MT-RJ jack
Dimension: Width	255 mm
Dimension: Height	44 mm
Dimension: Depth	175 mm

16.10.1 Completely assembled Patch Panels with Front Plate

Order no.	Housing type	Number of panel piercings and connector type
H02035A0000	ECONOMY	24xST
H02035A0002	ECONOMY	12xSC Duplex, LC Quad

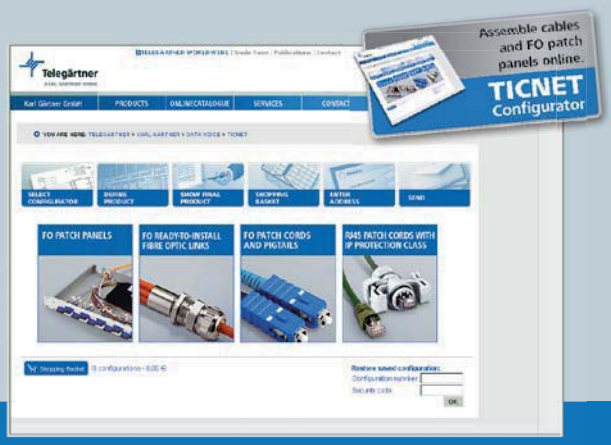
16.11 FO-RJ45 Combination Distributors

If copper and FO cables should have to be connected within one housing, FO RJ45 Combi distributors are the ideal solution. They are available in 19'' (10'' and desktop/wall mount on request) versions. The electrical characteristics meet the Cat.6_A requirements acc. to ISO/IEC 11801 edition 2, the FO adaptors are suitable for singlemode and multimode fibres. The FO cables can be diectly connected to the mounted adaptors without splices.

Mechanical Characteristics	
Housing	sheet steel 1 mm, powder-laminated, light grey RAL 7035, identification tags optional
Front plates	sheet aluminum 1,5 mm, powder-laminated, light grey RAL 7035, port no. imprinted
Mini Distributor	thermoplastic ABS, non halogen, light grey RAL 7035, identification tags optional
Cable entries	strain relief bar for cable ties
Panel piercings	for SC-D, (ST®, SC, E2000, LC-D, MT-RJ adaptor optional)
Dimension: Width	19" Distributor: 482 mm; 10" Distributor: 269 mm; Mini Distributor: 250 mm
Dimension: Height	19" Distributor: 44 mm; 10" Distributor: 44 mm; Mini Distributor: 46 mm
Dimension: Depth	19" Distributor: 175 mm; 10" Distributor: 175 mm; Mini Distributor: 125 mm
Transmission Chracteristics	
RJ45 jacks	Category 6 acc. to ISO/IEC 11801 Ed. 2:2002
Optical Characteristics	
Insertion loss: Adaptor	typ. 0.2 dB

Order no.	Housing	RJ45 jacks	Adaptors (mounted)
H02030A0426	19" size	12	12xSC-D, ceramic

Ideal for planners and installers: Simply assemble cables and fiber optic patch panels online



Do you want to assemble cables and connectors online or a fibre optic patch panel to meet your specific needs and then send an order inquiry to your local specialist retailer straight away? Then the TICNET configurator developed by Telegärtner is just what you need:

TICNET is simple
TICNET is available around the clock.

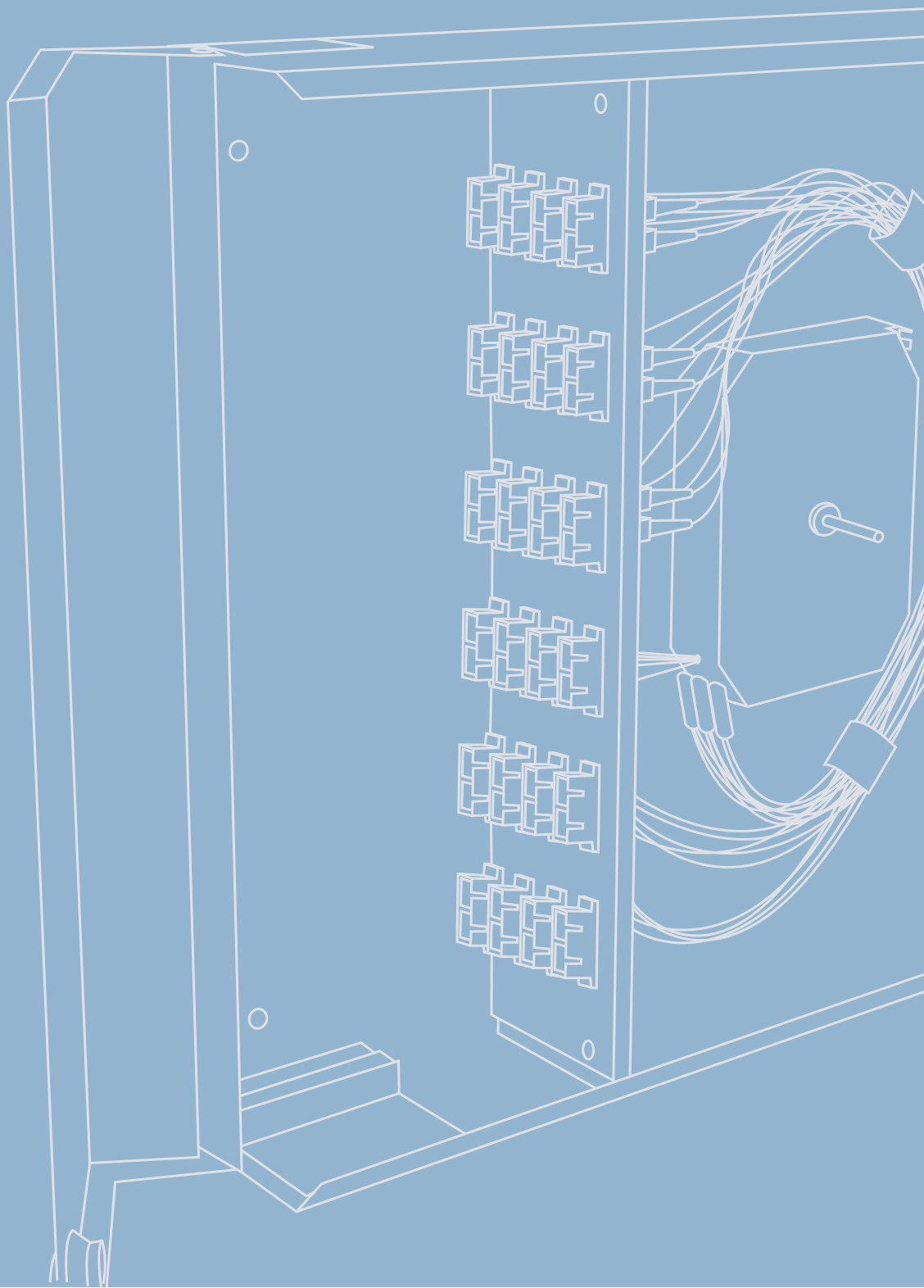
TICNET is fast
The user interface is so clear and easy to follow that even complex combinations can be assembled in just a few clicks.

TICNET is user-friendly
Whether you are a retailer or an end customer, TICNET provides the information and options you require for your work.

www.telegaertner.com/ticnet

17

FO Wall Boxes and Splice Boxes



17 FO Wall Boxes and Splice Boxes

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FO Wall Boxes and Splice Boxes

Network cabling is being increasingly laid out up to the subscriber using future-orientated and interference-proof fiber optic cables. In the case of a star distribution inside a building or on a floor the fiber optic cabling does not require any active components for retransmission due to the long distance being possible. Thus, in most cases, 19“ racks and the necessary separate room are not required. For the purpose of changing from multifiber cables to duplex or breakout cables the Wall Distributors or Wall Splice Boxes from Telegärtner are exceptionally suited. They are easy to install, lockable and offer a space-saving organisation as well as a perfect fibre protection. All accessories like glands, splice cassettes, distribution plates and FO adaptors can be variously combined and if ordered, also completely assembled.

	FO Wall Distributor	FO Wall Splice Box	FO Combi Wall Box	FO Mini Wall Distributor
Mechanical Characteristics				
Housing	sheet steel 1 mm, powder-laminated, light grey RAL 7035			
Distribution plates	aluminum sheet 1,5 mm, powder-laminated, light grey RAL 7035, connection no. imprinted			
Cable entries / Strain relief	M25 for 6-20 mm cable diameter in 4 steps		strain relief bar for cable ties	
Protection class acc. To IEC 60529	IP 20	IP 20	IP20	IP 20
Panel piercings	for ST, SC, SC Duplex, FC/PC, E2000, E2000 Compact, MT-RJ, DIN, LC Duplex	-	for ST, SC, SC Duplex, FC/PC, E2000, E2000 Compact, MT-RJ, DIN, LC Duplex	
Dimension: Width	440 mm	440 mm	440 mm	320 mm
Dimension: Height	440 mm	440 mm	440 mm	280 mm
Dimension: Depth	95 mm	95 mm	85 mm	50 mm

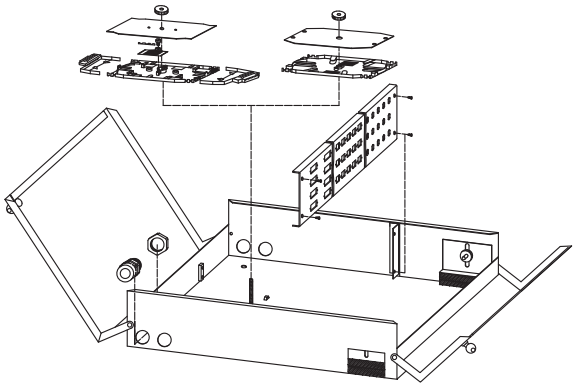
	FO Compact Splice Box	FO Splice Box IP66 S	FO Splice Box IP66 M	Wall Distributor ODB 54	FO MICRO Splice Box
Mechanical Characteristics					
Housing	sheet steel 1 mm, powder-laminated, light grey RAL 7035	thermoplastic, non halogen, flame retardant, light grey RAL 7035			thermoplastic PC-ABS, non halogen, flame retardant, pure white RAL 9010
Distribution plates	aluminum sheet 1,5 mm, powder-laminated, light grey RAL 7035			Aluminium sheet 1,5 mm, anodized	-
Cable entries / Strain relief	strain relief bar for cable ties	M12; M16; M20; M25; for Ø4-15.5 mm		2x M20 cable gland for cables Ø 5 - 9 mm	sealing grommets for cable diameter max. 7,5 mm / cable ties
Protection class acc. To IEC 60529	IP 20	IP 66	IP 66	IP 54	IP 20
Panel piercings	for ST, SC, SC Duplex, FC/PC, E2000, E2000 Compact, MT-RJ, DIN, LC Duplex	for ST, SC, SC Duplex, FDC/PC, E2000, E2000 Compact, MT-RJ adaptor, FC/PC, DIN, LC Duplex	for ST, SC, SC Duplex, FC/PC, E2000, E2000 Compact, MT-RJ, DIN, LC Duplex	for ST, SC, LC, E2000	for SC, E2000, MT-RJ adaptor
Dimension: Width	265 mm	254 mm	360 mm	250 mm	160 mm
Dimension: Height	150 mm	180 mm	254 mm	200 mm	110 mm
Dimension: Depth	55 mm	90 mm	111 mm	56 mm	30 mm

17 FO Wall Boxes and Splice Boxes

17.1 Housing

17.1.1 FO Wall Distributor

FO Wall Distributors are capable of organising up to 4 multifiber cables with total 48 fibers and up to 8 splice cassettes at small dimensions. Using distribution plates for different types of FO adaptors, pluggable connections are possible. The doors can be separately locked with different locks.



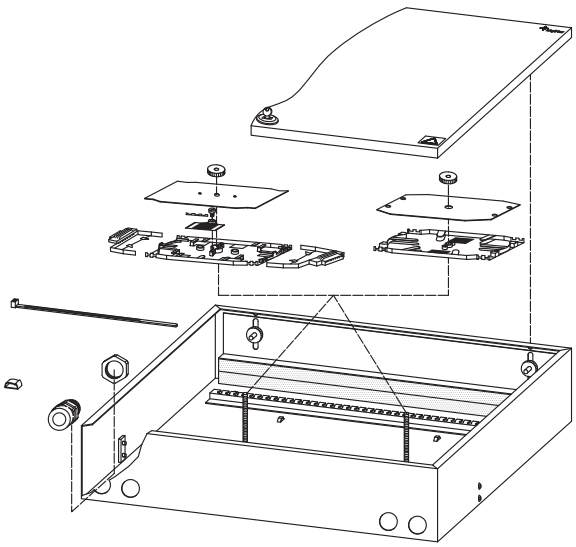
Order no.	Description	Remarks	Dimensions
H02050A0004	FO Wall Distributor	Housing with two separately lockable swivel doors, lockable, with 4 cable entry holes for M25 glands, 2 each on top and bottom, for storage of 8 splice cassettes maximum, additional strain relief clamps and guiding clips for fibers and cables	440 x 440 x 95 mm

Order no.	Description	Remarks
U01000A0000	assembly FO Wall Distributor	assembly M25, distribution plate

Distribution plates and accessories see chapter „Distribution Plates for FO Wall Distributors and FO Splice Boxes“

17.1.2 FO Wall Splice Box

FO Wall Splice Boxes can accomodate up to 16 splice cassettes. The outgoing cables can be fixed inside the housing to a strain relief bar using cable ties and sealed by a foam strap.



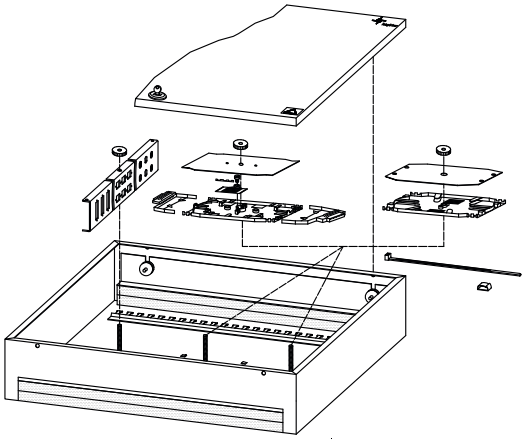
Order no.	Description	Remarks	Dimensions
H02050A0006	FO Wall Splice Box	Housing with lockable cover, with 4 cable entry holes for M25 glands, strain relief bar for fixing by cable ties inside the housing and sealing foam strap, for storage of 16 splice cassettes maximum, additional strain relief clamps and guiding for fibers and cables	440 x 440 x 95 mm

Distribution plates and accessories see chapter „Distribution Plates for FO Wall Distributors and FO Splice Boxes“

FO Wall Boxes and Splice Boxes

FO Combi Wall Box 17.1.3

FO Combi Wall Boxes may be optionally equipped with splice cassettes and distribution plates. Incoming and outgoing cables can be fixed by cable ties and sealed by foam straps. Used as a splice box, the housing can accomodate either up to 8 splice cassettes or - for distribution - be equipped with 2 distribution plates maximum for total 24 adaptors and 4 splice cassettes.

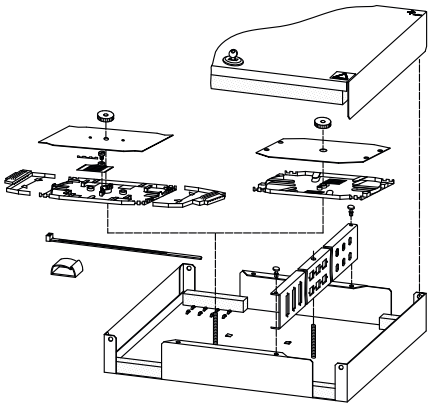


Order no.	Description	Remarks	Dimensions
H02050A0010	FO Combi Wall Box	Housing with swivel lid, lockable, with strain relief bars inside the housing and sealing foam straps for incoming and outgoing cables, or storage of 24 splice cassettes maximum, or 4 cassettes and 2 distribution plates.	440 x 440 x 85 mm

Distribution plates and accessories see chapter „Distribution Plates for FO Wall Distributors and FO Splice Boxes“

FO Mini Wall Distributor 17.1.4

FO Mini Wall Distributors are capable of distributing up to 4 incoming multifiber cables with total 24 fibers. Incoming and outgoing cables can be fixed by cable ties and sealed by foam straps. The housing can accommodate either up to 4 splice cassettes and different distribution plates or up to 8 splice cassettes, serving as a splice box.



Order no.	Description	Remarks	Dimensions
H02050A0008	FO Mini Wall Distributor	Housing with lockable cover, with each 2 cable entry openings for incoming and outgoing cables to be fixed by cable ties, with sealing straps, for storage of 8 splice cassettes maximum, or 4 cassettes and 1 distribution plate.	320 x 280 x 50 mm

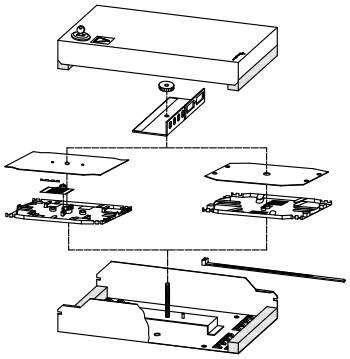
Distribution plates and accessories see chapter „Distribution Plates for FO Wall Distributors and FO Splice Boxes“

17 FO Wall Boxes and Splice Boxes

17.1 Housing

17.1.5 FO Compact Splice Box

FO Compact Splice Boxes are suitable for organisation of splice connections within extreme small housing dimensions. Incoming and outgoing cables can be fixed by cable ties and sealed by foam straps.The housing can accommodate up to 4 splice cassettes or 1 splice cassette together with one distribution plate.



Order no.	Description	Remarks	Dimensions
H02050A0013	FO Compact Splice Box	Housing with lockable cover, with 2 cable entry openings for incoming and outgoing cables to be fixed by cable ties, with sealing straps, for storage of 4 splice cassettes maximum or 1 cassette and 1 distribution plate.	265 x 150 x 55 mm

Distribution plates and accessories see chapter „Distribution Plates for FO Wall Distributors and FO Splice Boxes“

17.1.6 Wall Distributor ODB 54

Wherever glass fiber connections have to be installed in a harsh environment - in offices, industry or Fiber-to-the-Building/-home customer access networks - high demands are made on the value and flexibility of the distributor housing and easy access whilst installaton and maintenance. The Telegärtner ODB 54 wall distributor enables you to solve various installation demands with one product. Whether it will be used as splice storage or as distributor housing, there is enough space in the rugged plastic ODB 54 housing for accommodating up to 24 glass fiber ports. For application-specific requirements in which optical function elements such as PLC/FBT couplers or xWDM solutions also have to be installed in the glass fiber line, these can be fixed in a specially designed folding cassette. Up to 24 cables can be installed in the IP54-protected patch cable input and output quickly, easily and flexibly later without impairing the optical function of those which already exist.

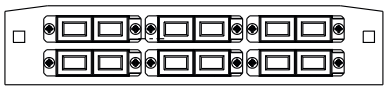
Performance Characteristics

- cable outlet: flexible, easy to install seal for up to max. 24 patch cords with Ø 1,8 - 2,8 mm
- number of splices: max. 24 crimp splice protectors, max. 12 shrink splice protectors
- optional fixing of optical couplers (PLC/FBT) or xWDM (filter/FBT)
- material: PC, IK 04
- locking with 2 snap-fits, lock or lead seal
- mounting of gas- or waterblocker for blow fiber system (optional)
- loop storage

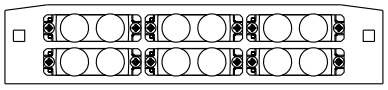
Customized versions on request.

Order no.	Description	Remarks	Dimensions
H02050A0190	ODB 54 housing	for splicing of max. 24 fibers	250 x 200 x 56 mm

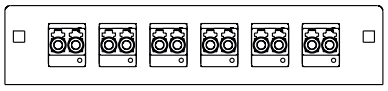
FO Wall Boxes and Splice Boxes



Order no.	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Dimensions
H02050A0193	6	SC duplex adaptor, singlemode	blue	12x 9/125 OS2	250 x 200 x 56 mm
H02050A0194	6	SC APC duplex adaptor, singlemode	green	12x 9/125 OS2	250 x 200 x 56 mm
H02050A0191	6	SC duplex adaptor, multimode	beige	12x 50/125 OM2	250 x 200 x 56 mm
H02050A0192	6	SC duplex adaptor, multimode	aqua	12x 50/125 OM3	250 x 200 x 56 mm
H02050A0246	6	SC duplex adaptor, multimode	black	12x 50/125 OM4	250 x 200 x 56 mm



Order no.	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Dimensions
H02050A0201	6	ST duplex adaptor, singlemode	metal	12x 9/125 OS2	250 x 200 x 56 mm
H02050A0199	6	ST duplex adaptor, multimode	metal	12x 50/125 OM2	250 x 200 x 56 mm
H02050A0200	6	ST duplex adaptor, multimode	metal	12x 50/125 OM3	250 x 200 x 56 mm
H02050A0248	6	ST duplex adaptor, multimode	metal	12x 50/125 OM4	250 x 200 x 56 mm

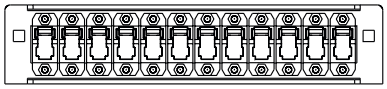


Order no.	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Dimensions
H02050A0197	6	LC duplex adaptor, singlemode	blue	12x 9/125 OS2	250 x 200 x 56 mm
H02050A0198	6	LC APC duplex adaptor, singlemode	green	12x 9/125 OS2	250 x 200 x 56 mm
H02050A0195	6	LC duplex adaptor, multimode	beige	12x 50/125 OM2	250 x 200 x 56 mm
H02050A0196	6	LC duplex adaptor, multimode	aqua	12x 50/125 OM3	250 x 200 x 56 mm
H02050A0247	6	LC duplex adaptor, multimode	black	12x 50/125 OM4	250 x 200 x 56 mm

17 FO Wall Boxes and Splice Boxes

17.1 Housing

17.1.6 Wall Distributor ODB 54



Order no.	Number of Adaptors	Adaptor Type	Colour	Fiber Pigtails	Dimensions
H02050A0204	12	E2000 adaptor, singlemode	blue	12x 9/125 OS2	250 x 200 x 56 mm
H02050A0205	12	E2000 APC adaptor, singlemode	green	12x 9/125 OS2	250 x 200 x 56 mm
H02050A0202	12	E2000 adaptor, multimode	black/orange	12x 50/125 OM2	250 x 200 x 56 mm
H02050A0203	12	E2000 adaptor, multimode	black/orange	12x 50/125 OM3	250 x 200 x 56 mm
H02050A0249	12	E2000 adaptor, multimode	black/red	12x 50/125 OM4	250 x 200 x 56 mm

17.1.7 Accessories for Wall Distributor ODB 54

Order no.	Description	Remarks
F08000A0002	Splice holder for 12 crimp splice protectors	System Telekom

Order no.	Description	Remarks
F08000A0008	Splice holder for 6 shrink splices	for shrink splice protector Ø 3 mm

Order no.	Description	Remarks
H01011A0037	Cable gland M20 (for cable Ø 6 - 10 mm)	Polyamide PA6, grey
H01012A0050	cable gland M20 (for cable Ø 7 - 13.5 mm)	Polyamide PA6, grey

Order no.	Description
H04000A0008	ODB 54 add-on-kit lock

Order no.	Description
H01000A0288	ODB 54 add-on-kit cellular rubber patch cable entry

Order no.	Description
R00040A0047	ODB 54 add-on-kit cable tie for gas/water blocker

FO Wall Boxes and Splice Boxes

FO Splice Box IP66 17.1.8

FO Splice Boxes IP 66 with protection class are escpecially suitable for outdoor usage. Water- and dust-proof splice boxes are necessary to protect splices and connections against dust and water. The available versions can be individually completed with cable glands, splice cassettes and adaptors of differerent types.

Order no.	Description	Remarks	Dimensions
H02050A0087	FO Splice Box IP66 S	Housing for storage of up to 5 splice cassettes Telekom or 2 splice cassettes Telekom and 1 distribution plate	254 x 180 x 90 mm; Wall mounting: 239 x 165 mm, 4x Ø4,5
H02050A0075	FO Splice Box IP66 M	Housing for storage of max. 8 splice cassettes Telekom or 3 splice cassettes Telekom and 1 distribution plate	360 x 254 x 111 mm; Wall mounting: 346 x 239 mm, 4x Ø4,5

Order no.	Description	Remarks	Dimensions
H02050A0229	FO splice box IP66 S-V	Housing with embossed holes M20/M25, for storage of up to 5 splice cassettes Telekom or 3 splice cassettes Telekom and 1 distribution plate	254 x 180 x 90 mm; Wall mounting: 239 x 165 mm; 4xØ4.5
H02050A0231	FO splice box IP66 M-V	Housing with embossed holes M20/M25, for storage of up to 8 splice cassettes Telekom or 3 splice cassettes Telekom and 1 distribution plate	360 x 254 x 111 mm; Wall mounting: 346 x 239 mm; 4xØ4.5

17.1

17 FO Wall Boxes and Splice Boxes

17.1 Housing

17.1.9 Accessories for FO Splice Box IP66

Order no.	Description	Remarks
H01011A0029	Cable gland M12x1,5 for cable diameter 4 - 6,5 mm	Polyamide PA6, grey
H01011A0031	Cable gland M16x1,5 for cable diameter 5 - 8 mm	Polyamide PA6, grey
H01011A0033	Cable gland M20x1,5 for cable diameter 7 - 10,5 mm	Polyamide PA6, grey
H01012A0044	Cable gland M20x1,5 for cable diameter 9 - 13 mm	Polyamide PA6, grey
H01012A0046	Cable gland M25x1,5 for cable diameter 11,5 - 15,5 mm	Polyamide PA6, grey
H01012A0048	Cable gland M25x1,5 for cable diameter 16-20 mm	Polyamide PA6, grey

Order no.	Description	Remarks
H01011A0043	Split cable gland, M25x1,5, with split nut hex 32	Polyamide PA6, grey
H01011A0044	Split cable gland, M25x1,5, with nut hex 28	Polyamide PA6, grey

Order no.	Description	Remarks
B01012A0033	Cable insert for split cable gland M25, 2x Ø 2 mm	polymere
B01012A0034	Cable insert for split cable gland M25, 2x Ø 3 mm	polymere
B01012A0035	Cable insert for split cable gland M25, 4x Ø 2 mm	polymere
B01012A0036	Cable insert for split cable gland M25, 4x Ø 3 mm	polymere
B01012A0037	Cable insert for split cable gland M25, Ø 5-6 mm	polymere
B01012A0038	Cable insert for split cable gland M25, Ø 6-7 mm	polymere
B01012A0039	Cable insert for split cable gland M25, Ø 7-8 mm	polymere
B01012A0040	Cable insert for split cable gland M25, Ø 8-9 mm	polymere
B01012A0041	Cable insert for split cable gland M25, Ø 9-10 mm	polymere
B01012A0042	Cable insert for split cable gland M25, Ø 10-11 mm	polymere

Order no.	Short name
U01010A0004	Drilling hole and fixing cable gland M20x1,5 (without products)

Distribution plates and accessories see chapter „Distribution Plates for FO Wall Distributors and FO Splice Boxes“

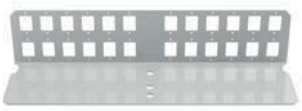
17.2 Distribution Plates for FO Wall Distributors and FO Splice Boxes

Order no.	for Housing type	Number of panel piercings and connector type	Panel piercing	Number of rows x panel piercings	Port marking
H02025A0069	Wall Distributor	48 ST	Z64	3x16	x
H02025A0070	Wall Distributor	48 SC	Z77	3x16	x
H02025A0097	Wall Distributor	24 SC Duplex, LC Quad	Z93	4x6	x
H02025A0533	Wall Distributor	48 SC Duplex, LC Quad	Z93	2x24S	x
H02025A0100	Wall Distributor	48 FC/PC	Z73	3x16	x
H02025A0278	Wall Distributor	48 E2000	Z66	3x16	x
H02025A0345	Wall Distributor	24 E2000 Compact	Z108	2x12	x
H02025A0155	Wall Distributor	72 LC Duplex	Z99	3x24	x
H02025A0262	Wall Distributor	48 DIN	Z74	3x16	x

FO Wall Boxes and Splice Boxes

Order no.	for Housing type	Number of panel piercings and connector type	Panel piercing	Number of rows x panel piercings	Port marking
H02025A0112	Combi-Wall Box / Mini Wall Distributor	24 ST	Z64	2x12	x
H02025A0113	Combi-Wall Box / Mini Wall Distributor	24 SC, 24 MT-RJ adaptor	Z77	2x12	x
H02025A0114	Combi-Wall Box / Mini Wall Distributor	12 SC Duplex, LC Quad	Z93	1x12	x
H02025A0366	Combi-Wall Box / Mini Wall Distributor	24 SC Duplex, LC Quad	Z93	4x6	x
H02025A0148	Combi-Wall Box / Mini Wall Distributor	24 FC/PC	Z73	2x12	x
H02025A0281	Combi-Wall Box / Mini Wall Distributor	24 E2000	Z66	2x12	x
H02025A0346	Combi-Wall Box / Mini Wall Distributor	12 E2000 Compact	Z108	1x12	x
H02025A0349	Combi-Wall Box / Mini Wall Distributor	24 LC Duplex	Z99	2x12	x
H02025A0207	Combi-Wall Box / Mini Wall Distributor	24 DIN	Z74	2x12	x

Order no.	for Housing type	Number of panel piercings and connector type	Panel piercing	Number of rows x panel piercings
H02025A0293	Compact Splice Box	12 ST	Z64	2x6
H02025A0286	Compact Splice Box	6 SC, 6 MT-RJ adaptor	Z77	1x6
H02025A0137	Compact Splice Box	4 SC Duplex, LC Quad	Z93	1x4
H02025A0261	Compact Splice Box	8 FC/PC	Z73	1x8
H02025A0350	Compact Splice Box	6 E2000	Z66	1x6
H02025A0347	Compact Splice Box	6 E2000 Compact	Z108	1x6
H02025A0115	Compact Splice Box	6 LC Duplex	Z99	1x6
H02025A0266	Compact Splice Box	8 DIN	Z74	1x8
H02025A0363	Compact Splice Box	8 SC-D	Z93	1x8



Order no.	for Housing type	Number of panel piercings and connector type	Panel piercing	Number of rows x panel piercings
H02025A0331	Splice box IP66 S; IP66 S-V	12 ST	Z64	2x6
H02025A0329	Splice box IP66 S; IP66 S-V	12 SC adaptor / 12 MT-RJ adaptor	Z77	2x6
H02025A0328	Splice box IP66 S; IP66 S-V	12 SC Duplex, 12 LC Quad	Z93	1x12
H02025A0330	Splice box IP66 S; IP66 S-V	12 LC Duplex	Z99	2x6
H02025A0367	Splice box IP66 S; IP66 S-V	12 E2000 Compact	Z108	1x12
H02025A0368	Splice box IP66 S; IP66 S-V	12 E2000	Z66	2x6
H02025A0369	Splice box IP66 S; IP66 S-V	12 FC/PC	Z73	2x6
H02025A0370	Splice box IP66 S; IP66 S-V	12 DIN	Z74	2x6

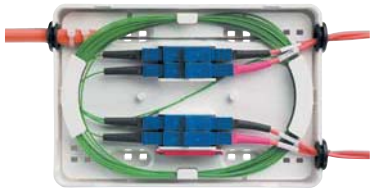
Order no.	for Housing type	Number of panel piercings and connector type	Panel piercing	Number of rows x panel piercings
H02025A0322	Splice box IP66 M; IP66 M-V	24 ST	Z64	2x12
H02025A0332	Splice box IP66 M; IP66 M-V	24 SC adaptor /24 MT-RJ adaptor	Z77	2x12
H02025A0336	Splice box IP66 M; IP66 M-V	18 SC Duplex, LC Quad	Z93	3x6
H02025A0338	Splice box IP66 M; IP66 M-V	24 FC/PC	Z73	2x12
H02025A0333	Splice box IP66 M; IP66 M-V	24 E2000	Z66	2x12
H02025A0348	Splice box IP66 M; IP66 M-V	18 E2000 Compact	Z108	3x6
H02025A0334	Splice box IP66 M; IP66 M-V	24 LC Duplex	Z99	2x12
H02025A0339	Splice box IP66 M; IP66 M-V	24 DIN	Z74	2x12

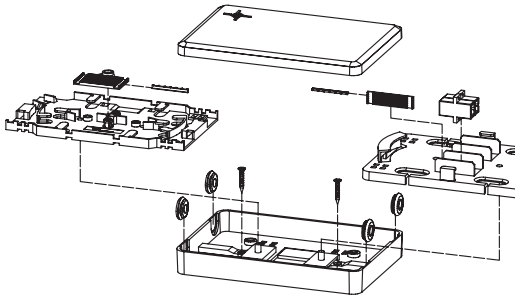
17 FO Wall Boxes and Splice Boxes

17.3 FO MICRO Splice Box

FO MICRO Splice Boxes are especially suitable for FO connections within very small space; while meeting the minimum bending radius and protected against environment, the MICRO Splice Box is suitable. The German PTT-approved splice cassette can be equipped with up to 24 fibre splices, but connections with up to 4 adaptors are also possible. Installation of the box is possible on the wall, subfloor or in distribution compartments, especially in cable ducts. For quick snap-on mounting on top hat rails - horizontal or vertical - suitable adaptors are available. The MICRO Splice Box is equipped with 2 sealed cable entries on each side; for strain relief inside the box cable ties are used. The cover can be easily snapped-on after installation.

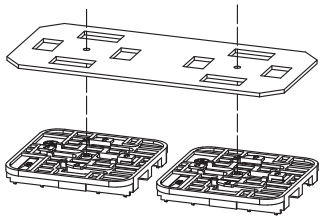
17.3.1 FO MICRO Splice Box, complete





Order no.	Description	Adaptors	Dimensions	Pigtails
H02050A0109	MICRO splice box incl. 4xSC adaptor, accessories	4xSC, ceramic	160 x 110 x 30 mm	
H02050A0112	MICRO splice box incl. splice holder, 4xSC adaptor, pigtails, accessories	4xSC, ceramic	160 x 110 x 30 mm	4x9/125, 2 m, SC
H02050A0111	MICRO splice box incl. splice holder, 4xSC adaptor, pigtails, accessories	4xSC, ceramic	160 x 110 x 30 mm	4x50/125, 2 m, SC
H02050A0110	MICRO splice box incl. splice holder, 4xSC adaptor, pigtails, accessories	4xSC, ceramic	160 x 110 x 30 mm	4x62,5/125, 2 m, SC
H02050A0105	MICRO splice box incl. Telekom splice cassette, 1x splice holder, accessories		160 x 110 x 30 mm	
H02050A0104	MICRO splice box incl. adaptor plate, splice holder, accessories		160 x 110 x 30 mm	

17.3.2 Accessories FO MICRO Splice Box



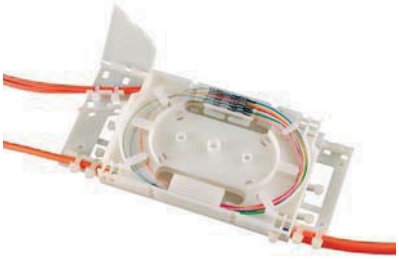
Order no.	Description
H02050A0106	Fixing set for cable duct installation of MICRO Splice Box

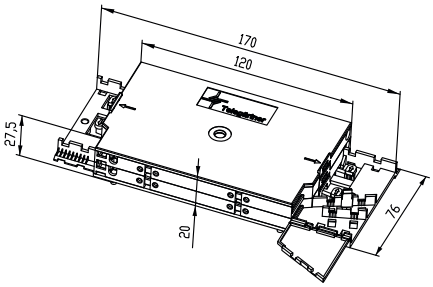
Order no.	Description
F08000A0012	Splice holder for 5 crimp splices for MICRO Splice Box H02050A0104

FO Wall Boxes and Splice Boxes

Order no.	Description
B07003A0012	Grommet for 7.5 mm max. cable diameter

FO Connection Splice Box 17.4





Order no.	Description	Remarks
H02050A0107	FO Connection Splice Box	incl. base plate for top hat rail fixing
H02050A0076	Storage cassette	for storage of fiber loops (retrofitting)
H02050A0077	Splice cassette	with integrated splice holder for 12 crimp splices (retrofitting)
B00045A0078	Splice cassette cover for FO Connection Splice Box	

Compact Wall Box for 19" Patch Panels 17.5

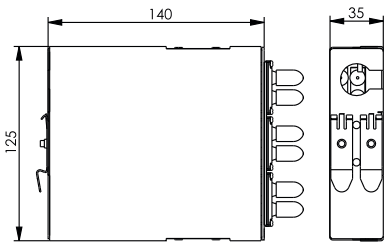
Order no.	Product package
H02072A0001	Compact LAN wall distributor 3 HU (B 450 mm x H 505 mm x T 175 mm), without components
H02072A0002	Compact LAN Wall Box 4 HU (W 600 mm x H 600 mm x D 230 mm) without components; two separated simultaneous locking doors

17 FO Wall Boxes and Splice Boxes

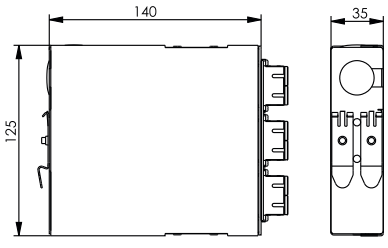
17.6 STX Mounting Rail Distributor

The STX mounting rail distributors are available for either loose-tube, mini-breakout or breakout cables of up to 12 fibers using splice techniques or for fiber optic adaptors using pre-assembled fiber optic links. Fiber optic adaptor types including ST, SC Duplex, SC-RJ, LC Duplex, E2000 and E2000 Compact can be installed in the interchangeable front panel. The installer can flexibly feed the cables from three directions while easily maintaining minimum bending radii using a storage reserve with additional cable retainers. Versions with pre-assembled adaptors are already available for mini-breakout and breakout cables. For loose-tube cables, the distributors are supplied with ready-to-splice, coloured pigtails and cable strain relief.

Mechanical Characteristics	
Material: housing	sheet steel, powder coated, light grey RAL 7035
Material: front plate	sheet steel, powder coated, light grey RAL 7035
Material: top hat rail adaptor	Steel sheet nickel plated
Cable entry	cable gland M20 for 5-9 mm
Panel piercings	ST Duplex, SC Duplex, SC-RJ, LC Duplex, E2000 Compact
Diemensions in mm: Width	35
Dimensions in mm: Heigth	125
Dimensions in mm: Depth	140
Environmental Requirements	
Shock	250 ms²
Vibration sinusoidal (9 Hz - 500 Hz)	50 ms²
Protection against particulate ingress	IP2X
Protection against water / immersion	IPX0
Ambient temperature	-40° C to + 70° C
Rapid change of temperature	-40° C to + 70° C / 25 cycles t'=30 min.
Climatic damp heat	+25° C / +65° C / 93% RH // -10° C / 21 cycles
Flowing mixed gas	+25°C / 73% RH / 4 days , H_2S / SO_2

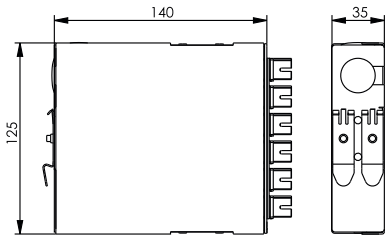


Order no.	Housing type	Adaptors	Type
H82050A0001	STX Mounting Rail Distributor	6xST Duplex, phosphor bronze sleeve/metal housing	Multimode
H82050S0001	STX Mounting Rail Distributor	6xST-Duplex, ceramic sleeve/metal housing	Singlemode/Multimode

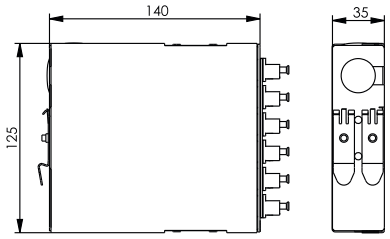


Order no.	Housing type	Adaptors	Colour	Type
H82050A0002	STX Mounting Rail Distributor	6xSC Duplex, phosphor bronze sleeve/plastic housing	beige	Multimode
H82050S0002	STX Mounting Rail Distributor	6xSC-Duplex, ceramic sleeve, plastic housing	blue	Singlemode/Multimode
H82050S0003	STX Mounting Rail Distributor	6xSC Duplex, ceramic sleeve/metal housing	silver	Singlemode/Multimode

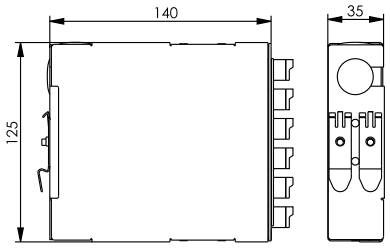
FO Wall Boxes and Splice Boxes



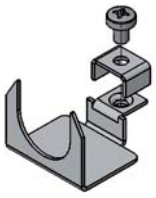
Order no.	Housing type	Adaptors	Colour	Type
H82050A0004	STX Mounting Rail Distributor	6xSC-RJ, metal sleeve/plastic hosuing	beige	Multimode
H82050S0004	STX Mounting Rail Distributor	6xSC-RJ, ceramic sleeve/plastic housing	blue	Singlemode/Multimode



Order no.	Housing type	Adaptors	Colour	Type
H82050A0005	STX Mounting Rail Distributor	6xLC Duplex, metal sleeve/plastic housing	beige	Multimode
H82050S0005	STX Mounting Rail Distributor	6xLC Duplex, ceramic sleeve/plastic housing	blue	Singlemode/Multimode



Order no.	Housing type	Adaptors	Colour	Type
H82050A0007	STX Mounting Rail Distributor	6xE2000 Compact, ceramic sleeve/plastic housing	black/orange	Multimode
H82050S0007	STX Mounting Rail Distributor	6xE2000 Compact, ceramic sleeve/plastic housing	blue	Singlemode/Multimode

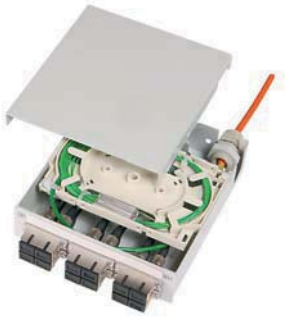


Order no.	Type
H06000A0055	Cable strain relief (bar, clamp, screw), only for loose-tube cables and mini-breakout cables

17.6

17 FO Wall Boxes and Splice Boxes

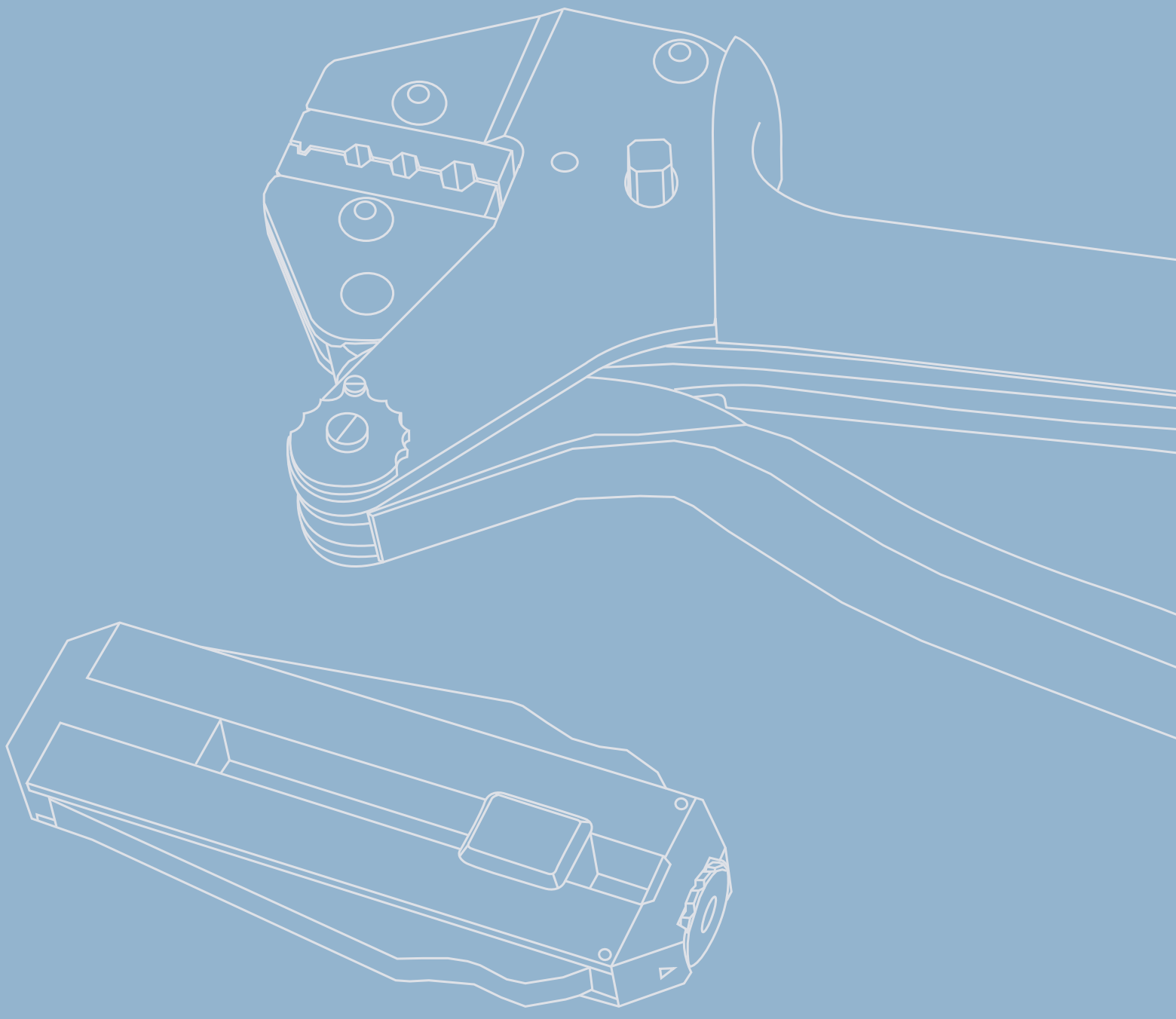
17.6 STX Mounting Rail Distributor



Order no.	Description	Fiber Pigtails	Remarks
H82050E0001	STX Mounting Rail Distributor with 6xST Duplex, splice cassette, Pigtails, cable strain relief	12x E9/125, ST	coloured, stripped for splicing
H82050F0001	STX Mounting Rail Distributor with 6xST Duplex, splice cassette, Pigtails, cable strain relief	12x G50/125 OM2, ST	coloured, stripped for splicing
H82050K0001	STX Mounting Rail Distributor with 6xST Duplex, splice cassette, Pigtails, cable strain relief	12x G50/125 OM3, ST	coloured, stripped for splicing
H82050E0002	STX Mounting Rail Distributor with 6xSC Duplex, splice cassette, Pigtails, cable strain relief	12x E9/125, SC	coloured, stripped for splicing
H82050E0003	STX Mounting Rail Distributor with 6xSC Duplex, splice cassette, Pigtails, cable strain relief	12x E9/125, SC	metal housing, coloured, stripped for splicing
H82050F0002	STX Mounting Rail Distributor with 6xSC Duplex, splice cassette, Pigtails, cable strain relief	12x G50/125 OM2, SC	coloured, stripped for splicing
H82050K0002	STX Mounting Rail Distributor with 6xSC Duplex, splice cassette, Pigtails, cable strain relief	12x G50/125 OM3, SC	coloured, stripped for splicing
H82050E0004	STX Mounting Rail Distributor with 6xSC-RJ, splice cassette, Pigtails, Kabelzugentlastung	12x E9/125, SC	coloured, stripped for splicing
H82050F0004	STX Mounting Rail Distributor with 6xSC-RJ, splice cassette, Pigtails, Kabelzugentlastung	12x G50/125 OM2, SC	coloured, stripped for splicing
H82050K0004	STX Mounting Rail Distributor with 6xSC-RJ, splice cassette, Pigtails, Kabelzugentlastung	12x G50/125 OM3, SC	coloured, stripped for splicing
H82050E0005	STX Mounting Rail Distributors with 6xLC Duplex, splice cassette, Pigtails, cable strain relief	12x E9/125, LC	coloured, stripped for splicing
H82050F0005	STX Mounting Rail Distributors with 6xLC Duplex, splice cassette, Pigtails, cable strain relief	12x G50/125 OM2, LC	coloured, stripped for splicing
H82050K0005	STX Mounting Rail Distributors with 6xLC Duplex, splice cassette, Pigtails, cable strain relief	12x G50/125 OM3, LC	coloured, stripped for splicing
H82050E0007	STX Mounting Rail Distributor with 6x E2000 Compact, splice cassette, Pigtails, cable strain relief	12x E9/125, E2000	coloured, stripped for splicing
H82050F0007	STX Mounting Rail Distributor with 6x E2000 Compact, splice cassette, Pigtails, cable strain relief	12x G50/125 OM2, E2000	coloured, stripped for splicing
H82050K0007	STX Mounting Rail Distributor with 6x E2000 Compact, splice cassette, Pigtails, cable strain relief	12x G50/125 OM3, E2000	coloured, stripped for splicing

18

FO Termination Tools and Accessories



18 FO Termination Tools and Accessories

18.1 FO Tool Set 325
18.2 Accessories for FO Tool Set 326
18.3 Termination Tool Set POF 331
18.4 Video Microscope ViewConn Plus 332

FO Termination Tools and Accessories

For secure, time-saving and steady termination on-site, Telegärtner offers a wide assortment of auxiliary means and tools. For terminating a FO connector it is necessary to have tools for preparing th fibers, a crimp tool, polishing materials and a microscope for checking the connector end face. These tools are all packed in a aluminium case for secure transport with room for supplementary sets. Supplementary sets are available for the termination of POF and LC connectors. For the assembly of RJ45 jacks and plugs Telegärtner offers a stripping tools, plier wrenches as well as adequate Crimp tools for the professional applications.

FO Tool Set 18.1

Order no.	Description	Remarks
N84000A0000	Tool Set Fast Cure for FO Connectors, Basic Equipment	Content: • Crimp tool for ST, SC and IP67 connectors • kevlar cutter • tripping tool for jacket, primary- and secundary coating • knife • light rod with adaptor for connector 2,5 mm ferrules • cleaning tissues • polishing pads • polishing foils • saphire scribe • Microscope 100x and 200xConversion Eyepiece • polishing discs for connector 2,5 mm ferrules • polishing and cleaning fluid • Fast Cure Adhesive Set

18 FO Termination Tools and Accessories

18.2 Accessories for FO Tool Set

Order no.	Description	Remarks
N84001A0000	Supplementary Set LC (for GOF and PCF)	Crimp insert, Polishing disc, Microscope Conversion Eyepiece, Light rod

Order no.	Description	Remarks
N84001A0001	Supplementary Set SC (for POF)	Crimp Insert, Stripping Tool

Order no.	Description	Remarks
N80000A0001	Crimp tool with insert for ST, SC and IP67 plugs	included in Tool Case Fast Cure

FO Termination Tools and Accessories

Order no.	Description	Remarks
N81001A0000	Crimp insert for ST/SC and IP67 plugs	wrench size: 3.4/4.52, 3.65/4.52 and 8.23
N81001A0001	Crimp insert for ST/SC POF and IP67 plugs	wrench size: 3.23, 4.52 and 8.23

Order no.	Description	Remarks
N01001A0061	Crimp insert for LC and IP67 plugs	wrench size: 3.05/3.24 and 8.23

Order no.	Description	Remarks
N04001A0032	Kevlar scissors	included in Tool Case Fast Cure

Order no.	Description	Remarks
N04001A0033	Cutter	included in Tool Case Fast Cure

Order no.	Description	Remarks
N04001A0063	Cable Stripping Tool	included in Tool Case Fast Cure

18 FO Termination Tools and Accessories

18.2 Accessories for FO Tool Set

Order no.	Description	Remarks
N04001A0031	Stripping tool for jacket and primary coating	included in Tool Case Fast Cure

Order no.	Description	Remarks
N04001A0062	Stripping tool 0.25 - 0.8 mm for secondary coating	included in Tool Case Fast Cure

Order no.	Description	Remarks
Q00051A0006	Fast Cure Adhesive Set	for approx. 250 connectors ST, SC, LC; included in Tool Case Fast Cure

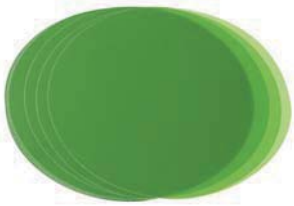
Order no.	Description	Remarks
N04001A0018	Light rod for connectors 2.5 mm dia.	incl. batteries; included in Tool Case Fast Cure

Order no.	Description	Remarks
N04001A0024	Cleaning tissues	alcohol-soaked, set with 20 pcs.; included in Tool Case Fast Cure
N04001A0064	Cleaning tissues	dry, set with 100 pcs.; included in Tool Case Fast Cure

FO Termination Tools and Accessories

Order no.	Description	Remarks
N04001A0048	Polishing disc for ST and SC plugs	stainless steel, solid; included in Tool Case Fast Cure

Order no.	Description	Remarks
N04001A0059	Polishing pad Ø 127 mm for prior- and final polishing steps	included in Tool Case Fast Cure



Order no.	Description	Remarks
N00100A0010	Polishing foils 30 µm, Ø 127 mm	50 pcs.; included in Tool Case Fast Cure
N00100A0009	Polishing foils 2 µm, Ø 127 mm	50 pieces
N00100A0017	Polishing foils 3 µm, Ø 127 mm, diamond	5 pcs.; included in Tool Case Fast Cure
N00100A0011	Fine Polishing foils for SM	5 pieces
N00100A0018	polishing fois 0,5 µm, Ø 127 mm, diamond	5 pcs.; included in Tool Case Fast Cure

Order no.	Description	Remarks
N04001A0026	Polishing and cleaning liquid	included in Tool Case Fast Cure

Order no.	Description	Remarks
N04001A0017	Cleaving tool	for fiber cutting; included in Tool Case Fast Cure

18.2

18 FO Termination Tools and Accessories

18.2 Accessories for FO Tool Set

Order no.	Description	Remarks
N04001A0039	Microscope, 100x	incl. batteries; included in Tool Case Fast Cure

Order no.	Description	Remarks
N04001A0040	200x Microscope Conversion Eyepiece	included in Tool Case Fast Cure

Order no.	Description
N04001A0046	Stripping tool for jacket, secondary and primary coating

Order no.	Description	Remarks
N04001A0034	Split-tip cleaning swabs	With cleaning fluid, set with 20 pcs.

FO Termination Tools and Accessories

Termination Tool Set POF 18.3

Order no.	Description
N84001A0002	Termination Tool Set POF

Order no.	Description	Remarks
N00100A0016	Polishing foil set for POF	10 pcs. P1500 and 1µ each

Order no.	Description	Remarks
N04001A0067	Polishing disc for POF connectors 2.5 dia.	plastic

18.4 Video Microscope ViewConn Plus

ViewConn™ is a ruggedized hand-held microscope with LCD monitor and with an attached cleaner for FO connector end faces. ViewConn enables the user optimal visual inspection of polished FO connector ends. Dirt, scratches and cracks can be easily recognized on the eye-safe monitor. With the enclosed cleaning cartridge or the wet cleaner contaminated connectors can be cleaned and re-inspected, ensuring optimal signal qualitiy after successful cleaning. Using the attached probe you can view connectors through an adaptor without disconneting e.g. inside a patch panel. The USB port serves for documentation. Tips for current connector series are available.

Specifications

- Microscope with LCD Display 3,5“, 960x240 pixels
- Field of view: 0,4x0,3mm
- Adjustable brightness and contrast
- Power supply: 4 AA recharchable batteries or 6V DC adapter
- USB 2.0 image capture port
- Handset probe for female inspection
- Ruggedized cover
- Cleaning cartridge for dry cleaning
- Wet cleaning pen
- CE approved
- RoHS compliant

Scope of delivery:

- Microscope with ruggedized cover for field use, packed in robust case
- Handset probe for female inspection
- 4 Akkus AA recharchable batteries with charger
- 6V DC Power adapter
- Cleaning cartridge for dry cleaning with 50 tissues
- Wet cleaning pen
- Interchangeable tips for PC connectors with 2.5 mm or 1.25 mm ferrule
- USB 2.0 mini-B cable for PC connection
- CD for USB video driver and display/capture software

Order no.	Description	Remarks
N04001A0070	Video microscope ViewConn Plus with case	for FO connectors, incl. Handset probe for female inspection

FO Termination Tools and Accessories

Order no.	Description	Remarks
N04001A0071	Cleaning cartridge for dry cleaning	Package with 10 pcs. each with 50 tissues, for ViewConn Plus

Order no.	Description	Remarks
N04001A0072	Wet cleaning pen	Package with 5 pcs. for ViewConn Plus

Order no.	Description	Remarks
N04001A0075	Connector tip 2.5/APC	for ViewConn Plus
N04001A0076	Connector tip 1.25/APC	for ViewConn Plus

Order no.	Description	Remarks
N04001A0077	Connector tip female SC/APC	for ViewConn Plus probe head
N04001A0078	Connector tip female LC	for ViewConn Plus probe head
N04001A0079	Connector tip female LC/APC	for ViewConn Plus probe head
N04001A0080	Connector tip female ST	for ViewConn Plus probe head

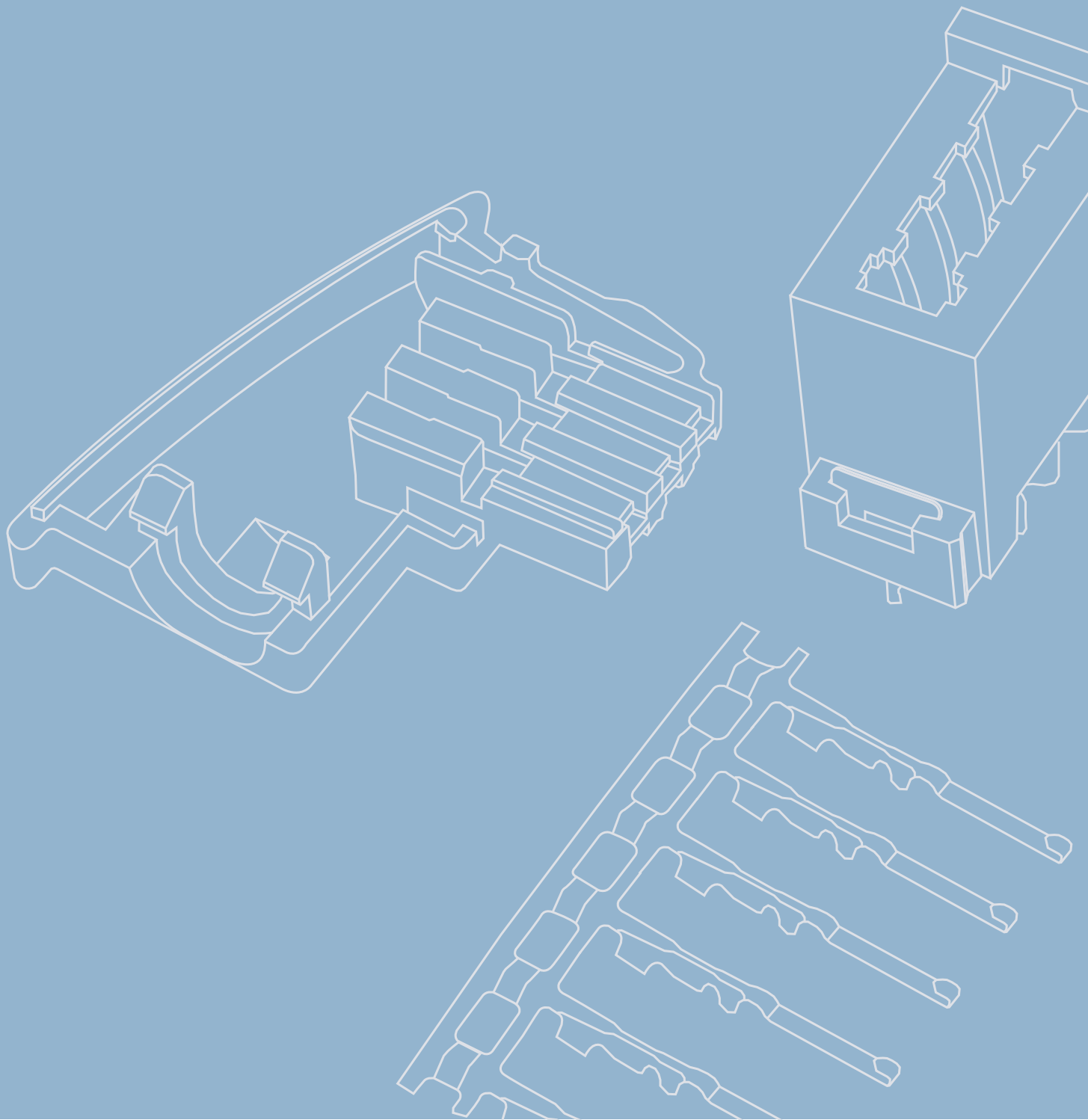
Order no.	Description	Remarks
N04001A0083	Cleaner for ST, SC, FC connectors	cleaning area Ø 1,8 mm

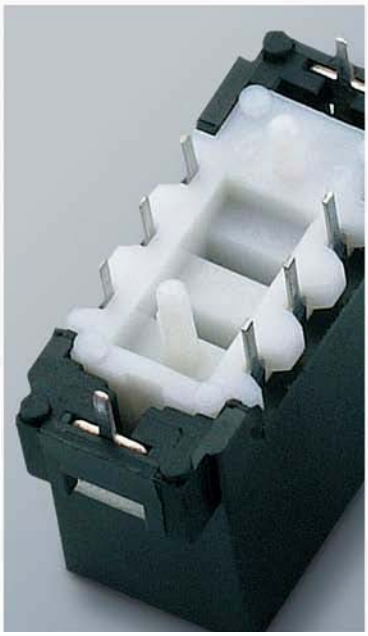
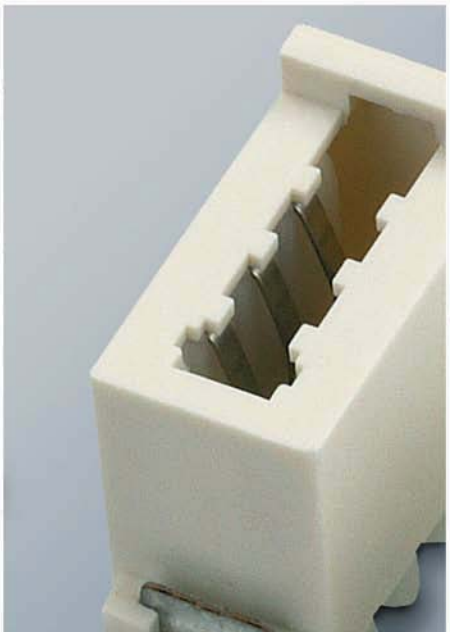
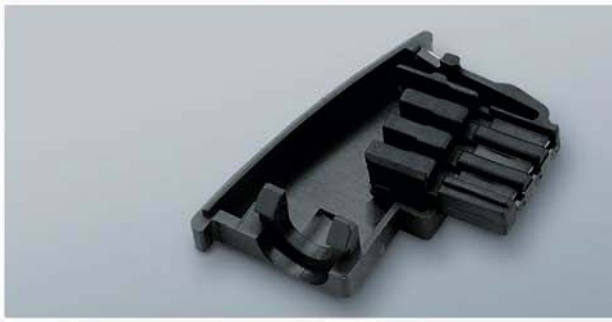
Order no.	Description
N04001A0074	Cleaner for LC connectors

Order no.	Description
N04001A0081	Fiber tester with adaptors for ferrules ST, SC, FC, LC for visual fault locating in FO links

19

TAE Equipment according to DIN 41 715



19 TAE Equipment according to DIN 41715

19.1 Socket TAE 6, straight style, coding F, N and U, for PCB mounting 337
19.2 Adaptor TAES 4 F - WE 6(4) 338
19.3 Test Prod with Plug In and Screw Termination 338

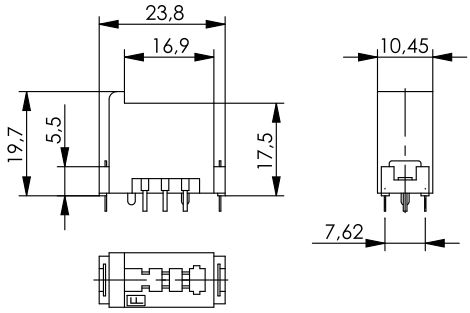
TAE Equipment according to DIN 41715

Mechanical Characteristics	
Insertion force	≤ 45 N*²
Disengagement	3 - 19 N*²
Durability (mating cycles)	≥ 750*²
Material: connector contact	phosphor bronze
Material: connector contact finish	min. 2.54 µm Sn on 1.27 µm Ni
Material: break contact finish	min. 2.54 µm Sn über 1.27 µm Ni gold plated 10 µin
Material: fixing terminal	phosphor bronze
Material: fixing terminal finish	min 0.127 µm Sn
Material: insulators	PBT, PA6
Climatic Characteristics	
Tested / classified in accordance with DIN IEC 60068-1	40/070/10
Electrical Characteristics	
Contact resistance*: Connector contact	≤ 20 mΩ
Contact resistance*: Break contact	≤ 30 mΩ
Insulation resistance	200 MΩ
Voltage proof	1000 V / 50 Hz
impulse withstand voltage	2000 V (10/700µs)
Operating voltage (AC or DC)	≤ 125 V
Operating current at 70° C	≤ 0.25 A
Capacitance between two neighbouring contacts	ca. 1 pF

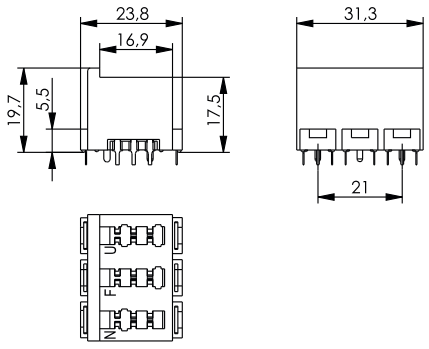
*Contact resistance between terminals higher, depending on the connection of the PCB.
*² Mechanical characteristics refer to equipment asembled condition

Socket TAE 6, straight style, coding F, N and U, for PCB mounting

19.1



Order no.	Short name	Remarks	Mount. dim.
J00000B0003	TAE 6 F, straight style	6-way, colour pearl white	Z127
J00000B0005	TAE 6 N, straight style	6-way, colour pearl white	Z127
J00000B0066	Socket TAE 6 N/F , straight style	6-way, colour pearl white	Z127

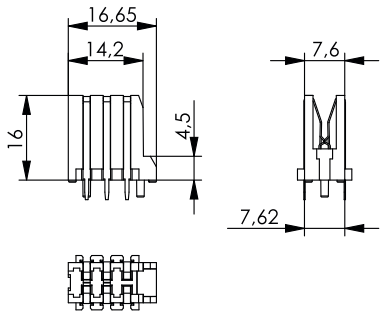


Order no.	Short name	Remarks	Mount. dim.
J00001A0007	TAE 3x6 NFU, straight style	6-way, colour pearl white	Z128

19.1

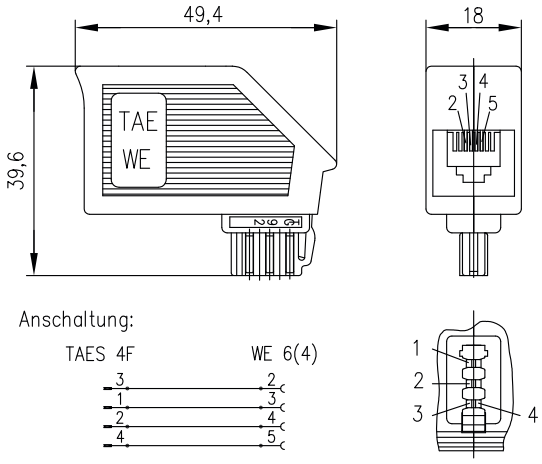
19 TAE Equipment according to DIN 41715

19.1 Socket TAE 6, straight style, coding F, N and U, for PCB mounting



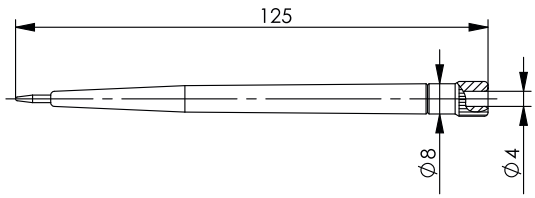
Order no.	Short name	Remarks	Mount. dim.
F00000A0013	TAE 6 socket, staight style	6-way, colour pearl white	Z130

19.2 Adaptor TAES 4 F - WE 6(4)



Order no.	Short name	Remarks
J00063A0011	TAES 4 F - WE 6(4)	application: for telephone sets

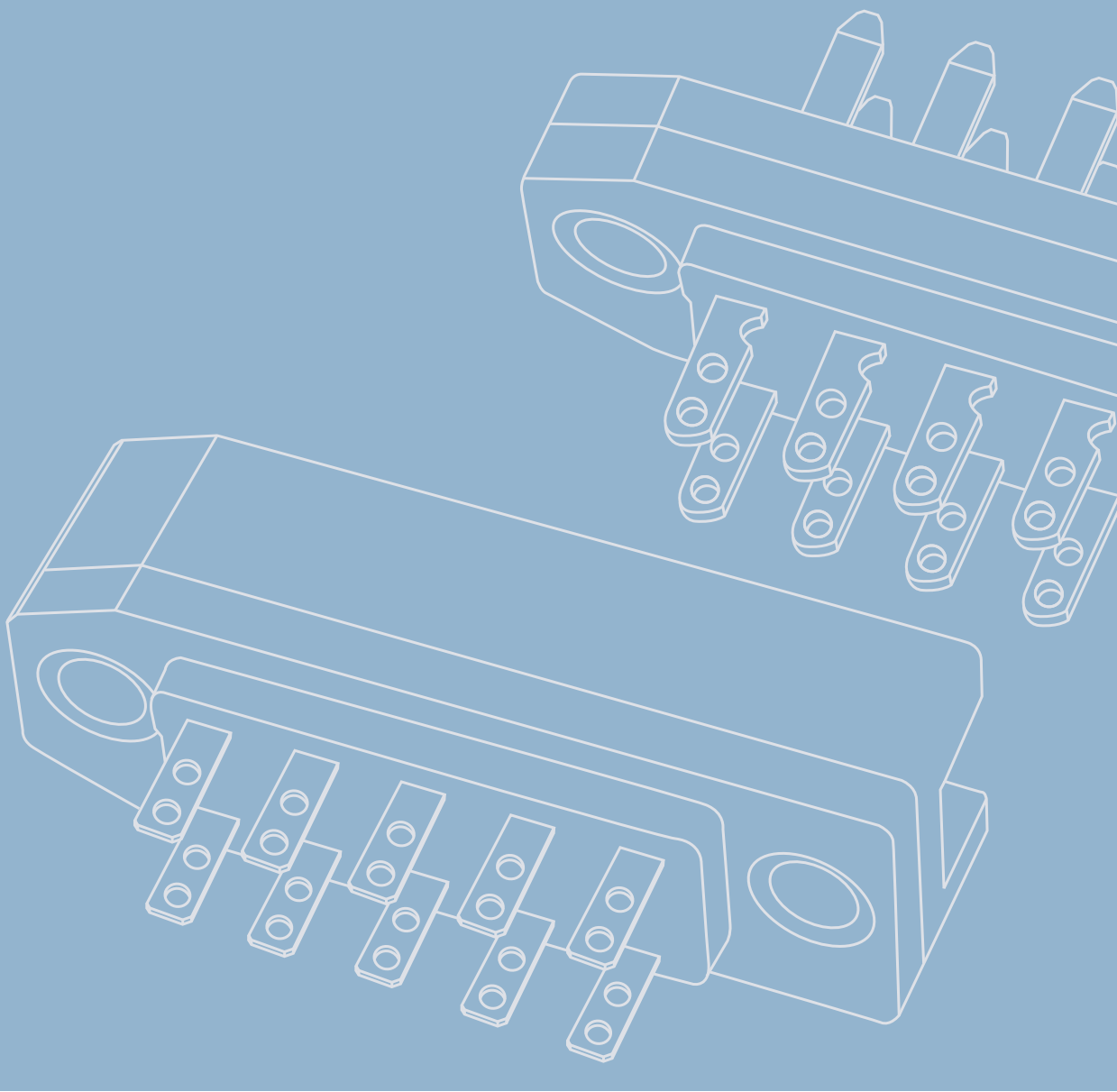
19.3 Test Prod with Plug In and Screw Termination



Order no.	Remarks	Description
J04000A0424	Test Prod with Plug In and Screw Termination, with black insulators	Test Prod with Plug In and Screw Termination

20

Connectors according to DIN 41 618 and DIN 41 622



20 Connectors according to DIN 41 618 and DIN 41 622

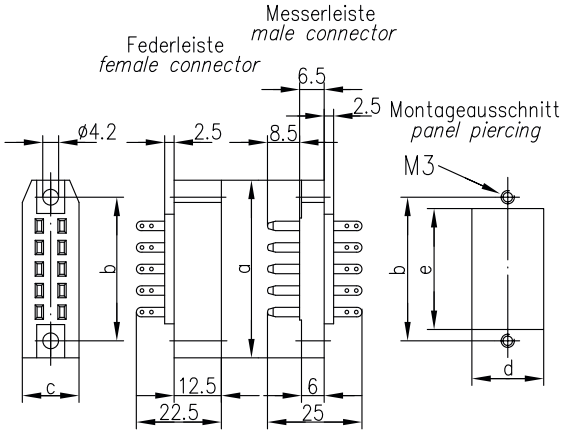
20.1 Connection according to DIN 41 618, Symmetrical Contact Configuration 341
20.2 Connection according to DIN 41 622, Asymmetrical Contact Configuration 342
20.3 Housing for Connectors according to DIN 41 618 and DIN 41 622 342
20.4 Locking Through for Housing 343
20.5 Cable Reliefs for Housings 343
20.6 Coding Parts for Connectors according to DIN 41 618 and 41 622 344

Connectors according to DIN 41 618 and DIN 41 622

Connectors according to DIN 41 618 and DIN 41 622 are knife-/spring contact types. Its rugget design causes a reliable electrical connection. They are mainly used in plug in unit designs and as cable connectors, using metal-/plastic housings with coresponding coding and locking parts.
The termination is soldering. Male connectors with terminals for PCB mounting and with wire wrap posts are possible (on request).

	DIN 41 618	DIN 41 622
Mechanical Characteristics		
Withdrawal force of a single knife	≥ 0.8 N	≥ 0.8 N
Durability (mating cycles)	≥ 500	≥ 500
Material: contact (finish)	≥ 6 µm Ag	≥ 6 µm Ag
Material: insulators	PC gv black	PC gv black
Material: knife contacts	2.5 x 1 mm	3.0 x 1 mm
Material: terminators	solderable tinned	solderable tinned
Climatic Characteristics		
Tested / classified in accordance with DIN IEC 60068-1	40/085/21	40/085/21
Electrical Characteristics		
Contact resistance		
Insulation resistance	≥ 1.000 MΩ	≥ 1.000 MΩ
Voltage proof	1.500 Veff/50 Hz	1.500 Veff/50 Hz
Working voltage	250 V~ / 200 V=	380 V~/ 450=
Working current at environmental temperature 20° C	6 A	8 A
Working current at environmental temperature 40° C	5 A	6 A
Working current at environmental temperature at 60° C	3 A	4 A

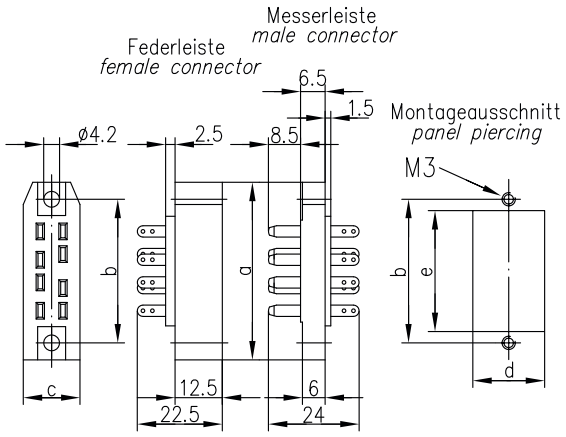
Connection according to DIN 41 618, Symmetrical Contact Configuration 20.1



Order no.	Short name	Size in mm	Remarks
J00044A0900	male connector A 10	a=47; b=38; c=15; d=14; e=32	solder terminals, 10-way
J00040A0901	female connector B 10	a=47; b=38; c=15; d=14; e=32	solder terminals, 10-way
J00045A0902	male connector A 16	a=59; b=50; c=15; d=14; e=43	solder terminals, 16-way
J00041A0903	female connector B 16	a=59; b=50; c=15; d=14; e=43	solder terminals, 16-way
J00045A0904	male connector A 20	a=71; b=62; c=15; d=14; e=55	solder terminals, 20-way
J00041A0905	female connector B 20	a=71; b=62; c=15; d=14; e=55	solder terminals, 20-way
J00046A0906	male connector A 26	a=83; b=74; c=15; d=14; e=68	solder terminals, 26-way
J00042A0907	female connector B 26	a=83; b=74; c=15; d=14; e=68	solder terminals, 26-way
J00046A0908	male connector A 39	a=83; b=74; c=20; d=19; e=68	solder terminals, 39-way
J00042A0909	female connector B 39	a=83; b=74; c=20; d=19; e=68	solder terminals, 39-way

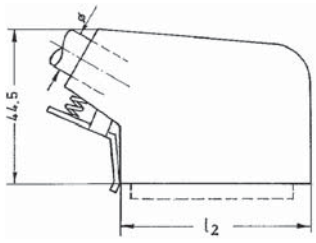
20 Connectors according to DIN 41 618 and DIN 41 622

20.2 Connection according to DIN 41 622, Asymmetrical Contact Configuration



Order no.	Short name	Size in mm	Remarks
J00044A0910	male connector A 8	a=47; b=38; c=15; d=14; e=32	solder terminals, 8-way
J00040A0911	female connector B 8	a=47; b=38; c=15; d=14; e=32	solder terminals, 8-way
J00045A0912	male connector A 12	a=59; b=50; c=15; d=14; e=43	solder terminals, 12-way
J00041A0913	female connector B 12	a=59; b=50; c=15; d=14; e=43	solder terminals, 12-way
J00045A0914	male connector A 16	a=71; b=62; c=15; d=14; e=55	solder terminals, 16-way
J00041A0915	female connector B 16	a=71; b=62; c=15; d=14; e=55	solder terminals, 16-way
J00045A0916	male connector A 20	a=83; b=74; c=15; d=14; e=68	solder terminals, 20-way
J00041A0917	female connector B 20	a=83; b=74; c=15; d=14; e=68	solder terminals, 20-way
J00046A0918	male connector A 30	a=83; b=74; c=20; d=19; e=68	solder terminals, 30-way
J00042A0919	female connector B 30	a=83; b=74; c=20; d=19; e=68	solder terminals, 30-way

20.3 Housing for Connectors according to DIN 41 618 and DIN 41 622



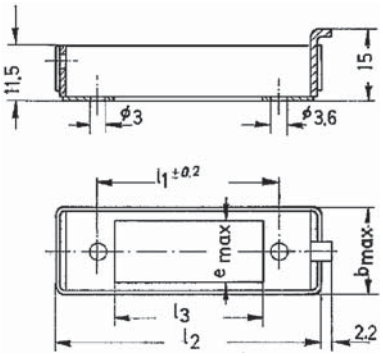
Order no.	Short name	for connectors according to DIN 41 618	for connectors according to DIN 41 622	Remarks
H00030A0955	housing 8/10	10-way	8-way	metal, black
H00031A0957	housing 12/16	16-way	12-way	metal, black
H00031A0959	housing 16/20	20-way	16-way	metal, black
H00031A0965	housing 20/26	26-way	20-way	metal, black
H00032A0942	housing 30/39	39-way	30-way	metal, black

Can also be used as non locking. Remove locking parts, rip off lug by plastic housing.

Connectors according to DIN 41 618 and DIN 41 622

Locking Through for Housing 20.4

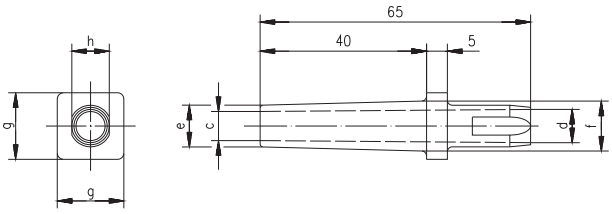
for housings	sizes in mm l1	l2	l3	b	e	material
8/10	38	55,4 55,4	31	18,1	13	metal
12/16	50	67,4 66,4	43	18,1	13	metal
16/20	62	79,4 78,4	55	18,1	13	metal
20/26	74	91,4 90,4	67	18,1	13	metal
30/39	74	91,4 90,4	67	23,1	18	metal



Order no.	Short name	Remarks
B03014A0936	locking through 8/10	metal, black
B03014A0937	locking through 12/16	metal, black
B03014A0938	locking through 16/20	metal, black
B03015A0939	locking through 20/26	metal, black
B03015A0940	locking through 30/39	metal, black

Cable Reliefs for Housings 20.5

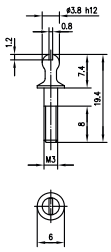
for housing	sizes in mm c	d	e	f	g	h
8/10; 12/16M 16/20; 20/26	7	8	10	12	16	9
30/39	10,5	11,5	14	15,5	21	14



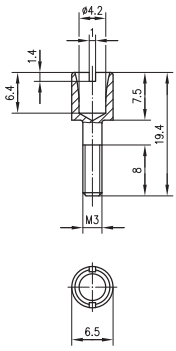
Order no.	Short name	Remarks
B00082A0943	cable relief 30/39	for housing 30/39, black

20 Connectors according to DIN 41 618 and DIN 41 622

20.6 Coding Parts for Connectors according to DIN 41 618 and 41 622



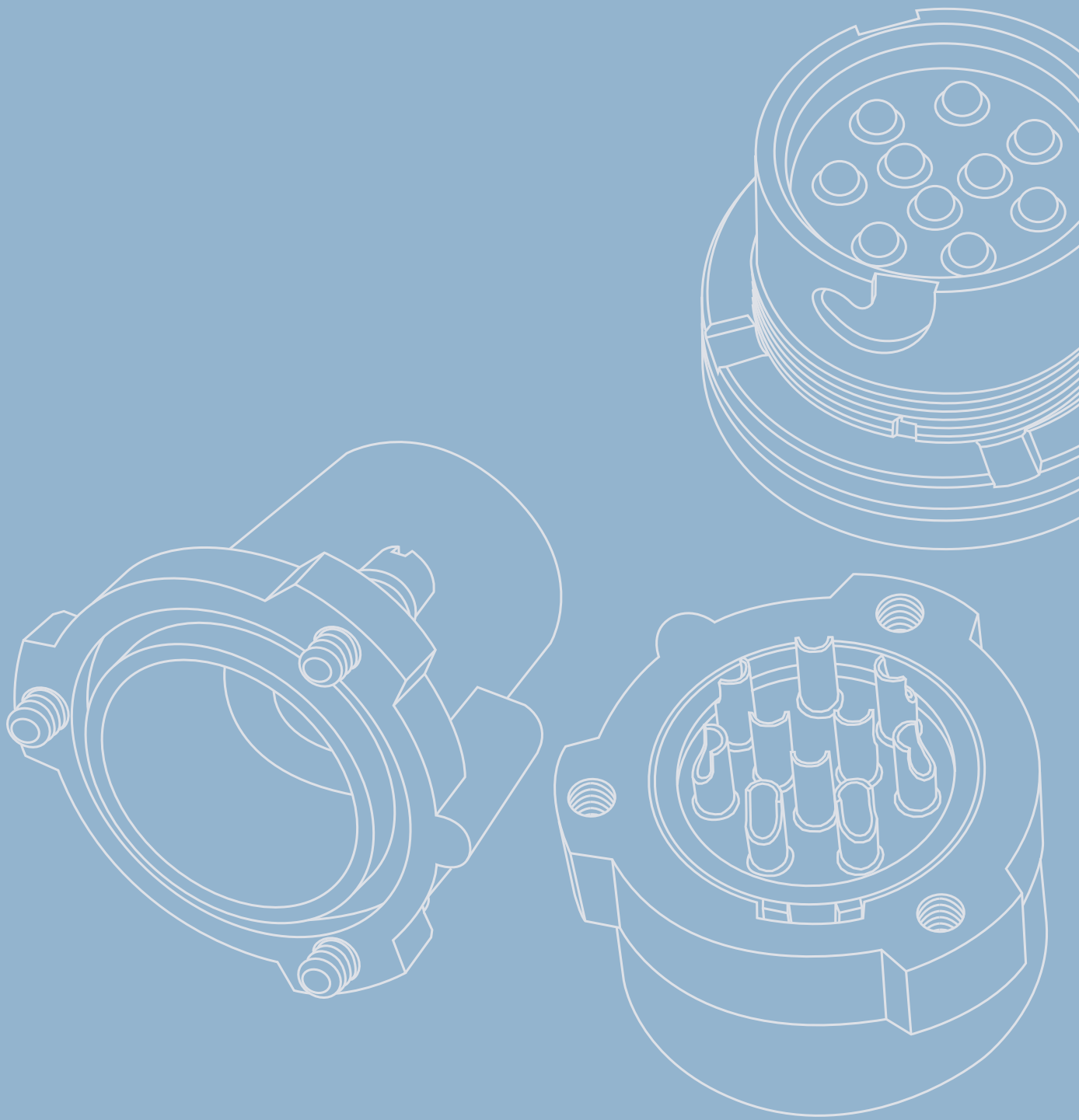
Order no.	Remarks
A16010A0923	pin



Order no.	Remarks
A16010A0924	Jack

21

LF Connectors 10-way according to MIL-C-10544



21 LF Connectors for 10-way according to MIL-C-10544

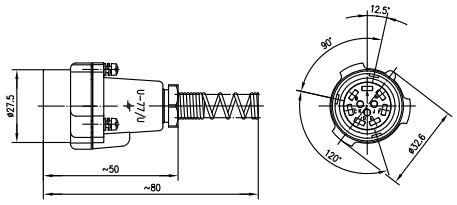
21.1 Straight Plug 347
21.2 Angle Plug 348
21.3 Straight Jack 348
21.4 Jack Receptacle 348
21.5 Protective Cap 349

LF Connectors for 10-way according to MIL-C-10544

The 10-way LF connectors according to MIL-C-10544 are mainly used in communication equipments (e. g. for connecting handsets, headphones and microphones). It is a waterproof and bajonet locking system. The female connector is designed with double spring loaded contacts and the male connector with rigid contacts, both with solder terminals. The male connector block is designed with a double fixing feature against rotation.

Mechanical Characteristics	
Locking force	max. 277 Ncm
Delocking force	min. 46 Ncm
Contact force (all contacts)	max. 113 N
Vibration (10 Hz to 2.000 Hz)	100 m/s²
Shock (11 ms duration)	500 m/s²
Waterproof (pressure)	0.2 bar
Durability (mating cycles)	≥ 1.500
Material: contacts	CuZn38Pb1
Material: contact spring	CuBe2
Material: contact finish	Ag over CuNi / Rh over CuNi
Material: insulators	Melamin 150
Material: armatures	rust-resistant or POM
Material: gaskets	rubber
Climatic Characteristics	
Tested / classified in accordance with DIN IEC 60068-1	55/085/10
Electrical Characteristics	
Contact resistance	≤ 150mΩ
Insulation resistance	≥ 200 MΩ
Voltage proof	500 Veff/50 Hz
Working voltage a.c.	max. 50 V
Working current	max. 0.1 A

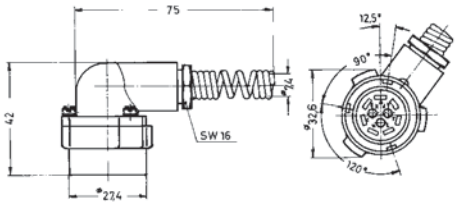
Straight Plug 21.1



Order no.	MIL-Std.	Nato-No.	Remarks
J00014A0585	U-77/U	5935-283-2950	with stainless steel bayonetring and POM backpart, for cable ø 7.5 mm
J00014B0585	U-77/U-D		bayonetring and backpart in POM, for cable ø 7.5 mm
J00014A0000	U-77/U-M	5935-12-318-9422	with stainless steel bayonetring and metal backpart, for cable ø 5.5 mm
J00014C0585	U-77/U-S	5935-12-174-4303	with latching stainless steel bayonetring and POM backpart, for cable ø 7.5 mm
J00014E0585	U-77/U		with latching stainless steel bayonetring and metal backpart, for cable ø 5.5 mm

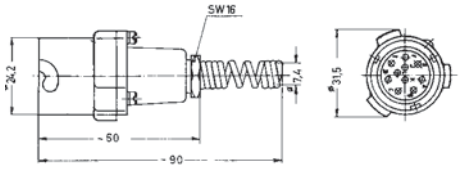
21 LF Connectors for 10-way according to MIL-C-10544

21.2 Angle Plug



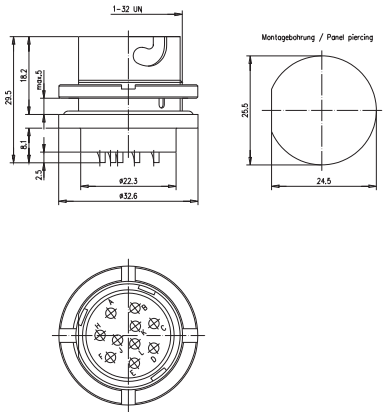
Order no.	MIL-Std.	Nato-No.	Remarks
J00014A0586	U-127/U	5935-00-577-034, 5935-12-149-7783	with stainless steel bayonetring and POM backpart, for cable ø 7.5
J00014E0586	U-127/U		with stainless steel bayonetring and POM backpart, for cable ø 5.5
J00014B0586	U-127/U-D		with bayonetring and backpart in POM, for cable ø 7.5
J00014D0586	U-127/U-D		with bayonetring and backpart in POM, for cable ø 5.5
J00014A0002	U-127/U-M	5935-12-318-9424	with stainless steel bayonetring and metal backpart, for cable ø 5.5
J00014C0586	U-127/U-S	5935-12-146-6432	with latching, stainless steel bayonetring and POM backpart, for cable ø 7.5

21.3 Straight Jack



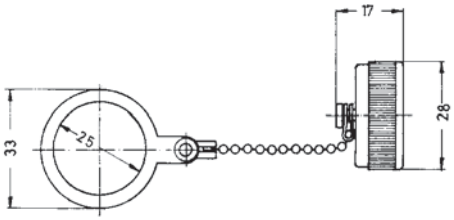
Order no.	MIL-Std.	Nato-No.	Remarks
J00010A0590	U-78/U	5935-283-2884	with stainless steel bayonetring and POM backpart, for cable ø 7.5
J00010A0000	U-78/U-M	5935-12-318-9423	with stainless steel bayonetring and metal backpart, for cable ø 5.5

21.4 Jack Receptacle



Order no.	MIL-Std.	Nato-No.	Remarks
J00050A0587	U-79/U	5935-12-187-2716	
J00050A0588	U-79/U-S	5935-12-145-6763	with latching

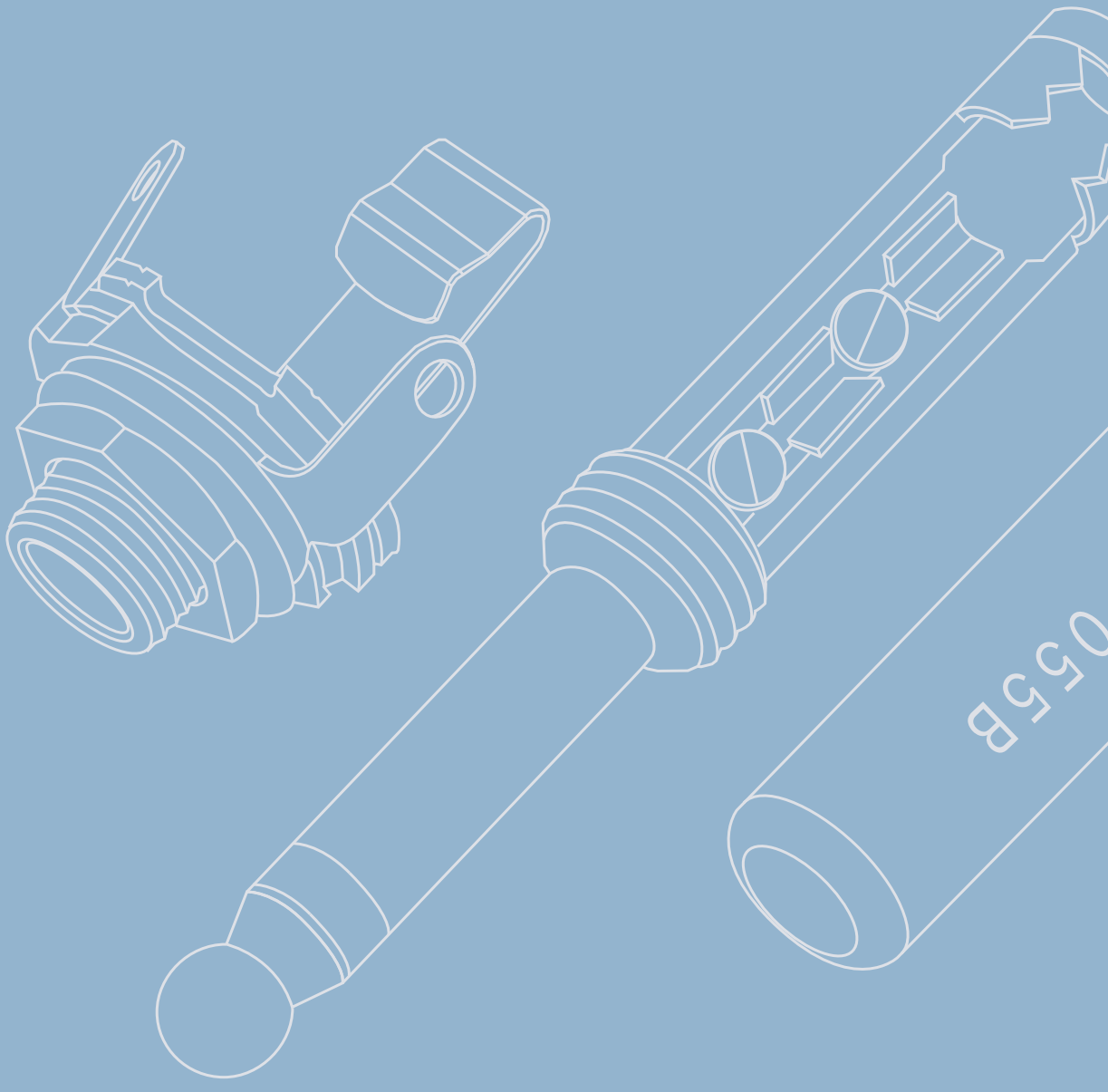
Protective Cap 21.5



Order no.	MIL-Std.	Nato-No.	Remarks
H00030A0589	CW 339	5935-258-4449	Protective Cap applicable for J00050A0587

22

2- and 3-way Connectors according to MIL-P-642, MIL-J-641



22 2- and 3-way Connectors according to MIL-P-642, MIL-J-641

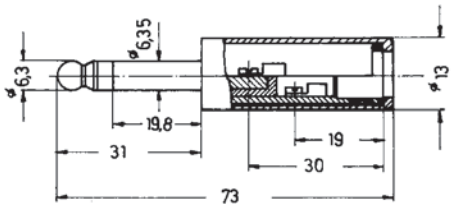
22.1 Plug 353
22.2 Jack 354
22.3 Jack Receptacle 354

2- and 3-way Connectors according to MIL-P-642, MIL-J-641

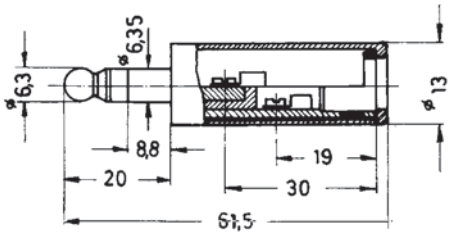
The 2- and 3-way connectors according to MIL-P-642, MIL-J-641 are used in the military and civilian field of communication equipments e. g. for connecting headphones, handsets, microphones and headgear speechsets. The type of termination is screw termination for the plugs and soldering for the jacks. The strain relief is made by a clamping ring.

Mechanical Characteristics	
Insertion force	max. 25 N
Disengagement	min. 10 N
Contact force	≥ 0.8 N
Durability (mating cycles)	≥ 5000
Material: contact spring	CuZn37F55
Material: contacts	CuZn40Pb2
Material: contact finish	Ni
Material: insulators	PA
Climatic Characteristics	
Tested / classified in accordance with DIN IEC 60068-1	55/070/10
Electrical Characteristics	
Contact resistance	≤ 100 MΩ
Insulation resistance	≥ 100 MΩ
Voltage proof	500 V_{eff}/50 Hz
Working voltage a.c.	max. 60 V
Working current	max. 1 A

Plug 22.1



Order no.	MIL-Std.	Nato-No.	Remarks
J00030A0595	PJ-055 B	5935-192-4760	2-way, protective sleeve black

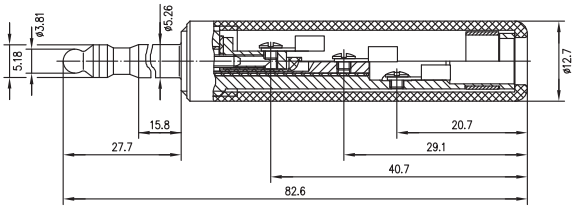


Order no.	MIL-Std.	Nato-No.	Remarks
J00030A0598	PJ-054 B	5935-192-4764	2-way, protective sleeve black

22.1

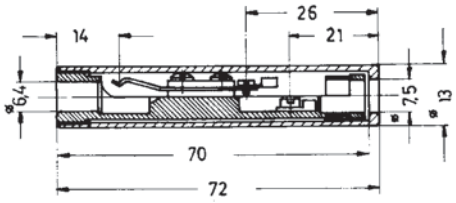
22 2- and 3-way Connectors according to MIL-P-642, MIL-J-641

22.1 Plug



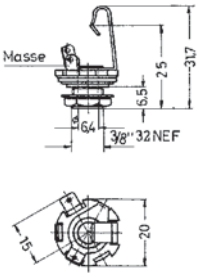
Order no.	MIL-Std.	Remarks
J00031A0596	PJ-068 B	3-way, protective sleeve black

22.2 Jack

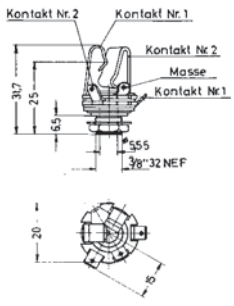


Order no.	MIL-Std.	Nato-No.	Remarks
J00034A0597	JJ-026	5935-194-3081	2-way protective sleeve black applicable for J00030A0598 and J00030B0598

22.3 Jack Receptacle



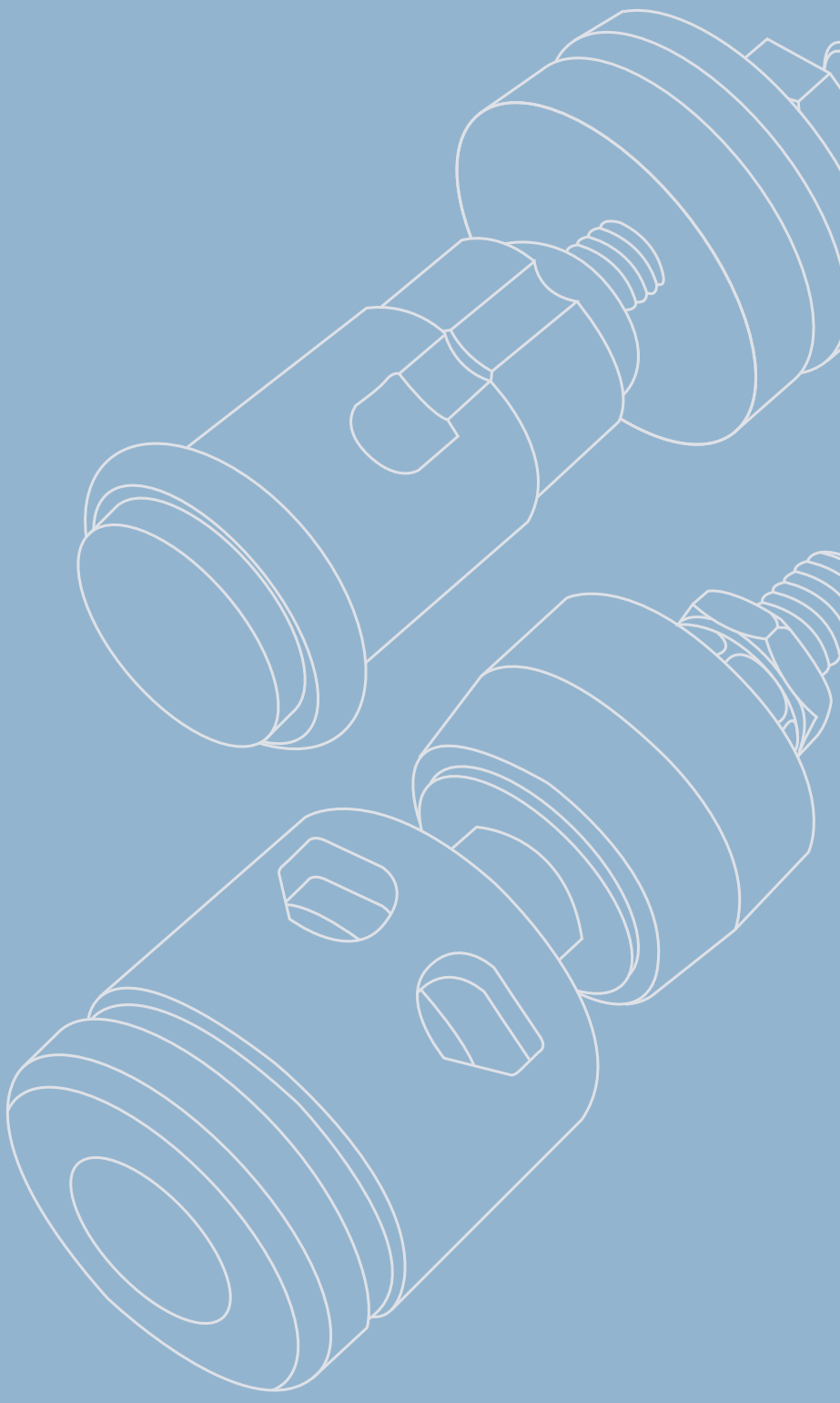
Order no.	MIL-Std.	Nato-No.	Remarks
J00034A0593	JJ-034	5935-228-7062	Jack Receptacle 2-way, applicable for J00030A0595 and J00030B0595



Order no.	MIL-Std.	Nato-No.	Remarks
J00035A0594	JJ-033	5935-228-7063	Jack Receptacle 2-way, applicable for PJ-68 B

23

Binding Posts KL 58, KL 65



23 Binding Posts KL 58, KL 65

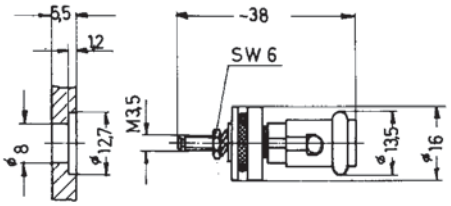
23.1 Binding Posts KL 58 357
23.2 Binding Posts KL 65 358

Binding Posts KL 58, KL 65

The binding posts KL 58 and KL 65 are quick connection accessories. clamping posts mainly used in radio equipments and their

Mechanical Characteristics	
Depress force KL 58	min. 15 N
Depress force KL 65	min. 15 N
Conductor to be clamped	Ø max. 2.5 mm
Material: contacts	CuZn38Pb1
Material: contact finish	Ni
Material: insulators KL 58	PA
Material: insulators KL 65	PA
Climatic Characteristics	
Tested / classified in accordance with DIN IEC 60068-1	55/070/04
Electrical Characteristics	
Insulation resistance	≥ 100 MΩ
Voltage proof	500 V_{eff} / 50 Hz
Working current KL 58	max. 10 A
Working current KL 65	max. 10 A

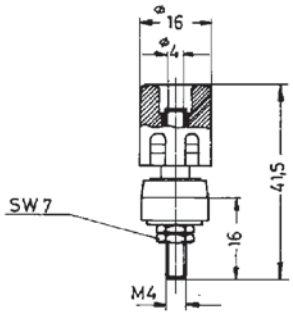
Binding Posts KL 58 23.1



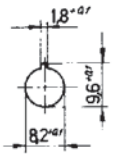
Order no.	Remarks	Nato-No.
J02010A0650	waterproof mounting	5940-00-194-7739; 5940-12-159-7114

23 Binding Posts KL 58, KL 65

23.2 Binding Posts KL 65



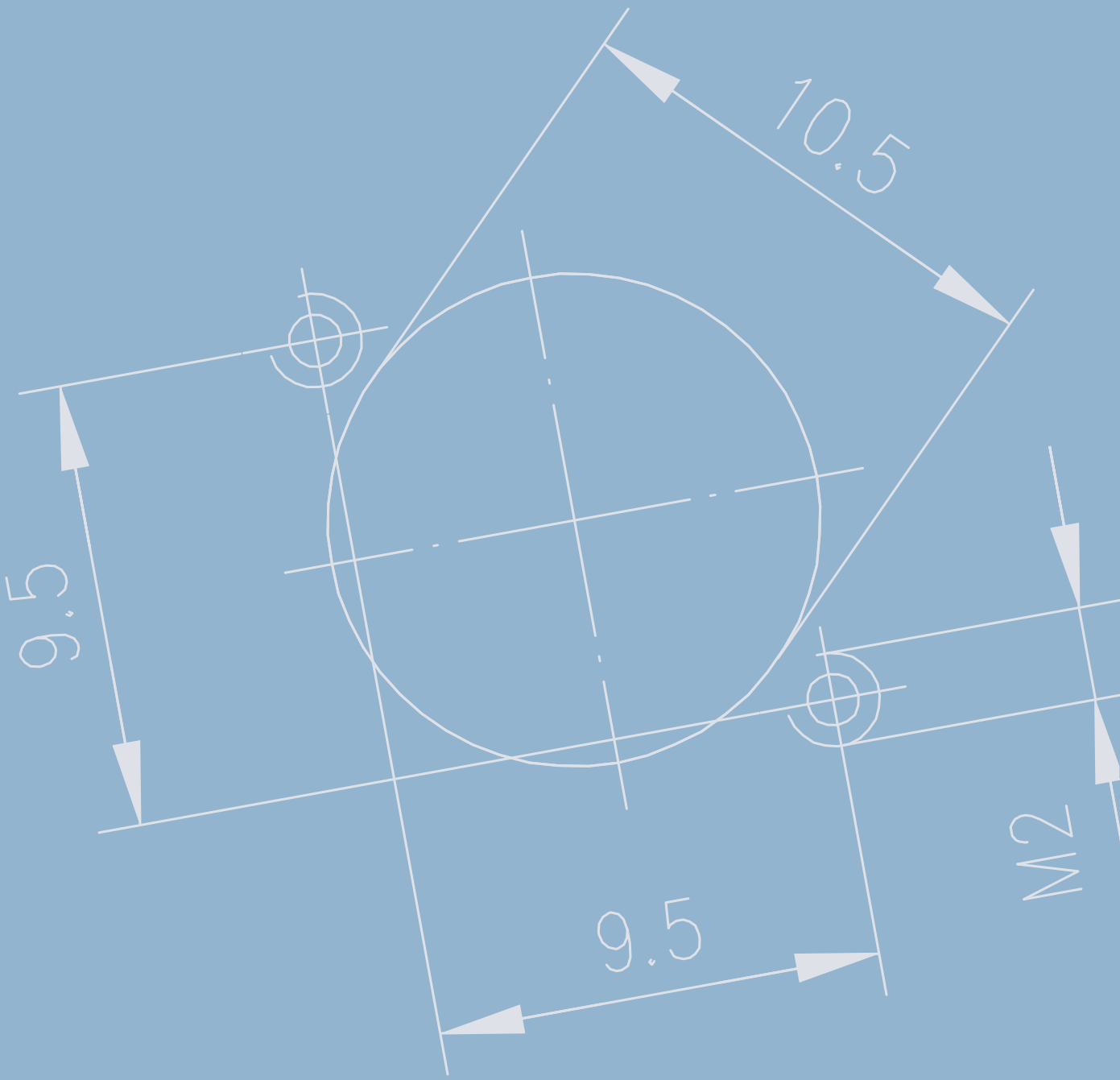
Einbaumaße



Order no.	Nato-No.	Remarks
J02010A0652	5940-12-160-0242	insulators red, insulated mounting
J02010B0652	5940-12-160-0241	insulators black, insulated mounting
J02010C0652	5940-12-345-4407	insulators blue, insulated mounting
J02010D0652	5940-12-345-4406	insulators green, insulated mounting

24

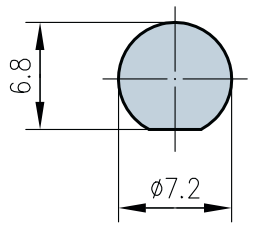
Mounting Dimensions



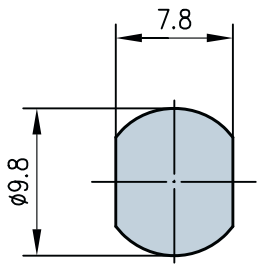
24 Panel Piercings

Telegärtner is keen to facilitate your product selection, and to offer practical support to you in your daily involvement with connectors. For this reason, on the following page you will find all the panel piercings shown against diverse connectors as a Panel Piercing Code (e.g. Z66), as a kind of „working tool“.

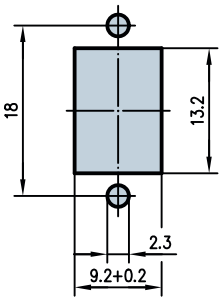
Z27



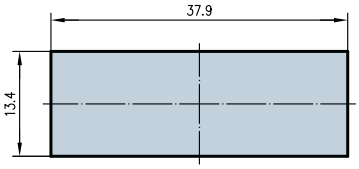
Z64



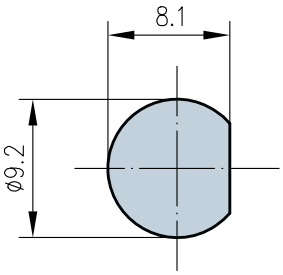
Z66



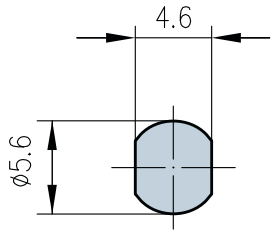
Z67



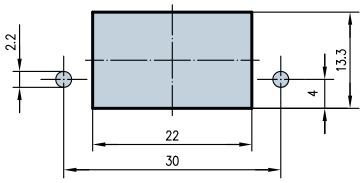
Z73



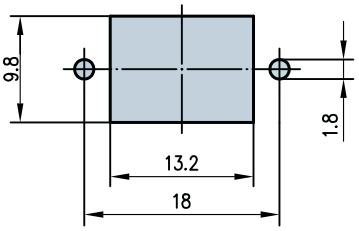
Z74



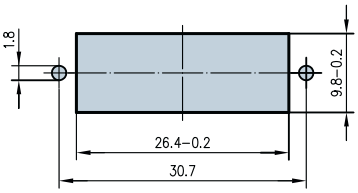
Z75



Z77



Z93



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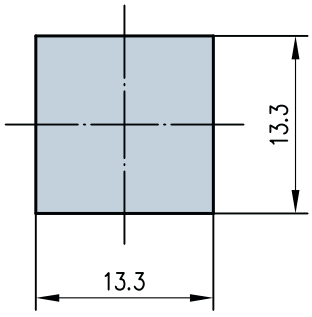
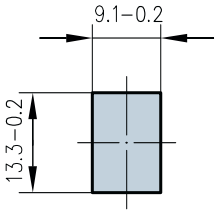
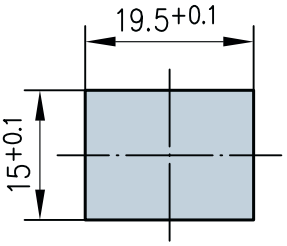


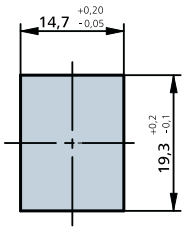
Z106



Z108

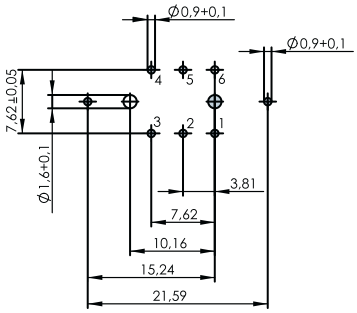


Z121

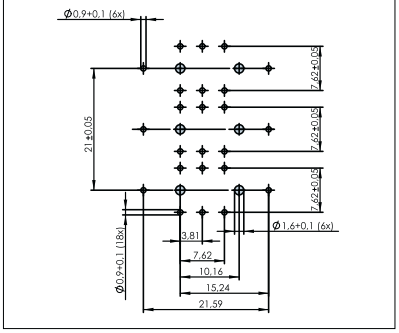


wall thickness ± 0,05 mm

Z127



Z128



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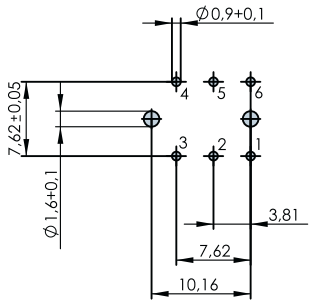

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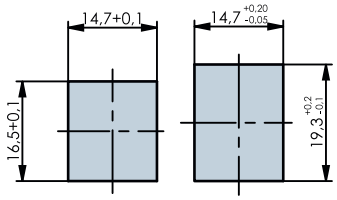

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wall thickness 1,6±0,05 mm

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