

BEST CONTACTS FOR YOUR SUCCESS



KARL GÄRTNER GMBH

NETWORKING COMPONENTS

COAXIAL CONNECTORS

CABLE ASSEMBLIES

PRECISION TURNED PARTS

PLASTIC INJECTION MOULD PARTS

INDUSTRIAL ELECTRONICS



Components for Mobile Radio Base Stations

RF Components

Fiber Optic and RJ45 Components



All products are shown in our
online catalogue
www.telegaertner.com

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Components for Mobile Radio Base Stations
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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 for office and industrial environment.

In its 70 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



Telegärtner Coax Products

The right solution for all requirements

Telegärtner RF connectors all have three distinguishing features: high quality, tailor-made for the application and they are readily available. With a wide standard programme of RF connectors for fast availability and Telegärtner's added quality and reliability in every product, Telegärtner always offers you the best solution for your application.

Standard range

Every product from Telegärtner's standard range offers you added value: for example with lower failure rates or greater power reserves. The Telegärtner standard range includes RF connectors of the BNC, TNC, N, UHF, Mini-UHF, FME, QLS, SMA, SMB/SMC/SMS, SSMB, MCX, MMCX, SMP, 1.6/5.6, 4.3-10, 7-16, R-TNC, R-SMA, R-BNC, F, UMTC and pH series as well as adapters. RF cable assemblies perfectly round off the Telegärtner products in this range.

Special solutions

Are you looking for a solution for small and medium sized batches? Do you not want to waste time? Then Telegärtner should be your first choice. As a customer you look for fast response, short development cycles, qualified consulting and prompt logistics. Telegärtner can give you the cutting edge here, with many thousands of developed special solutions and a CAD database with more than 15,000 single parts. This customised solution is invaluable, especially for small and medium sized series. And: a special solution is often not as expensive as you think!

Solutions for Mobile Radio Base Stations

Alongside Telegärtner's standard range of coax connectors is the SIMFix range of field-mountable 7-16, N and 4.3-10 connectors designed for use along the antenna line, as well as adaptors and surge suppressors. Telegärtner also offer a full range of jumper cables with combinations of 7-16, N and 4.3-10 connectors. Together with these, Telegärtner manufactures RET cables with AISG circular connectors and customer specific variants on this design. Whatever the connection requirement, Telegärtner can help with the solution!



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 for the 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.



Telegärtner Quality

Connectors for highest demands

Policy on Quality

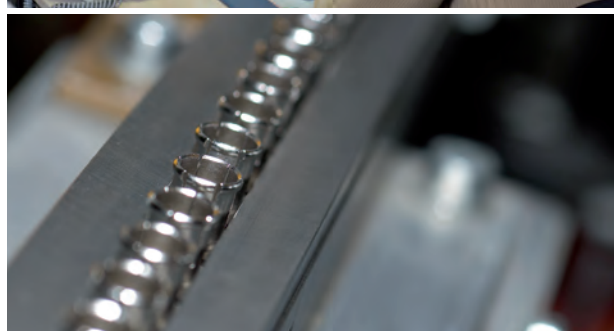
Because we always want to offer you, our customers, the best contacts, our quality expectations go far beyond standard. Accordingly, we view ISO as merely a standard for quality – Telegärtner quality, on the other hand, is something we improve daily. It is with this in mind that we have instituted a 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 almost 70 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.

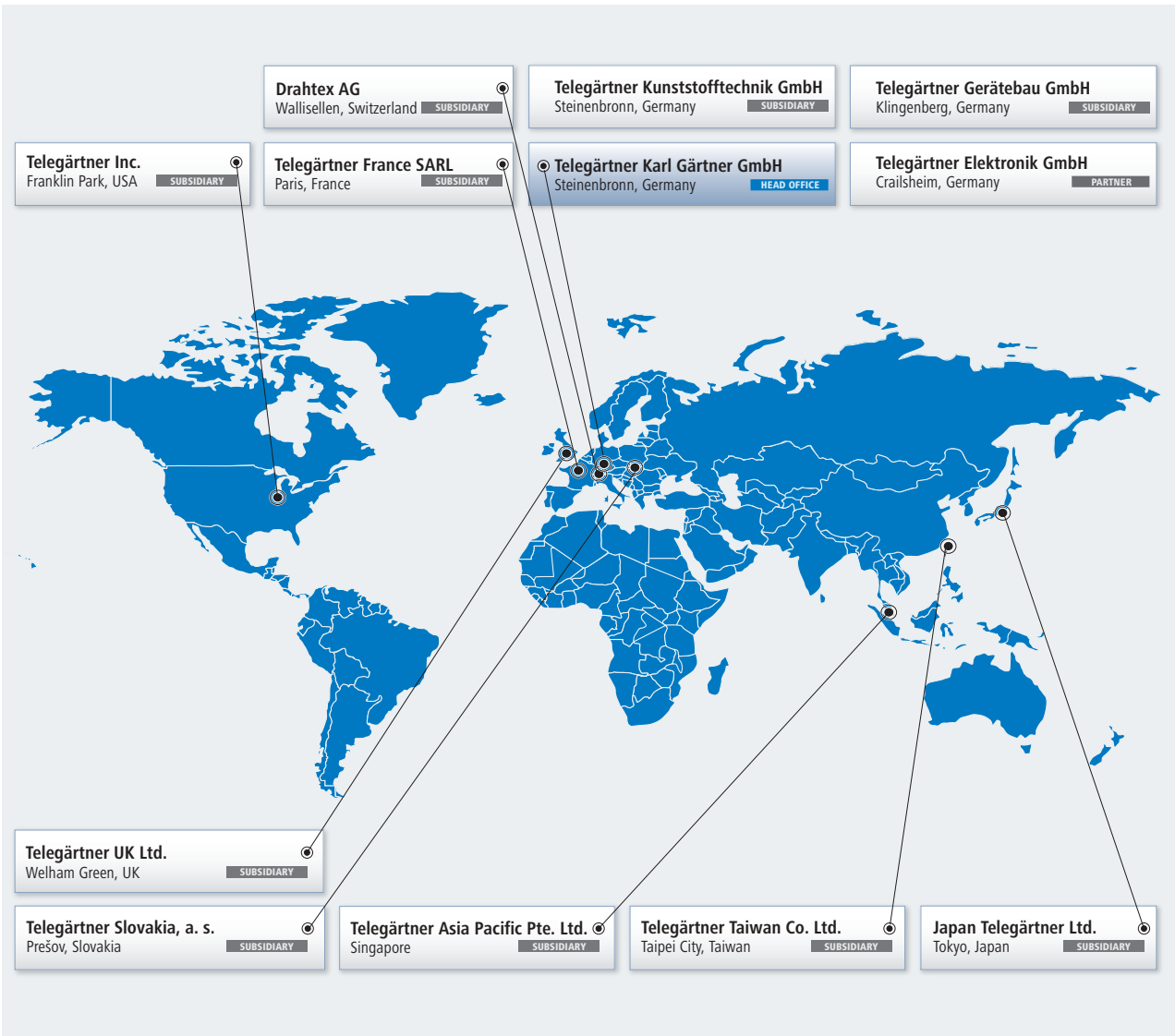


The Telegärtner Group

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.



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IP Classification of Degree of Protection

The degree of protection is classified according to IEC 60529. The coding system used is the IP Code (International Protection). The coding denotes the level of

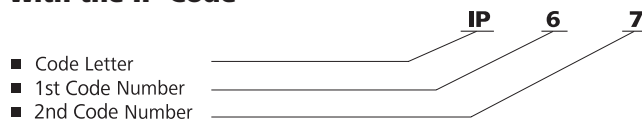
protection against the ingress of solid bodies (first code number) and the ingress of water (second code number).

Protection against solid foreign bodies*	
1st Code Number	Description
0	No particular protection
1	Protection against ingress of solid foreign bodies with a diameter of 50 mm or more
2	Protection against ingress of solid foreign bodies with a diameter of 12.5 mm or more
3	Protection against ingress of solid foreign bodies with a diameter of 2.5 mm or more
4	Protection against ingress of solid foreign bodies with a diameter of 1.0 mm or more
5	Dust protected
6	Dust-proof

Protection against water*	
2nd 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 its normal position.
3	Protection against fine water spray
4	Protection against water spray
5	Protection against water jet
6	Protection against strong water jet
7	Protection against water, when the material is immersed in water
8	The material is suitable for continuous submersion in water. Must be agreed between customer and supplier.

* Definitions see IEC 60529

Example of Classification in Accordance with the IP Code

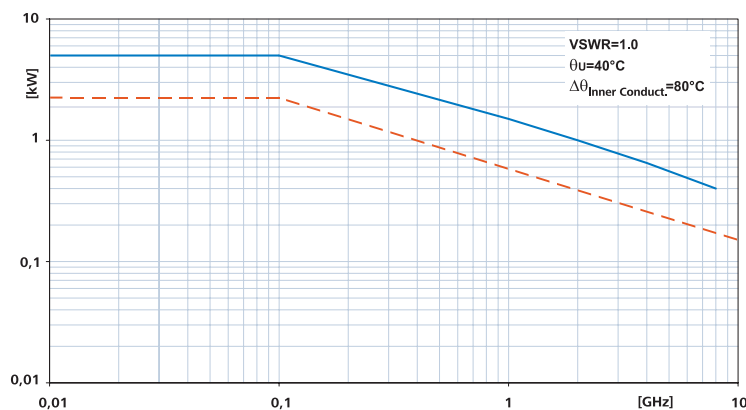


A housing with IP Classification

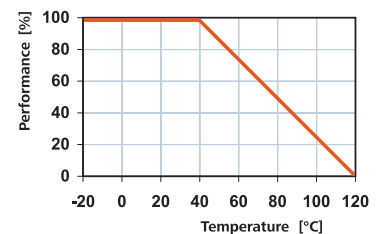
6 No ingress of dust

7 When subjected to submersion in water at a defined pressure and for a defined length of time, the ingress of water must be so restricted that no damage is caused. Submersion Bath: Water level above the enclosure: 0.15 m measured from the top of the enclosure, 1.0 m measured from the bottom of the enclosure. Duration of Test: 30 mins. TG Specification for Simfix Connectors: height of water level: 25 m: is equivalent to 2.5 bar; duration of test: 24 hrs.

Performance Diagrams



Power derating by temperature



Conversion Table: VSWR – Return Loss – Reflection Coefficient*

The reflection behavior in coaxial connectors can be described as Return Loss, Reflection Coefficient or Voltage Standing Wave Ratio (VSWR). The relation between these three values is shown in the following table.

Use also our online calculator on our website www.telegaertner.com. Here you can compute online the relationship of these three sizes to each other.

Return Loss	Reflection Coefficient	VSWR	Return Loss	Reflection Coefficient	VSWR
10	0.316	1.923	30.5	0.030	1.060
10.5	0.298	1.848	31	0.028	1.056
11	0.282	1.780	31.5	0.027	1.054
11.5	0.266	1.726	32	0.025	1.051
12	0.252	1.671	32.5	0.024	1.048
12.5	0.237	1.618	33	0.022	1.045
13	0.224	1.578	33.5	0.021	1.043
13.5	0.211	1.538	34	0.020	1.040
14	0.199	1.497	34.5	0.019	1.038
14.5	0.188	1.462	35	0.018	1.036
15	0.178	1.430	35.5	0.017	1.034
15.5	0.165	1.396	36	0.016	1.032
16	0.158	1.374	36.5	0.015	1.030
16.5	0.150	1.350	37	0.014	1.028
17	0.141	1.329	37.5	0.013	1.027
17.5	0.133	1.304	38	0.013	1.025
18	0.126	1.285	38.5	0.012	1.022
18.5	0.119	1.268	39	0.011	1.021
19	0.112	1.251	39.5	0.011	1.020
19.5	0.106	1.235	40	0.010	1.020
20	0.100	1.220	40.5	0.009	1.018
20.5	0.094	1.208	41	0.009	1.017
21	0.089	1.193	41.5	0.008	1.016
21.5	0.084	1.180	42	0.008	1.015
22	0.079	1.171	42.5	0.008	1.014
22.5	0.075	1.160	43	0.007	1.013
23	0.071	1.151	43.5	0.007	1.012
23.5	0.067	1.142	44	0.006	1.012
24	0.063	1.133	44.5	0.006	1.011
24.5	0.060	1.124	45	0.005	1.011
25	0.057	1.118	45.5	0.005	1.011
25.5	0.053	1.111	46	0.004	1.010
26	0.050	1.105	46.5	0.004	1.009
26.5	0.047	1.100	47	0.004	1.008
27	0.045	1.094	47.5	0.004	1.008
27.5	0.042	1.088	48	0.004	1.008
28	0.040	1.082	48.5	0.004	1.008
28.5	0.038	1.078	49	0.004	1.007
29	0.035	1.073	49.5	0.003	1.007
29.5	0.034	1.069	50	0.003	1.006
30	0.032	1.064			

*Errors and omissions excepted!



Connectors

SIMFix® – Connector Series 7-16 / N / 4.3-10

The RF connectors in the series SIMFix® are rugged connectors with threaded coupling for use in high performance transmitter applications. These connectors are waterproof and are suitable for external use. Furthermore, they are designed to provide excellent technical performance, especially concerning return loss and intermodulation.

The SIMFix® range includes RF connectors for terminating 1/4", 1/2" flex, 1/2", 7/8", 1 1/2" and 1 5/8" sized corrugated cables.

Assembly for all sizes is simple and reliable, thus guaranteeing constantly good electrical performance with regard to return loss and intermodulation.

Ease of termination of the cables has been greatly enhanced by the use of specially developed tooling, which allows for exact stripping of the corrugated cables in the shortest of time.

SIMFix® Pro Types – IP 68

Special seals on the sheath and outer conductor of the cable provide reliable protection against the ingress of water. Tested to a pressure of 2.5 bar (equivalent to water pressure at a depth of 25 m), a high degree of security against damage from water is guaranteed – even after years of service – in every climate, world-wide.

SIMFix® ST Types – IP 67

The SIMFix® ST (Short Type) range is the shorter version of the SIMFix® Pro connectors. It has almost the same design as the SIMFix® Pro except for the sealing, which is specified IP 67. Application areas are where especially short and cost-efficient connectors are needed, indoor applications or where additional sealing by taping is done.

SIMFix® CA Types (Pro/ST)

The SIMFix® CA series is a new generation of Telegärtner RF connectors for use with cables with both copper or aluminium outer conductors. As with the well tried and trusted SIMFix® connectors, sealing is achieved through actively compressed O-rings. The SIMFix® CA connectors are available in the **Pro** (IP68) design, with sealing on the sheath and outer conductor, as well as the **ST** design, with sealing on the outer conductor only (short type), as a more cost-effective alternative.

Other available connector types

Telegärtner connectors for feeder and jumper cables (highly flexible) are available in 3 different types, as follows:
SIMFix®: For quick and easy assembly. Designed for feeder cables. Watertight.

Standard: Watertight types for feeder and jumper cables.

Short: Compact types for feeder and jumper cables.

Self-adhesive sleeving is necessary for watertight external installation.

SIMFix® Pro – IP 68: Waterproof with a high margin of safety

3-fold protection concept

Protection Step 1:

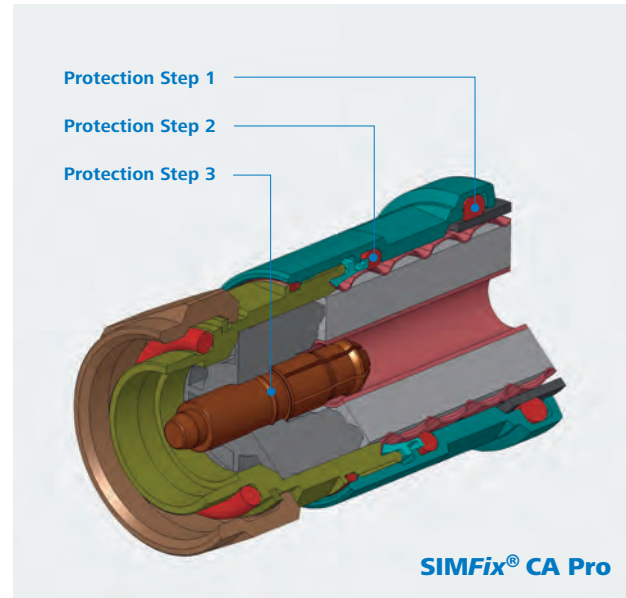
An O-ring on the outer jacket of the cable guarantees reliable protection against the ingress of water in normal applications of an undamaged cable.

Protection Step 2:

A special sealing to the outer conductor of the cable. Damage to the cable's outer jacket poses the danger that water will enter the connector between the outer jacket and the outer conductor of the cable. This is prevented by the additional sealing.

Protection Step 3:

Barrier sealed by protective steps taken on centre contact. Massive destruction of the cable resulting in water ingress into the dielectric and possibly even into the inner conductor can destroy the following cable segment and even damage the base station, if water is able to seep through the connector.



Easy and fast assembly using special tools



N00091A0022



N00091B0019



R00200A0011

Manual tool

- Cutting the sheath, outer conductor, dielectric and center conductor to size
- Burr removal on the center conductor
- Flaring the outer conductor
- Screw for fine adjustment of the cutting depth

Rotating tool

- For cable preparation with electric drill
- Cutting the sheath, outer conductor, dielectric, and inner conductor to size
- Includes separate tooling for flaring and burr removal

Termination tool set

- Tool kit for 1 1/4" and 1 5/8" corrugated cable preparation and termination of connectors
- Two empty extra pockets for adding 1/2" and 7/8" stripping tools

4.3-10 Connectors

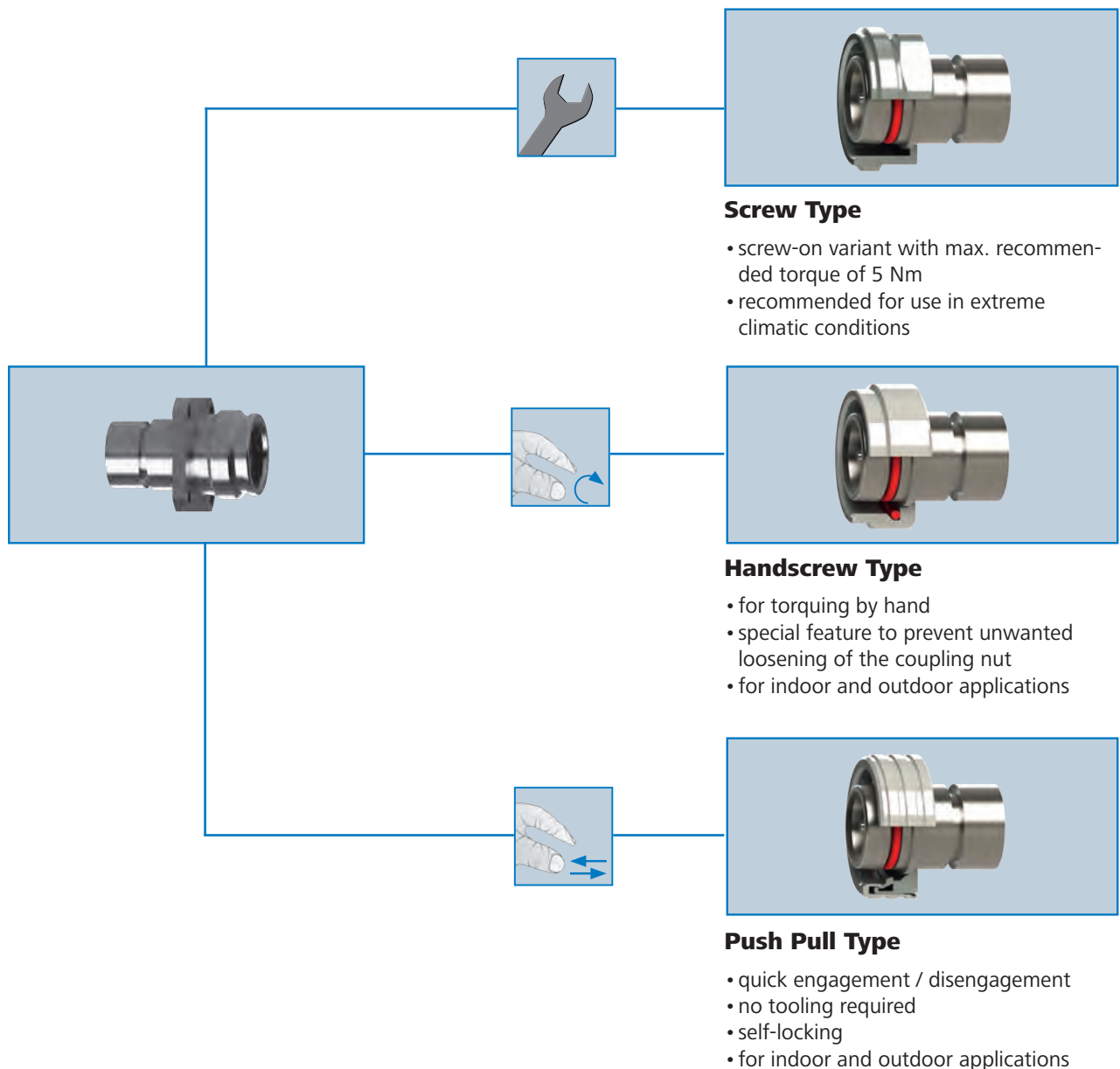
The new, compact, installation-friendly 4.3-10 RF connectors have been specially developed to meet the ever increasing demands in mobile radio communication applications. The small size and low weight of these connectors does justice to the miniaturisation of mobile radio network components. Despite their size, the connectors guarantee excellent return loss and passive intermodulation performance (PIM) levels. In addition, the new connector series

is very variable, since one universal cable jack is suitable for mating with 3 different cable plug designs. All of the 4.3-10 connectors meet the requirements of IP68 and, because of the excellent properties of materials used, are suitable for temperatures ranging from -40° C up to +85° C. Customised connector designs for use at higher temperatures are also possible on demand .

1 Cable Jack - 3 Cable Plug Designs

The main feature of the push-pull design is the quick and reliable coupling mechanism. Because no tools are required to mate the connectors, any problems with packing density are immediately resolved.

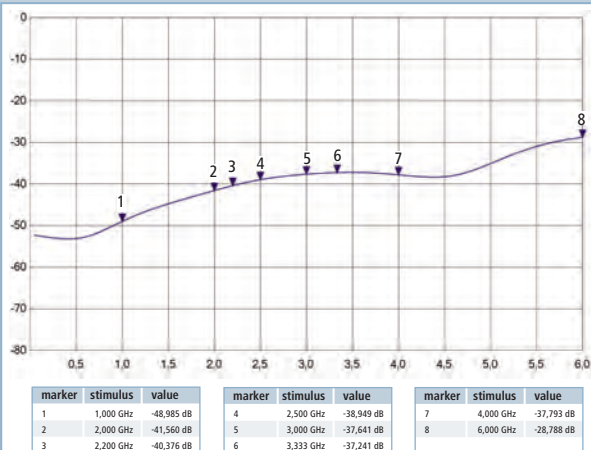
The screw designs are more rugged because of the threaded mating and, despite the use of high-quality materials, are less expensive because of the simpler and cost-effective design.



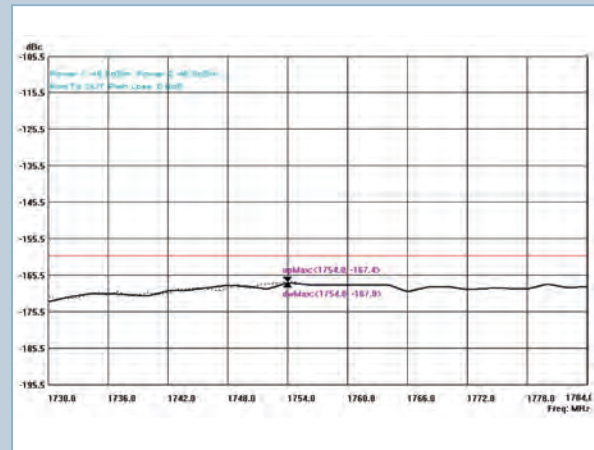
Technical Data Series 4.3-10

Excellent PIM (Passive Intermodulation) performance even under mechanical stress. Excellent Return Loss Values.

Return Loss Values



Passive Intermodulation



Mechanical Characteristics Series 4.3-10

Finish	
Inner conductor	Silver
Other conductive parts	Silver or silver with Tealloy flash
Other parts	Tealloy
Coupling torque (Screw Type)	5 Nm
Durability (mating cycles)	> 100

Thermal and Climatic Characteristics

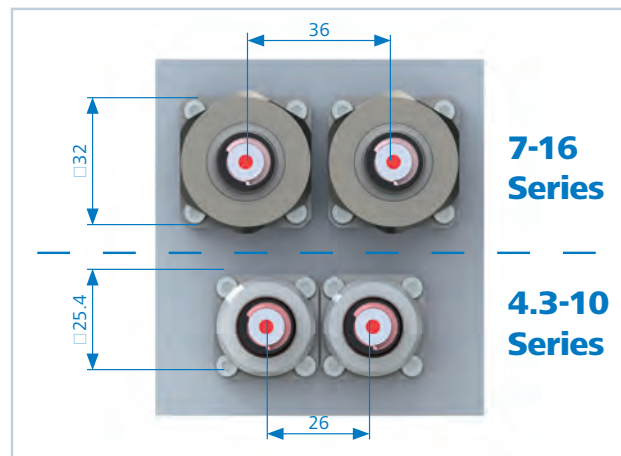
Category to DIN IEC 68 Part 1	55/155/56
Protection to IEC 60529	
SIMFix Pro types	IP 68 (2.5 bar, axially and radially watertight)
SIMFix ST, short type with shrink sleeving and Standard types	IP 67

Electrical Characteristics

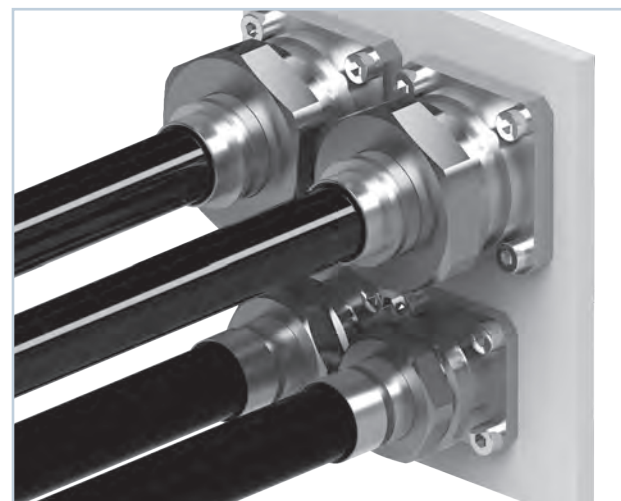
Contact resistance (only) inner contact	< 0.2 mΩ
Contact resistance (overall) inner contact	< 1 mΩ
Contact resistance (only) outer contact	< 0.2 mΩ
Contact resistance (overall) outer contact	< 1 mΩ
Insulation resistance	> 5 GΩ
Voltage proof	2.5 kV _{eff} /50 Hz
Impedance	50 Ω
Working voltage	500 V _{eff} /50-60 Hz
Power handling	700 W/1 GHz; 500 W/2 GHz

Passive Intermodulation

Two unmodulated test signals at 43 dBm	
at 800-1000 MHz	-117 dBm/-160 dBc
at 1600-2000 MHz	-112 dBm/-155 dBc



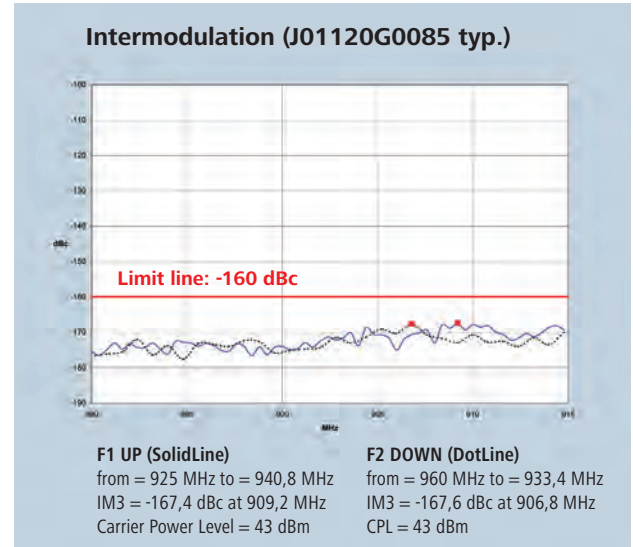
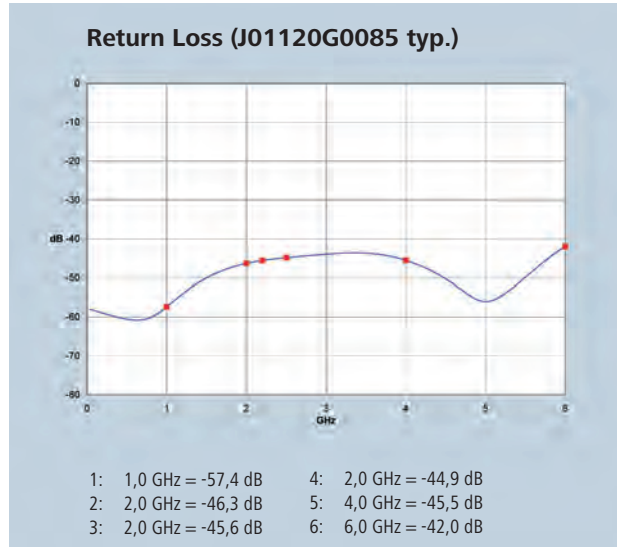
The compact design allows space saving of 37%.



At the same time the 4.3-10 reduce the weight substantially.

Technical Data Series 7-16 and N

Excellent electrical performance. Trouble-free transmission in mobile networks.



Mechanical Characteristics Series 7-16

Finish	
Inner conductor	Silver
Other conductive parts	Silver or silver with Telealloy flash (CuSnZn3)
Other parts	Silver, Nickel or Telealloy (CuSnZn3)
Coupling torque	25-35 Nm
Durability (mating cycles)	> 500

Thermal and Climatic Characteristics

Category to DIN IEC 68 Part 1	55/155/56
Protection to IEC 60529	
SIMFix Pro types	IP 68 (2.5 bar, axially and radially watertight)
SIMFix ST, short type with shrink sleeving and Standard types	IP 67

Electrical Characteristics

Contact resistance (only) inner contact	< 0.1 m Ω
Contact resistance (overall) inner contact	< 0.4 m Ω
Contact resistance (only) outer contact	< 0.1 m Ω
Contact resistance (overall) outer contact	< 0.2 m Ω
Insulation resistance	> 10 G Ω
Voltage proof	4 kV _{eff} /50 Hz
Impedance	50 Ω
Working voltage	< 2.7 kV _{eff} /50 Hz
Power handling	1.8 kW/1 GHz

Intermodulation

Intermodulation product 3rd. Order (typical); 2 unmodulated test signals at 43 dBm (20 W)	
at 800-1000 MHz	-117 dBm/-160 dBc
at 1600-2000 MHz	-112 dBm/-155 dBc

Mechanical Characteristics Series N

Finish	
Inner conductor	Silver
Other conductive parts	Silver or silver with Telealloy flash (CuSnZn3)
Other parts	Silver, Nickel or Telealloy (CuSnZn3)
Coupling torque	4-6 Nm
Durability (mating cycles)	> 500

Thermal and Climatic Characteristics

Category to DIN IEC 68 Part 1	40/155/21
Protection to IEC 60529	
SIMFix Pro types	IP 68 (2.5 bar, axially and radially watertight)
SIMFix ST, short type with shrink sleeving and Standard types	IP 67

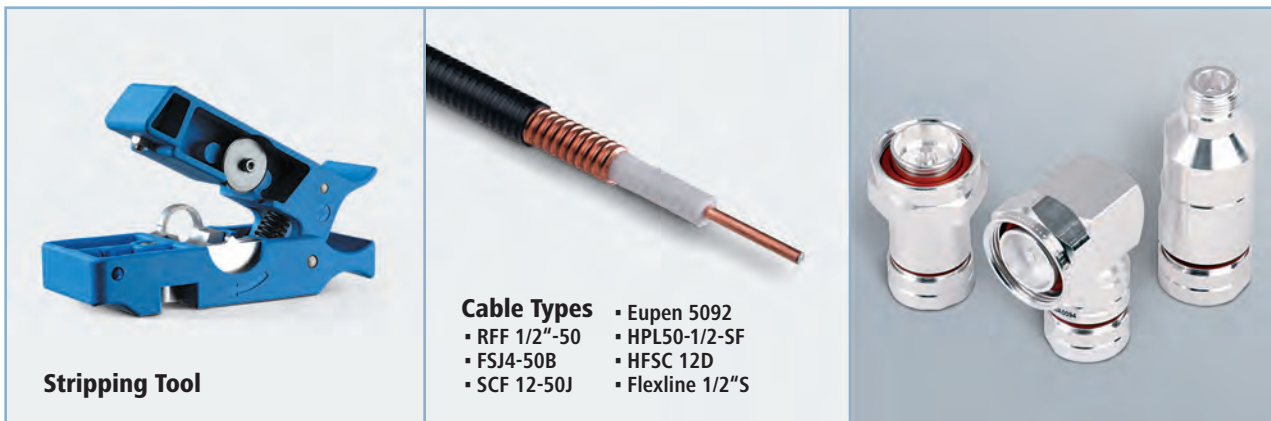
Electrical Characteristics

Contact resistance (overall) inner contact	< 2 m Ω
Contact resistance (overall) outer contact	< 0.5 m Ω
Insulation resistance	> 5 G Ω
Voltage proof	2.5 kV _{eff} /50 Hz
Impedance	50 Ω
Working voltage	< 1 kV _{eff} /50 Hz

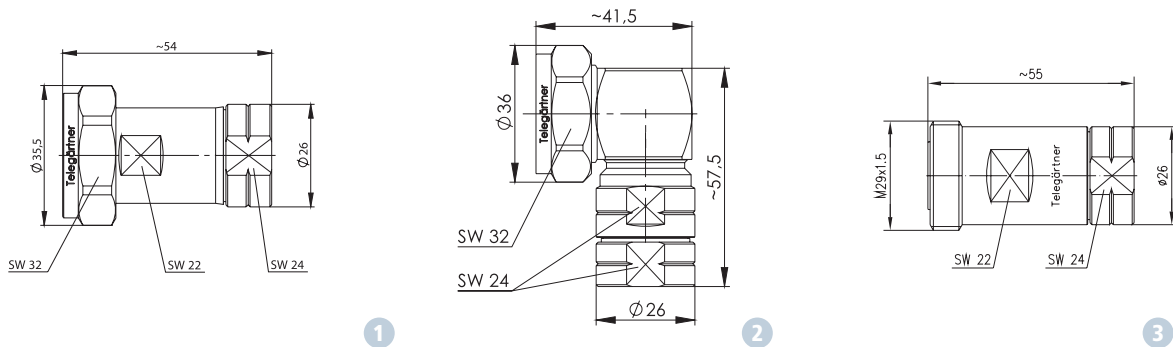
Intermodulation

Intermodulation product 3rd. Order (typical); 2 unmodulated test signals at 43 dBm (20 W)	
at 800-1000 MHz	-117 dBm/-160 dBc
at 1600-2000 MHz	-112 dBm/-155 dBc

7-16 & N Connectors for 1/2" Highly Flexible Cables

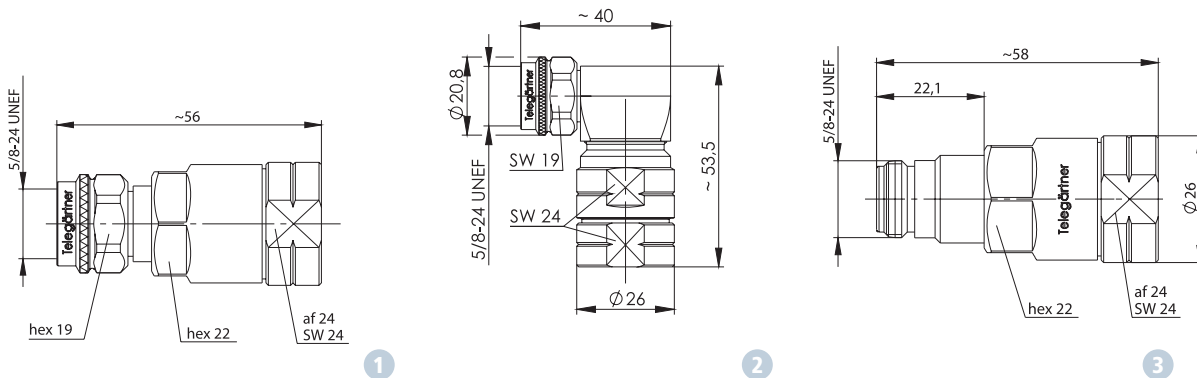
**1/2"
FLEX**


Series 7-16



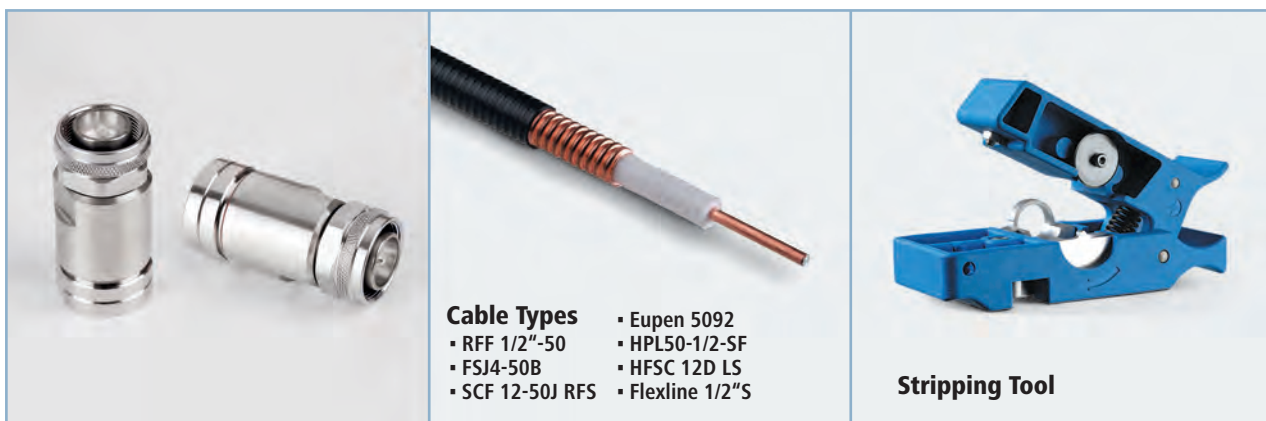
Series	Design	Type	Protection Class	Order no.	Tool	Fig.
7-16	Straight plug	SIMFix Pro	IP 68	J01120B0077	N00091A0013	1
7-16	Straight plug	SIMFix ST	IP 67	J01120B0073	N00091A0004	1
7-16	Angle plug	SIMFix Pro	IP 68	J01120A0094	N00091A0013	2
7-16	Straight jack	SIMFix Pro	IP 68	J01121B0120	N00091A0013	3
7-16	Straight jack	SIMFix ST	IP 67	J01121B0114	N00091A0004	3

Series N

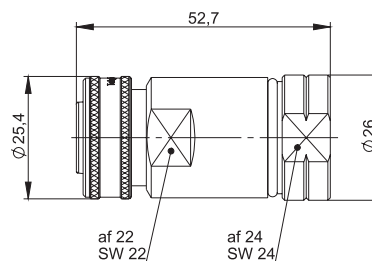
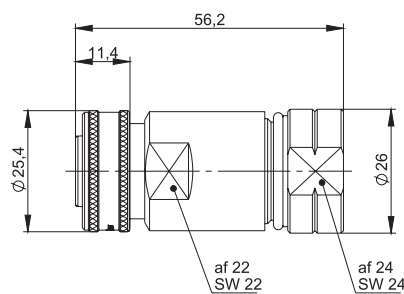
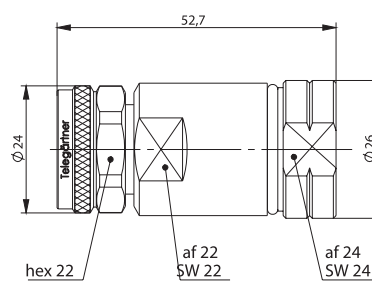
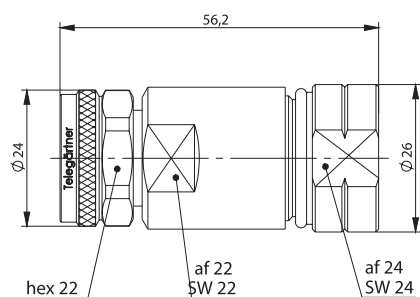


Series	Design	Type	Protection Class	Order no.	Tool	Fig.
N	Straight plug	SIMFix Pro	IP 68	J01020C0105	N00091A0013	1
N	Straight plug	SIMFix ST	IP 67	J01020B0098	N00091A0004	1
N	Angle plug	SIMFix Pro	IP 68	J01020A0147	N00091A0013	2
N	Straight jack	SIMFix Pro	IP 68	J01021C0163	N00091A0013	3
N	Straight jack	SIMFix ST	IP 67	J01021B0156	N00091A0004	3

4.3-10 Connectors for 1/2" Highly Flexible Cables



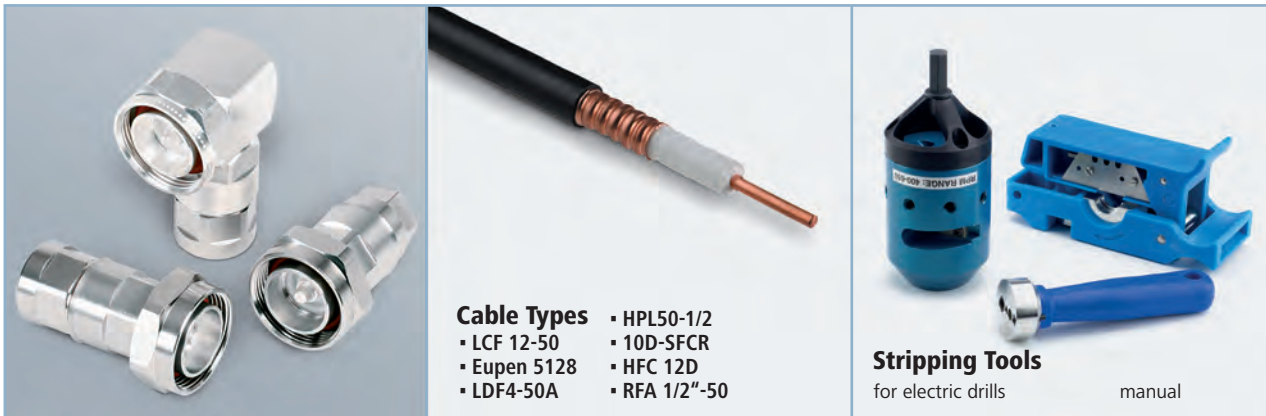
Series 4.3-10



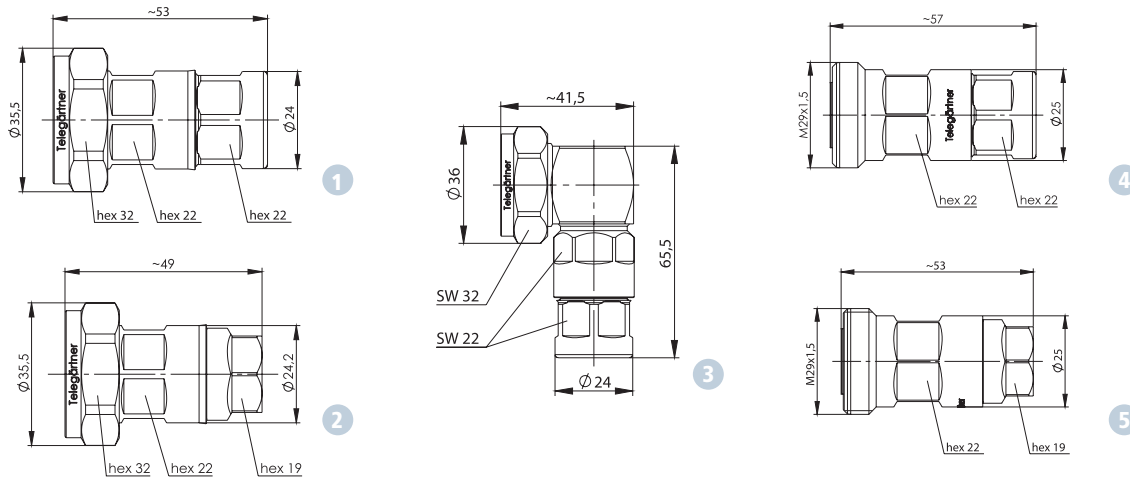
Series	Design	Type	Protection Class	Order no.	Tool	Fig.
4.3-10	straight plug, screw	SIMFix Pro	IP 68	J01440A0005	N00091A0013	1
4.3-10	straight plug, screw	SIMFix ST	IP 67	J01440A0006	N00091A0004	2
4.3-10	straight plug, push-pull	SIMFix Pro	IP 68	J01440A3005	N00091A0013	3
4.3-10	straight plug, push pull	SIMFix ST	IP 67	J01440A3006	N00091A0004	4
4.3-10	straight jack	SIMFix Pro	IP 68	J01441A0010	N00091A0013	-

7-16 & N Connectors for 1/2" Corrugated Cables

1/2"

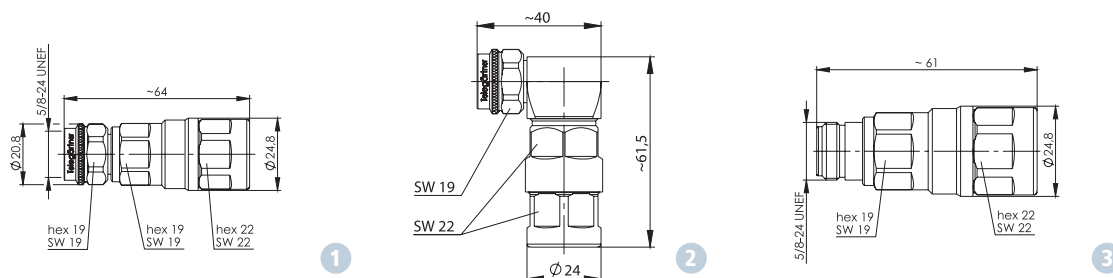


Series 7-16



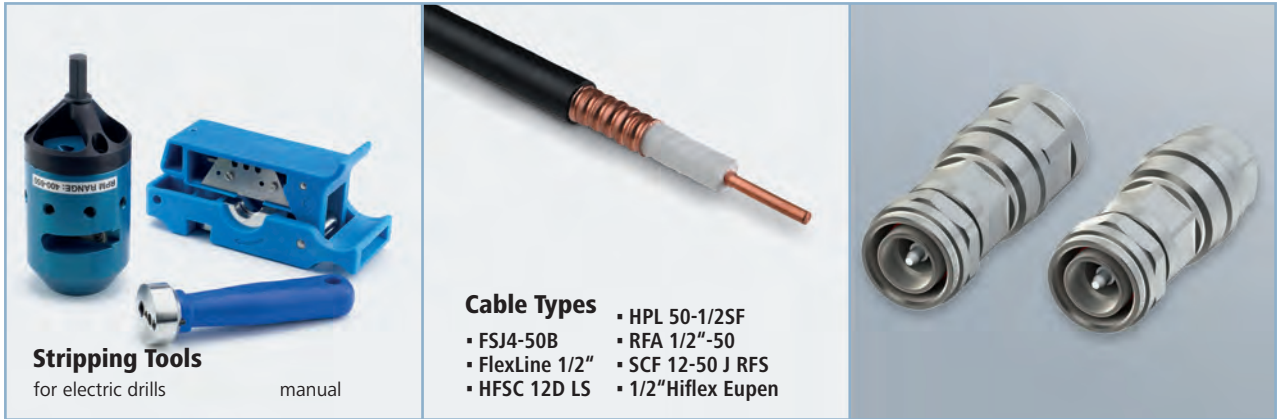
Series	Design	Type	Protection Class	Order no.	Tool		Fig.
					Manual	Electric	
7-16	Straight plug	SIMFix Pro	IP 68	J01120G0085	N00091A0015	N00091B0018	1
7-16	Straight plug	SIMFix ST	IP 67	J01120H0085	N00091A0015	N00091B0018	2
7-16	Angle plug	SIMFix Pro	IP 68	J01120B0026	N00091A0015	N00091B0018	3
7-16	Straight jack	SIMFix Pro	IP 68	J01121G0136	N00091A0015	N00091B0018	4
7-16	Straight jack	SIMFix ST	IP 67	J01121H0136	N00091A0015	N00091B0018	5

Series N



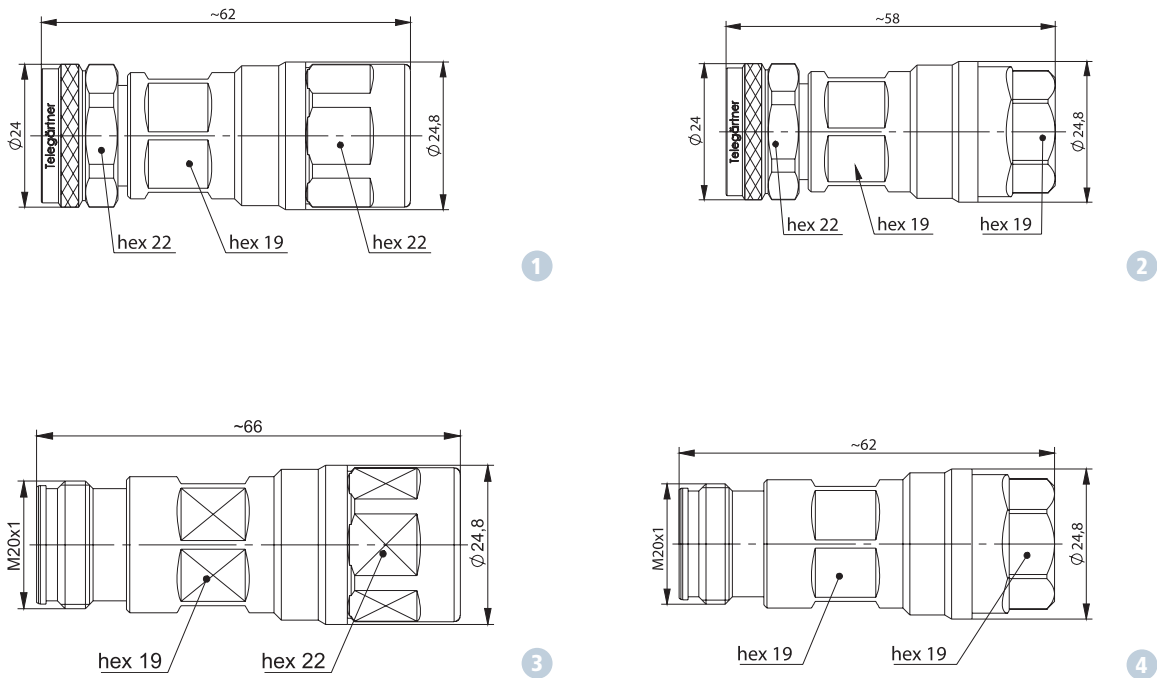
Series	Design	Type	Protection Class	Order no.	Tool		Fig.
					Manual	Electric	
N	Straight plug	SIMFix Pro	IP 68	J01020C0141	N00091A0015	N00091B0018	1
N	Straight plug	SIMFix ST	IP 67	J01020D0141	N00091A0015	N00091B0018	-
N	Angle plug	SIMFix Pro	IP 68	J01020B0044	N00091A0015	N00091B0018	2
N	Straight jack	SIMFix Pro	IP 68	J01021C0174	N00091A0015	N00091B0018	3
N	Straight jack	SIMFix ST	IP 67	J01021H0174	N00091A0015	N00091B0018	-

4.3-10 Connectors for 1/2" Corrugated Cables



- Cable Types**
- FSJ4-50B
 - FlexLine 1/2"
 - HFSC 12D LS
 - HPL 50-1/2SF
 - RFA 1/2"-50
 - SCF 12-50 J RFS
 - 1/2" Hiflex Eupen


Series 4.3-10




Series	Design	Type	Protection Class	Order no.	Tool		Fig.
					Manual	Electric	
4.3-10	straight plug, screw	SIMFix Pro	IP 68	J01440A0007	N00091A0015	N00091B0018	1
4.3-10	straight plug, screw	SIMFix ST	IP 67	J01440B0007	N00091A0015	N00091B0018	2
4.3-10	straight jack	SIMFix Pro	IP 68	J01441A0008	N00091A0015	N00091B0018	3
4.3-10	straight jack	SIMFix ST	IP 67	J01441B0008	N00091A0015	N00091B0018	4

7-16 & N Connectors for 7/8" Corrugated Cables

7/8"




Stripping Tools
for electric drills manual

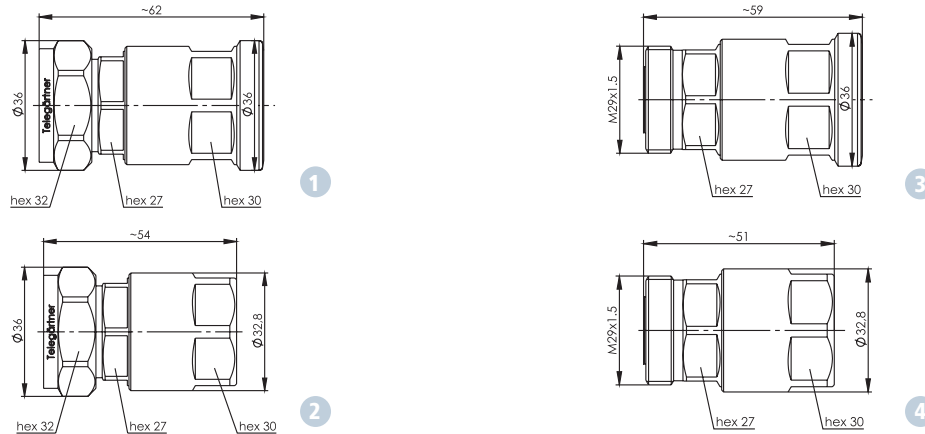


Cable Types

- RFA 7/8"-50
- RFA 7/8"-50 AL
- Eupen 5228A/X
- Eupen 5227
- HPL50-7/8
- HPL50-7/8 AL
- LCF 78-50A
- 20D-SFCR
- HFC 22D
- AVA5-50
- AL5-50
- LDF5-50A
- RFX 7/8"-50

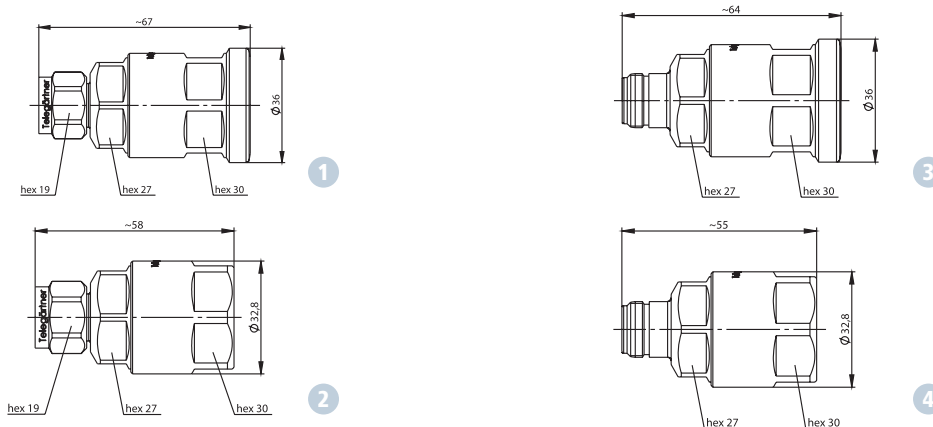


Series 7-16



Series	Design	Type	Protection Class	Order no.	Tool		Fig.
					Manual	Electric	
7-16	Straight plug	SIMFix CA-Pro	IP 68	J01120A0104	N00091A0022	N00091B0019	1
7-16	Straight plug	SIMFix CA-ST	IP 67	J01120B0104	N00091A0022	N00091B0019	2
7-16	Straight jack	SIMFix CA-Pro	IP 68	J01121A0180	N00091A0022	N00091B0019	3
7-16	Straight jack	SIMFix CA-ST	IP 67	J01121B0180	N00091A0022	N00091B0019	4

Series N




Series	Design	Type	Protection Class	Order no.	Tool		Fig.
					Manual	Electric	
N	Straight plug	SIMFix CA-Pro	IP 68	J01020A0153	N00091A0022	N00091B0019	1
N	Straight plug	SIMFix CA-ST	IP 67	J01020B0153	N00091A0022	N00091B0019	2
N	Straight jack	SIMFix CA-Pro	IP 68	J01021A0201	N00091A0022	N00091B0019	3
N	Straight jack	SIMFix CA-ST	IP 67	J01021B0201	N00091A0022	N00091B0019	4

4.3-10 Connectors for 7/8" Corrugated Cables




Stripping Tools
for electric drills manual



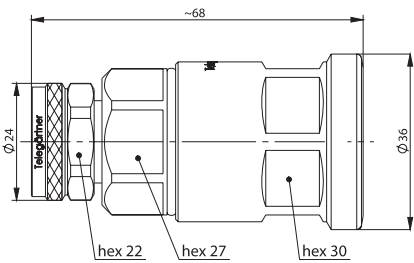
Cable Types

- RFA 7/8"-50
- RFA 7/8"-50 AL
- Eupen 5228A
- Eupen 5227
- HPL50-7/8
- HPL50-7/8 AL

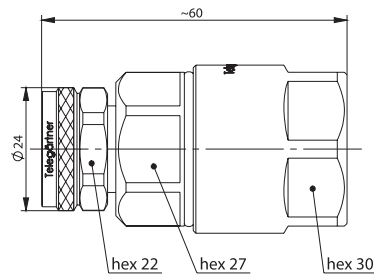


- LCF 78-50A
- 20D-SFCR
- HFC 22D
- AVA5-50
- AL5-50
- LDF5-50A
- RFX 7/8"-50

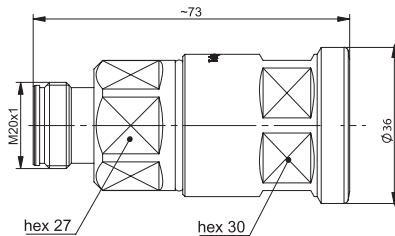
Series 4.3-10



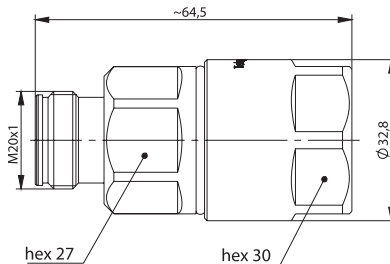
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2



3

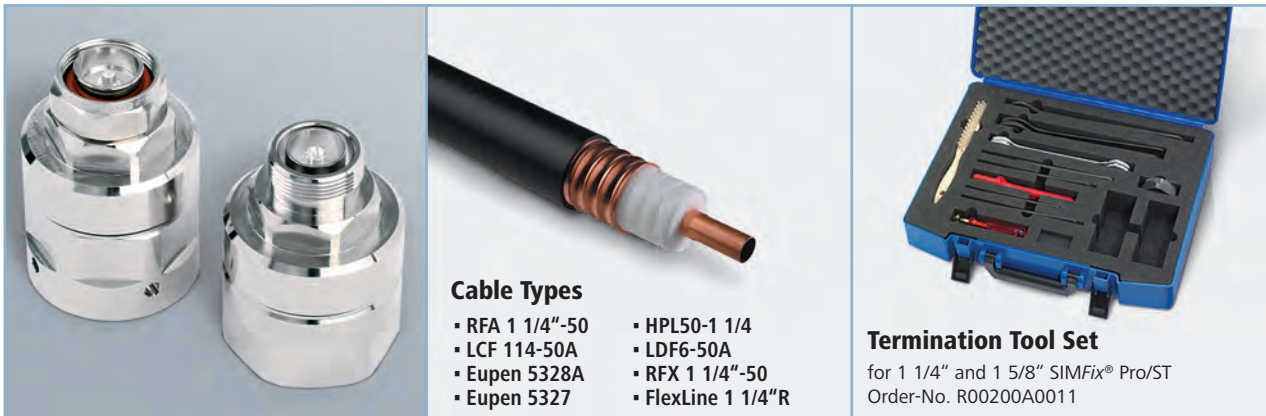


4

Series	Design	Type	Protection Class	Order no.	Tool		Fig.
					Manual	Electric	
4.3-10	straight plug, screw	SIMFix CA-Pro	IP 68	J01440A0008	N00091A0022	N00091B0019	1
4.3-10	straight plug, screw	SIMFix CA-ST	IP 67	J01440B0008	N00091A0022	N00091B0019	2
4.3-10	straight jack	SIMFix CA-Pro	IP 68	J01441A0009	N00091A0022	N00091B0019	3
4.3-10	straight jack	SIMFix CA-ST	IP 67	J01441B0009	N00091A0022	N00091B0019	4

7-16 & N Connectors for 1 1/4" Corrugated Cables

1 1/4"



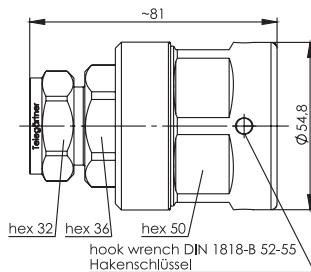
Cable Types

- RFA 1 1/4"-50
- LCF 114-50A
- Eupen 5328A
- Eupen 5327
- HPL50-1 1/4
- LDF6-50A
- RFX 1 1/4"-50
- FlexLine 1 1/4"R

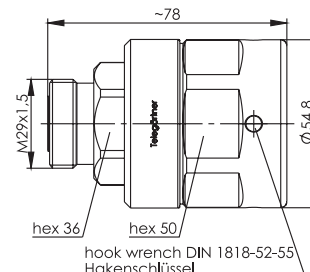
Termination Tool Set

for 1 1/4" and 1 5/8" SIMFix® Pro/ST
Order-No. R00200A0011

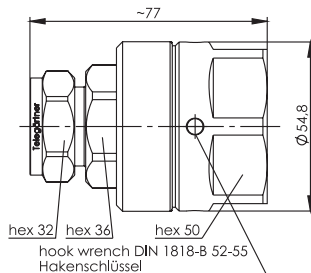
Series 7-16



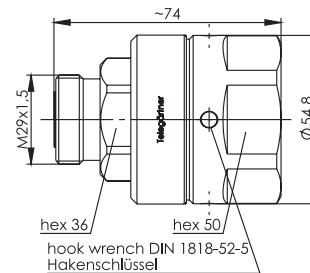
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3



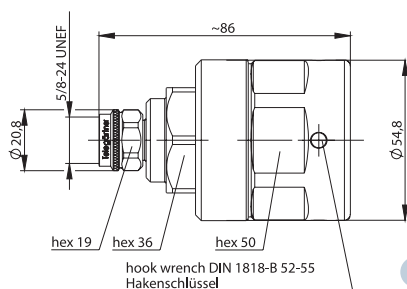
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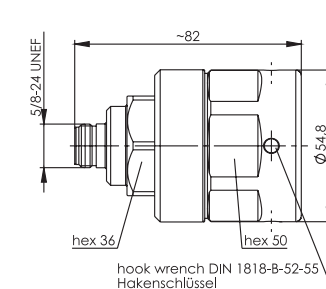
4

Series	Design	Type	Protection Class	Order no.	Tool	Fig.
7-16	Straight plug	SIMFix Pro	IP 68	J01120G0087	R00200A0011	1
7-16	Straight plug	SIMFix ST	IP 67	J01120H0087	R00200A0011	2
7-16	Straight jack	SIMFix Pro	IP 68	J01121G0138	R00200A0011	3
7-16	Straight jack	SIMFix ST	IP 67	J01121H0138	R00200A0011	4

Series N



1



2

Series	Design	Type	Protection Class	Order no.	Tool	Fig.
N	Straight plug	SIMFix Pro	IP 68	J01020G0143	R00200A0011	1
N	Straight jack	SIMFix Pro	IP 68	J01021G0178	R00200A0011	2

15/8" 7-16 & N Connectors for 1 5/8" Corrugated Cables



Termination Tool Set

for 1 1/4" and 1 5/8" SIMFix® Pro/ST
Order-No. R00200A0011

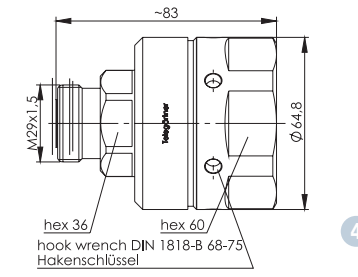
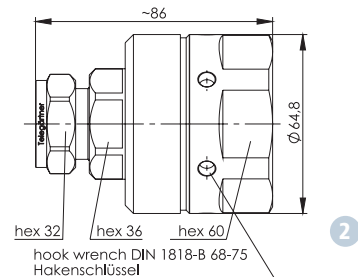
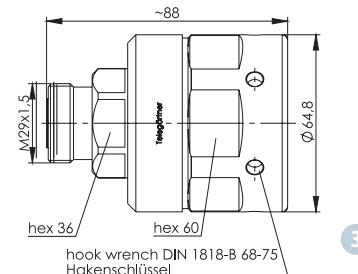
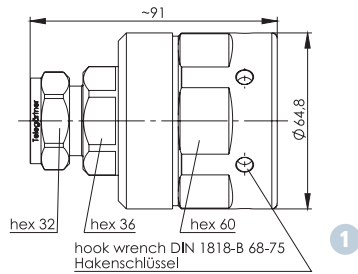


Cable Types

- RFA 1 5/8"-50
- LCF 158-50A
- Eupen 5438
- LDF7-50A
- FlexLine 1 5/8"
- HPL50- 1 5/8"
- HFC 42D
- AVA7-50

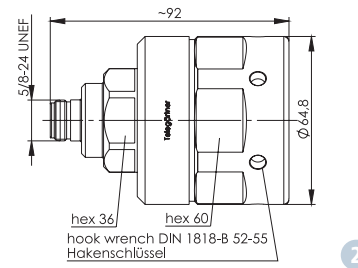
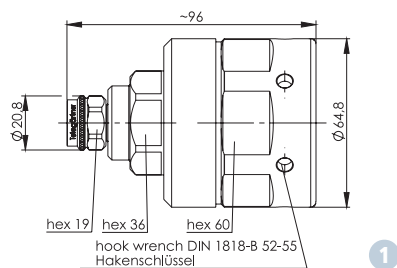


Series 7-16



Series	Design	Type	Protection Class	Order no.	Tool	Fig.
7-16	Straight plug	SIMFix Pro	IP 68	J01120G0088	R00200A0011	1
7-16	Straight plug	SIMFix ST	IP 67	J01120H0088	R00200A0011	2
7-16	Straight jack	SIMFix Pro	IP 68	J01121G0139	R00200A0011	3
7-16	Straight jack	SIMFix ST	IP 67	J01121H0139	R00200A0011	4

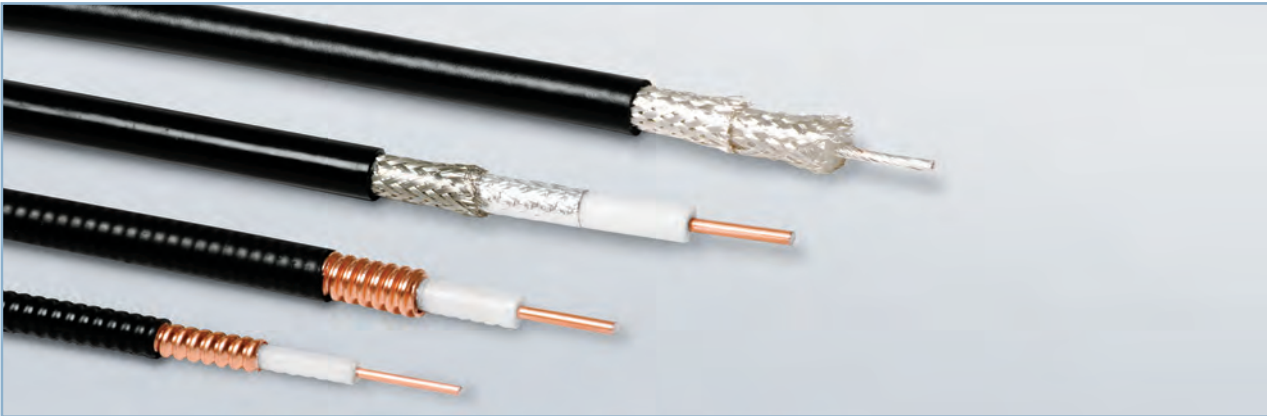
Series N



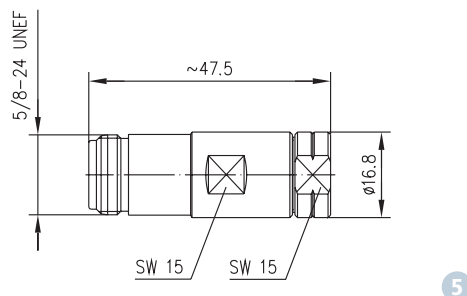
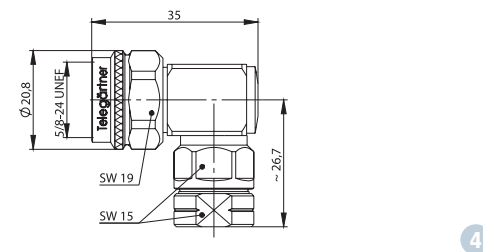
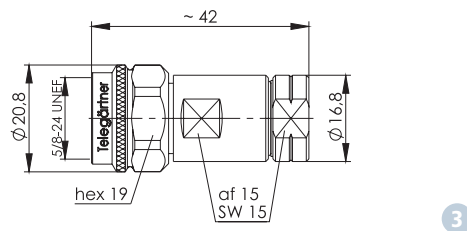
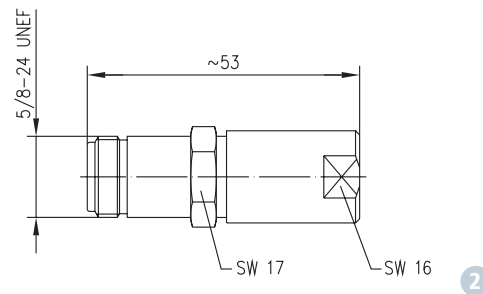
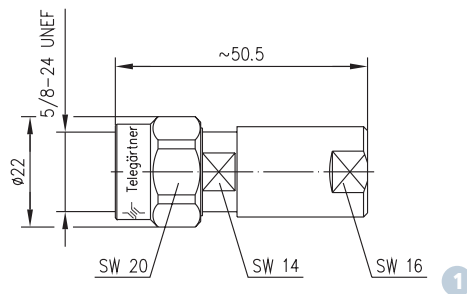
Series	Design	Type	Protection Class	Order no.	Tool	Fig.
N	Straight plug	SIMFix Pro	IP 68	J01020G0144	R00200A0011	1
N	Straight jack	SIMFix Pro	IP 68	J01021G0179	R00200A0011	2

N Connectors for 1/4" Corrugated Cables

1/4"



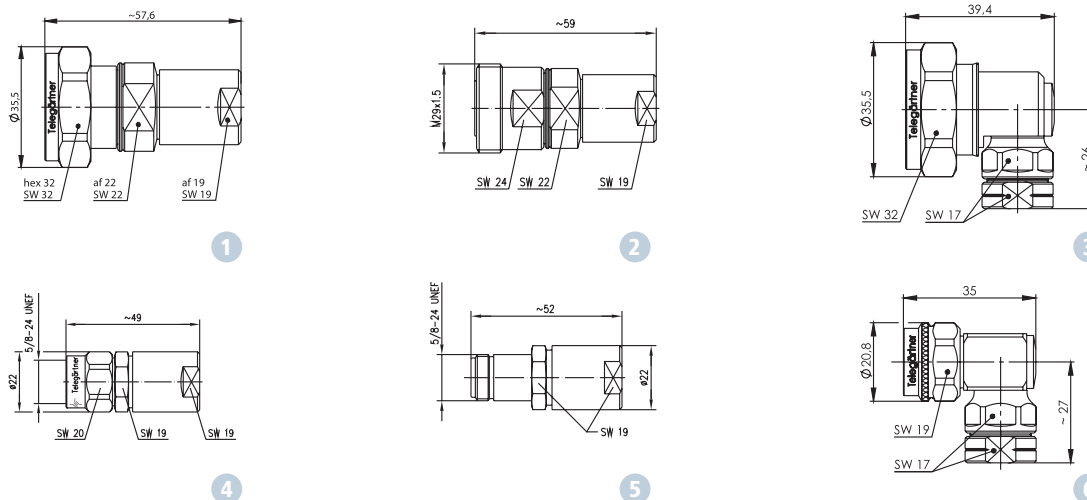
Connectors for 1/4"



Series	Design	Type	Cable	Order no.	Assembly	Fig.
N	Straight plug	Standard	CF 14-50J; Eupen 5062; HPL50-1/4	J01020A0028	B25	1
N	Straight jack	Standard		J01021A0043	B25	2
N	Straight plug	SIMFix	FSJ1-50; RFF 1/4" Cu2Y-50; SCF 14-50J;	J01020A0150	B85	3
N	Angle plug	Short	Eupen 5042	J01020C0126	B95	4
N	Straight jack	SIMFix		J01021A0188	B85	5

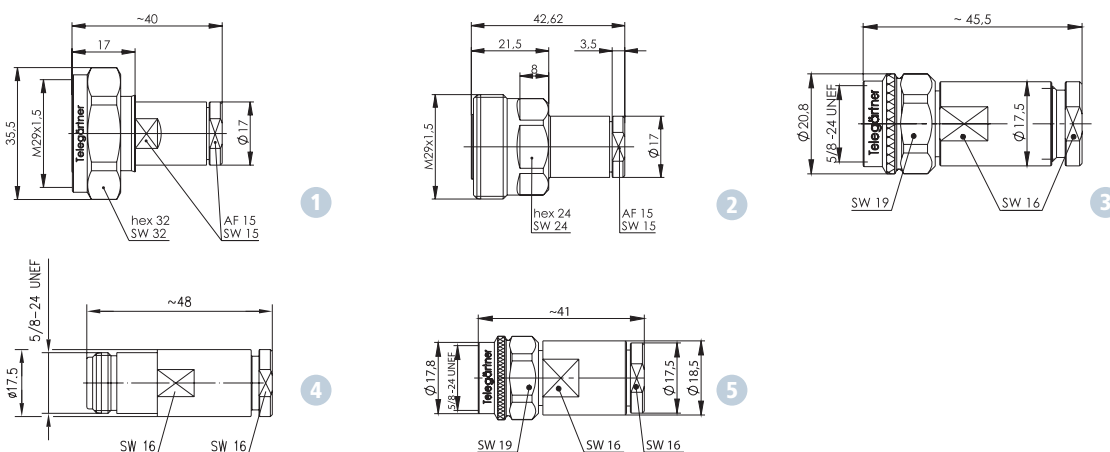
Connectors for 3/8" Corrugated Cables & Braided Cables

Connectors for 3/8"



Ø	Cable	Series	Design	Type	Order no.	Assembly	Fig.
3/8"	Eupen 5088; RF 3/8"-50;	7-16	Straight plug	Standard	J01120B0019	B31	1
	LCF 38-50J; HPL50-3/8	7-16	Straight jack	Standard	J01121A0043	B31	2
3/8"	LDF2-50	7-16	Straight plug	Standard	J01120B0022	B31	1
		7-16	Straight jack	Standard	J01121A0045	B31	2
3/8"	SCF 38-50J	7-16	Angle plug	Short	J01120D0034	D07	3
3/8"	Eupen 5088; RF 3/8"-50;	N	Straight plug	Standard	J01020A0010	B29	4
	LCF 38-50J; HPL50-3/8	N	Straight jack	Standard	J01021A0041	B29	5
3/8"	LDF2-50	N	Straight plug	Standard	J01020A0031	B29	4
		N	Straight jack	Standard	J01021A0045	B29	5
3/8"	SCF 38-50J (HCF 3/8")	N	Angle plug	Short	J01020D0124	D07	6

Connectors for Braided Cables



Cable	Series	Type	Style*	Order no.	Assembly	Fig.
RG213; RG214;	7-16	Straight plug	Solder/Clamp	J01120A0101	B88	1
G37 (2.7/7.25); G42 (2.7/7.1)	7-16	Straight jack	Solder/Clamp	J01121A0177	B88	2
G37 (2.7/7.25); G42 (2.7/7.1)	7-16	Straight plug	Clamp/Clamp	J01120A0103	B87	1
RG213; RG214	N	Straight plug	Solder/Clamp	J01020I1070	B01	3
	N	Straight jack	Solder/Clamp	J01021H1076	B04	4
G37 (2.7/7.25); G42 (2.7/7.1)	N	Straight plug	Solder/Clamp	J01020A0149	B82	5
	N	Straight plug	Clamp/Clamp	J01020A0156	B87	5

Solder/Clamp: inner conductor: solder; outer conductor: clamp

Clamp/Clamp: inner conductor: spring; outer conductor: clamp (field; mount type)

Connectors Overview

4.3-10 Connectors Overview

Ø	Cable	Cable Type	Design	Order no.	Type	IP Class
1/2" Flex	1/2"-Hiflex Eupen, FSJ4-50B FlexLine 1/2" HFSC 12D LS HPL 50-1/2SF RFF 1/2"-50 SCF 12-50 J RFS	J	Straight plug, screw	J01440A0005	SIMFix Pro	IP68
			Straight plug, screw	J01440A0006	SIMFix ST	IP67
			Straight plug, push-pull	J01440A3005	SIMFix Pro	IP68
			Straight plug, push-pull	J01440A3006	SIMFix ST	IP67
			Straight jack	J01441A0010	SIMFix Pro	IP68
1/2"	RFA 1/2"-50, LCF 12-50, Eupen 5128, LDF4-50A, HPL50-1/2, 10D-SFCR, HCSC 12D	F/X	Straight plug, screw	J01440A0007	SimFix Pro	IP68
			Straight plug, screw	J01440B0007	SIMFix ST	IP67
			Straight jack	J01441A0008	SIMFix Pro	IP68
			Straight jack	J01441B0008	SIMFix ST	IP67
7/8"	RFA 7/8"-50, RFA 7/8"-50 AL, Eupen 5228A, Eupen 5227, HPL50-7/8, HPL50-7/8 AL, LCF 78-50A, 20D-SFCR, HFC 22D, AVA5-50, AL5-50, LDF5-50A, RFX 7/8"-50	F/X	Straight plug, screw	J01440A0008	SimFix CA-Pro	IP68
			Straight plug, screw	J01440B0008	SIMFix CA-ST	IP67
			Straight jack	J01441A0009	SIMFix CA-Pro	IP68
			Straight jack	J01441B0009	SIMFix CA-ST	IP67


7-16 (DIN) Connectors Overview

Ø	Cable	Cable Type	Design	Order no.	Type	IP Class	Weight
~10 mm	RG213, RG214 G37(2.7/7.25), G42(2.7/7.1)	B	Straight plug	J01120A0101	Solder/Clamp	IP 67	80 g
			Straight jack	J01121A0177	Solder/Clamp	IP 67	87 g
			Straight plug	J01120A0103	Clamp/Clamp	IP 67	80 g
3/8"	Eupen 5088; RF 3/8"-50; LCF 38-50J; HPL50-3/8	F	Straight plug	J01120B0019	Standard	IP 68	150 g
			Straight jack	J01121A0043	Standard	IP 68	150 g
3/8"	LDF2-50	F	Straight plug	J01120B0022	Standard	IP 68	150 g
			Straight jack	J01121A0045	Standard	IP 68	150 g
3/8"	SCF 38-50J	J	Angle plug	J01120D0034	Short	IP 54	140 g
3/8"	Flexwell 3/8" Cu2Y-50	F	Straight plug	J01120B0733	Standard	IP 67	200 g
1/2" Flex	RFF 1/2"-50; FSJ4-50B; SCF 12-50J; Flexline 1/2"S Eupen 5092; HPL50-1/2-SF HFSC 12D	J	Straight plug	J01120B0077	SIMFix Pro	IP 68	170 g
			Straight plug	J01120B0073	SIMFix ST	IP 67	170 g
			Angle plug	J01120A0094	SIMFix Pro	IP 68	250 g
			Straight jack	J01121B0120	SIMFix Pro	IP 68	160 g
			Straight jack	J01121B0114	SIMFix ST	IP 67	160 g
1/2"	RFA 1/2"-50; LCF 12-50 Eupen 5128; LDF4-50A HPL50-1/2; 10D-SFCR HFC 12D	F/X	Straight plug	J01120G0085	SIMFix Pro	IP 68	120 g
			Straight plug	J01120H0085	SIMFix ST	IP 67	110 g
			Angle plug	J01120B0026	SIMFix Pro	IP 68	230 g
			Straight jack	J01121G0136	SIMFix Pro	IP 68	110 g
			Straight jack	J01121H0136	SIMFix ST	IP 67	100 g
7/8"	RFA 7/8"-50; RFA 7/8"-50 AL; LCF 78-50A; Eupen 5227; Eupen 5228X; Eupen 5228A; LDF5-50A; RFX 7/8"-50; AL5-50; HPL50-7/8 AL; HPL50-7/8; 20D-SFCR HFC 22D; AVA5-50	F/X	Straight plug	J01120A0104	SIMFix CA Pro	IP 68	160 g
			Straight plug	J01120B0104	SIMFix CA ST	IP 67	150 g
			Straight jack	J01121A0180	SIMFix CA Pro	IP 68	155 g
			Straight jack*	J01121B0180	SIMFix CA ST	IP 67	145 g
1 1/4"	RFA 1 1/4"-50; LCF 114-50A Eupen 5328A; Eupen 5327 LDF6-50A; RFX 1 1/4"-50 HPL50-1 1/4; FlexLine 1 1/4"R	F	Straight plug	J01120G0087	SIMFix Pro	IP 68	540 g
			Straight plug	J01120H0087	SIMFix ST	IP 67	530 g
			Straight jack	J01121G0138	SIMFix Pro	IP 68	530 g
			Straight jack	J01121H0138	SIMFix ST	IP 67	520 g
1 5/8"	RFA 1 5/8"-50; LCF 158-50A Eupen 5438; LDF7-50A HPL50- 1 5/8"; HFC 42D AVA7-50; FlexLine 1 5/8"R	F	Straight plug	J01120G0088	SIMFix Pro	IP 68	700 g
			Straight plug	J01120H0088	SIMFix ST	IP 67	675 g
			Straight jack	J01121G0139	SIMFix Pro	IP 68	690 g
			Straight jack	J01121H0139	SIMFix ST	IP 67	665 g
2 1/4"	RFA 2 1/4"-50	F	Straight jack	J01121A0174	SimFix Pro	IP 68	940 g

Connectors Overview

N Connectors Overview

Ø	Cable	Cable Type	Design	Order no.	Type	IP Class	Weight
~10 mm	RG213; RG214	B	Straight plug	J01020I1070	Solder/Clamp	IP 67	57 g
			Straight jack	J01021H1076	Solder/Clamp	IP 67	53 g
	G37 (2.7/7.25); G42 (2.7/7.1)	B	Straight plug	J01020A0149	Solder/Clamp	IP 67	55 g
			Straight plug	J01020A0156	Clamp/Clamp	IP 67	55 g
1/4"	CF 14-50J; Eupen 5062; HPL50-1/4	F	Straight plug	J01020A0028	Standard	IP 67	70 g
			Straight jack	J01021A0043	Standard	IP 67	70 g
1/4"	FSJ1-50; RFF 1/4" Cu2Y-50; SCF 14-50; Eupen 5042	J	Straight plug	J01020A0150	SIMFix	IP 67	60 g
			Angle plug	J01020C0126	Short	IP 54	70 g
			Straight jack	J01021A0188	SIMFix	IP 67	65 g
3/8"	Eupen 5088; RF 3/8"-50; LCF 38-50J; HPL50-3/8	F	Straight plug	J01020A0010	Standard	IP 67	90 g
			Straight jack	J01021A0041	Standard	IP 67	90 g
3/8"	LDF2-50	F	Straight plug	J01020A0031	Standard	IP 67	90 g
			Straight jack	J01021A0045	Standard	IP 67	90 g
3/8"	SCF 38-50J (HCF 3/8")	J	Angle plug	J01020D0124	Short	IP 54	75 g
1/2" Flex	RFF 1/2"-50; FSJ4-50B; SCF 12-50J; Flexline 1/2"S Eupen 5092; HPL50-1/2-SF HFSC 12D	J	Straight plug	J01020C0105	SIMFix Pro	IP 68	170 g
			Straight plug	J01020B0098	SIMFix ST	IP 67	170 g
			Angle plug	J01020A0147	SIMFix Pro	IP 68	180 g
			Straight jack	J01021C0163	SIMFix Pro	IP 68	160 g
			Straight jack	J01021B0156	SIMFix ST	IP 67	160 g
1/2"	RFA 1/2"-50; LCF 12-50 Eupen 5128; LDF4-50A HPL50-1/2; 10D-SFCR; HFC 12D	F/X	Straight plug	J01020C0141	SIMFix Pro	IP 68	120 g
			Straight plug	J01020D0141	SIMFix ST	IP 67	110 g
			Angle plug	J01020B0044	SIMFix Pro	IP 68	165 g
			Straight jack	J01021C0174	SIMFix Pro	IP 68	120 g
			Straight jack	J01021H0174	SIMFix ST	IP 67	110 g
7/8"	RFA 7/8"-50; RFA 7/8"-50 AL; LCF 78-50A; Eupen 5227; Eupen 5228X; Eupen 5228A; LDF5-50A; RFX 7/8"-50; AL5-50; HPL50-7/8 AL; HPL50-7/8; 20D-SFCR HFC 22D; AVA5-50	F	Straight plug	J01020A0153	SIMFix CA Pro	IP 68	145 g
			Straight plug	J01020B0153	SIMFix CA ST	IP 67	130 g
			Straight jack	J01021A0201	SIMFix CA Pro	IP 68	140 g
			Straight jack	J01021B0201	SIMFix CA ST	IP 67	125 g
1 1/4"	RFA 1 1/4"-50; LCF 114-50A LDF6-50A; RFX 1 1/4"-50	F	Straight plug	J01020G0143	SIMFix Pro	IP 68	710 g
			Straight jack	J01021G0178	SIMFix Pro	IP 68	700 g
1 5/8"	RFA 1 5/8"-50; LCF 158-50A Eupen 5438; LDF7-50A; HFC 42D HPL50- 1 5/8"; AVA7-50; FlexLine 1 5/8" R	F	Straight plug	J01020G0144	SIMFix Pro	IP 68	800 g
			Straight jack	J01021G0179	SIMFix Pro	IP 68	790 g

 **Packaging:**
Individually packed in PE foil.

B: Braided Cable
F: Feeder Cable (with annular corrugated outer conductor)
J: Jumper Cable (with spiral corrugated outer conductor)
X: Radiating Cable



Tools and Accessories

2

Stripping Tools (1/2" and 7/8")

The stripping tools are used for preparing cables for terminating with and SIMFix® Pro and SIMFix® ST connectors.

Manual stripping tools:

- Precise cable outer jacket removal
- Precise cutting of outer conductor, dielectric and inner conductor
- Edge forming of the outer conductor
- Removal of burrs on the inner conductor
- Adjusting screw for accommodating cable tolerances
- The tool is supplied with a hardened blade (including spare blade) for prolonged use.

Rotating stripping tool for use with an electric power drill

- Exact stripping of cable jacket, outer conductor, dielectric and inner conductor.



Rotation stripping tool

Manual stripping tool

Termination Tool set for SIMFix® ST/Pro 1 1/4" + 1 5/8" Connectors

The tool kit includes tools for preparing the cable and for terminating all SIMFix® Pro 1 1/4" + 1 5/8" connectors made by Telegärtner. Furthermore there are 2 empty pockets for adding on 1/2" + 7/8" stripping tools.

- Sheath Cutter for 1 1/4" and 1 5/8" corrugated cables
- Sawing Guides 1 1/4", 1 5/8"
- Deburring Tools 1 1/4", 1 5/8"
- Cable knife
- Brush for removing metal shavings
- Spanners for SIMFix® Pro/ST 1/2", 7/8", 1 1/4" and 1 5/8"



Tools and Accessories

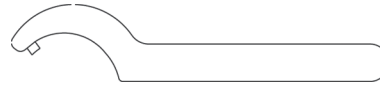
Stripping Tools and Spare Blades for Stripping Tools

For Cable	Stripping Tools	Connector Type	Series	Order no.
1/2"(Flex)	Manual stripping tool	SIMFix ST	7-16; N; 4.3-10	N00091A0004
	Manual stripping tool	SIMFix Pro*	7-16; N; 4.3-10	N00091A0013
1/2"	Manual stripping tool	SIMFix Pro* + ST	7-16; N; 4.3-10	N00091A0015
	Rotating stripping tool for use with a electric power drill	SIMFix Pro* + ST	7-16; N; 4.3-10	N00091B0018
7/8"	Manual stripping tool	SIMFix Pro + ST	7-16; N; 4.3-10	N00091A0022
	Rotating stripping tool for use with a electric power drill	SIMFix Pro + ST	7-16; N; 4.3-10	N00091B0019
1 1/4" + 1 5/8"	Tool kit	SIMFix Pro + ST	7-16; N	R00200A0011
1/2"(Flex)	Spare blades (2 round,1 small) for manual stripping tool			N00099A0001
1/2" + 7/8"	Spare blades (4 large,1 small) for manual stripping tool			N00099A0000
1/2"	Spare blade set rotating stripping tool			N00099A0006
7/8"	Spare blade set rotating stripping tool			N00099A0007

* suitable for straight and angled types

Spanner, Sheath Cutter, Open Ended Wrench

For terminating connectors on 1 1/4" and 1 5/8" corrugated cables (already included in tool kit R00200A0011).



Spanner and Sheath Cutter	Cable	Order no.
Spanner DIN 1810-B52-55 for SIMFix Pro/ST	1 1/4"	N00050A0001
Sheath Cutter for SIMFix Pro/ST	1 1/4"	N00080A0004
Spanner DIN 1810-B68-75 for SIMFix Pro/ST	1 5/8"	N00050A0003
Sheath Cutter for SIMFix Pro/ST	1 5/8"	N00080A0005
Sheath Cutter for SIMFix Pro	2 1/4"	N00080A0008
Double open end wrench AF19/22	1/2"	N00050A0011
Double open end wrench AF22/27	1/2"+7/8"	N00050A0012
Double open end wrench AF32/36	7/8", 1 1/4", 1 5/8"	N00050A0013

Sawing Guide, Flare and Deburring Tool

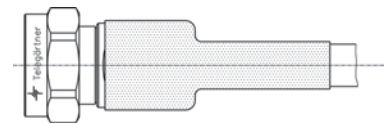
For terminating connectors on 1 1/4" and 1 5/8" corrugated cables (already included in tool kit R00200A0011).



Sawing Guide	Cable	Order no.	Fig.
Sawing Guide for SIMFix Pro/ST 1 1/4"	1 1/4"	N00091A0016	1
Sawing Guide for SIMFix Pro/ST 1 5/8"	1 5/8"	N00091A0017	1
Sawing Guide SIMFix 2 1/4"	2 1/4"	N00091A0021	1
Flare and deburring tool for SIMFix Pro/ST	1 1/4"+1 5/8"	N00099A0005	2

Adhesive Shrink-Sleeves

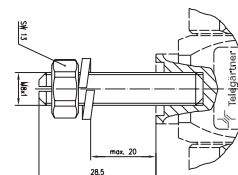
An adhesive shrink-sleeve is required for the short bodied connector to ensure waterproofing. (Not required for SIMFix Pro connectors). These are fitted over the junction between the connector and cable. By applying heat the adhesive process begins, so that the adhesive shrink-sleeve follows the exact contours of the connector and cable junction. This distributes the adhesive on the inside of the sleeve and, on cooling and hardening, provides a watertight joint.



Adhesive Shrink-Sleeves	Length	Cable	Order no.
Adhesive Shrink-Sleeves for short connectors	(l=70 mm)	1/4"	B00101A0008
Adhesive Shrink-Sleeves for short connectors	(l=70 mm)	3/8" + 1/2"	B00102A0005

Fixing Kit for $\lambda/4$ Shorting Stubs

For mounting $\lambda/4$ Shorting Stubs on (earthing) bus bars. Contents: Bolt, hex. locking nut, lock washer



Fixing kit	Order no.
Mounting kit for $\lambda/4$ Shorting Stubs	H06000A0024



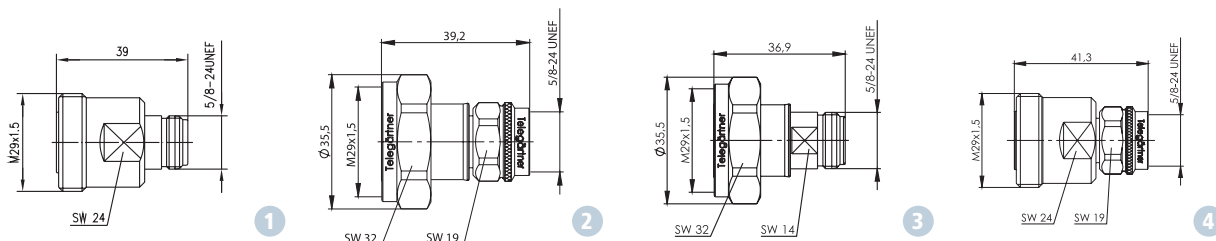
Adaptors and Dust Caps

3

The adaptors in the 7-16, N and 4.3-10 series are waterproof and suitable for external use. The connector plug is fitted with a hexagonal nut and should be connected utili-

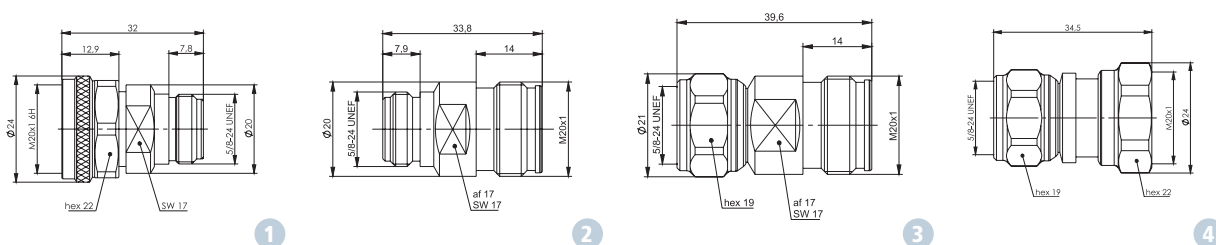
sing the recommended torque (7-16: 25-35 Nm; N: 4-6 Nm, 4.3-10: 5 Nm). This ensures a lasting connection with low return loss and excellent intermodulation characteristics.

Inter Series Adaptors 7-16 – N



Type	Remark	Order no.	Fig.
7-16 – N	jack-jack	J01122A0008	1
7-16 – N	plug-plug	J01122C0009	2
7-16 – N	plug-jack	J01122B0010	3
7-16 – N	jack-plug	J01122C0011	4

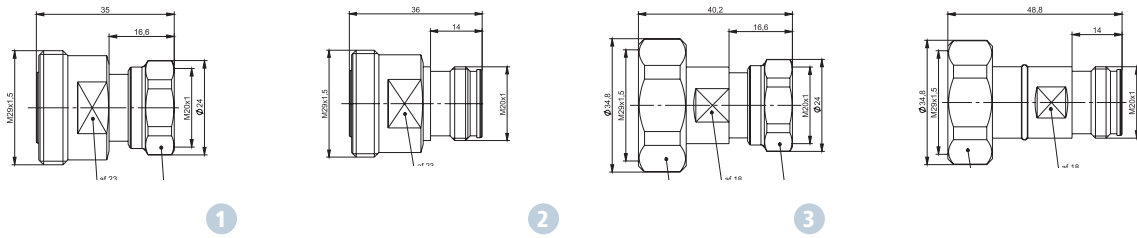
Inter Series Adaptors 4.3-10 – N



Type	Remark	Order no.	Fig.
4.3-10 – N; screw type	plug-jack	J01027A0023	1
4.3-10 – N; push pull type	plug-jack	J01027A0024	-
4.3-10 – N; handscrew type	plug-jack	J01027A0025	-
4.3-10 – N	jack-jack	J01027A0026	2
4.3-10 – N	jack-plug	J01027A0027	3
4.3-10 – N; screw type	plug-plug	J01027A0028	4

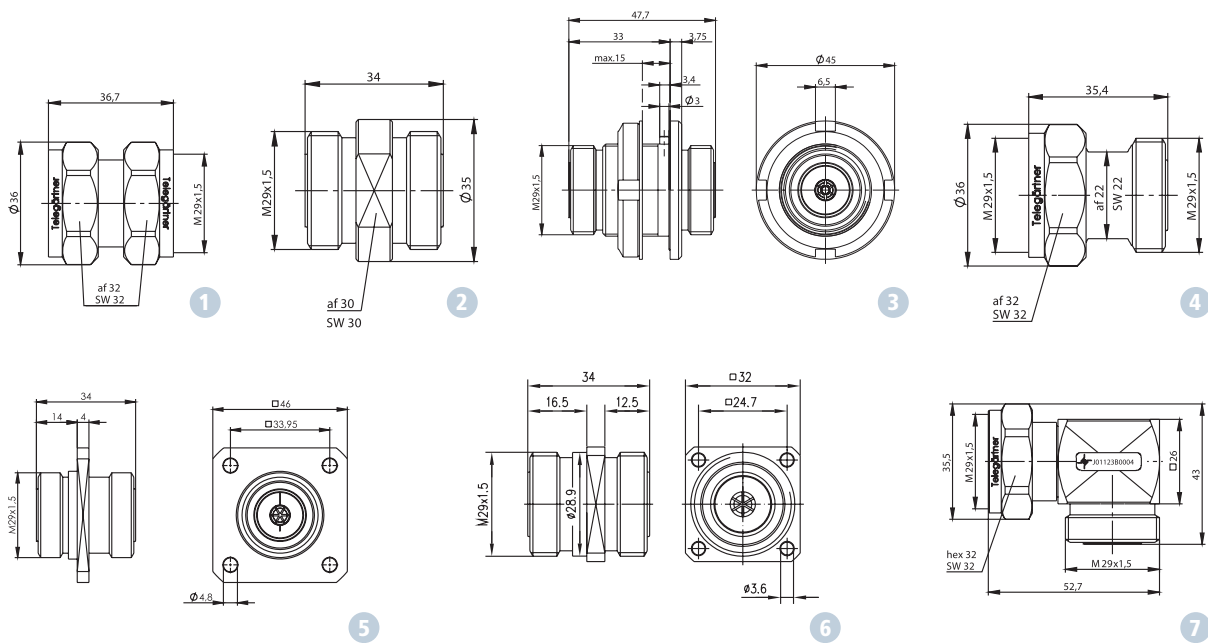
Adaptors and Dust Caps

Inter Series Adaptors 4.3-10 – 7-16



Type	Remarks	Order no.	Fig.
4.3-10 – 7-16; screw type	plug-jack	J01122A0014	1
4.3-10 – 7-16	jack-jack	J01122A0015	2
4.3-10 – 7-16; screw type	plug-plug	J01122A0016	3
4.3-10 – 7-16	jack-plug	J01122A0017	4

Adaptors 7-16



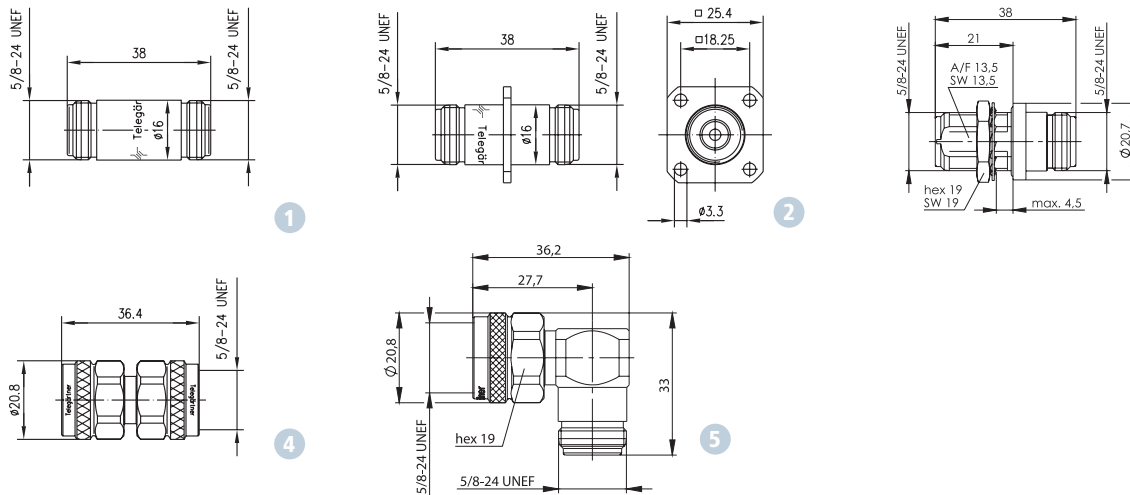
Type	Remarks	Order no.	Panel Piercing	Fig.
7-16 adaptor	plug-plug	J01123B0000		1
7-16 adaptor IEC Type 169-4 IEC-6	jack-jack	J01123B0001		2
7-16 adaptor IEC Type 169-4 IEC-8	jack-jack, bulkhead	J01123C0003	Z61	3
7-16 adaptor	plug-jack	J01123B0006		4
7-16 adaptor with flange IEC Type 169-4 IEC-7	jack-jack, flange	J01123A0002	Z60	5
7-16 adaptor with flange	jack-jack	J01123A0007	Z12	6
7-16 angle adaptor	plug-jack	J01123B0004		7



Packaging: Individually packed in PE foil. Mating-face of 7-16 jacks are protected with a PE-cap.

Adaptors and Dust Caps

Adaptors N

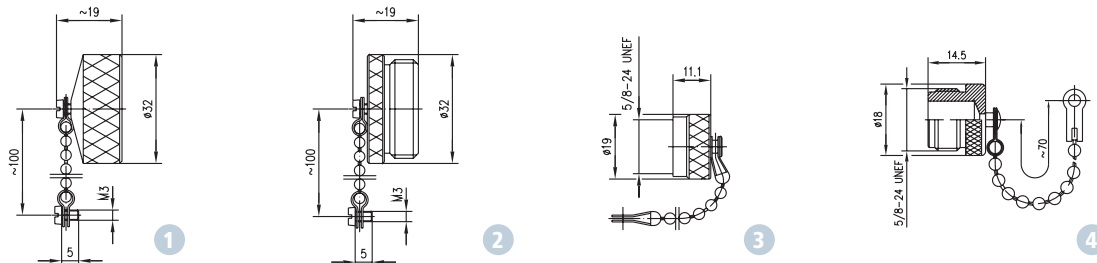


Type	Remarks	Order no.	Panel Piercing	Fig.
N adaptor	jack-jack	J01024A0004		1
N adaptor with flange	jack-jack, flange	J01024A0005	Z08	2
N adaptor	jack-jack, bulkhead	J01024A0006	Z10	3
N adaptor	plug-plug	J01024J1094		4
N angle adaptor	plug-jack	J01024J1096		5

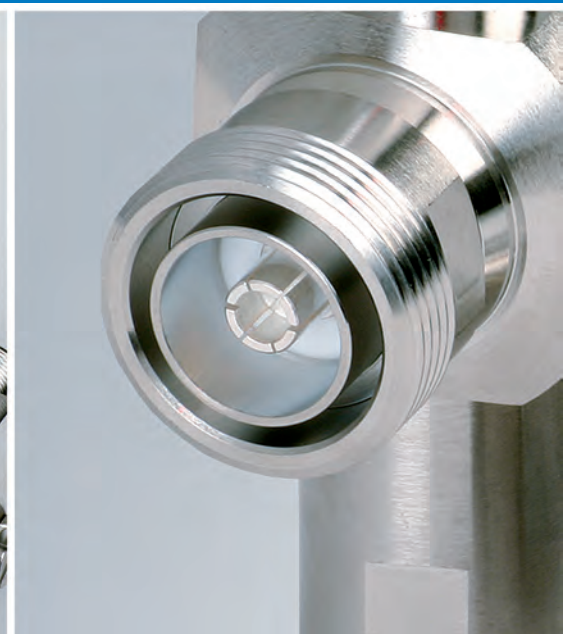


Packaging: Individually packed in PE foil. Mating-face of 7-16 jacks are protected with a PE-cap.

Dust Caps



Type	Order no.	Fig.
7-16 dust cap for jacks	H00070A0000	1
7-16 dust cap for plugs	H00070A0001	2
N dust cap for jacks	H00010A1122	3
N dust cap for plugs	H00010A0000	4
4.3-10 dust cap for jacks	B00012A0042	-



4

EMP Protection

Surge Suppressors

To protect against EMP caused by lightning strikes in the direct vicinity of base stations, Telegärtner has developed a range of surge suppressors with 7/16- and N-Series interfaces.

There are two different functional designs:

- Quarter Wavelength Shorting Stub – with or without DC pass
- Surge suppressors with Gas Discharge Tube

$\lambda/4$ Shorting Stub Protectors

These surge suppressors act like narrow bandpass filters. Only a narrow bandwidth is allowed to pass; other frequencies are shorted and discharged to ground. The design of these surge suppressors involves a direct and solid short-circuit between the centre and outer conductor of the coaxial device.

This short-circuit path, in the form of a coaxial line and of a precisely defined length, is designed to have an electrical length equivalent to one quarter wavelength ($\lambda/4$) of the signal frequency to be transmitted. As an alternating voltage of the correct frequency passes along the quarter-wavelength shorting stub it experiences a 90° phase angle rotation, is then reflected totally at the short (180° phase angle rotation) and finally travels back along the quarter wavelength stub (= a further phase angle rotation of 90°). This represents a total phase angle rotation of 360° . The reflected signal and the incident signal are in phase and the operating signal does not see the short.

It is, therefore, not affected by it. However, if an alternating voltage of a different frequency is present, then these special factors are not given and the energy is short-circuited (= discharged to ground).

λ/4 Shorting Stubs

λ/4 Shorting Stub Protectors with DC Pass

DC pass types are λ/4 stub protectors, which – as is the case with gas capsule protection devices – allow a DC current to pass in order to feed, for example, mast top antennas (MTAs).

The advantage of these new λ/4 stub protectors (as opposed to the gas discharge types) is that they retain the excellent transmission and PIM characteristics of the λ/4 shorting stub protectors.

Advantages

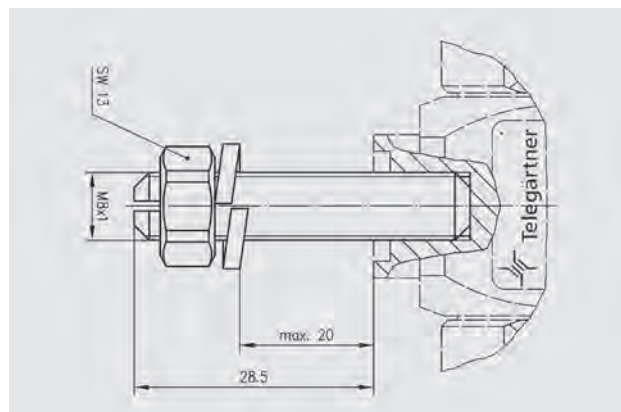
- Very high discharge currents are possible
- Very good transmission and intermodulation characteristics
- Complete discharge of the excess voltage
- Automatically operational again after the surcharge subsides, no special precautions necessary to protect the DC supply current
- Matching of the frequency range up to a range of over 10 GHz possible
- Maintenance free and waterproof
- Since only the desired frequency range is allowed to pass, there is an additional, useful filter effect (excluding odd multiples of the quarter wavelength frequency)

Applications

λ/4 stub protectors are used particularly in transmission paths between antenna and base station, as well as where transmit and receive signals use a common cable, involving high power signal levels.

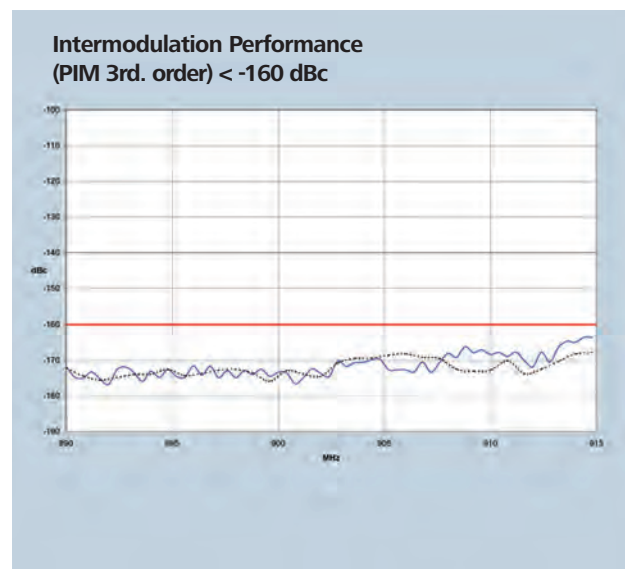
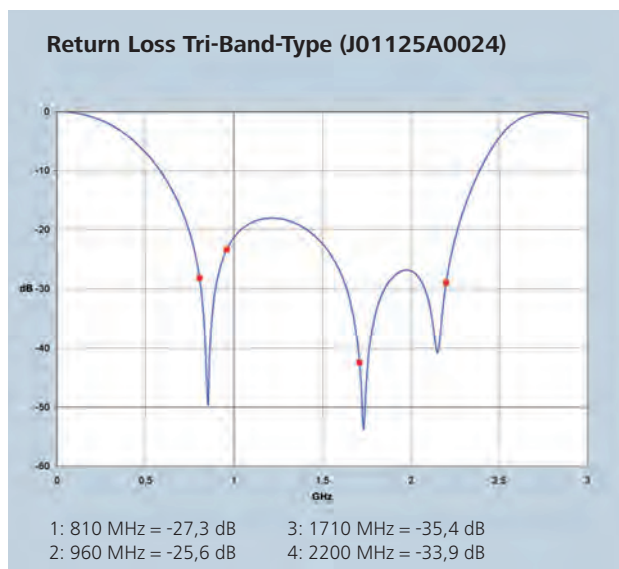
In principle, the use of λ/4 shorting stubs in the receive path can also be recommended. In the event of a pre-amplifier being used at the Rx end, then it would be necessary to use the new special λ/4 shorting stub protector with DC pass.

Accessory: Fixing Kit



Fixing Kit Order Number: H06000A0024

Technical Data



$\lambda/4$ Shorting Stubs

Technical Data

Mechanical Characteristics		Electrical Characteristics	
Materials		VSWR	< 1.15
Spring contact	CuBe2	Insertion loss	< 0.1 dB
Other metal parts	CuZn39Pb3	Intermodulation	
Insulators	PTFE	Intermodulation product 3rd Order (typical) at 800-1000 MHz	-160 dBc
Gaskets	Silicon	2 unmodulated test-signals at 43dBm (20W) at 1600-2000 MHz	-155 dBc
Finish		Max. Power at 2200 MHz	500 W
Spring contact	Cu2Ag5	Max. Discharge Current	
Other metal parts	CuSnZn3	Standard Types of quarterwave shorting stubs	100 kA (8/50 μ s test impulses)
Coupling torque Series N	4-6 Nm	Types with DC pass	30 kA (8/50 μ s test impulses, multiple)
Coupling torque Series 7-16	25-35 Nm	Maximum Working Voltage for DC pass types	85 V
Durability (mating cycles)	> 500		
Thermal and Climatic Characteristics			
Category to DIN IEC 68 Part 1			
Series N	40/155/21		
Series 7-16	55/155/56		
Protection level to DIN 40050/IEC 529	IP 67		



$\lambda/4$ Shorting Stub Types

Type	Frequency range (MHz)							Fig
	380-512	678-2700	806-960 1710-2200	870-970	1700-1900	1920-2170	2250-2500	
7-16 m-m			J01125A0022 ⁽¹⁰⁾					1
7-16 f-f	J01125A0040 ⁽⁹⁾		J01125A0023 ⁽¹⁰⁾	J01125A0000 ⁽¹⁾	J01125A0002 ⁽⁴⁾	J01125A0032 ⁽⁴⁾		2
7-16 m-f	J01125A0039 ⁽⁹⁾		J01125A0024 ⁽¹⁰⁾	J01125C0001 ⁽¹⁾		J01125B0021 ⁽⁴⁾	J01125B0016 ⁽⁷⁾	3
7-16 m-f (bulkhead)			J01125B0031 ⁽¹²⁾	J01125B0006 ⁽³⁾	J01125B0015 ⁽⁵⁾			4
7-16 m-m DC pass			J01125A0028					-
7-16 f-f DC-Pass			J01125A0029					-
7-16 f-f bulkhead		J01125A0050						5
7-16 m-f DC pass		J01125A0049	J01125B0030					6
N f-f				EW950200-00 ⁽⁸⁾	EW950200-30 ⁽⁴⁾		J01028A0019 ⁽⁷⁾	7
N m-f				J01028A0008 ⁽¹⁾	J01028A0009 ⁽⁴⁾		J01028A0022 ⁽⁷⁾	8
N f-f bulkhead	J01028A0053 ⁽⁹⁾							9

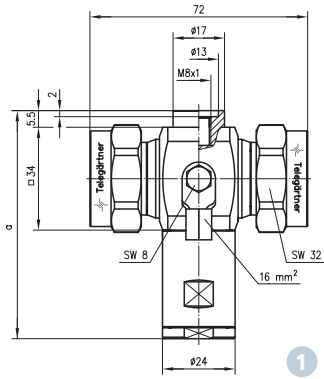


Dimensions (compare to drawings):

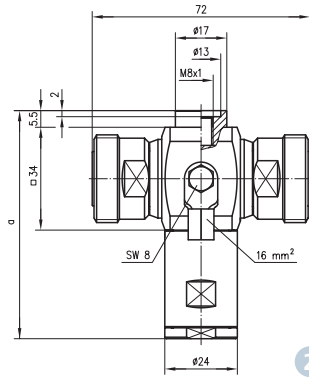
- | | | | |
|-----------------------|----------------------|----------------------|--------------------------|
| 1) Dimension a=97 mm | 4) Dimension a=64 mm | 7) Dimension a=59 mm | 10) Dimension a=71-76 mm |
| 2) Dimension a=98 mm | 5) Dimension a=69 mm | 8) Dimension a=92 mm | 11) Dimension a=58.5 mm |
| 3) Dimension a=102 mm | 6) Dimension a=65 mm | 9) Dimension a=98 mm | 12) Dimension a=79 mm |

λ/4 Shorting Stubs

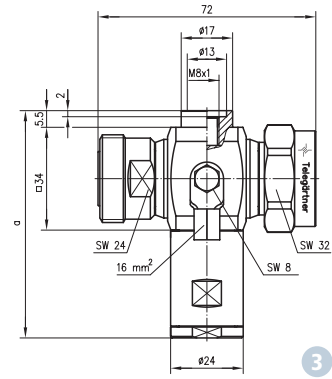
λ/4 Shorting Stub Types



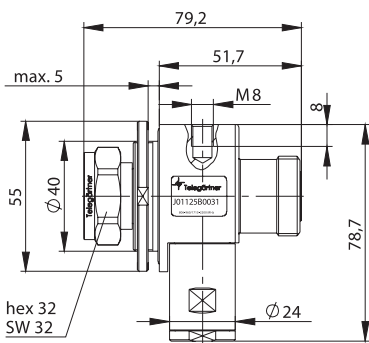
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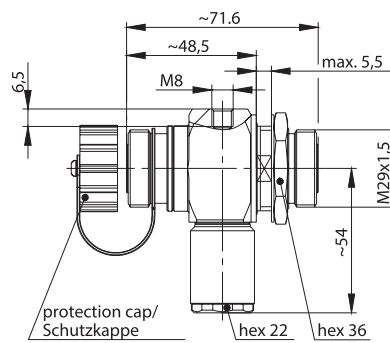
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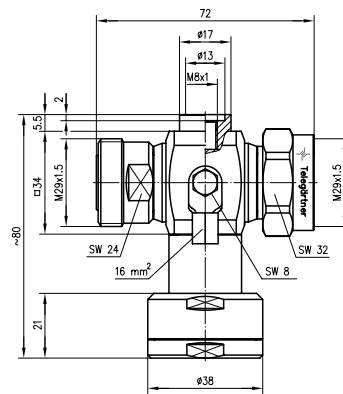
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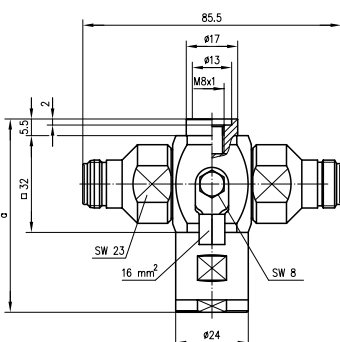
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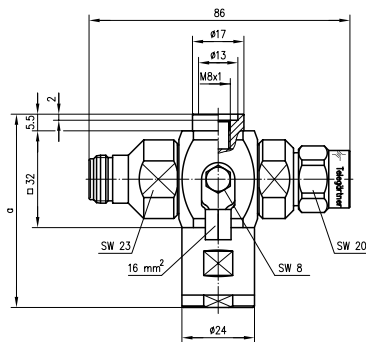
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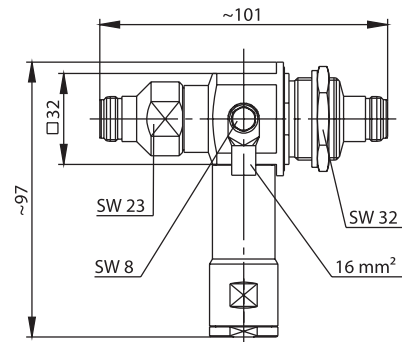
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7



8



9

Surge Suppressors with Gas Discharge Tube (GDT)

Voltage Surge Protection with Gas Discharge Tube

The method of operation of this device can be likened in principle to an electrical switch which, when a certain voltage (d.c. sparkover voltage) is reached, switches the inner conductor to ground.

The design of this device consists of a Gas Discharge Tube installed directly between the inner and outer conductors of a coaxial line. When a higher voltage than the impulse sparkover voltage (=overvoltage) appears on the line, the Gas Discharge Tube will fire and, depending on the prevalent energy, a glow discharge of between 75-90 V (current in milliampere range) or ionisation with an arc voltage of 10-20 V (currents ranging from amps to kiloamps) takes place. When the energy subsides (= is converted to heat), the discharge extinguishes itself automatically. After a cooling-down period of 30 secs., the Gas Discharge Tube is fully operational again. After several very high discharge currents occurring within a few seconds of each other, the functionality of the device may be impaired. It is recommended, therefore, that the gas capsules are replaced at certain intervals.

Among the GDT Surge Suppressors there are 2 product lines available:

G27-Series

For frequencies up to **2.7 GHz** and a maximum power of 300 W. The maximum discharge current is 40 kA (8/20 µs). The Gas Discharge Tube can be replaced.

G6-Series

For frequencies up to **6 GHz** and a maximum power of 25 W. The maximum discharge current is 10 kA (8/20 µs).

Advantages

- Broad-band applications
- Transmission of DC voltages possible, e.g. remote feeding of antenna amplifiers over the coaxial cable
- Maximum impulse Discharge current up to 40 kA
- Different variants available from 75 to 1400 V
- Installation in a waterproof unit

Applications

The main usage of the surge suppressor with gas discharge tube is between the antenna and the base station. For high power signal transmission lines, $\lambda/4$ surge arrestors are recommended, as the non-linear characteristics of the gas cartridge can produce inter-modulation products.

Selection of suitable lightning protector with gas discharge tube

Generally speaking, the spark-over voltage of the discharge tube should be kept as low as possible. However, in order to avoid an unintentional ignition of the tube, the spark-over voltage should be at least twice the peak voltage occurring under normal working conditions.



Example:

$P = 100 \text{ W}$

$Z = 50 \ \Omega$ (with VSWR 1:1)

Peak voltage = $U_{\max} = \sqrt{P \times Z} = 71 \text{ V}$

Recommended spark-over voltage = $2 \times U_{\max} = 142 \text{ V}$

Most suitable Lightning Protector is 145 V Type

(J01028A0036)

Technical Data (G27-Series)

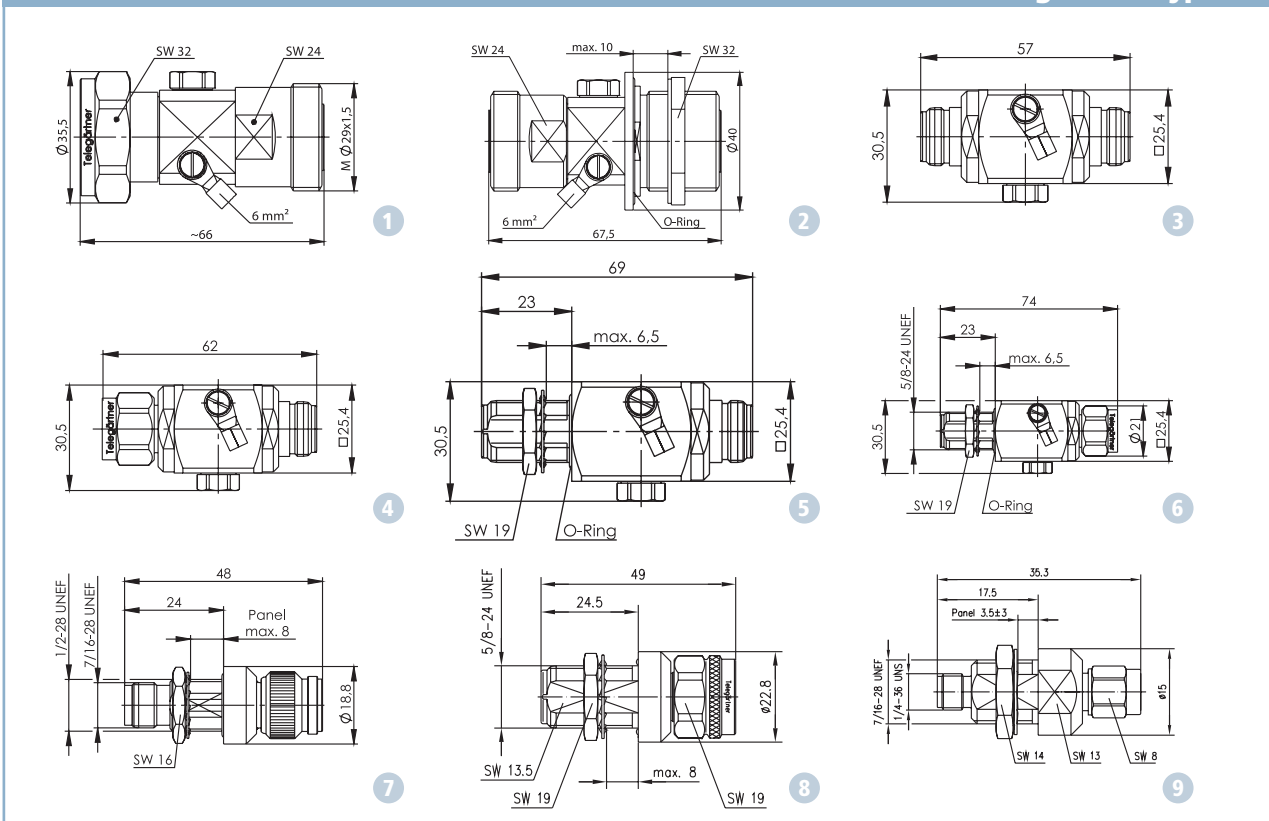
Mechanical Characteristics	
Materials	
Spring contact	CuBe2
Other metal parts	CuZn39Pb3
Insulators	PTFE
Gaskets	Silicon
Finish	
Spring contact	Cu2Ag5
Other metal parts	CuSnZn3
Coupling torque Series N	4-6 Nm
Coupling torque Series 7-16	25-35 Nm
Durability (mating cycles)	> 500

Thermal and Climatic Characteristics connectors		
	Series N	Series 7-16
Category to DIN IEC 68 Part 1	40/155/21	55/155/56
Protection level to DIN 60529	IP 68	IP 68
Electrical Characteristics		
	Series N	Series 7-16
Max. frequency	2.7 GHz	2.7 GHz
VSWR	< 1.2 (2.7 GHz)	< 1.2 (2.7 GHz)
Insertion loss	< 0.2 dB	< 0.1 dB
Impulse Discharge Current	2500 x 10 A (10/1000 µs)	1000 x 500 A (10/1000 µs)
	1000 x 500 A (10/1000 µs)	5 x 20000 A (8/20 µs)
		1 x 40000 A (8/20 µs)

Surge Suppressors with Gas Discharge Tube (GDT)



Gas Discharge Tube Types



G27-Series

Type	Nominal DC spark-over voltage								Fig.
	75 V	90 V	145 V	230 V	470 V	600 V	800V	1000 V	
7-16 m-f		J01125A0037		J01125A0035			J01125A0045	J01125A0046	1
7-16 f-f		J01125A0038		J01125A0036					2
bulkhead									
N f-f	J01028A0031	J01028A0033	J01028A0035	J01028A0037	J01028A0039	J01028A0040	J01028A0042	J01028A0043	3
N m-f	J01028A0032	J01028A0034	J01028A0036	J01028A0038		J01028A0041			4
N f-f		J01028A0044		J01028A0045					5
bulkhead		J01028A0055*							
N m-f				J01028A0046					6
bulkhead									

* with mounting kit H06000A0024 (see page 28)

G6-Series

Type	BNC m-f	TNC m-f	R-TNC m-f	N m-f	N f-f	SMA m-f	R-SMA m-f
Order No.	J01007A0002	J01017A0004	J01017R0000	J01028A0047	J01028A0048	J01158A0001	J01158R0001
Fig.	-	7	7	8	-	9	9



5

Jumper Cables

The jumper cables in our range are made with 1/2" highly flexible cable, 1/2" feeder type cable, 1/4" cable or 3/8" cable, depending on your requirements. Whatever the cable, they are fitted with specially designed 7-16, N and 4.3-10 connectors and manufactured on our lean production line

in Slovakia. The very low intermodulation products of the jumper cables are tested on special intermodulation test systems and all cables are tested for return loss (VSWR) up to a frequency of 2.7 GHz. Test results are available on request.

Protection Classification IP 68

Telegärtner jumper cables are independently tested to IP68 by the British Standards Institute (BSI). To simulate a waterlogged feeder cable's pressure on a jumper cable, the connectors are designed to withstand.

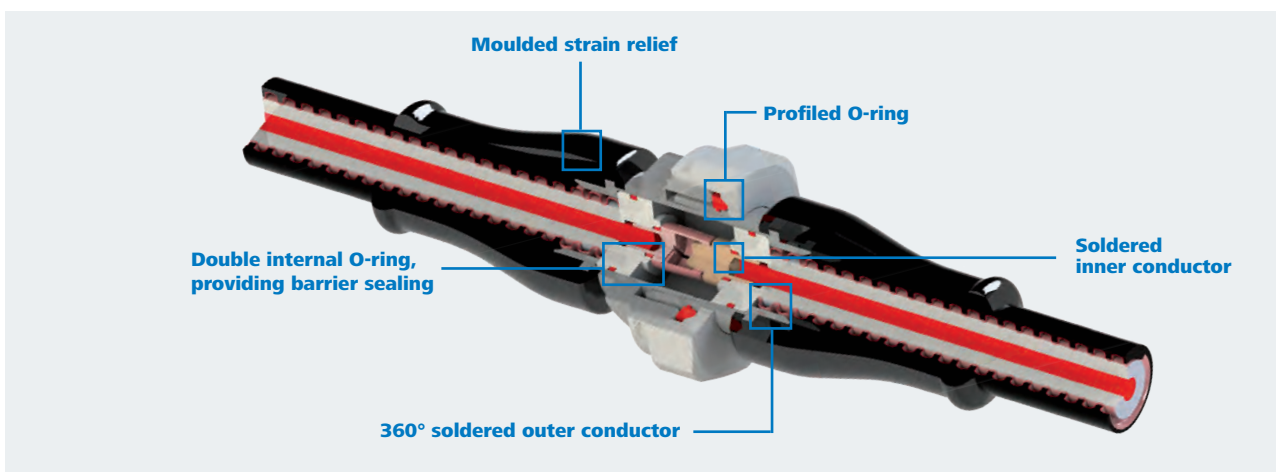
- 25 m head of water
- Pressure 2.5 ± 0.1 bar
- Temperature $20^\circ\text{C} \pm 5^\circ\text{C}$

No leakage was found after 7 days.

The 7-16 connectors include a specially profiled O-ring at the mating face, carefully engineered to provide protection against water ingress through the coupling nut. These connectors also incorporate an additional seal between the centre contact and connector housing in the mating face (barrier seal). A 360° inductive solder of the outer conductor provides additional protection against ingress of moisture in the event of the cable sheath being damaged. This, alongside the obvious contribution to excellent PIM and return loss characteristics, show why these jumper cables are superior to clamp and short solder types.



- Very low intermodulation products (IMP3)
- Hexagonal coupling nuts for correct torque and high-contact pressure
- Barrier sealed interface
- Waterproof for external use
- Excellent return loss and attenuation
- Fully soldered inner- and outer conductor
- Moulded strain relief



Jumper Cables

Features

- Unique Telegärtner designed connectors
- 360° induction soldered
- Silver plated body, nickel plated nut, profiled O-ring
- 100% tested
- Approved by over 50 European network operators and their installers

Benefits

- IP68 water ingress protection – unmated!
- Fewer site visits
- Reduced fault finding time during site construction
- Less network downtime
- Reduced damage if water enters the system via another component or between components

Technical Data 1/2" Flex

	7-16 Types	N Types	4.3-10 Types
Mechanical Characteristics			
Materials			
Spring contact	CuBe2	CuBe2	CuBe2
Other metal parts	CuZn39Pb3	CuZn39Pb3	CuZn39Pb3
Insulator	PTFE	PTFE	PTFE
Gaskets	Silicon	Silicon	Silicon
Finish			
Spring contact	Cu2Ag5	Cu2Ag5	Cu2Ag5
Outer surface	Cu2Ag3	Cu2Ag3	Cu2Ag3
Coupling torque	25-35 Nm	4-6 Nm	5 Nm
Cables			
Cables	1/2" super flexible 50 Ω foam dielectric, helically corrugated; Black PE jacket or grey RAL7047 PE jacket halogen free		
Thermal and Climatic Characteristics			
Temperature range	-40 °C – +60 °C	-40 °C – +60 °C	-40 °C – +60 °C
Relative humidity	0 % – 100 %	0 % – 100 %	0 % – 100 %
Corrosion and UV resistant	IP 68	IP 68	IP 68
Protection to DIN 40050/IEC 60529			
Electrical Characteristics			
Return Loss (VSWR)			
straight connectors:			
800 MHz - 1000 MHz	-38 dB (1.02:1) min. / -30 dB (1.02:1) typ.	-38 dB (1.02:1) min. / -30 dB (1.02:1) typ.	-38 dB (1.02:1) min. / -30 dB (1.02:1) typ.
1000 MHz - 2700 MHz	-32dB (1.02:1) min. / -28 dB (1.02:1) min.	-32dB (1.02:1) min. / -28 dB (1.02:1) min.	-32dB (1.02:1) min. / -28 dB (1.02:1) min.
angle connectors:			
800 MHz - 1000 MHz	-33 dB (1.02:1) min. / -30 dB (1.02:1) typ.	-33 dB (1.02:1) min. / -30 dB (1.02:1) typ.	-33 dB (1.02:1) min. / -30 dB (1.02:1) typ.
1000 MHz - 2700 MHz	-30dB (1.02:1) min. / -28 dB (1.02:1) min.	-30dB (1.02:1) min. / -28 dB (1.02:1) min.	-30dB (1.02:1) min. / -28 dB (1.02:1) min.
Attenuation (dB)			
up to 1000 MHz	0.11 dB/m	0.11 dB/m	0.11 dB/m
up to 2700 MHz	0.19 dB/m	0.19 dB/m	0.19 dB/m
Power handling			
800 - 1000 MHz	770 W (500 W min.)	450 W	700 W
1000 MHz - 2700 MHz	500 W (300 W min.)	300 W	500 W
Impedance			
	50 Ω (±2 Ω)	50 Ω (±2 Ω)	50 Ω (±2 Ω)
Contact potential			
	no dissimilar metal surfaces	no dissimilar metal surfaces	no dissimilar metal surfaces
Voltage rating			
	1100 V	1100 V	1100 V
Velocity of propagation			
	78.5 % - 82 %	78.5 % - 82 %	78.5 % - 82 %
Intermodulation / Intermodulation products 3rd Order (typical) 2 unmodulated test signals each at 43dBm (20 W)			
up to 2700 MHz	-165 dBc (-122 dBm) typ. -157 dBc (-114 dBm) min.	-165 dBc (-122 dBm) typ. -157 dBc (-114 dBm) min.	-165 dBc (-122 dBm) typ. -157 dBc (-114 dBm) min.

Jumper Cables



Series 7-16 to 7-16

Length	Plug - Plug		Plug - Jack		Plug - Angle Plug		Jack - Angle Plug	
	Order no.	Type	Order no.	Type	Order no.	Type	Order no.	Type
0.5 m	L00010D0552	JMPS/0500K	L00010D0550	JMPS/0501K	L00010D0565	JMPS/0502K	L00010D0567	JMPS/0512K
1.0 m	L00010D0553	JMPS/1000K	L00010D0551	JMPS/1001K	L00010D0566	JMPS/1002K	L00010D0568	JMPS/1012K
2.0 m	L00011D0185	JMPS/2000K	L00011D0183	JMPS/2001K	L00011D0187	JMPS/2002K	L00011D0189	JMPS/2012K
3.0 m	L00012D0064	JMPS/3000K	L00012D0062	JMPS/3001K	L00012D0066	JMPS/3002K	L00012D0068	JMPS/3012K
5.0 m	L00013D0059	JMPS/5000K	L00013D0057	JMPS/5001K	L00013D0062	JMPS/5002K	L00013D0064	JMPS/5012K

Series 7-16 to N

Length	Plug - Plug	
	Order no.	Type
0.5 m	L00010A1685	JMPS/0504K
1.0 m	L00010A1686	JMPS/1004K
2.0 m	L00011A0420	JMPS/2004K
3.0 m	L00012A0131	JMPS/3004K
5.0 m	L00013A0268	JMPS/5004K

Series N to N

Length	Plug - Plug	
	Order no.	Type
0.5 m	L00010A1687	JMPS/0544K
1.0 m	L00010A1634	JMPS/1044K
2.0 m	L00011A0252	JMPS/2044K
3.0 m	L00012A0116	JMPS/3044K
5.0 m	L00013A0274	JMPS/5044K

Series 4.3-10 to 4.3-10 (Screw Types)

Length	Plug - Plug		Plug - Jack		Plug - Angle Plug	
	Order no.	Type	Order no.	Type	Order no.	Type
0.5 m	L00010A1689	JMPS/0577K	L00010A1691	JMPS/0578K	L00010A1693	JMPS/0579K
1.0 m	L00010A1690	JMPS/1077K	L00010A1692	JMPS/1078K	L00010A1694	JMPS/1079K
2.0 m	L00011A0436	JMPS/2077K	L00011A0437	JMPS/2078K	L00011A0438	JMPS/2079K
3.0 m	L00012A0235	JMPS/3077K	L00012A0236	JMPS/3078K	L00012A0237	JMPS/3079K
5.0 m	L00013A0313	JMPS/5077K	L00013A0314	JMPS/5078K	L00013A0315	JMPS/5079K

Series 4.3-10 (Screw Type) to 7-16

Length	Plug - Plug	
	Order no.	Type
0.5 m	L00010A1742	JMPS/0507K
1.0 m	L00010A1743	JMPS/1007K
2.0 m	L00011A0461	JMPS/2007K
3.0 m	L00012A0257	JMPS/3007K
5.0 m	L00013A0339	JMPS/5007K

Series 4.3-10 to 4.3-10 (Push Pull Types)

Length	Plug - Plug		Plug - Angle Plug	
	Order no.	Type	Order no.	Type
0.5 m	L00010A1697	JMPS/05BBK	L00010A1701	JMPS/05BDK
1.0 m	L00010A1698	JMPS/10BBK	L00010A1702	JMPS/10BDK
2.0 m	L00011A0440	JMPS/20BBK	L00011A0442	JMPS/20BDK
3.0 m	L00012A0239	JMPS/30BBK	L00012A0241	JMPS/30BDK
5.0 m	L00013A0317	JMPS/50BBK	L00013A0319	JMPS/50BDK

Jumper Cables



Superflex Helically Corrugated Cable

Series 7-16 to 7-16								
	Plug - Plug		Plug - Jack		Plug - Angle Plug		Jack - Angle Plug	
Length	Order no.	Type	Order no.	Type	Order no.	Type	Order no.	Type
0.5 m	L00010A1703	JMPR/0500T	L00010A1705	JMPR/0501T	L00010A1707	JMPR/0502T	L00010A1709	JMPR/0512T
1.0 m	L00010A1704	JMPR/1000T	L00010A1706	JMPR/1001T	L00010A1708	JMPR/1002T	L00010A1710	JMPR/1012T
2.0 m	L00011A0443	JMPR/2000T	L00011A0444	JMPR/2001T	L00011A0445	JMPR/2002T	L00011A0446	JMPR/2012T
3.0 m	L00012A0242	JMPR/3000T	L00012A0243	JMPR/3001T	L00012A0244	JMPR/3002T	L00012A0245	JMPR/3012T
5.0 m	L00013A0321	JMPR/5000T	L00013A0322	JMPR/5001T	L00013A0323	JMPR/5002T	L00013A0324	JMPR/5012T

Series 4.3-10 to 4.3-10 (Screw Types)								
	Plug - Plug		Plug - Jack		Plug - Angle Plug			
Length	Order no.	Type	Order no.	Type	Order no.	Type	Order no.	Type
0.5 m	L00010A1711	JMPR/0577T	L00010A1713	JMPR/0578T	L00010A1715	JMPR/0579T		
1.0 m	L00010A1712	JMPR/1077T	L00010A1714	JMPR/1078T	L00010A1716	JMPR/1079T		
2.0 m	L00011A0447	JMPR/2077T	L00011A0448	JMPR/2078T	L00011A0449	JMPR/2079T		
3.0 m	L00012A0246	JMPR/3077T	L00012A0247	JMPR/3078T	L00012A0248	JMPR/3079T		
5.0 m	L00013A0325	JMPR/5077T	L00013A0326	JMPR/5078T	L00013A0327	JMPR/5079T		

Series 4.3-10 to 4.3-10 (Hand Screw Types)				
	Plug - Plug		Plug - Angle Plug	
Length	Order no.	Type	Order no.	Type
0.5 m	L00010A1717	JMPR/05AAT	L00010A1721	JMPR/05ACT
1.0 m	L00010A1718	JMPR/10AAT	L00010A1722	JMPR/10ACT
2.0 m	L00011A0450	JMPR/20AAT	L00011A0452	JMPR/20ACT
3.0 m	L00012A0249	JMPR/30AAT	L00012A0251	JMPR/30ACT
5.0 m	L00013A0328	JMPR/50AAT	L00013A0330	JMPR/50ACT

Series 4.3-10 to 4.3-10 (Push Pull Types)				
	Plug - Plug		Plug - Angle Plug	
Length	Order no.	Type	Order no.	Type
0.5 m	L00010A1719	JMPR/05BBT	L00010A1723	JMPR/05BDT
1.0 m	L00010A1720	JMPR/10BBT	L00010A1724	JMPR/10BDT
2.0 m	L00011A0451	JMPR/20BBT	L00011A0453	JMPR/20BDT
3.0 m	L00012A0250	JMPR/30BBT	L00012A0252	JMPR/30BDT
5.0 m	L00013A0329	JMPR/50BBT	L00013A0331	JMPR/50BDT

Jumper Cables



Series 7-16 to 7-16

Length	Plug - Plug		Plug - Jack		Plug - Angle Plug		Jack - Angle Plug	
	Order no.	Type	Order no.	Type	Order no.	Type	Order no.	Type
0.5 m	L00010A1725	JMPR/0500L	L00010A1727	JMPR/0501L	L00010A1729	JMPR/0502L	L00010A1731	JMPR/0512L
1.0 m	L00010A1726	JMPR/1000L	L00010A1728	JMPR/1001L	L00010A1730	JMPR/1002L	L00010A1732	JMPR/1012L
2.0 m	L00011A0454	JMPR/2000L	L00011A0455	JMPR/2001L	L00011A0456	JMPR/2002L	L00011A0457	JMPR/2012L
3.0 m	L00012A0253	JMPR/3000L	L00012A0254	JMPR/3001L	L00012A0255	JMPR/3002L	L00012A0256	JMPR/3012L
5.0 m	L00013A0332	JMPR/5000L	L00013A0333	JMPR/5001L	L00013A0334	JMPR/5002L	L00013A0335	JMPR/5012L



Series 7-16 to 7-16

Length	Plug - Plug	
	Order no.	Type
0.5 m	L00010A3552	JMPS/0500D
1.0 m	L00010A3553	JMPS/1000D
2.0 m	L00011A3185	JMPS/2000D
3.0 m	L00012A3064	JMPS/3000D
5.0 m	L00013A0320	JMPS/5000D



RET Cables

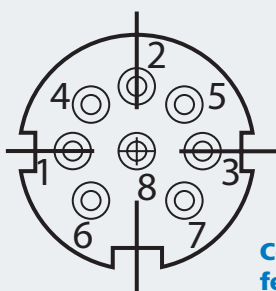
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RET Cables provide a direct connect option from the Master Control Unit (MCU) to a RET module. These cables are offered in a variety of lengths, with the shorter lengths being available to “daisy chain” multiple RET modules to-

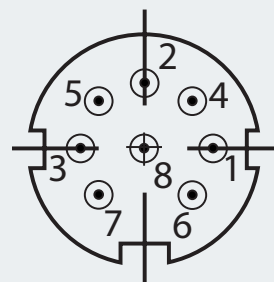
gether at the top of the tower or building. By connecting the modules together, you reduce the number of cables required from the MCU to the antennas.

General Description

Power supply and control interface cable for AISG Standard Version 2 Compliant Remote Electrical Tilt (RET) Components, offering protection to IP67.



Connecting side
female



Connecting side
male

i Contact Arrangement to AISG Standard 1.1 and 2.0

- | | |
|--------------------|--------------------|
| 1. +12V DC Nominal | 5. RS485 A |
| 2. Spare | 6. +24V DC Nominal |
| 3. RS485 B | 7. DC Ground |
| 4. Spare | 8. Spare |

RET Cables

Connector Style

8 pin male and female connectors according to IEC 60130-9. Fully soldered contacts. Connector bodies constructed from nickel plated brass. Male contacts are silver plated brass. Female contacts are constructed from silver plated bronze. Plastic components PBT (UL94 V-0).

Cable Type

1 x twisted pair 0.25 mm², 2 x power cores and 1 ground core 0.75 mm². Outer sheath in black PUR with overall diameter 8 mm. Halogen free, flame retardant and UV stable.

Specification of Terminated RET Cables

Rated Current	5 A
Temperature Range	-40° C to +80° C
Protection Class	IP67 Mated
Overall Diameter	8 mm
Minimum Bending Radius	60 mm (single), 120 mm (repeat)
Flammability	Halogen Free, Flame Retardant
Relative Humidity	Up to 100%



- Different cable lengths easily accommodated
- Length tolerance = $\pm 2\%$ of length
- M12 4 pole ASC version also available



Series	Design	Type	Protection Class	Order no.	Length
RET	AISG F - AISG M	RETC/0005	IP 67	L00010A1733	0.5 m
RET	AISG F - AISG M	RETC/0010	IP 67	L00010A1734	1.0 m
RET	AISG F - AISG M	RETC/0020	IP 67	L00011A0458	2.0 m
RET	AISG F - AISG M	RETC/0050	IP 67	L00013A0336	5.0 m
RET	AISG F - AISG M	RETC/0100	IP 67	L00015A0078	10.0 m

RET Cables with Waterproof D Sub

General Description

This AIG multiwire cable is used to connect the Remote Radio Unit with the Remote Control Unit and to transmit the base station signals for controlling the RET antenna and offers protection to IP67.

Connector Style

8 pin female connector according to IEC 60130-9. 9 way D Sub waterproof male connector. Fully soldered contacts. All connectors are UL94 V-0.

Specification of Terminated RET Cables

Rated Current	5 A
Temperature Range	-40° C to +80° C
Protection Class	IP67 Mated
Overall Diameter	8 mm
Minimum Bending Radius	60 mm (single), 120 mm (repeat)
Flammability	Halogen Free, Flame Retardant
Relative Humidity	Up to 100%

Variations

RET cables with waterproof D Subs can be required depending on the OEM interconnect. Variation 1 (RETD/) uses a rectangular formed O-ring to create the IP67 seal, which seals directly against the mating half. Variation 2 (RETK/) uses a skirt to create the IP67 seal to allow for a raised mating half.

Cable Type

1 x twisted pair 0.25 mm², 2 x power cores and 1 ground core 0.75 mm². Outer sheath in black PUR with overall diameter 8 mm. Halogen free, flame retardant and UV stable.



- Different cable lengths easily accommodated
- Length tolerance = ±2% of length

RETD



Series	Design	Type	Protection Class	Order no.	Length
RET	AISG F - DB9 W/Proof M	RETD/0005	IP 67	L00010A1735	0.5 m
RET	AISG F - DB9 W/Proof M	RETD/0010	IP 67	L00010A1736	1.0 m
RET	AISG F - DB9 W/Proof M	RETD/0020	IP 67	L00011A0459	2.0 m
RET	AISG F - DB9 W/Proof M	RETD/0050	IP 67	L00013A0337	5.0 m
RET	AISG F - DB9 W/Proof M	RETD/0100	IP 67	L00015A0079	10.0 m

RETK



Series	Design	Type	Protection Class	Order no.	Length
RET	AISG F - DB9 W/Proof M with Skirt	RETK/0005	IP 67	L00010A1737	0.5 m
RET	AISG F - DB9 W/Proof M with Skirt	RETK/0010	IP 67	L00010A1738	1.0 m
RET	AISG F - DB9 W/Proof M with Skirt	RETK/0020	IP 67	L00011A0460	2.0 m
RET	AISG F - DB9 W/Proof M with Skirt	RETK/0050	IP 67	L00013A0338	5.0 m
RET	AISG F - DB9 W/Proof M with Skirt	RETK/0100	IP 67	L00015A0080	10.0 m



7.1

TOC Outdoor Connectors IP68

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

The handy, easy to install TOC connectors are used for data- and telecommunications in mobile radio, process-, utility- and traffic automation, or security applications but also in the harsh environment of machine and plant engineering. The TOC series is available in nickel-plated brass for RJ45 Cat.6_A and FO LC Duplex and MPO/MTP® connectors. Compliance

with the specifications of protection class IP68 and due to its excellent material properties, the TOC series can be installed even in harsh conditions within a temperature range from -40° C to 85° C*. To lock, relief of strain and seal the connection, one turning movement is necessary and no further procedures are required. Customers benefit: fast, error free and easy installation, high transmission reliability and resilience and more flexibility in the network design.

TOC Series RJ45

The TOC series RJ45 coming with the field-assembly RJ45 plug MFP8 Cat.6_A and RJ45 keystone AMJ-S Module Cat.6_A is available as a set. They can be attached to solid and stranded conductor cables with cable outer dia-

meter max. 9.5 mm on site without the need for special tools. For line extensions, the TOC Coupler IP68 is your first choice. It can be easily integrated with no negative effects on performance of the connection.

Performance Characteristics TOC Series RJ45

- suitable for 10 Gigabit Ethernet acc. to IEEE 802.3an
- suitable for PoE+ acc. to IEEE 802.3at
- 360° shielding
- temperature range: -40° C to +85° C*
- protection class IP68 acc. to IEC 60529
- protection cap with protection class IP68

TOC bulkhead set IP68 / outlet IP68

- RJ45 AMJ-S Module Cat.6_A acc. to IEC 60603-7-51 (500 MHz)
- Cu-conductor:
 - solid: 0.41-0.64 mm (AWG26/1 – AWG22/1)
 - stranded: 0.46-0.76 mm (AWG27/7 – AWG22/7)
- insulation diameter: 0.9-1.6 mm
- RJ45 AMJ-S Module Cat.6_A UL listet (E244889)

TOC plug set IP68 MFP8 T568B Cat.6_A

- RJ45 plug MFP8 Cat.6_A acc. to IEC 60603-7-51 (500 MHz)
- RJ45 plug MFP8 Cat.6_A UL listed (E244889)
- Cu-conductor:
 - solid: 0.51-0.64 mm (AWG24/1 – AWG22/1)
 - stranded: 0.46-0.76 mm (AWG27/7 – AWG22/7)
- insulation diameter: 1.0-1.6 mm
- cable outer diameter: 4.0 - 9.5 mm

TOC coupler IP68 AMJ Coupler K

- RJ45 AMJ Coupler K acc. to IEC 60603-7-5 (500 MHz)
- RJ45 jack to RJ45 jack
- suitable for TOC plug set RJ45 IP68
- mounting on DIN rail TH35 by means of adaptors (H06000A0056)

*Operating temperature depending on choice of cable and wire/fiber design

TOC Outdoor Connectors IP68

TOC Series LC Duplex / MPO/MTP®

The TOC Series with LC Duplex resp. MPO/MTP® captivates due to its flexibility and ease of installation. Customer can work with pre-terminated cables feed into TOC plug. By means of the elongated release latch the plugs can be mated & unmated into SFP transceivers or adaptors effortlessly even in confined installation environments. In

addition, the several installation positions of SFP transceivers no longer form a problem. For line extensions, the TOC Coupler IP68 is your first choice. It can be easily integrated with no effective effects on performance of the connection.

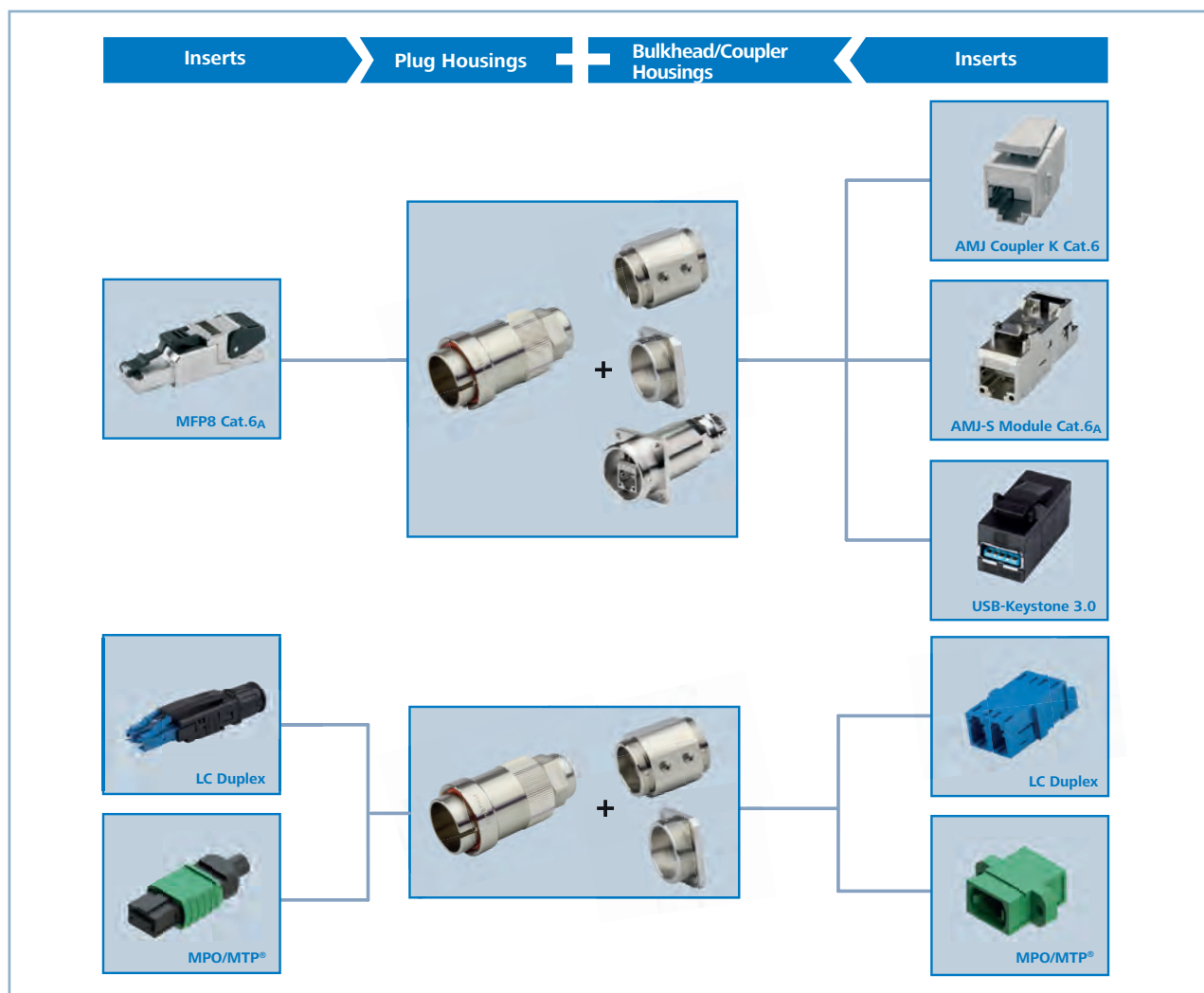
Performance Characteristics TOC Series LC Duplex

- plug & adaptor acc. to IEC 61754-20 (circonia ceramics)
- Multimode (PC) & Singlemode (APC) types
- Insertion Loss:
 - plug: Multimode max. 0.4 dB, Singlemode APC max. 0.5 dB
 - adaptor: Multimode max. 0.2 dB, Singlemode APC max. 0.5 dB
- Return Loss:
 - plug: Multimode min. 30 dB, Singlemode APC min. 60 dB
- temperature range: -40° C to +85° C*
- plug set LC Duplex: single cable diameter: 2.0 mm
cable outer diameter: 4.0-9.5 mm
- protection class IP68 acc. to IEC 60529
- protection cap with protection class IP68

Performance Characteristics TOC Series MPO/MTP®

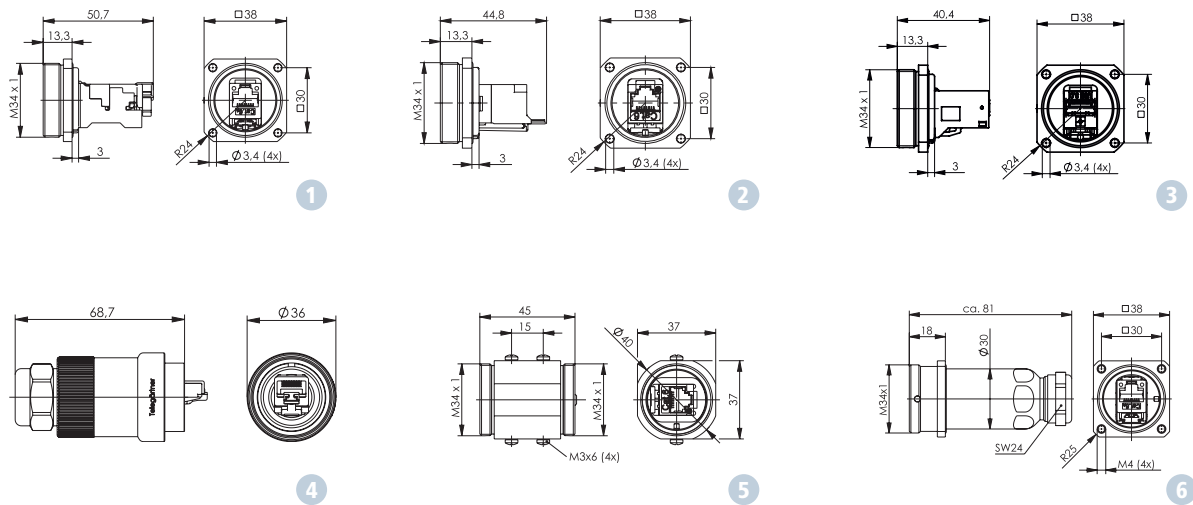
- plug & adaptor acc. to IEC 61755-3-1
- Multimode (PC) & Singlemode (APC) types
- Insertion Loss:
 - plug: Multimode max. 0.5 dB (typ. 0.2)
 - Singlemode APC max. 0.7 dB (typ. 0.25)
- Return Loss:
 - plug: Multimode min. 30 dB, Singlemode APC min. 60 dB
- temperature range: -40° C to +85° C*
- plug set MPO/MTP®: single cable diameter: 3.0 mm
cable outer diameter: 4.0 - 9.5 mm
- protection class IP68 acc. to IEC 60529
- protection cap with protection class IP68

Overview TOC Series



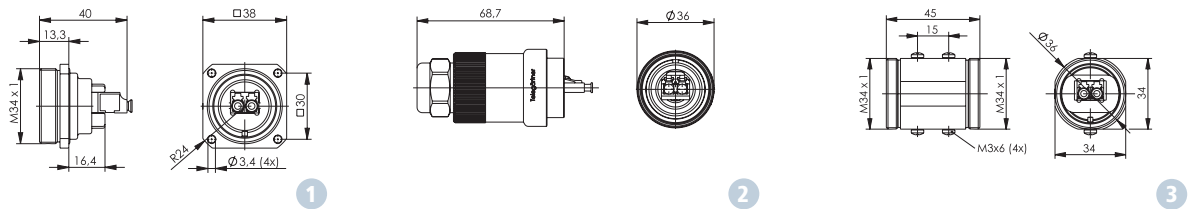
TOC Outdoor Connectors IP68

TOC Series RJ45



Order no.	Short name	Description	Fig.
J60020A0000	TOC bulkhead set IP68	AMJ-S Module T568B Cat.6 _A	1
J60020A0002	TOC bulkhead set IP68	AMJ Coupler K Cat.6 Class E _A	2
J60020A0004	TOC bulkhead set IP68	USB-Keystone 3.0 (f-f) Type A	3
J60026A0000	TOC plug set IP68	MFP8 T568B Cat.6 _A AWG22-27	4
J60029A0000	TOC coupler IP68	AMJ Coupler K Cat.6 Class E _A	5
J60023A0000	TOC bulkhead outlet IP68	AMJ-S Module T568B Cat.6 _A	6
H06000A0074	TOC bracket	gauge 38 mm and TH35	-

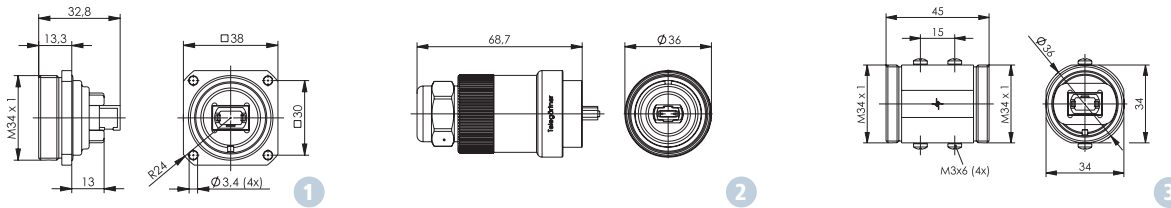
TOC Series LC Duplex



Order no.	Short name	Description	Fig.
J68071A0000	TOC bulkhead set IP68	LC Duplex adaptor multimode	1
J68071A0001	TOC bulkhead set IP68	LC Duplex adaptor APC singlemode	1
J68070A0000	TOC plug set IP68	LC Duplex multimode	2
J68070A0001	TOC plug set IP68	LC Duplex / APC singlemode	2
J68071A0004	TOC coupler IP68	LC Duplex adaptor singlemode / multimode	3

TOC Outdoor Connectors IP68

TOC Series MPO/MTP®



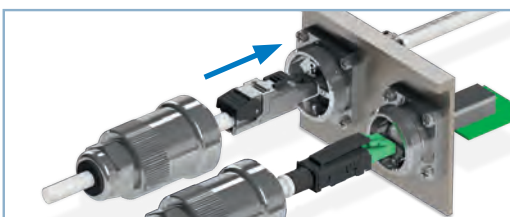
Order no.	Short name	Description	Fig.
J68071A0006	TOC bulkhead set IP68	MPO/MTP® adaptor singlemode	1
J68070A0004	TOC plug set IP68	MPO/MTP® male, multimode	2
J68070A0005	TOC plug set IP68	MPO/MTP® male, APC singlemode	2
J68070A0006	TOC plug set IP68	MPO/MTP® female, multimode	2
J68070A0007	TOC plug set IP68	MPO/MTP® female, APC singlemode	2
J68071A0007	TOC coupler IP68	MPO/MTP® adaptor singlemode /multimode	3

Accessories for TOC Series



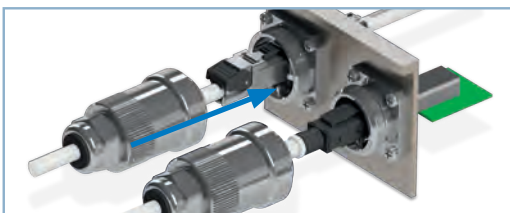
Order no.	Short name	Description	Fig.
H60030A0000	TOC bulkhead protection cap IP68	nickel-plated brass, with chain	1
H60030A0001	TOC plug protection cap IP68	nickel-plated brass, with chain	2

Assembly steps



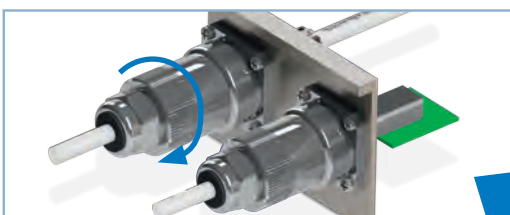
Step 1:
Slide plug into bulkhead

Slide plug into bulkhead insert regardless of the connector alignment.



Step 2:
Push housing over plug insert

Push the plug housing over the plug insert.



Step 3:
Lock - Seal - Relief of strain

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





7.2

Patch Cords, Plugs and Installation Cables

Technical Data

Patch Cords shielded 500 MHz/Cat.6_A S/FTP LSZH

Mechanical Characteristics	
Cable Structure	Li02YSCH 4x2xAWG27/7 PiMF
Stranded wire	AWG27 (7/0.14 mm)
Insulation	PE, Ø 1.04 mm (±0.05 mm)
Outer jacket	5.7 mm (±0.02 mm)
Thermal and Climatic Characteristics	
Flame-retardant test	IEC 60332-1
UL	E344985
Operating temperature	-40°C...75°C
Electrical Characteristics	
Current carrying capacity at 50°C	1 A
PoE+ acc. to IEEE 802.3at	Adequate
Transmission Characteristics	
10 Gigabit Ethernet acc. to IEEE 802.3an	Adequate
Standard	
Connectors	IEC 60603-7-51

Patch Cords shielded 100 MHz/Cat.5e F/UTP LSZH

Mechanical Characteristics	
Cable Structure	Li-2Y(St)H 4x2xAWG26/7
Stranded wire	AWG26/7 Ø 0.48 mm
Insulation	PE, Ø 0.92 mm (Ø 0.036 in.)
Outer jacket	5.5 mm (±0.02 mm)
Thermal and Climatic Characteristics	
Flame-retardant test	IEC 60332-1
Operating temperature	-20°C...60°C
Electrical Characteristics	
Current carrying capacity at 50°C	1 A
PoE+ acc. to IEEE 802.3at	Adequate
Transmission Characteristics	
10 Gigabit Ethernet acc. to IEEE 802.3an	Adequate
Standard	
Connectors	IEC 60603-7-3

Patch Cords unshielded 500 MHz/Cat.6_A U/UTP LSZH

Mechanical Characteristics	
Cable Structure	LI-2YH 4x2x0.58 LSZH
Stranded wire	AWG24/7 (Ø 0.58)
Outer jacket	6.1 mm (±0.02 mm)
Thermal and Climatic Characteristics	
Flame-retardant test	IEC 60332-1
Operating temperature	-20°C...75°C

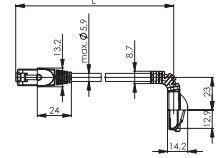
Electrical Characteristics	
Current carrying capacity at 50°C	1 A
PoE+ acc. to IEEE 802.3at	Adequate
Transmission Characteristics	
10 Gigabit Ethernet acc. to IEEE 802.3an	Adequate
Standard	
Connectors	IEC 60603-7-41

Patch Cords

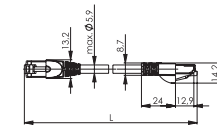


Patch Cords MP8 FS 500 Cat.6A S/FTP LSZH

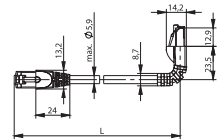
90°	Order no.						
Length	grey	green	red	blue	yellow	black	white
0,5 m	L00000A0189	L00000A0193	L00000A0195	L00000A0197	L00000A0199	L00000A0201	L00000A0203
1,0 m	L00000A0192	L00000A0194	L00000A0196	L00000A0198	L00000A0200	L00000A0202	L00000A0204
2,0 m	L00001A0155	L00001A0156	L00001A0157	L00001A0159	L00001A0162	L00001A0163	L00001A0164
3,0 m	L00002A0173	L00002A0174	L00002A0176	L00002A0177	L00002A0179	L00002A0175	L00002A0180
5,0 m	L00003A0119	L00003A0121	L00003A0123	L00003A0124	L00003A0125	L00003A0126	L00003A0127



180°	Order no.						
Length	grey	green	red	blue	yellow	black	white
0,25 m	L00000A0230	L00000A0231	L00000A0232	L00000A0233	L00000A0234	L00000A0235	L00000A0236
0,5 m	L00000A0072	L00000A0073	L00000A0074	L00000A0075	L00000A0076	L00000A0077	L00000A0130
1,0 m	L00000A0081	L00000A0082	L00000A0083	L00000A0084	L00000A0085	L00000A0086	L00000A0131
2,0 m	L00001A0084	L00001A0085	L00001A0086	L00001A0087	L00001A0088	L00001A0089	L00001A0123
3,0 m	L00002A0112	L00002A0113	L00002A0114	L00002A0115	L00002A0116	L00002A0117	L00002A0141
5,0 m	L00003A0055	L00003A0056	L00003A0057	L00003A0058	L00003A0059	L00003A0060	L00003A0085

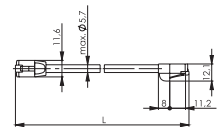


270°	Order no.
Length	grey
0,5 m	L00000A0253
1,0 m	L00000A0254
2,0 m	L00001A0199
3,0 m	L00002A0203
5,0 m	L00003A0157



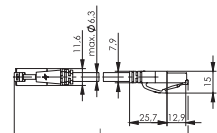
Patch Cords MP8 FS 100 Cat.5e F/UTP LSZH short boot

short boot	Order no.
Length	grey
0,25 m	L00000A0307
0,5 m	L00000A0308
1,0 m	L00000A0309
2,0 m	L00001A0244
3,0 m	L00002A0244
5,0 m	L00003A0217



Patch Cords MP8 500 Cat.6A U/UTP LSZH

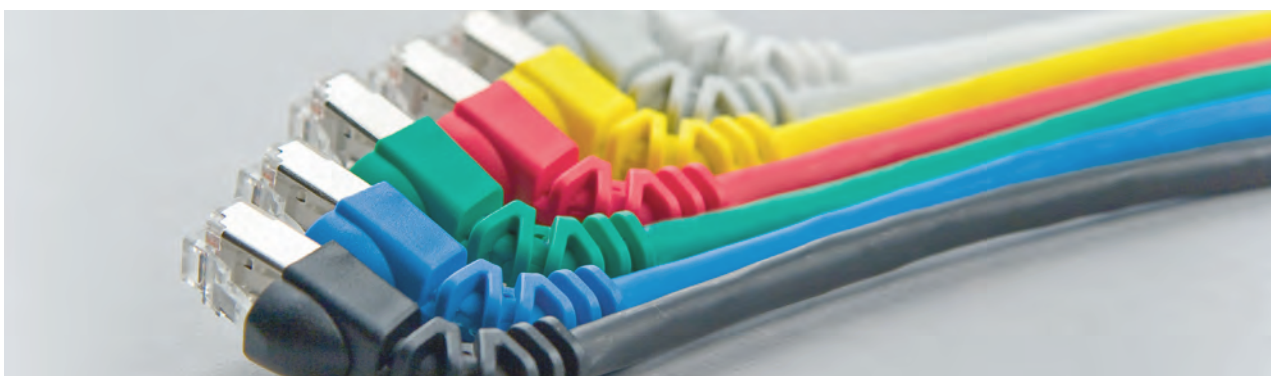
Order no.	
Length	blue
0,5 m	L00000A0340
1,0 m	L00000A0341
2,0 m	L00001A0264
3,0 m	L00001A0259
5,0 m	L00003A0230



Other lengths and types on request



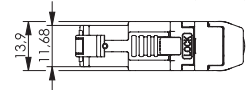
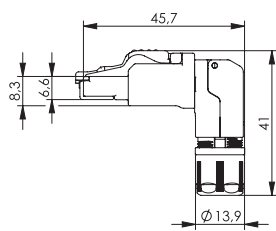
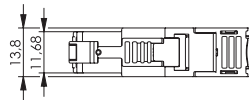
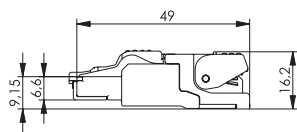
- termination sequence acc. to EIA/TIA 568B
- 90° / 180° / 270° moulded boot with latch protection
- colours: grey, green, red, blue, yellow, black, white, purple
- variants with very short boot
- variants with jacket LSZH, PVC, PUR



Plugs

	MFP8 Cat.6 _A AWG27-22	UFP8 Cat.6 _A AWG27-23	Plug MP8(8) Cat.6 _A
Standards			
Connectors	IEC 60603-7-51	IEC 60603-7-41	IEC 60603-7-51
Mechanical Characteristics			
Reusable contacts	≤4 cycles	≤4 cycles	-
Insertion force	≤30 N	≤30 N	≤30 N
Durability (mating cycles)	≥750	≥750	≥750
Mating Requirements Cu-Conductor diameter: solid	0.51 - 0.64 mm (AWG24/1-22/1)	0.51 - 0.57 mm (AWG24/1-23/1)	0.40 - 0.51 mm (AWG26/1-24/1)
Mating Requirements Cu-Conductor diameter: stranded	0.46 - 0.76 mm (AWG27/7-22/7)	0.46 - 0.65 mm (AWG27/7-23/7)	0.46 - 0.61 mm (AWG27/7-24/7)
Mating Requirements Cu-Conductor diameter: stranded*	0.61 - 0.78 mm (AWG24-22/19)*	0.51 mm (AWG26/19)*	-
Core Diameter	1.0 - 1.6 mm	0.85 - 1.1 mm	0.85 - 1.05 mm
Overall cable diameter	5.0 - 9.0 mm	5.5 - 8.5 mm	5.5 - 7.3 mm
Climatic Characteristics			
Temperature range	-40°C ... +85°C	-40°C ...+70°C	-40°C ...+70°C
UL	E244889	E244889	E244889
Electrical Characteristics			
Current carrying capacity at 50°C	1 A	1 A	1 A
PoE+ acc to IEEE 802.3at	Adequate for Power over Ethernet+		
Transmission Characteristics			
Category 6 _A (Component)	ISO/IEC 11801, DIN EN 50173-1		

Shielded field assembly RJ45 plug MFP8



1



2



3

Order no.	Short name	Description	Fig.
J00026A2001	MFP8 T568B Cat.6 _A	AWG24/1-22/1, AWG27/7-22/7 incl.a pre-assembled dust protection cap	1
J00026A2111	MFP8 T568B Cat.6 _A	AWG24/1-22/1, AWG27/7-22/7 incl.a pre-assembled dust protection cap, blister package	1
J00026A4111	MFP8-4x90 T568B Cat.6 _A	AWG24/1-22/1, AWG27/7-22/7 incl.a pre-assembled dust protection cap	2
J00026A4004	MFP8-4x90 T568B Cat.6 _A	AWG24/1-22/1, AWG27/7-22/7 incl.a pre-assembled dust protection cap, blister package	2
F00020A2131	MFP8 wire manager T568B	AWG24/1-22/1, AWG27/7-22/7	3

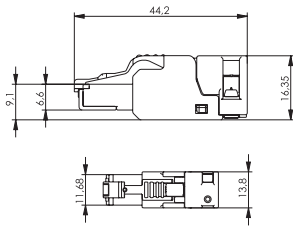


- Category 6_A acc. to ISO/IEC 11801
- Plug: IEC 60603-7-51 compliant
- Life: ≥ 750 cycles
- Contact finish material: Ni1,2Au0,8
- Shielding housing material: die-cast nickel-plated zinc

- Reusable IDC: ≤ 4 cycles
- Temperature range: -40°C to 85°C
- Power over Ethernet plus (PoE+) acc. to IEEE 802.3at
- IP20
- MFP8-4x90: Cable entry from 4 directions (4x90°)

Plugs

Unshielded field assembly RJ45 plug UFP8



1



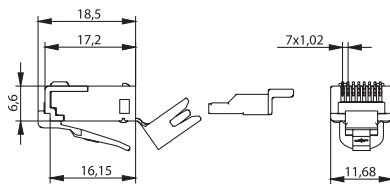
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Order no.	Short name	Description	Fig.
J00026A3001	UFP8 T568B Cat.6 _A	AWG24/1-23/1, AWG27/7-23/7 incl.a pre-assembled dust protection cap	1
J00026A3111	UFP8 T568B Cat.6 _A	AWG24/1-23/1, AWG27/7-23/7 incl.a pre-assembled dust protection cap, blister package	1
F00020A3131	UFP8 wire manager T568B	AWG24/1-23/1, AWG27/7-23/7	2

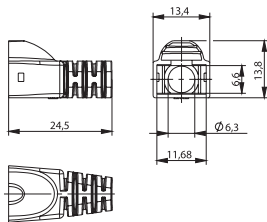


- Category 6_A acc. to ISO/IEC 11801
- Plug: IEC 60603-7-41 compliant
- Life: ≥ 750 cycles
- Contact finish material: Ni1.2Au0.8
- Housing material: PC UL94-V0 black
- Reusable IDC: ≤ 4 cycles
- Temperature range: -40°C to 70°C
- Power over Ethernet plus (PoE+) acc. to IEEE 802.3at
- UL listed
- IP20

RJ45 Plug MP8(8) FS Cat.6_A and Cable Boots



1

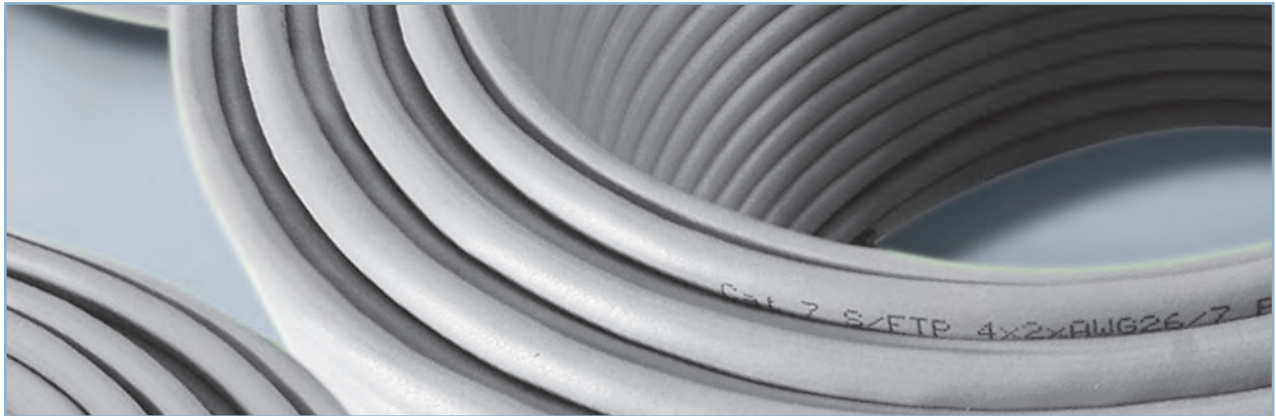


2



Order no.	Short name	Description	Fig.
J00026A0165	RJ45 plug MP8(8) FS Cat.6 _A	8-way fully shielded with wire presorting; AWG24-27 (stranded and solid)	1
B00080A0089	Cable boot for MP8(8) FS	cable boot, grey RAL 7035, Ø 6.3 mm, with latch protection	2
B00080B0089	Cable boot for MP8(8) FS	cable boot, red RAL 3017, Ø 6.3 mm, with latch protection	2
B00080C0089	Cable boot for MP8(8) FS	cable boot, blue RAL 5015, Ø 6.3 mm, with latch protection	2
B00080D0089	Cable boot for MP8(8) FS	cable boot, yellow RAL 1021, Ø 6.3 mm, with latch protection	2
B00080E0089	Cable boot for MP8(8) FS	cable boot, green RAL 6016, Ø 6.3 mm, with latch protection	2
B00080F0089	Cable boot for MP8(8) FS	cable boot, black RAL 9011, Ø 6.3 mm, with latch protection	2

Installation Cables

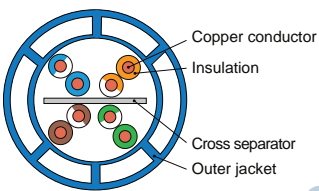


	AMJ 1000 S/FTP Cat.7	AMJ 1000 Outdoor S/FTP Cat.7	TOC 900 S/FTP Cat.7	AMJ 600 Flex S/FTP Cat.7
Construction				
Conductor	Bare copper wire Ø 0.56 mm (AWG 23)	Bare copper wire Ø 0.56 mm (AWG 23)	Bare copper wire Ø 0.56 mm (AWG 23)	Stranded anneal copper wire Ø 0.43 mm (AWG27/7)
Insulation	Foam skin polyethylene, Ø 1.35 mm	Foam skin polyethylene, Ø 1.4 mm	Foam skin polyethylene, Ø 1.4 mm	PE-Foam-PE, Ø1.04±0.05 mm
Twisting	2 cores to the pair	2 cores to the pair	2 cores to the pair	2 cores to the pair
Cable lay up	4 pairs (PIMF)	4 pairs (PIMF)	4 pairs (PIMF)	4 pairs with different pitches
Pair screening	Alu laminated plastic foil	Alu laminated plastic foil	Alu laminated plastic foil	Alu-foil laminated mylar tape wrapped over twinning, with the alu side facing out
Overall screening	Copper braid, tinned	Copper braid, tinned	Copper braid, tinned	Tinned copper wire braiding, normally with min. 60% coverage
Outer jacket	FRNC, RAL 7035	PE, wall thickness 1.2 mm, for outdoor installation, UV stable	LSHF-FR (SHF1), light grey RAL 7035	LSZH
Mechanical Properties				
Bending radius	≥40 mm without load ≥80 mm with load	≥40 mm without load ≥80 mm with load	≥40 mm without load ≥80 mm with load	≥25 mm without load ≥50 mm with load
Temperature range	during operation: -20°C...60°C during installation: 0°C...50°C	during operation: -55°C...70°C during installation: -20°C...50°C	during operation: -40°C...85°C during installation: -15°C...50°C	during operation: -20°C...60°C during installation: 0°C...50°C
Transmission characteristics (at 20°C)				
Acc. to	IEC 61156-5 Cat.7	IEC 61156-5 Cat.7	IEC 61156-5 Cat.7	IEC 61156-5 Cat.7

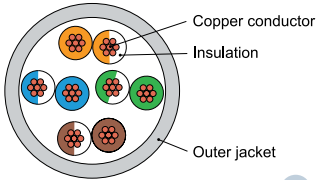
Order no.	Short name	Construction	Category	AWG/mm	Jacket	Colour	Length	Fig.
L02002A0181	AMJ 1000	S/FTP	Cat.7	AWG23/1	LSZH	blue	500 m	1
L02002A0146	AMJ 1000 Outdoor	S/FTP	Cat.7	AWG23/1	PE	black	500 m	2
L02002A0061	AMJ 600 Flex	S/FTP	Cat.7	AWG27/7	LSZH	grey	305 m	3
L02002A0175	TOC 900	S/FTP	Cat.7	AWG23/1	FRNC-C	grey	500 m	4

Installation Cables

	UMJ 500 U/UTP Cat.6A	UMJ 250 U/UTP Cat.6
Construction		
Conductor	Bare copper wire Ø 0.576 mm (AWG 23/1)	Bare copper wire Ø 0.58 mm (AWG24/7)
Insulation	Polyethylene, Ø 1.10 mm	Polyethylene, Ø1.0 mm
Twisting	2 cores to the pair	2 cores to the pair
Cable lay up	4 pairs and a non metallic cross separator (spline)	4 pairs
Outer jacket	LSZH, blue RAL 5015	PVC grey RAL 7035
Mechanical Properties		
Bending radius	≥32 mm without load ≥64 mm with load	≥20 mm without load ≥40 mm with load
Temperature range	during operation: -20°C...60°C during installation: 0°C...50°C	during operation: -20°C...60°C during installation: -10°C...60°C
Transmission characteristics (at 20°C)		
Acc. to	IEC 61156-5 Cat.6A	IEC 61156-6 Cat.6




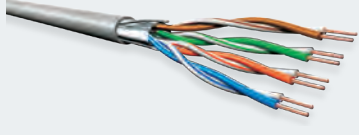


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2

Order no.	Short name	Construction	Category	AWG/mm	Jacket	Colour	Length	Fig.
L02002A0176	UMJ 500	U/UTP	Cat.6A	AWG23/1	LSZH	blue	305 m	1
L02002A0062	UMJ 250	U/UTP	Cat.6	AWG24/7	PVC	grey	305 m	2

i Different types of twisted pair cables

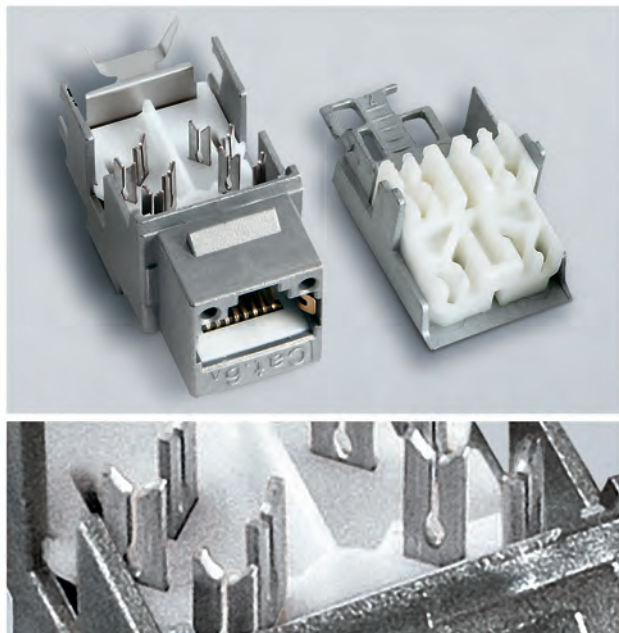





S/FTP:
overall braid screen (S),
elements foil screened (FTP)

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)

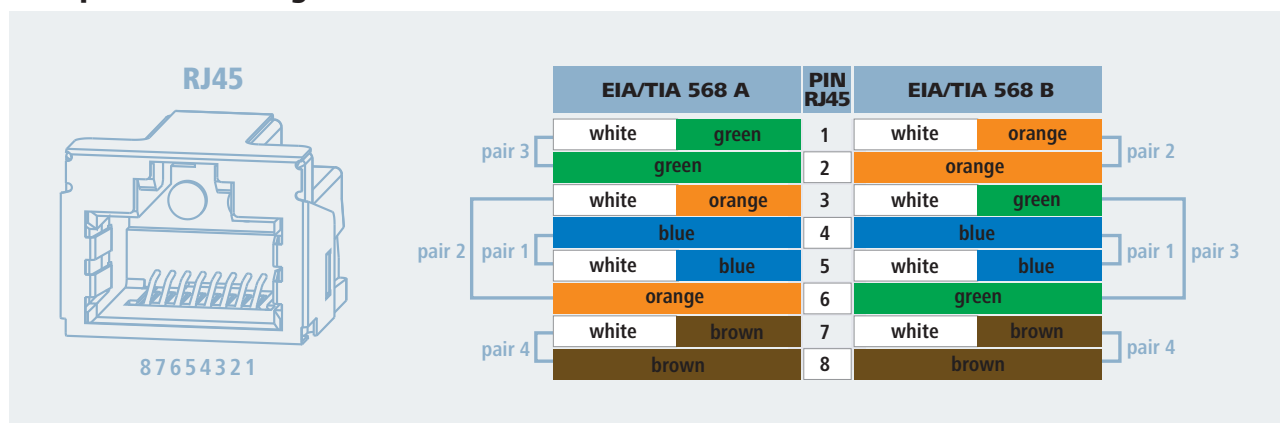


7.3

Modular System AMJ-S/AMJ/UMJ

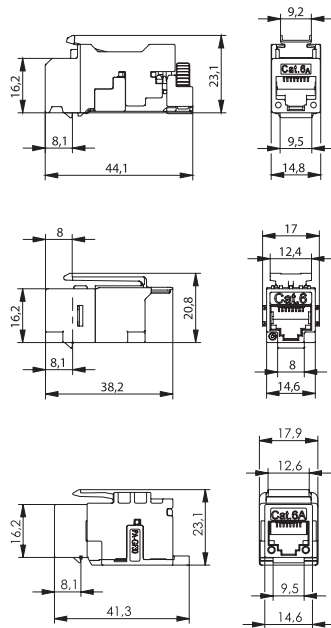
	AMJ-S Module Cat.6 _A	AMJ Coupler Cat.6	UMJ Module K Class E _A 500
Standards			
Connectors	IEC 60603-7-51	IEC 60603-7-5	IEC 60603-7-41
Mechanical Characteristics			
Insertion force	≤ 30N	≤ 30N	≤ 30N
Durability (mating cycles)	≥ 750	≥ 750	≥ 750
Cu-Conductor diameter: solid	0.4 - 0.64 mm (AWG26/1-22/1)	-	0.41 - 0.64 mm (AWG26/1-22/1)
Cu-Conductor diameter: stranded	0.46 - 0.76 mm (AWG27/7-22/7)	-	0.46 - 0.76 mm (AWG27/7-22/7)
Insulation Diameter	0.9 - 1.6 mm	-	0.9 - 1.6 mm
Cable diameter	max. 9 mm		max. 9 mm
Climatic Characteristics			
Ambient temperature	-40°C ... 70°C	-40°C ... 70°C	-40°C ... 70°C
Electrical Characteristics			
Current carrying capacity at 50°C	1 A	1 A	1 A
PoE+ acc to IEEE 802.3at		Adequate for Power over Ethernet+	
Transmission Characteristics			
Category 6 _A (Component)	ISO/IEC 11801, DIN EN 50173-1	-	-
Class E _A (Permanent Link)		ISO/IEC 11801, DIN EN 50173-1	
10 Gigabit Ethernet acc. to IEEE 802.3an		Adequate for 10 Gigabit Ethernet	

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



Modular System AMJ-S/AMJ/UMJ

AMJ-S Module / AMJ Coupler / UMJ Module

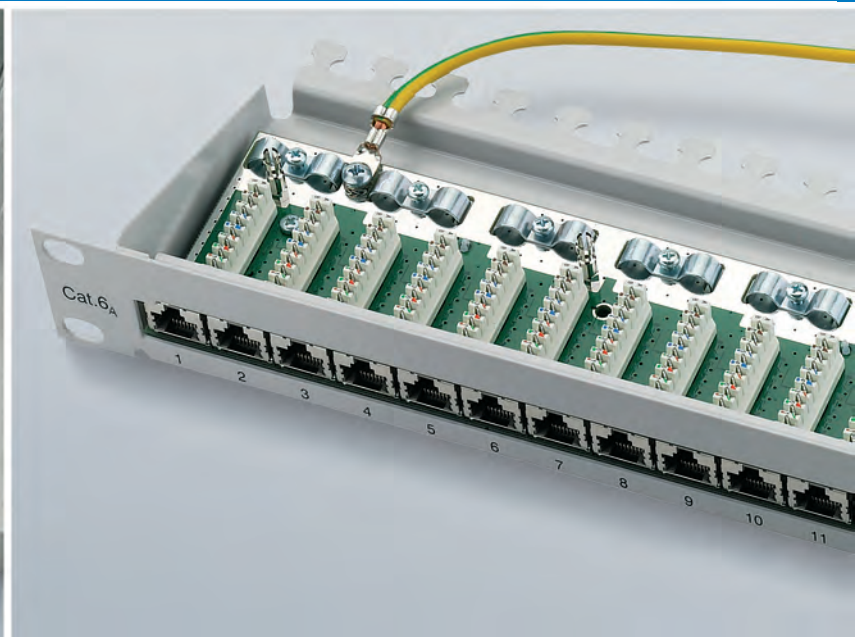


Order No.	Short name	Remarks	Type	Fig
J00029A2001	AMJ-S Module T568 B Cat.6A	tool-free connectivity, suitable for RJ45/11/12 plugs		1
J00029A2111	AMJ-S Module T568 B Cat.6A	tool-free connectivity, suitable for RJ45/11/12 plugs	blister package (24 pcs.)	1
J00029A0061	AMJ Coupler K Cat.6, f-f	suitable for RJ45/11/12 plugs		2
J00029B0061	AMJ Coupler K Cat.6, f-f	suitable for RJ45/11/12 plugs	blister package (24 pcs.)	2
J00029K0078	UMJ Module K T568 BClass Ea 500	tool-free connectivity, suitable for RJ45/11/12 plugs		3
J00029L0078	UMJ Module K T568 BClass Ea 500	tool-free connectivity, suitable for RJ45/11/12 plugs	blister package (24 pcs.)	3

Applications



Order No.	Short name	Type	Remarks	Fig
H02000A0070	Outlet IP44 AP	double gang incl. faceplate, without module/coupler	for AMJ / UMJ modules	1
H02025A0167	19" Frontplate 1 HU	incl. cable strain relief and grounding kit, w/o module/coupler	24 ports, light grey	2
H02000A0080	MPD8 AMJ/UMJ	Mini Distributor w/o module/coupler, stackable	8 ports	3
H02000A0081	MPD12 AMJ/UMJ	Mini Distributor w/o module/coupler, stackable	12 ports	4
H02025A0236	19" Frontplate 1 HU	incl. cable strain relief and grounding kit, w/o module/coupler	48 ports, sheet steel zinc-plated	5
H02025A0260	MPD24 AMJ/UMJ	Mini Distributor w/o module/coupler, incl. cable management	24 ports, pure white	6

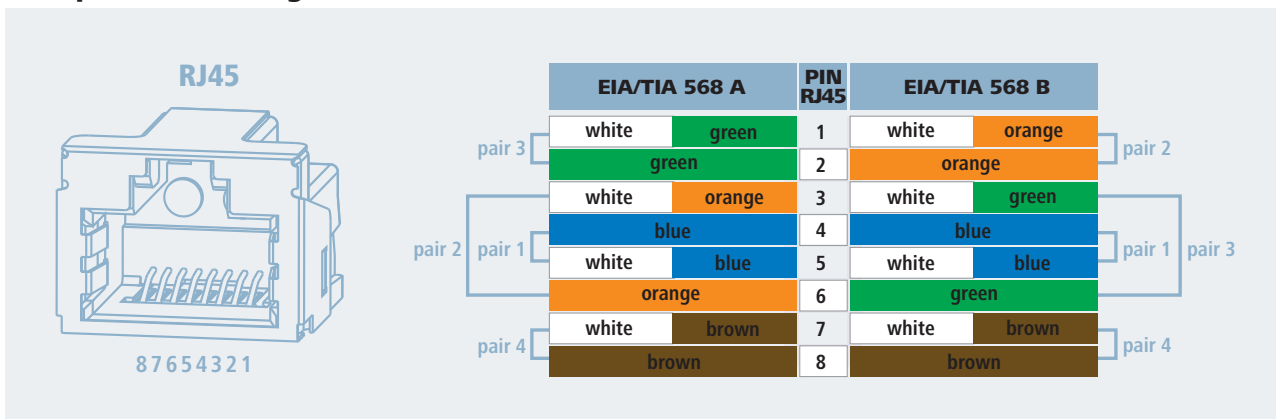


7.4

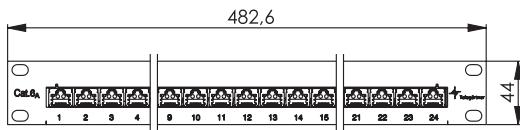
Patch Panels and Distributors

	19" Patch Panels Cat.6 _A	19" Feedthrough Panel	16 Port Cross Connect Panel	Mini Distributor Cat.6 _A
Standards				
Connectors	IEC 60603-7-51	IEC 60603-7-5	IEC 60603-7-5	IEC 60603-7-51
Mechanical Characteristics				
Insertion force	≤ 30 N	≤ 30 N	≤ 30 N	≤ 30 N
Durability (mating cycles)	≥ 750	≥ 750	≥ 750	≥ 750
LSA Plus: Cu conductor diameter	solid 0.40 - 0.65 mm AWG26/1 - AWG22/1	-	-	solid 0.40 - 0.65 mm AWG26/1 - AWG22/1
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	-40°C to 70°C	-40°C to 70°C
Electrical Characteristics				
Current carrying capacity at 50°C	1 A	1 A	1 A	1 A
PoE+ acc. to IEEE 802.3at	suitable for PoE+	suitable for PoE+	suitable for PoE+	suitable for PoE+
Transmission Characteristics				
Category 6 _A (Component)	ISO/IEC 11801, DIN EN 50173-1			
10 Gigabit Ethernet acc. to IEEE 802.3an	fulfilled	fulfilled	fulfilled	fulfilled

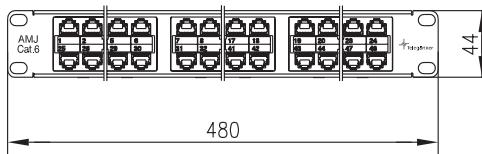
RJ45 pin colour coding acc. to EIA/TIA 568 A and B



Patch Panels and Distributors



1



2



3



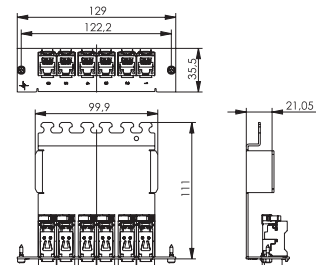
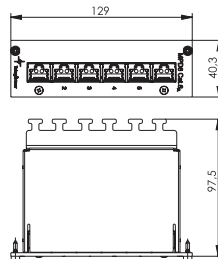
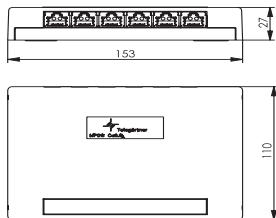
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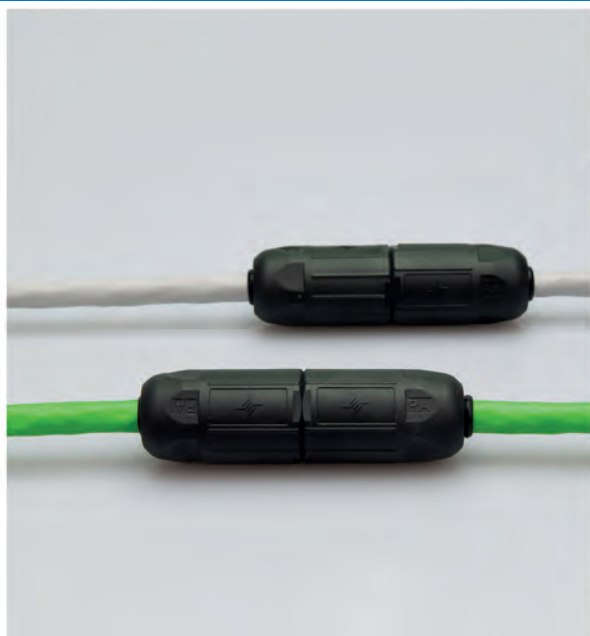
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6



Order No.	Short name	Type	Colour	Fig
J02023A0050	MPP24-HS K Cat.6 _A	24x RJ45 shielded	light grey RAL 7035	1
J02023S0050	MPP24-HS K Cat.6 _A	24x RJ45 shielded	black	1
J02024A0007	19" Feedthrough panel, 1 HU	incl. 48 AMJ Coupler K Cat.6 (4x12) shielded	light grey RAL 7035	2
J02024C0007	19" Feedthrough panel, 1 HU	incl. 48 AMJ Coupler K Cat.6 (4x12) shielded	black	2
J02022A0059	16 Port Cross Connect Panel	32x RJ45 feedthrough shielded	black	3
J02021A0052	MPD6-HS flex K Cat.6 _A	shielded, stackable, incl. 4 connection pins for stacking	pure white RAL 9010	4
J02021A0054	MPD6-HS K Cat.6 _A 3 HU	shielded, 6x RJ45, 3 HU / 8 PU	front panel anodized alu	5
J02021A0037	3 HU / 7 PU frontplate	incl. 6 AMJ-S Modules Cat.6 _A T568A	aluminium	6



7.5

Connection Module VM-Pro Class F_A IP67

Connection Module VM-Pro Class F _A IP67	
Wire connection	
Cu-conductor diameter	solid 0.51 - 0.64 mm AWG 24/1 - AWG 22/1; stranded 0.48 - 0.76 mm AWG 26/7 - AWG 22/7
Reusable IDC	≤ 4 cycles
Insulation diameter	0.85 - 1.6 mm
Cable diameter	5.5 - 9.0 mm
Environmental Requirements	
Protection against particulate ingress	IP6X
Protection against water / Immersion	IPX7
Ambient temperature	-40°C to +85°C
Electrical Characteristics	
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
Category 6 _A	ISO/IEC 11801; DIN EN 50173-1
Class F _A	ISO/IEC 11801; DIN EN 50173-1
Category 6A	ANSI/TIA/EIA-568-C.2

Order no.	Description	Remarks	Colour
J80060A0000	VM-Pro 8-8 Class F _A IP67	AWG27-22	black

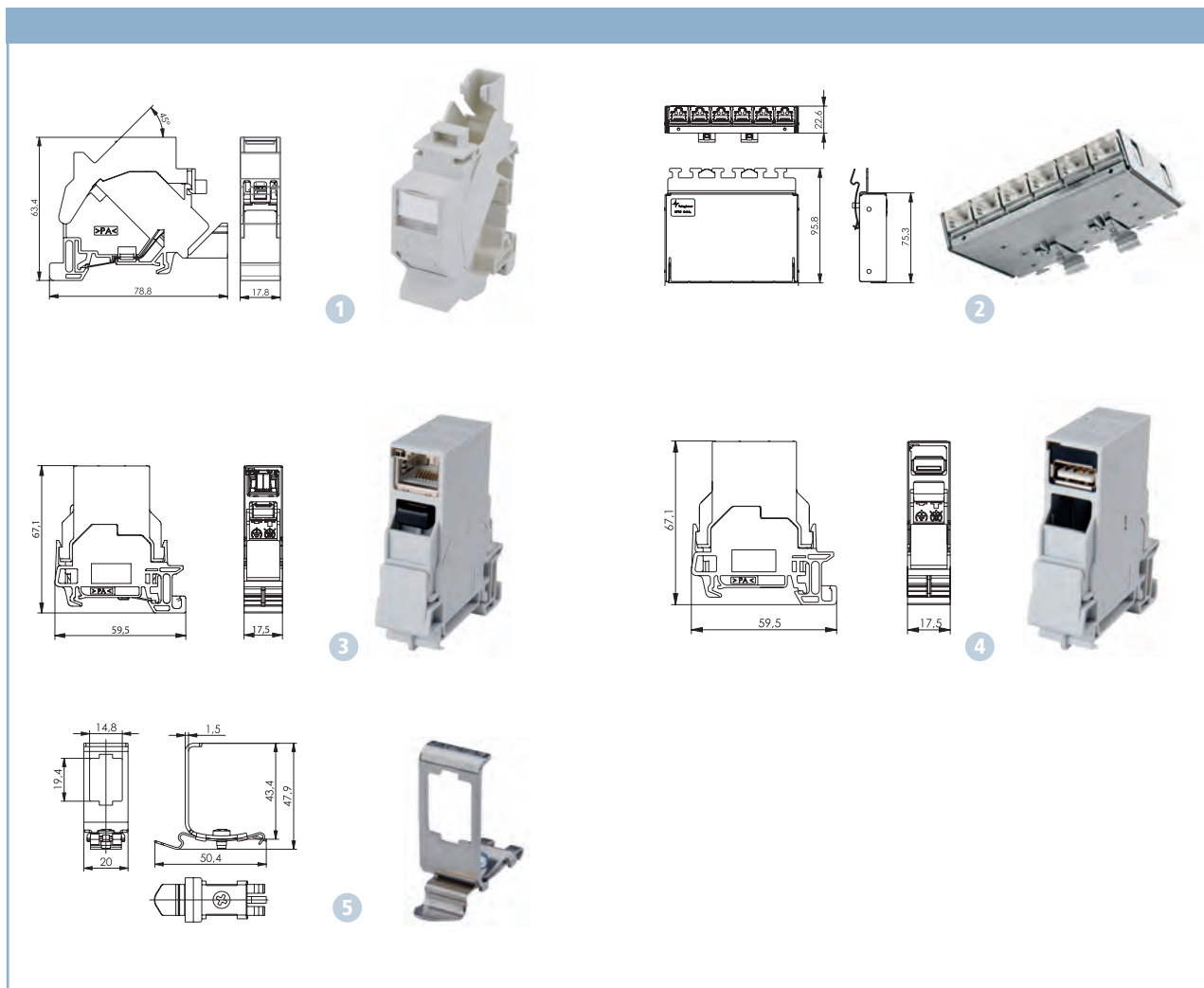


- Class F_A (1000 MHz)
- real-time re-embedded
- suitable for 100 / 250 / 500 / 1000 MHz installation and patch cables
- connection via IDC termination
- insulated construction (insulating resistance 30x 1012 Ω)
- connection of 4-pair shielded/unshielded installation and patch cables from AWG27-22
- pairs can be brought directly up to the terminal without untwisting the pairs
- EMC compatible acc. to DIN EN 61000-6-1 and DIN EN 61000-6-2
- suitable for PoE+ acc. to IEEE 802.3at
- temperature range from -40° C to + 70° C
- reconnectable up to 4 times

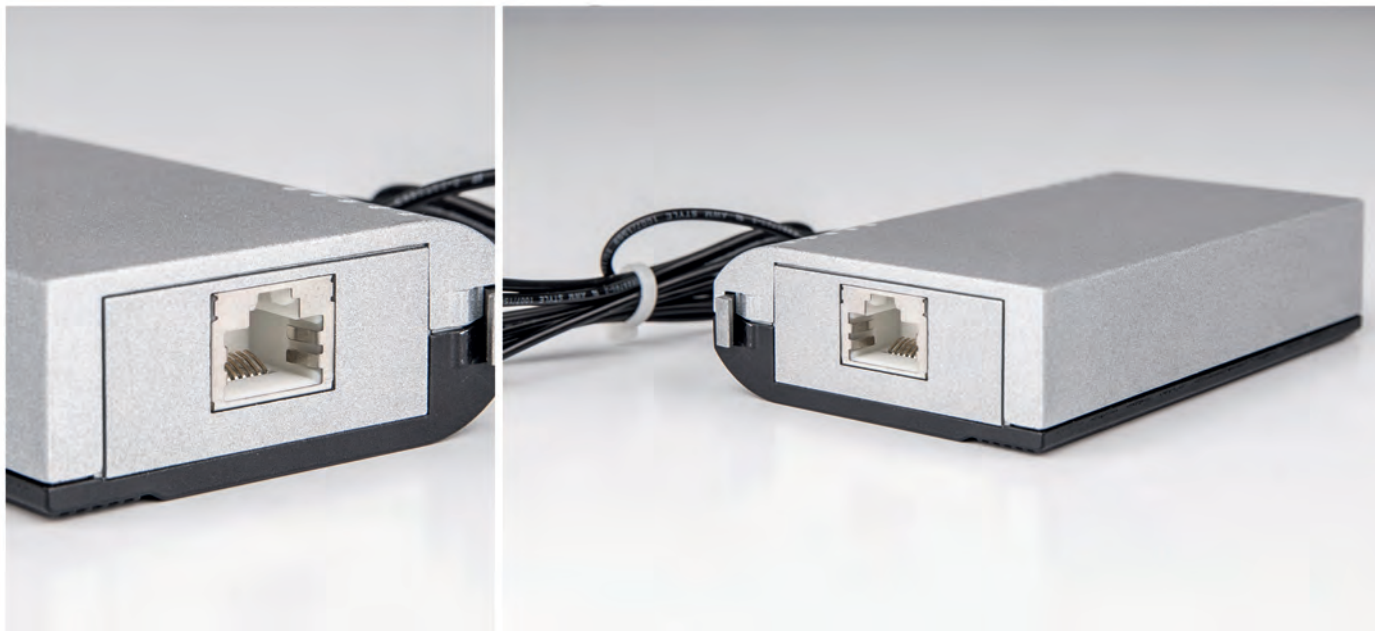


Components for Mounting Rails

7.6



Order No.	Short name	Type	Remarks	Fig
J00023A0206	Mounting rail outlet TS45 AMJ-S	incl. AMJ-S Module Cat.6 _A T568B	for mounting rail TH35	1
J02021A0055	MPD6-HS K Cat.6 _A	6-port mini distributor metal incl. 2 mounting rail adaptors	for mounting rail TH35	2
J80023A0003	STX Mounting Rail Outlet	incl. RJ45 coupler Cat.6	for mounting rail TH35	3
J80023A0004	STX Mounting Rail Outlet	incl. USB coupler type A f-f	for mounting rail TH35	4
H06000B0045	Mounting rail adaptor	metal, without module	for mounting rail TH35	5



7.7

RJ45 Surge Protection Device

RJ45 Surge Protection Device	
Standards	
Standards and Regulations	IEC 61643-21, EN 50173-1, ISI/IEC 11801
Mechanical Characteristics	
Housing	Zinc die-cast
Color	silver / black
Mounting type	DIN rail mounting
Dimension	103x25x63 mm
Weight	315 g
Connection equipotential bonding	Cable connection
Environmental Requirements	
Operation Temperature	-40°C to 70°C
Protection class acc. to IEC 60529	IP20
Electrical Characteristics	
PoE+ acc. to IEEE 802.3 at	Adequate for Power over Ethernet +



Order no.	Description	Remarks
J00029A0116	RJ45 surge protection device	Class E _A up to 10 Gigabit Ethernet



- Reliable transmission speeds up to 10 Gigabit Ethernet
- Protective adapter for eight signal paths via RJ45 connectors

- Suitable for category 6 high-speed data networks
- Suitable for PoE and PoE+



Accessories & Tools

7.8

Accessories



1



2



3



4

Order No.	Short name	Remarks	Colour	Fig
B00001A0016	Retrofit dust protection flap for AMJ-S, AMJ		black (other colours on request)	1
H00030F0014	Dust cover for RJ45		black (other colours on request)	2
B00080A0089	Cable boot for MP8 FS (J00026A0165)	Ø 6,3 mm, with latch protection	grey (other colours on request)	3
B00081A0047	Captive RJ45 plug protective cap		black	4

Tools



1



2

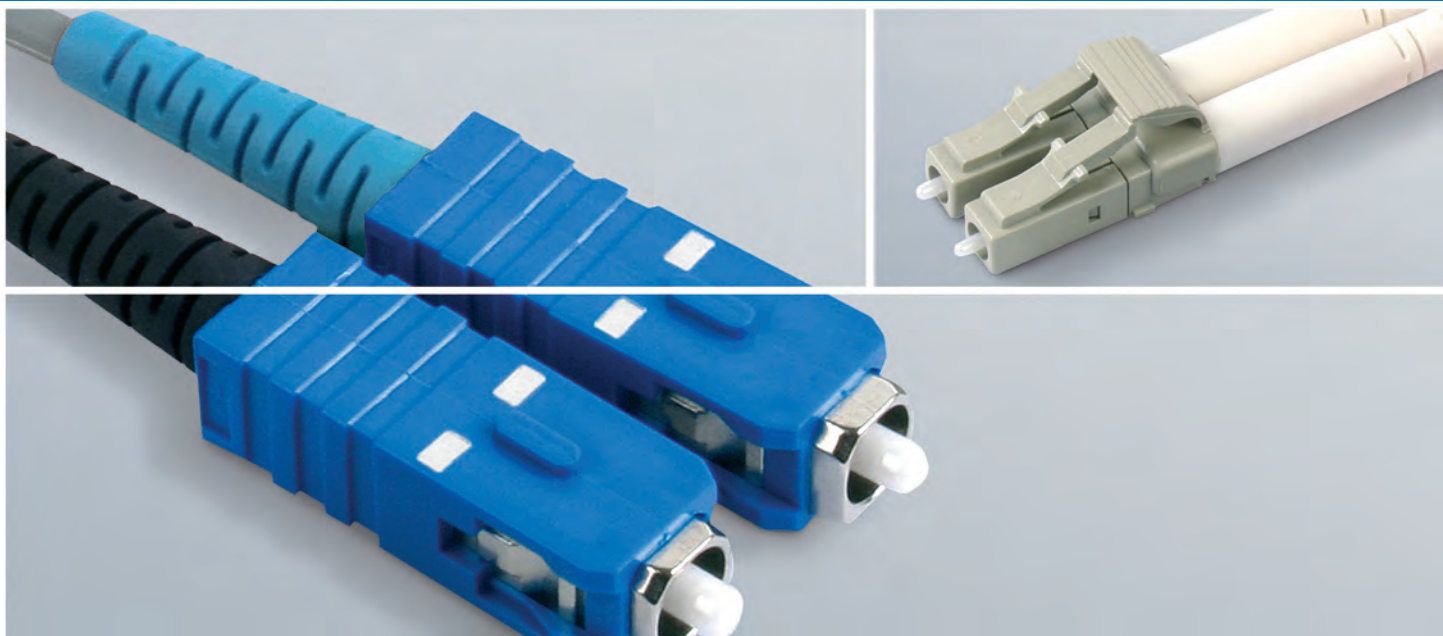


3



3

Order No.	Short name	Remarks	Fig
N01002A0001	Insertion tool for IDC termination (LSA Plus)	with wire cutter	1
N00000B0020	Parallel pressing tool	for AMJ, UMJ, STX Module and MFP8 plug assembly	2
N00001A0002	Crimp Tool Professional (for frequent use)	with insert for shielded MP8 FS plug J00026A0165	3
N00000A0013	Plier wrench 1 3/8 inch	auxiliary tool for AMJ, STX and UMJ Module, MFP8/UFP8	4



8.1

FO Patch Cords

1	Connector Type 1st End SC Duplex – 2nd End SC Duplex				
Length					
Fiber type	1.0 m	2.0 m	3.0 m	5.0 m	10.0 m
E9/125 OS2	L00880A0006	L00881A0006	L00882A0002	L00883A0002	L00885A0002
G50/125 OM2	L00880C0007	L00881C0007	L00882C0003	L00883C0003	L00885C0003
G50/125 OM3	L00880C0010	L00881C0023	L00882C0015	L00883C0017	L00885C0000

2	Connector Type 1st End LC Duplex – 2nd End LC Duplex				
Length					
Fiber type	1.0 m	2.0 m	3.0 m	5.0 m	10.0 m
E9/125 OS2	L00870A0002	L00871A0003	L00872A0002	L00873A0002	L00875A0002
G50/125 OM2	L00870A0000	L00871A0004	L00872A0000	L00873A0000	L00875A0000
G50/125 OM3	L00870A0003	L00870A0006	L00872A0003	L00873A0003	L00875A0003

3	Connector Type 1st End E2000/APC Duplex – 2nd End E2000/APC Duplex				
Length					
Fiber type	1.0 m	2.0 m	3.0 m	5.0 m	10.0 m
E9/125 OS2	L00850A0001	L00851A0008	L00852A0000	L00853A0001	L00855A0001

4	Connector Type 1st End SC Duplex – 2nd End LC Duplex				
Length					
Fiber type	1.0 m	2.0 m	3.0 m	5.0 m	10.0 m
E9/125 OS2	L00890A0041	L00891A0017	L00892A0040	L00893A0043	L00895A0040
G50/125 OM2	L00890C0038	L00891C0018	L00892C0037	L00893C0040	L00895C0037
G50/125 OM3	L00890C0055	L00891C0042	L00892C0024	L00893C0022	L00895C0021



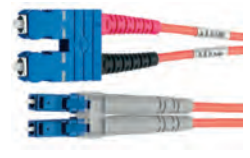
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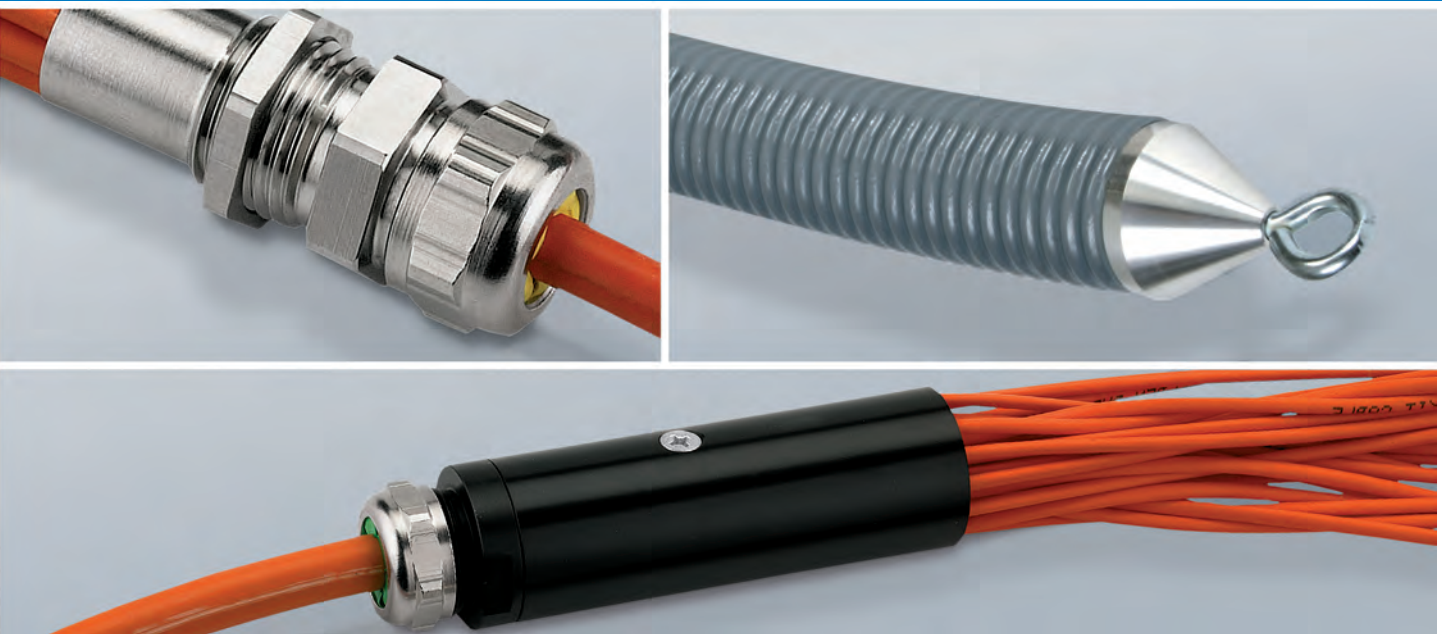


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Other lengths and types on request



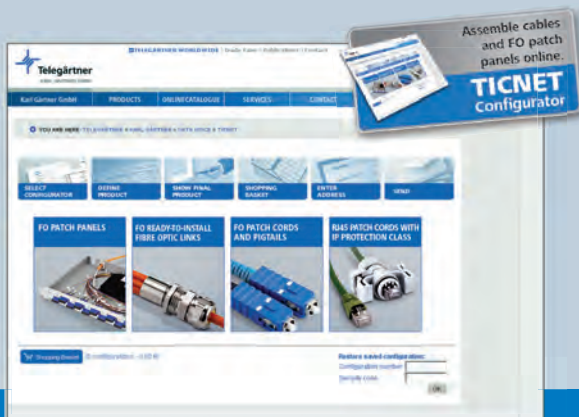
Ready-to-install Fiber Optic Links

8.2

	Central Loose Tube	Stranded Loose Tube	Outdoor Cable Duplex	Outdoor Cable Multifiber
Mechanical Characteristics				
Calbe structure acc. DIN/VDE 0888	A/I-DQ(ZN) BH ...	A/I-DQ(ZN) BH 1..4x12	AT-V(ZN)H11Y 2...	on request
Cable diameter in mm	≤ 6,1	≤ 12,5	6	on request
Max. pulling tension short-term/long-term	1500 / 700 N	6000 N	1000 / 2000 N	on request
Min. bending radius short-term/long-term	15 x Ø / 10 x Ø	250 / 190 mm	25 mm	on request
Weight in kg/km	37	185	28	on request
Climatic Characteristics				
Operating temperature / Storage temperature in °C	-30 / +70	-25 / +60	-40 / +80	-40 / +80
Installation temperature in °C	-5 / +50	-5 / +50	-20 / +60	-
Flame retardancy	IEC 60332-1	-5 / +50	-	-
Halogen-free	IEC 60754-2	IEC 60332-1-2	yes	-
Watertightness	IEC 60794-1-2-F5	IEC 60754-2	-	-
UV resistance	ISO 4892-2	IEC 60794-1-2-F5B	yes	-

**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.

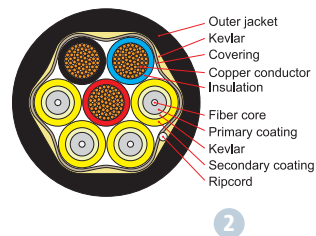
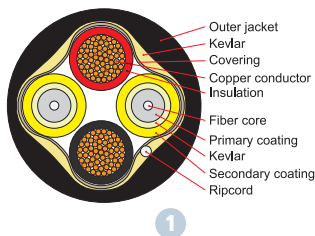
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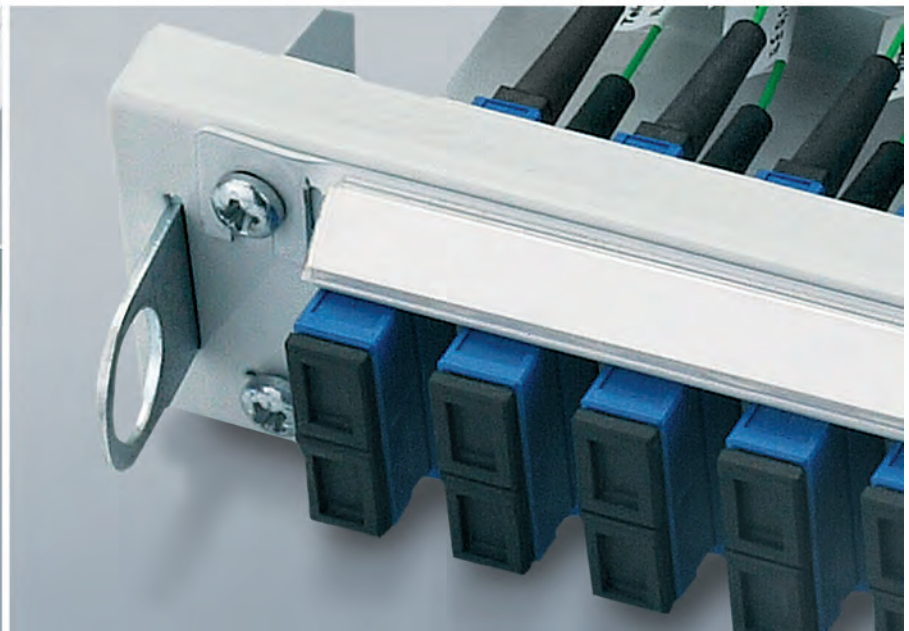
8.3

Hybrid Cable

	2x FO Singlemode / 2x Power	4x FO Singlemode / 3x Power
Construction		
Cable Diameter	≤ 9.00 mm	≤ 14.00 mm
Color	black	black
Fiber	Singlemode G657.A1	Singlemode G657.A1
Cable Diameter / Colour	2.00 mm / yellow	2.00 mm / yellow
Power / Colour	2.5 mm ² / black/red	2.5 mm ² / black/red/blue
Ripcord	Yes	Yes
Mechanical Characteristics		
Max. pulling tension	short term: 1300 N; long term 400 N	short term: 2000 N; long term 600 N
Min. bending radius	short term: 15x Ø; long term 10x Ø	short term: 15x Ø; long term 10x Ø
Climatic Characteristics		
Operation / Storage temperature	-25° C to +70° C	-25° C to +70° C
Installation temperature	-15° C to +65° C	-15° C to +65° C
Flame retardancy	IEC 60332-1	IEC 60332-1
Halogen free	IEC 60754-2	IEC 60754-2
Watertightness	IEC 60794-1	IEC 60794-1
UV resistance	IEC 4892-2	IEC 4892-2
Application	In / Outdoor	In / Outdoor






Order no.	Description	Remarks	Fig.
L08030A0000	Hybride Fiber Optic / Power Cable	2x FO Singlemode, 2x Power	1
L08030A0001	Hybride Fiber Optic / Power Cable	4x FO Singlemode, 3x Power	2



FO Patch Panels

8.4

	ECONOMY V	BASIS V	PROFI V
			
Mechanical Characteristics			
Housing	sheet steel 1 mm, powder-laminated, light grey RAL 7035		
Protection class acc. to IEC 60529	IP20	IP20	IP20
Front plates	sheet aluminium 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	M20 for 5-9 mm M25 for 9-20 mm cable diameter in 4 steps
Panel piercings	for ST, SC, SC Duplex, E2000, LC Duplex, DIN, FC, F-SMA		for ST, SC, SC Duplex, E2000, LC Duplex, DIN, FC, F-SMA
Dimensions in mm	1 HU	1 HU	1 HU
Width	482	482	482
Height	44	44	44
Depth	175	265	300

FO Patch Panels

1	ECONOMY V 1 HU		
Fiber			
Adaptors	9/125 OS2	50/125 OM2	50/125 OM3
SC Duplex (6 Adaptors)	H02030A0016	H02030M0016	H02030T0016
SC Duplex (12 Adaptors)	H02030A0019	H02030M0019	H02030T0019
SC Duplex (24 Adaptors)	H02030A0022	H02030M0022	H02030T0022
LC Duplex (6 Adaptors)	H02030A0608	H02030M0608	H02030T0608
LC Duplex (12 Adaptors)	H02030A0609	H02030M0609	H02030T0609
LC Duplex (24 Adaptors)	H02030A0610	H02030M0610	H02030T0610

2	BASIS V 1 HU		
Fiber			
Adaptors / Pigtailes	9/125 OS2	50/125 OM2	50/125 OM3
SC Duplex (6x)	H02030E0008	H02030F0008	H02030K0008
SC Duplex (12x)	H02030E0009	H02030F0009	H02030K0009
SC Duplex (24x)	H02030E0034	H02030F0034	H02030K0034
LC Duplex (6x)	H02030E0590	H02030F0590	H02030K0590
LC Duplex (12x)	H02030E0491	H02030F0491	H02030K0491
LC Duplex (24x)	H02030E0492	H02030F0492	H02030K0492
E2000/APC (12x)	H02030E0554	-	-
E2000/APC (24x)	H02030E0594	-	-

3	PROFI V 1 HU		
Fiber			
Adaptors / Pigtailes	9/125 OS2	50/125 OM2	50/125 OM3
SC (12x)	H02030E0006	H02030F0006	H02030K0006
SC (24x)	H02030E0007	H02030F0007	H02030K0007
SC Duplex (6x)	H02030E0010	H02030F0010	H02030K0010
SC Duplex (12x)	H02030E0011	H02030F0011	H02030K0011
SC Duplex (24x)	H02030E0036	H02030F0036	H02030K0036
LC Duplex (6x)	H02030E0591	H02030F0591	H02030K0591
LC Duplex (12x)	H02030E0506	H02030F0506	H02030K0506
LC Duplex (24x)	H02030E0507	H02030F0507	H02030K0507
E2000/APC (12x)	H02030E0555	-	-
E2000/APC (24x)	H02030E0595	-	-



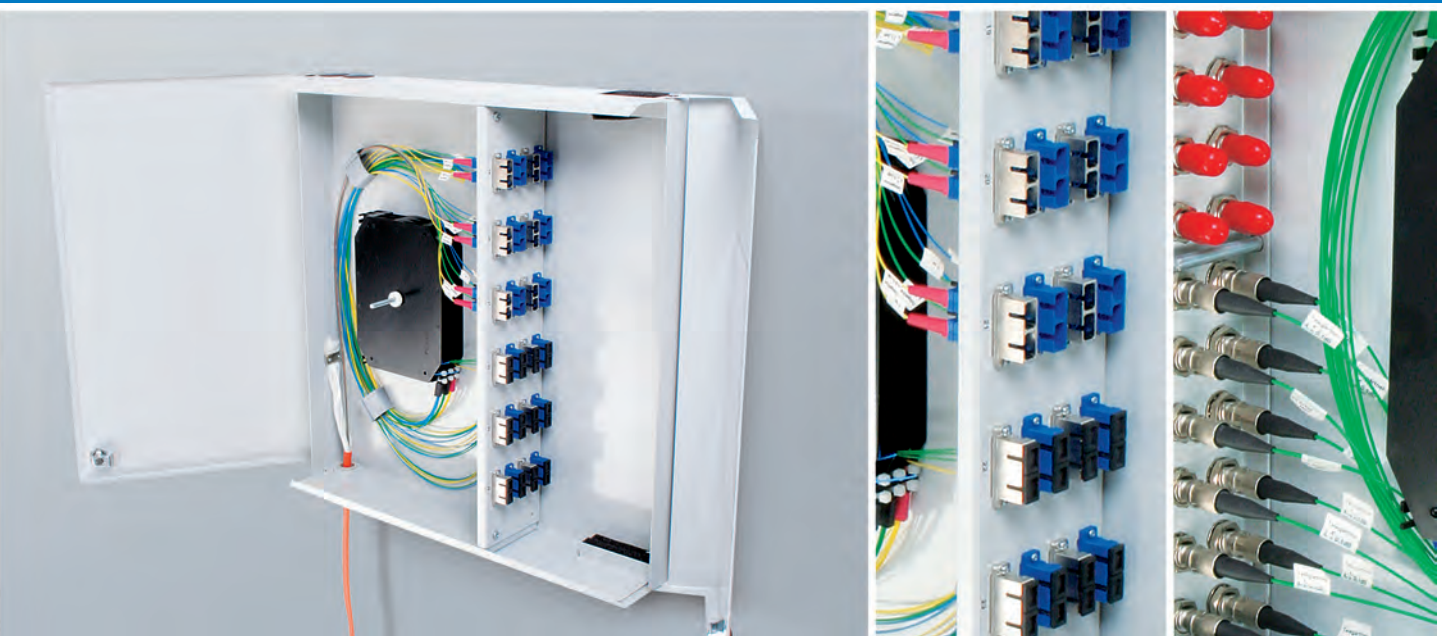
1



2



3



FO Wall Distributors and Splice Boxes

8.5

	FO Compact Splice Box	FO Splice Box IP66 S-V	Wall Distributor ODB 54
Mechanical Characteristics			
Housing	sheet steel 1mm, powderlaminated, 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
Protection class acc. To IEC 60529	IP 20	IP 66	IP 54
Dimension: Width	265 mm	254 mm	250 mm
Dimension: Height	150 mm	180 mm	200 mm
Dimension: Depth	55 mm	90 mm	56 mm

FO Compact Splice Box



Order No.	Short name	Remarks	Fig
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	1
H02025A0350	Distribution plate	6x E2000	2
H02025A0115	Distribution plate	6x LC Duplex	2
H02025A0363	Distribution plate	8x SC Duplex	2

FO Wall Distributors and Splice Boxes

FO Splice Box IP66



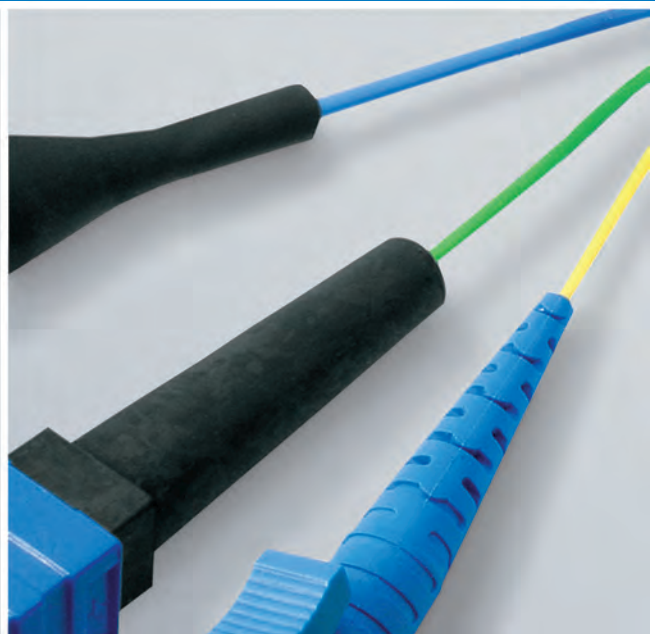
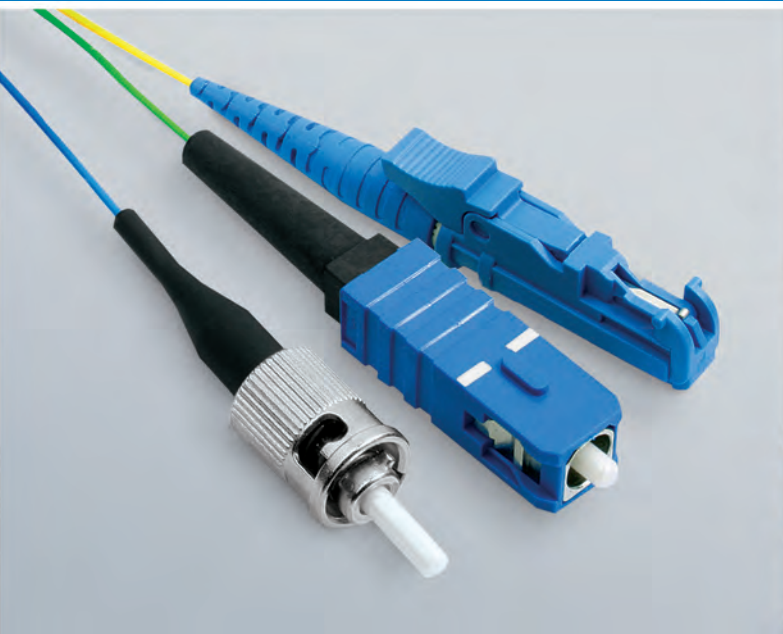
Order No.	Short name	Remarks	Fig
H02050A0087	FO Splice Box IP66 S-V	housing with embossed holes M20/M25, for storage of up to 5 splice cassettes Telekom or 2 splice cassettes Telekom and 1 distribution plate	1
H02025A0368	Distribution plate	12x E2000	2
H02025A0330	Distribution plate	12x LC Duplex	2
H02025A0114	Distribution plate	12x SC Duplex	2

Wall Distributor ODB 54



Order No.	Short name	Remarks	Fig
H02050A0190	ODB 54 housing	for splicing of max. 24 fibers	1
H02050A0279	ODB 54 - TICNET	for max. 6 SC Duplex / LC Quad / ST Duplex adaptors	2
H02050A0280	ODB 54 - TICNET	for max. 6 LC duplex adaptors	2
H02050A0281	ODB 54 - TICNET	for max. 12 E2000 adaptors	2
H02050A0193	ODB 54	6xSC Duplex adaptor, singlemode, blue, 12x 9/125 OS2	1
H02050A0191	ODB 54	6xSC Duplex adaptor, multimode, beige, 12x 50/125 OM2	1
H02050A0197	ODB 54	6xLC Duplex adaptor, singlemode, blue, 12x 9/125 OS2	1
H02050A0195	ODB 54	6xLC Duplex adaptor, multimode, beige, 12x 50/125 OM2	1
H02050A0205	ODB 54	12x E2000/APC adaptor, singlemode, green, 12x 9/125 OS2	1
H02050A0282	ODB 54	equipped with 8 SC cassettes; for max. 4 fibers per cassette; for crimp/shrink splice protector	3
H02050A0283	ODB 54	equipped with 4 SE cassettes; for max. 12 fibers per cassette; for crimp/shrink protector	3

other solutions on request



FO Fiber Pigtaills

8.6



Order No.	Description	Pigtails	Plug: Colour	Remarks
H02050W0123	Splice cassette with pigtails, assembled	12 x 9/125, OS2, 2m, SC	blue	stripped for splicing
H02050W0091	Splice cassette with pigtails, assembled	12 x 9/125, OS2, 2m, SC/APC	green	stripped for splicing
H02050A0126	Splice cassette with pigtails, assembled	12 x 9/125, OS2, 2m, LC	blue	stripped for splicing
H02050A0169	Splice cassette with pigtails, assembled	12 x 9/125, OS2, 2m, LC/APC	green	stripped for splicing
H02050A0179	Splice cassette with pigtails, assembled	12 x 9/125, OS2, 2m, E2000/APC	green	stripped for splicing
H02050W0072	Splice cassette with pigtails, assembled	12 x 50/125, OM2, 2m, SC	beige	stripped for splicing
H02050A0080	Splice cassette with pigtails, assembled	12 x 50/125, OM2, 2m, LC	beige	stripped for splicing
H02050W0135	Splice cassette with pigtails, assembled	12 x 50/125, OM3, 2m, SC	aqua	stripped for splicing
H02050A0137	Splice cassette with pigtails, assembled	12 x 50/125, OM3, 2m, LC	aqua	stripped for splicing

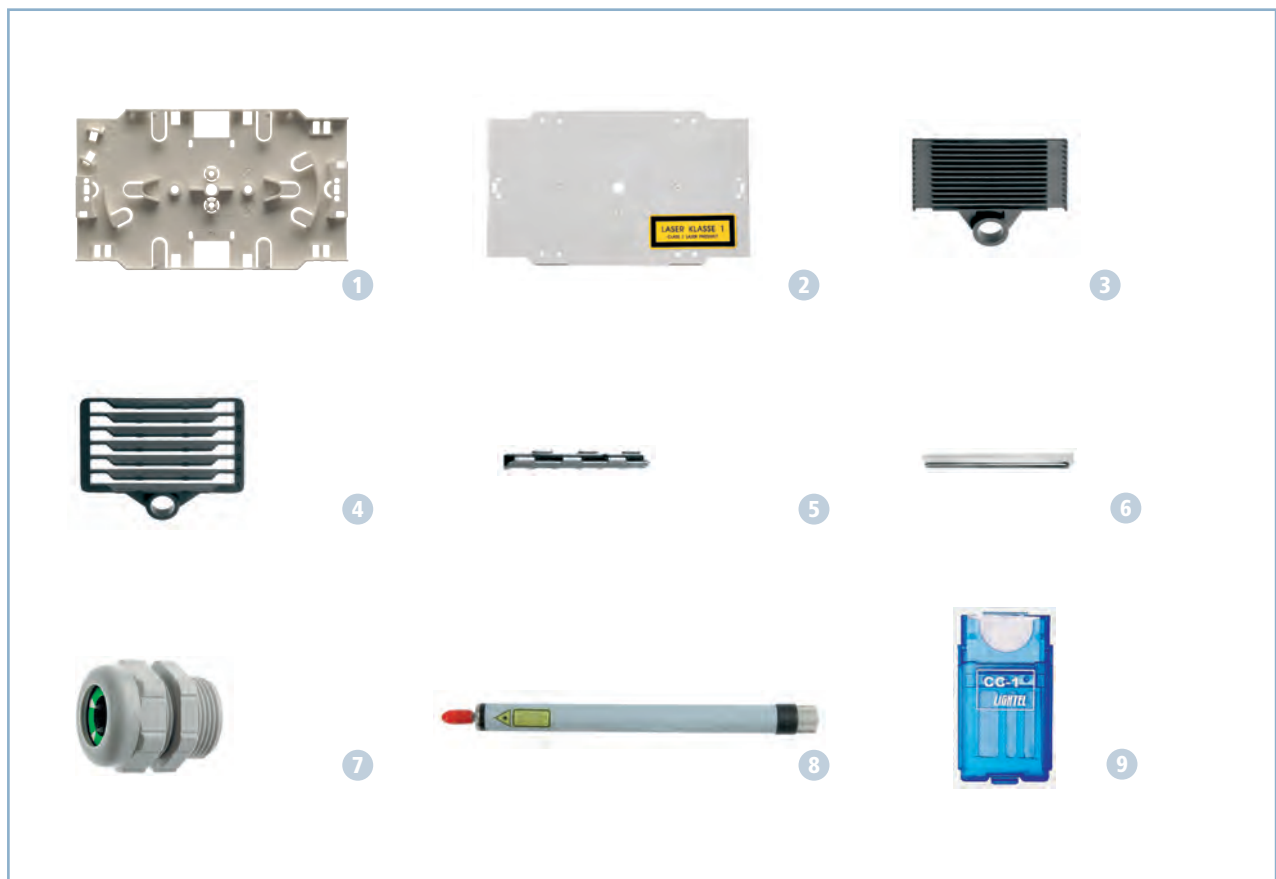


Order No.	Description	Pigtails	Housing Colour	Remarks
L00889W0056	Pigtail Set	12 x 9/125, OS2, 2m, SC	blue	coloured acc. to VDE 0888
L00889W0029	Pigtail Set	12 x 9/125, OS2, 2m, SC/APC	green	coloured acc. to VDE 0888
L00879A0009	Pigtail Set	12 x 9/125, OS2, 2m, LC	blue	coloured acc. to VDE 0888
L00879A0017	Pigtail Set	12 x 9/125, OS2, 2m, LC/APC	green	coloured acc. to VDE 0888
L00859A0013	Pigtail Set	12 x 9/125, OS2, 2m, E2000/APC	green	coloured acc. to VDE 0888
L00889W0033	Pigtail Set	12 x 50/125, OM2, 2m, SC	beige	coloured acc. to VDE 0888
L00879A0008	Pigtail Set	12 x 50/125, OM2, 2m, LC	beige	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



8.7

FO Accessories



Order No.	Description	Remarks	Fig
H02050A0061	Splice cassette Telekom	155 x 92 x 8 mm, for 2 splice holders	1
B06015A0086	Cover for splice cassette Telekom	155 x 92 x 2 mm	2
F08000A0002	Splice holder for 12 crimp splice protectors	System Telekom	3
F08000A0008	Splice holder for 6 shrink splices	for shrink splice protector \varnothing 3 mm	4
F08000A0014	Crimp splice protector	System Telekom	5
F08000A0010	Splice protector for shrink splice	\varnothing 3 mm; L=45 mm	6
F08000A0011	Splice protector for shrink splice	\varnothing 3 mm; L=60 mm	6
H01011A0027	Cable gland M20 (for cable \varnothing 6 - 10 mm)	Polyamide PA6, grey	7
H01012A0050	Cable gland M20 (for cable \varnothing 7 - 13.5 mm)	Polyamide PA6, grey	7
N04001A0081	Fiber tester with adaptors for ferrules ST, SC, FC, LC	for visual fault locating in FO links	8
N04001A0071	Cleaning cartridge for dry cleaning	Package with 10 pcs. each with 50 tissues, for ViewConn Plus	9



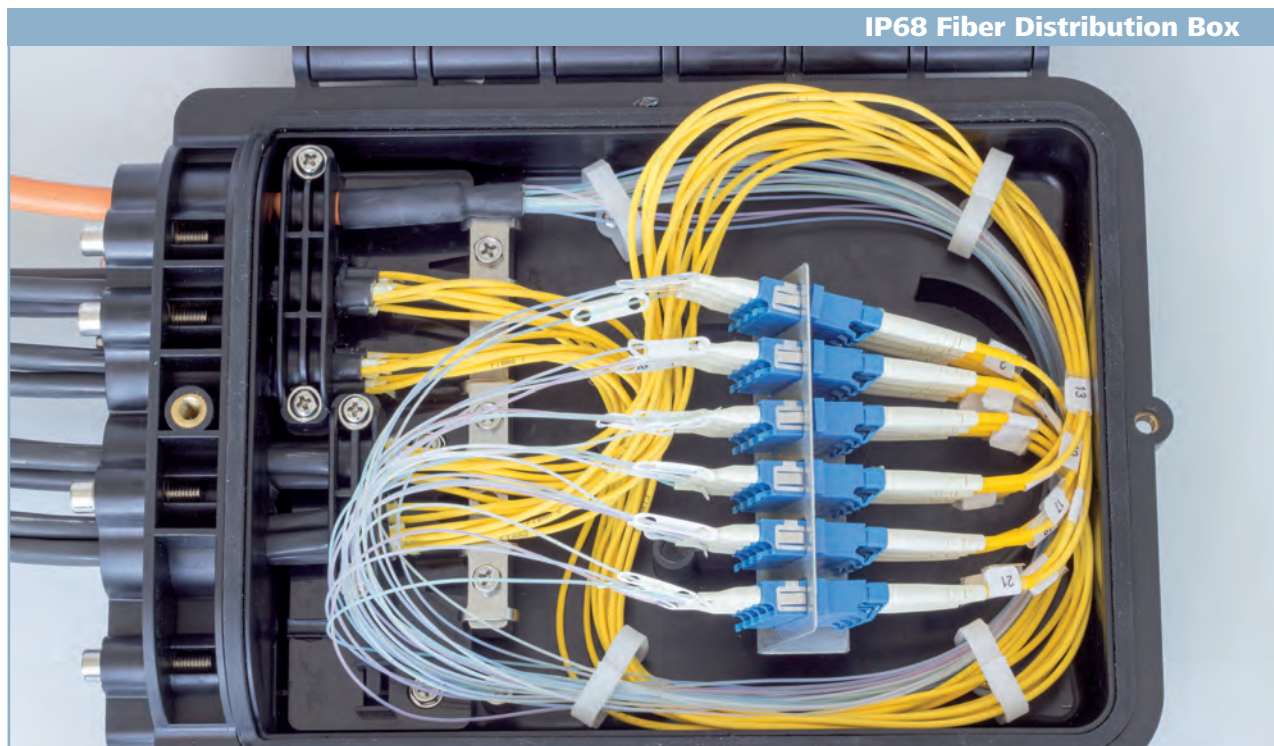
Customized Solutions for FTTA and PTTA

With the massive increase in mobile data usage, and the resulting upgrade of 3G networks and installation of 4G and LTE networks, remote radio systems have come to be the dominant technology in the mobile communications industry. Boosting network capacity is a must for a network operator in today's competitive market and to do so brings a number of

installation challenges with more complex systems than ever before. It is for this reason that Telegärtner actively works together with network operators, system integrators and installers to design the right solution for their requirements.

Please ask for technical details and order information.

Distribution Boxes



IP68 Fiber Distribution Box

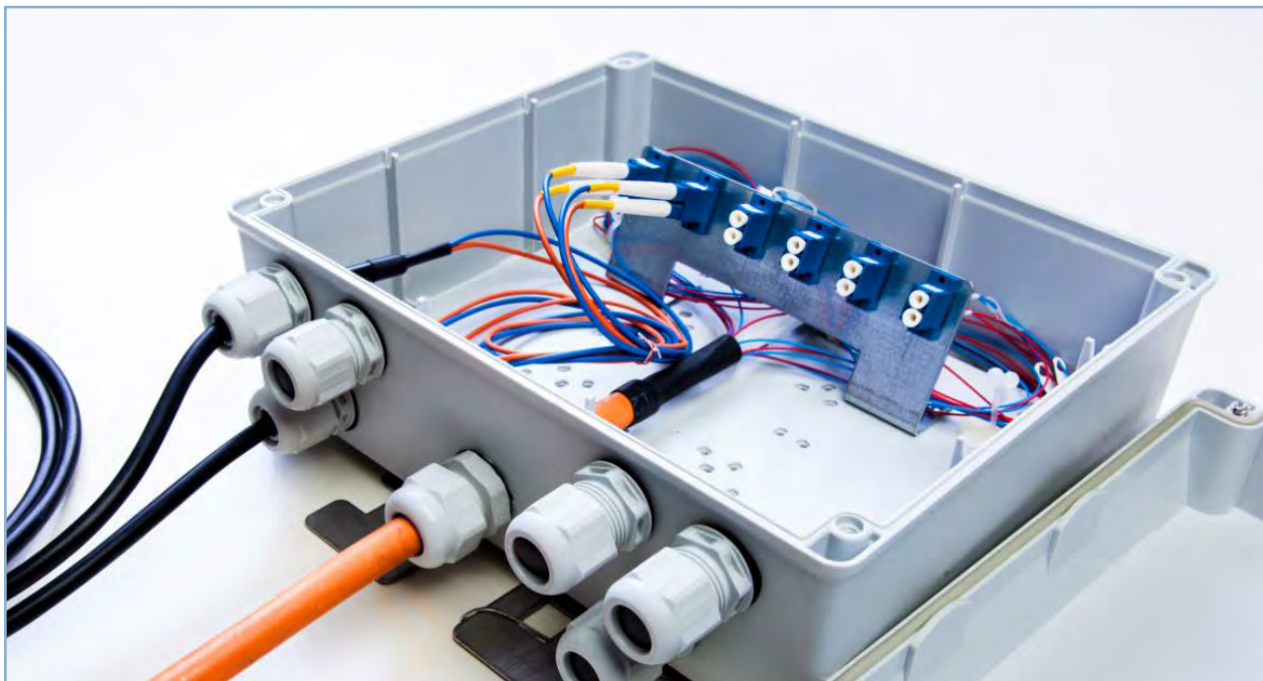
This box is IP68 rated and equipped with a 24-fiber cable and 12 LC Duplex jumper cables. The 24-fiber riser cable can be either orange or black in this product. The IP68 box has capacity for 2-24 fiber cables with LC connectors or 2-12 fiber cables with SC connectors, jumper cable/riser cable type: SM or MM OM3, other types on request.



- **Box: protection class: IP68**
- **Black; UV-resistant**
- **suitable for pole mounting (also for direct buried) installation (pole mounting kit should be ordered separately (standard antenna clamp)**
- **Hinged cover is sealed from 5-points with screws**

Distribution Boxes

IP66 Fiber Distribution Boxes



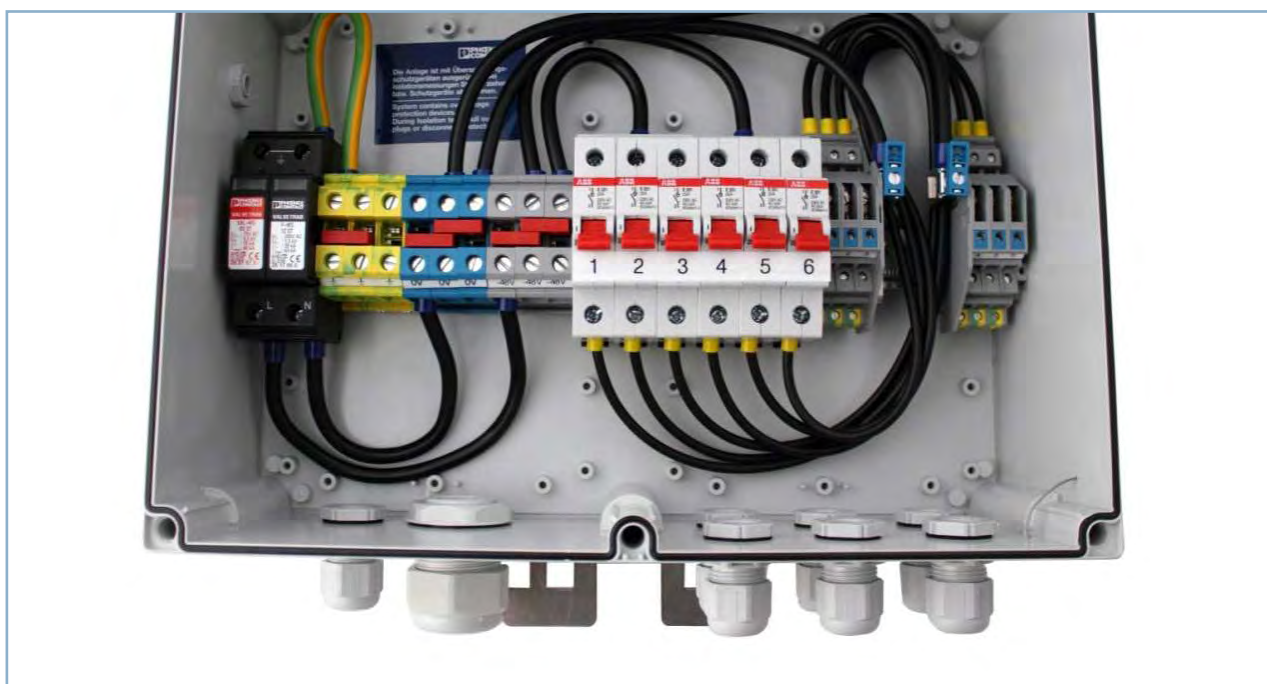
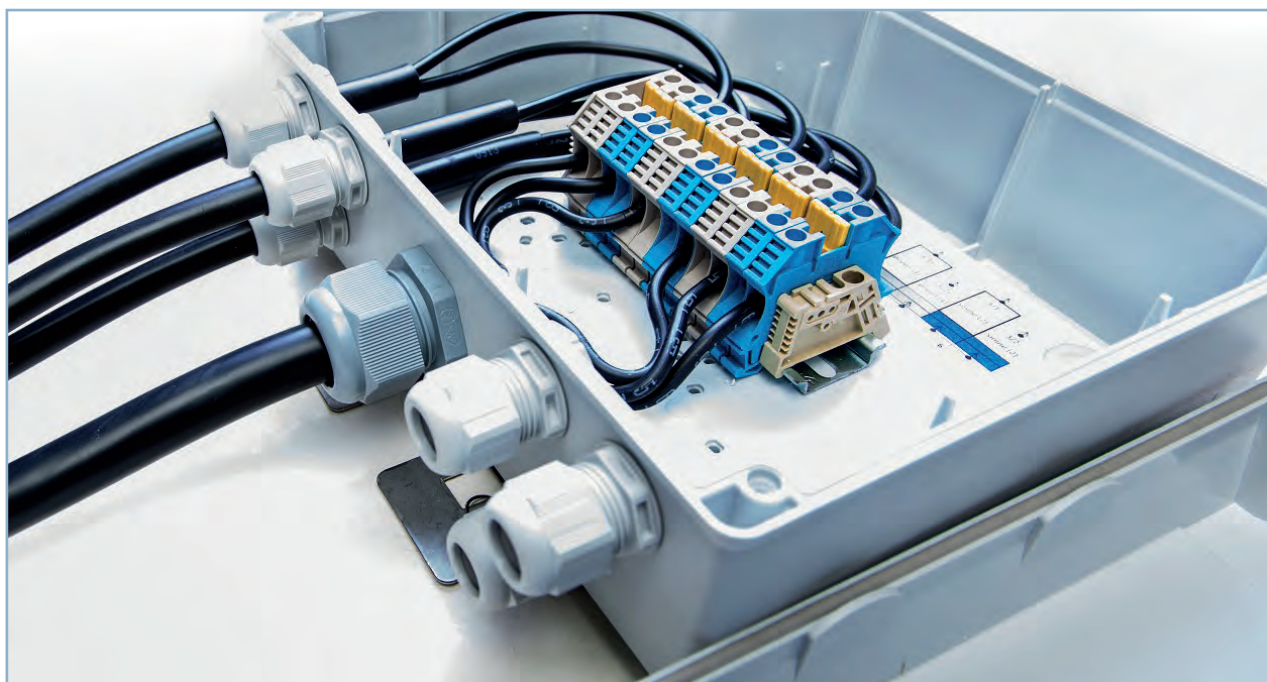
This box is designed for use with IP66 rated LC Duplex and it is used for connecting IP66 jumper cables without opening the box so it is easy to add jumper cables. Inside the box are connections to all the IP66 adaptors. Different boxes in various sizes are available on request. These can be with or without cables pre-installed as per the customer's requirements.



- **Box: protection class: IP66**
- **UV-resistant**
- **with and without FTTA connector solutions**
- **Fiber Optic LC, SC, E2000 connectivity possible**
- **the internal design can be changed according to customer and country specific requirements**

Distribution Boxes

IP66 Power Distribution Box



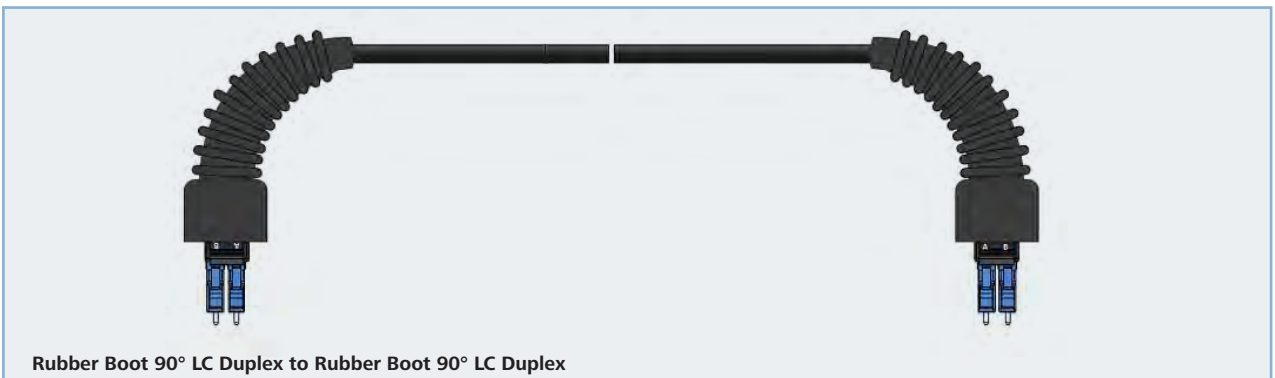
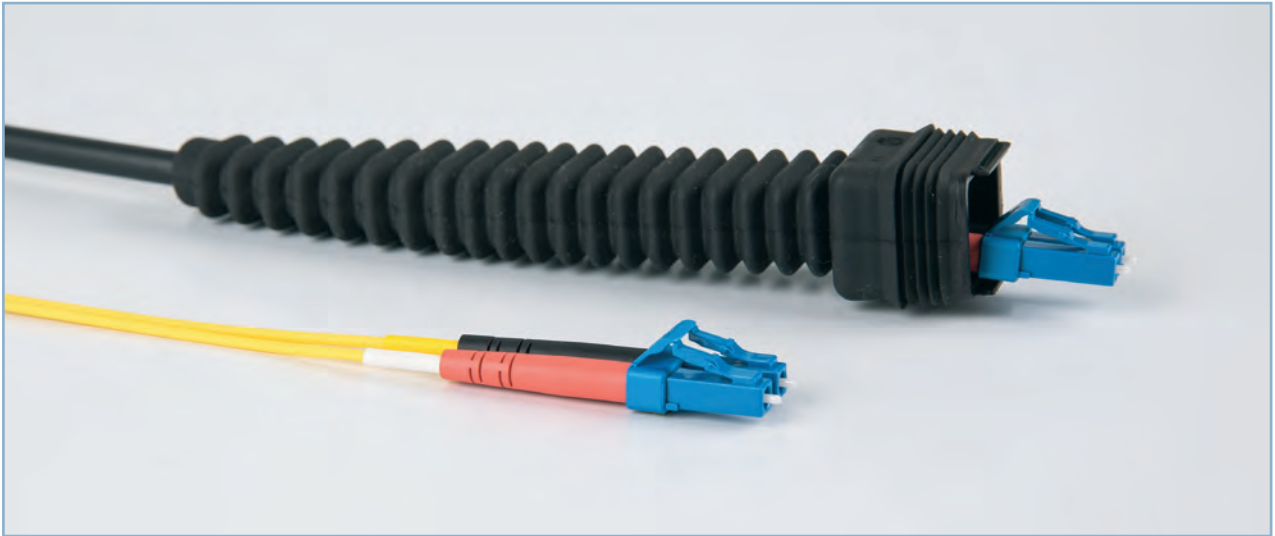
These power distribution boxes are designed for the input of one cable with a diameter of 18 - 25 mm and an output of up to 6 cables with a diameter of 7.5 - 14 mm. The internal wiring can be realized according to the individual application requirements.



- Box: protection class: IP66
- UV-resistant
- the internal design can be changed according to customer and country specific requirements

Fiber Optic Outdoor Cables (FTTA)

Fiber Optic Outdoor Cables (FTTA)



Rubber Boot 90° LC Duplex to Rubber Boot 90° LC Duplex



Rubber Boot 90° LC Duplex to LC Duplex IP20

These cables, available in straight and right angle, come with a special rubber boot designed for watertightness on NSN equipment.

Customer specific variants are available, for example LC Duplex to LC Duplex, with one or both ends going through the special rubber boot.



- Black; UV-resistant
- Cable jacket TPU / flame retardant
- Various cable length possible
- Both singlemode and multimode fibers available

Coax Components



Jumper



RET Cables



Connectors



Adaptors



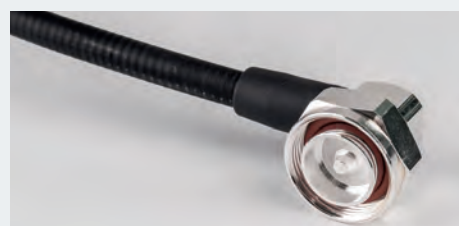
Feeder



Connectors

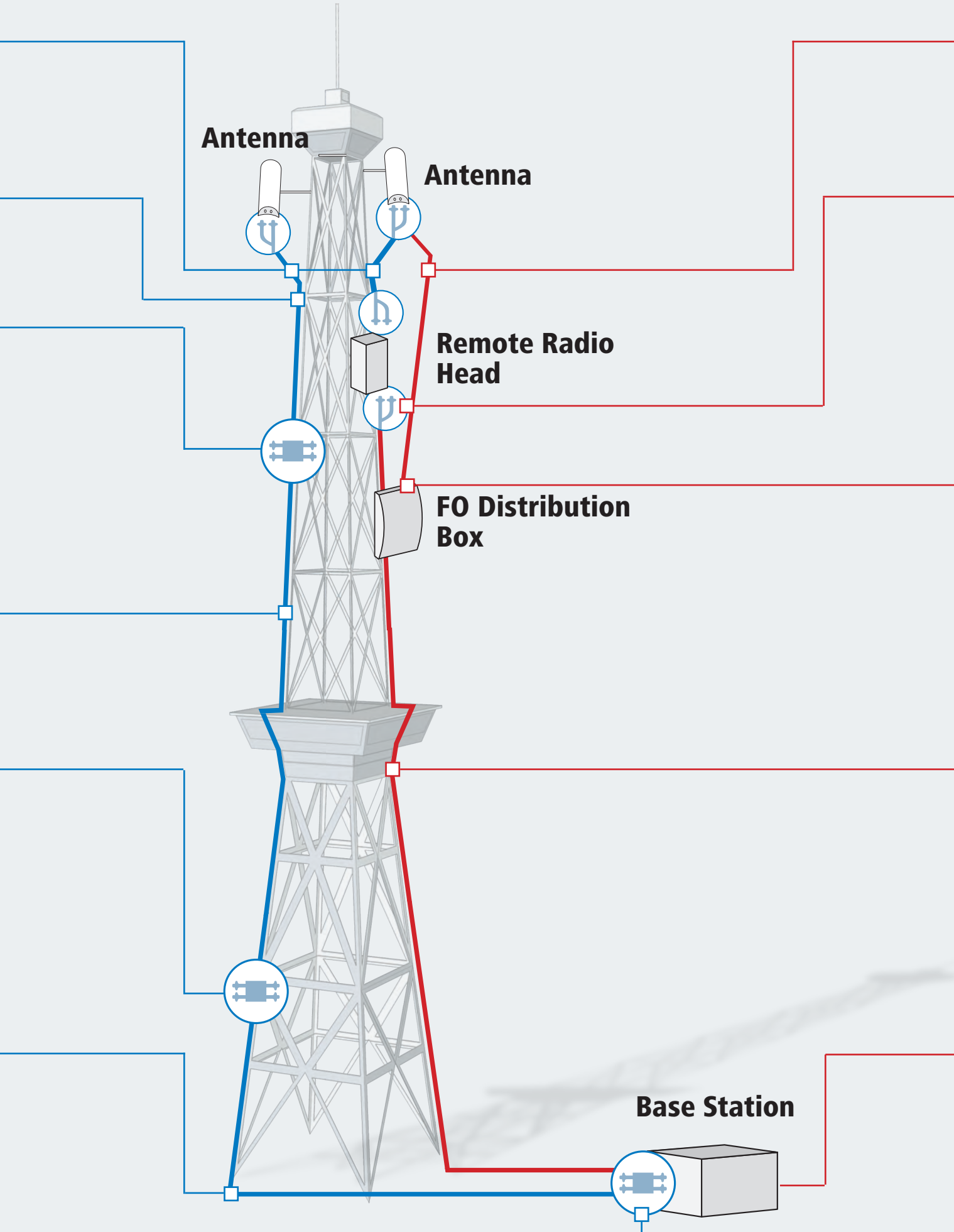


Surge Suppressors



Jumper

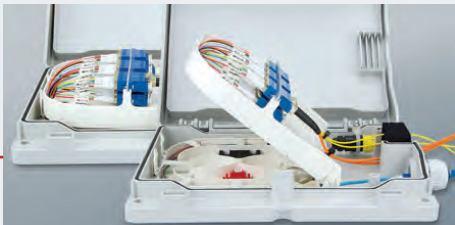
Example of Mobile Radio Base Station Installations



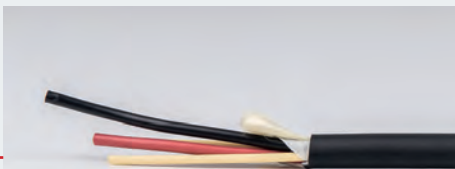
DataVoice Components



TOC Connectors



FO Distribution Box



Hybrid Cables



Patch Cables



FTFA Cables



FO Patch Cables



FO Patch Panel



RJ45 Surge Protection

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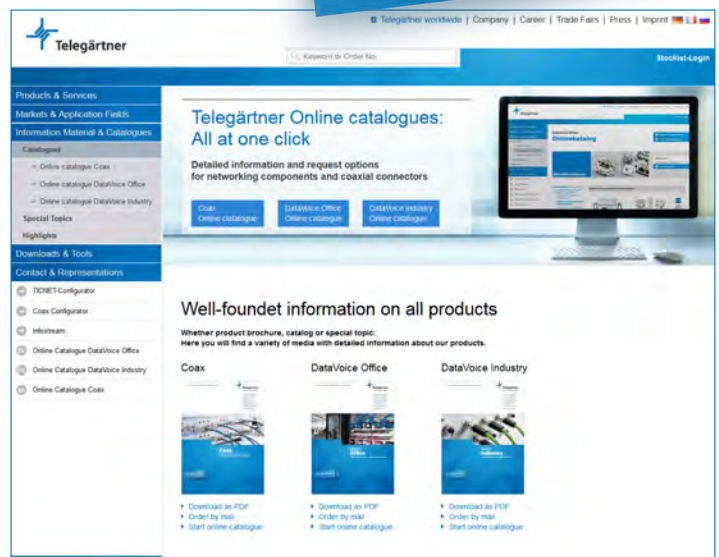
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qualified consulting and quick delivery

... Variety

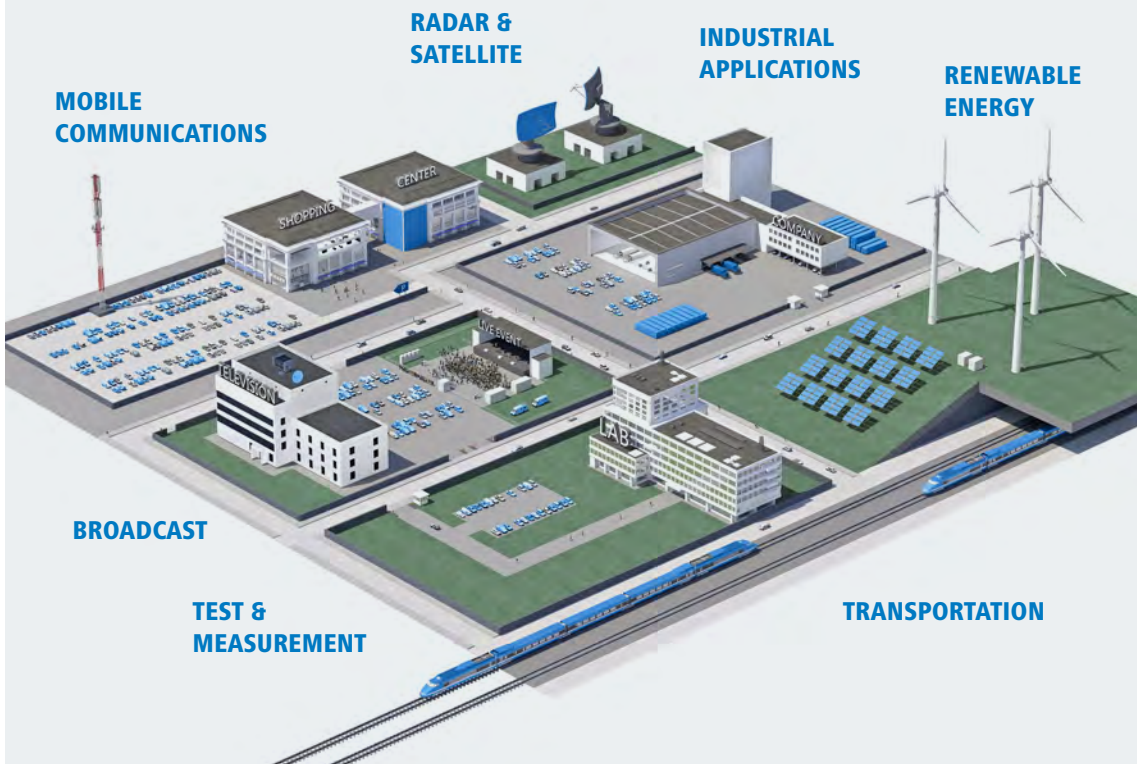
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