

Fiber Optics

Light switching, Light transportation, Light distribution

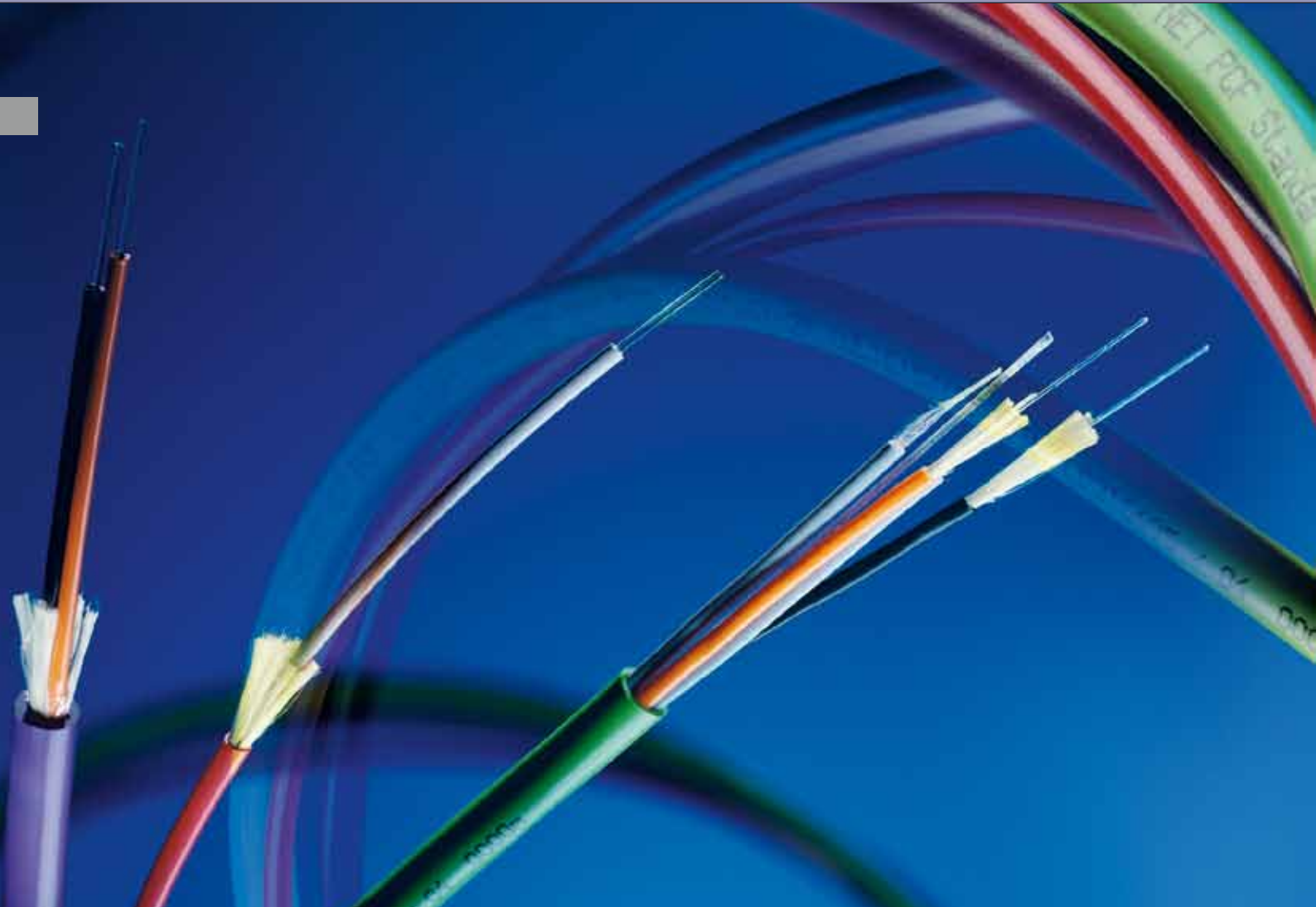


The Quality Connection

LEONI

POF

Polymer optical fibers



Polymer optical fibers (POF) have been on the market for many years. Both the fiber core and the cladding are made of polymer. Key advantages of polymer optical fibers are high flexibility (high alternate bending resistance with smaller bending radii) as well as more economical connecting and transmission technology than in the case of glass.

Moreover, this type of fiber also has all the major benefits of a fiber optical cable connection: **EMC security, clear galvanic separation, no crosstalk, low weight, etc.**

POF can by now be used to bridge distances up to 70 metres, which is normally sufficient for both industrial environments and smaller office as well as home networks. It is even possible to cover distances up to 150 metres by selecting suitable active components.

Globally unparalleled quality assurance

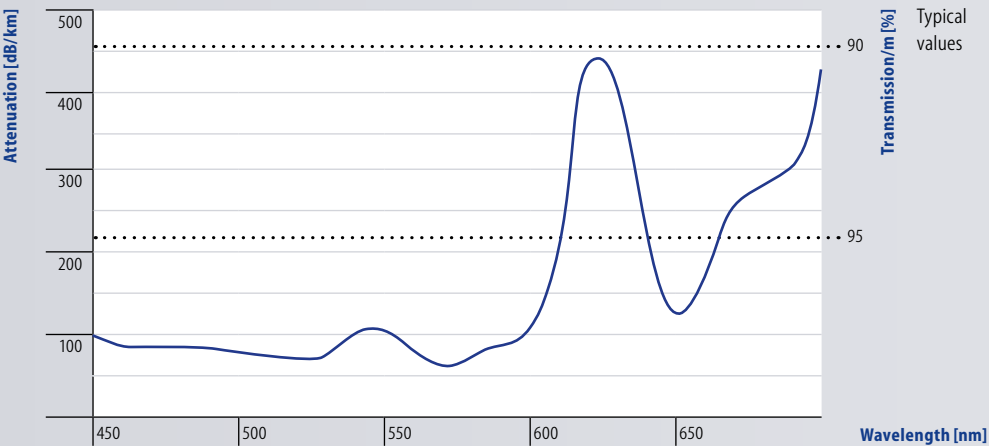
LEONI performs a 100% final check of optical attenuation on all POF cables in series production. This enables us to guarantee first-class quality for our products. Attenuation measurements on entire cable drums (250 and 500 m) represent a particular challenge due to the high optical attenuation of the POF. LEONI uses a measurement system specifically developed for this purpose with an extremely high attenuation budget at 650 nm.

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I-V2Y(ZN)H 2x1P980/1000	90
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I-V2Y(ZN)Y 2P980/1000	90
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POF fiber specifications

Fiber type
Standard

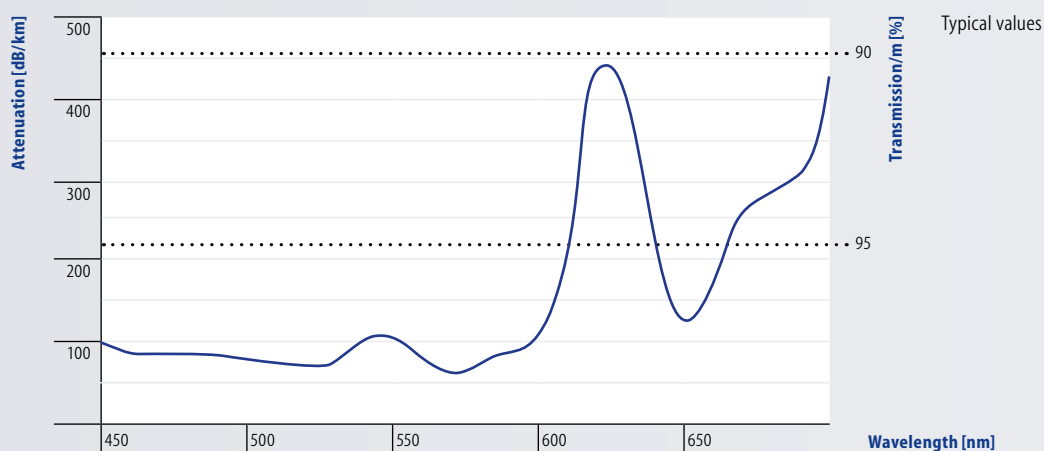


Standard POF is made of a super pure polymethylmethacrylate (PMMA) fiber core, which is cladded with a fluoropolymer jacket. The large fiber core facilitates coupling to transmitter and receiver elements and allows the use of low-cost connector systems, some of which have been specially developed for plastic fiber optics.

LEDs in the wavelength range of 650 to 670 nm are used as transmitter elements. POF has a relative attenuation minimum of 160 dB/km in this range. This attenuation can be slightly increased depending on the cable design. PIN diodes are used as receivers at the other end of the transmission path. Because of the attenuation, the link length is typically limited to less than 100 m. Nowadays, green LEDs are used to get a smaller attenuation of about 100 dB/km. The attenuation minimums of the POF are in the green, yellow and red wavelength range.

	Standard POF					
Order no.	84860101B	84860102B	84860103B	84860104B	84860105B	84860106B
Designation	P240/250	P486/500	P735/750	P980/1000	P1470/1500	P1960/2000
Designation to IEC 60793-2	A4c		A4b	A4a		
Geometric/thermal properties						
Core diameter	240 ± 23 µm	486 ± 30 µm	735 ± 45 µm	980 ± 60 µm	1470 ± 90 µm	1960 ± 120 µm
Jacket diameter	250 ± 23 µm	500 ± 30 µm	750 ± 45 µm	1000 ± 60 µm	1500 ± 90 µm	2000 ± 120 µm
Operating temperature	−55°C to +70°C	−55°C to +70°C	−55°C to +70°C	−55°C to +85°C	−55°C to +70°C	−55°C to +70°C
Transmission properties						
Wavelength	650 nm	650 nm	650 nm	650 nm	650 nm	650 nm
max. attenuation	300 dB/km	200 dB/km	180 dB/km	160 dB/km	180 dB/km	180 dB/km
min. bandwidth (MHz × 100 m)				10		
Numerical aperture	0.5	0.5	0.5	0.5	0.5	0.5

Fiber type
Special

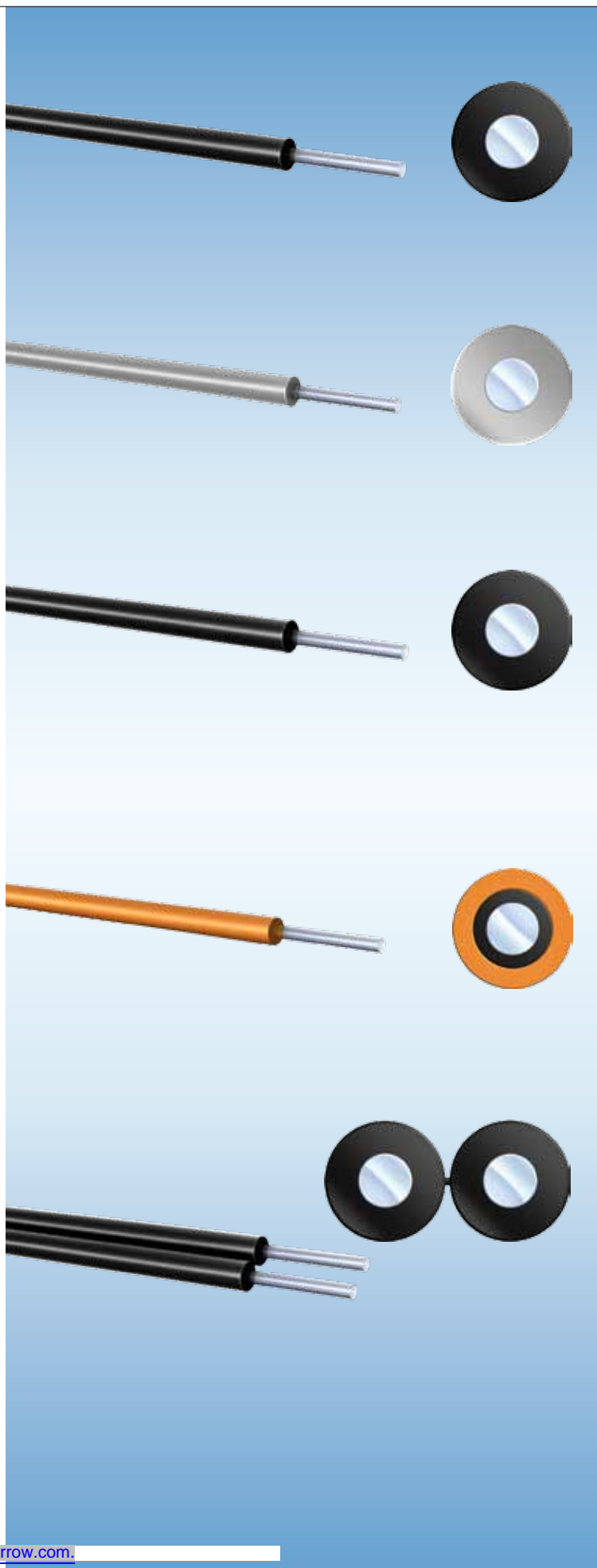


The numerical aperture of the fiber as well as the temperature resistance can be changed by using different cladding materials. High NA POF (fibers with a higher numerical aperture) permit higher power coupling in the fiber. However increasing the NA results in a lower bandwidth.

POF fibers are subject to natural aging (see the chapter Principles of fiber optics from page 190). The maximum operating temperature of standard POF is restricted to 85°C by the cladding material. The temperature resistance can be increased up to 105°C by using another cladding material. However this also increases the kilometeric attenuation slightly. The PMMA core material is the limiting factor for even higher temperatures.

	High NA POF	High-temperature POF	
Order no.	84860115B	84860131B	84860130B
Designation	P980/1000 high NA	P980/1000 high-temperature POF	P485/500 high-temperature POF
Designation to IEC 60793-2			
Geometric/thermal properties			
Core diameter	980 ± 60 µm	980 ± 60 µm	485 ± 30 µm
Jacket diameter	1000 ± 60 µm	1000 ± 60 µm	500 ± 30 µm
Operating temperature	–40°C to +85°C	–55°C to +105°C	–55°C to +105°C
Transmission properties			
Wavelength	650 nm	650 nm	650 nm
max. attenuation	160 dB/km	200 dB/km	200 dB/km
min. bandwidth (MHz × 100 m)			
Numerical aperture	0.6	0.58	0.58

POF cables



V-2Y 1P980/1000

Order no.	84A00100S000
Code no.	11
Application	Light mechanical stress
Assembly	Direct connector assembly
Length	2100 m

V-Y 1P980/1000

Order no.	84A00200S777
Code no.	14
Application	Light mechanical stress
Assembly	Direct connector assembly
Length	500 m

V-4Y 1P980/1000

Order no.	84A00300S000
Code no.	12
Application	For heavy mechanical stress and highly flexible applications with small bending radii
Assembly	Direct connector assembly
Length	5000 m

V-4Y 1P980/1000

Order no.	84A00300S262
Code no.	16
Application	For heavy mechanical stress and highly flexible applications with small bending radii
Assembly	Direct connector assembly
Length	500 m

V-2Y 2x1P980/1000

Order no.	84B00100S000
Code no.	13
Application	Light mechanical stress
Assembly	Direct connector assembly
Length	500 m



POF cables in colour

POF cables from the 84A00100SXXX series are now available in different colours according to the customer's wishes.

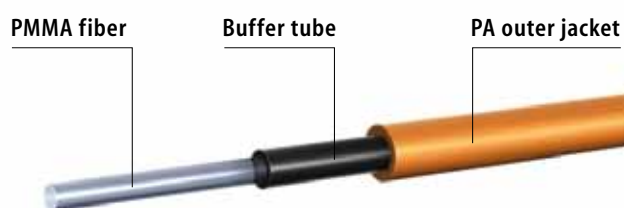
With POF cables with multiple buffered fibers, different buffer tube colours can be used for better differentiation. This technical solution is more easily distinguishable and more economical than uniformly black buffered fibers with printed identification and therefore offers the user major advantages during installation.

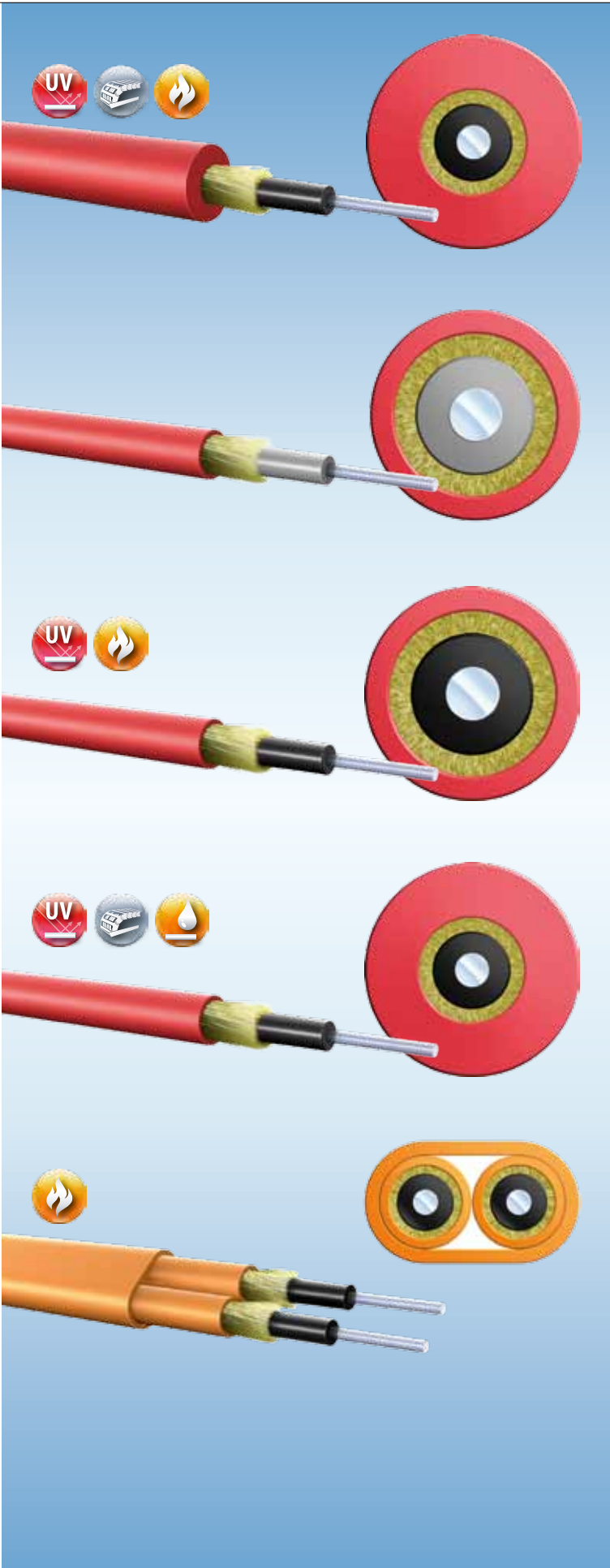
Order table for colours

Colour	Order no.	Colour	Order no.
black	84A00100S000	blue	84A00100S555
yellow	84A00100S111	green	84A00100S666
orange	84A00100S222	grey	84A00100S777
red	84A00100S333	brown	84A00100S888
violet	84A00100S444	white	84A00100S999

POF cable specifications		V-2Y 1P980/1000	V-Y 1P980/1000	V-4Y 1P980/1000	V-4Y 1P980/1000	V-2Y 2x1P980/1000
Order no.		84A00100S000	84A00200S777	84A00300S000	84A00300S262	84B00100SXXX (see table)
Composition	Buffer tube material	PE	PVC	PA	PA	PE
	No. of POF elements (980/1000 µm)	1	1	1	1	2
	Outer Ø [mm]	2.2	2.2	2.2	2.2	2.2 × 4.4
Mechanical properties	min. bending radius [mm]	during installation	25	25	20	20
		long-term	25	25	20	20
	max. pull force [N]	short-term	15	15	60	60
		long-term	5	5	10	10
	Approx. cable weight [kg/km]	3.8	3.8	4.3	4.3	7.6
Thermal properties	Operating temperature [°C]	−55 to +85	−40 to +85	−55 to +85	−55 to +85	−55 to +85
Attenuation	[dB/km] at 650 nm (laser)	<160	<160	<160	<160	<160
	[dB/km] at 660 nm (LED)	<230	<230	<230	<230	<230

* over flat side





I-V4Y(ZN)11Y 1P980/1000 HEAVY

Order no.	84C00100S333
Code no.	21
Application	in harsh industrial environments, suitable for drag chains
Assembly	Direct connector assembly
Length	500 m

I-VY(ZN)Y 1P980/1000

Order no.	84C00200S333
Code no.	26
Application	Flexible applications with low dynamic stress
Assembly	Direct connector assembly
Length	500 m

I-V2Y(ZN)11Y 1P980/1000

Order no.	84C00800S333
Code no.	23
Application	Flexible applications with low dynamic stress
Assembly	Direct connector assembly
Length	500 m

I-V2Y(ZN)11Y 1P980/1000

Order no.	84C01000S333
Code no.	22
Application	in harsh industrial environments, suitable for drag chains
Assembly	Direct connector assembly
Length	500 m

I-V2Y(ZN)HH 2x1P980/1000

Order no.	84D00900S222
Code no.	32
Application	Flexible applications with low dynamic stress, for fixed installation
Assembly	Direct connector assembly
Length	500 m



POF cables are divided into the following fiber groups:

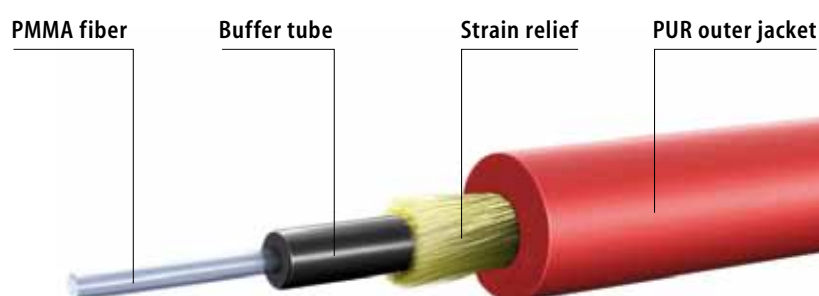
POF buffered fibers:

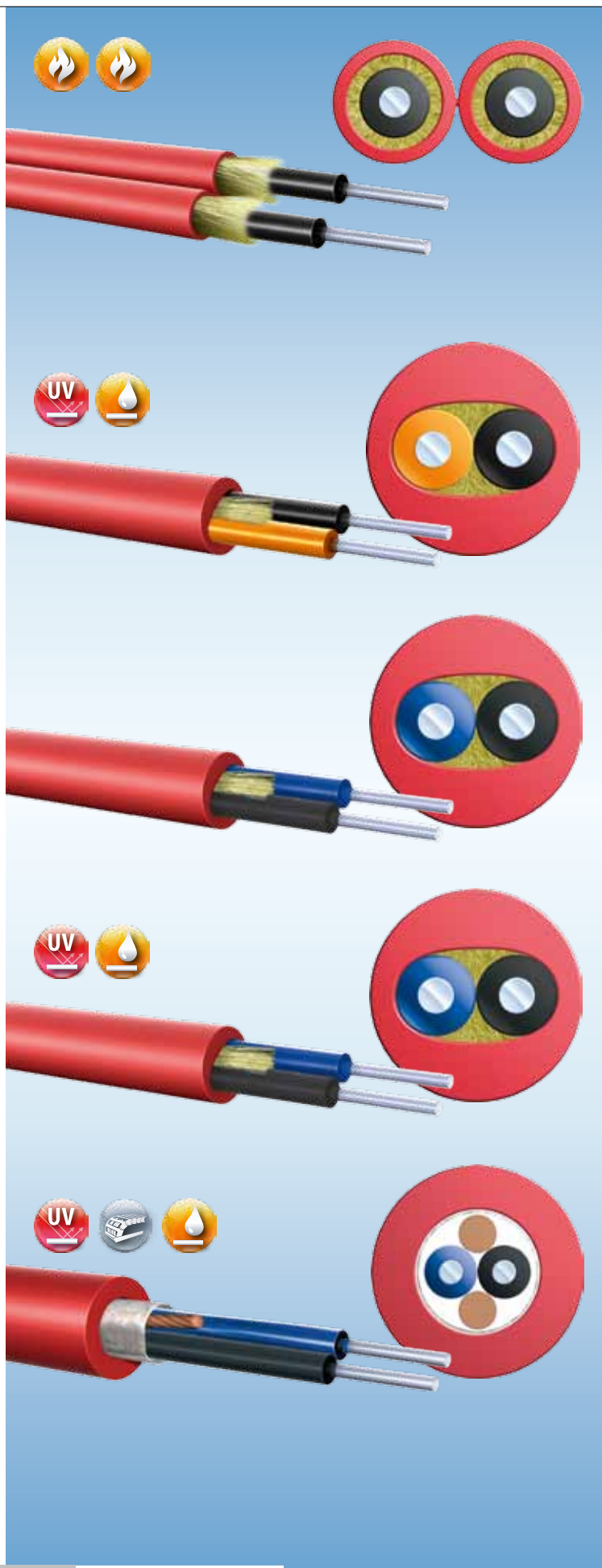
- Step index standard
- Step index POF with low/high NA
- Step index for high temperature
- Step index for fast Ethernet
- Gradient index

POF cables are available for indoors and outdoors. A wide range of constructions are available depending on the requirement. Special requirements in terms of flexibility, resistance to oil, resistance to UV, freedom from halogen or flame retardancy are met by selecting suitable components.

POF cable specifications		I-V4Y(ZN)11Y 1P980/1000 HEAVY	I-VY(ZN)Y 1P980/1000	I-V2Y(ZN)11Y 1P980/1000	I-V2Y(ZN)11Y 1P980/1000	I-V2Y(ZN)HH 2x1P980/1000
Order no.		84C00100S333	84C00200S333	84C00800S333	84C01000S333	84D00900S222
Composition	Buffer tube material	PA	PVC	PE	PE	PE
	Outer jacket material	PUR	PVC	PUR	PUR	FRNC
	No. of POF elements (980/1000 µm)	1	1	1	1	2
	Outer Ø [mm]	6.0	3.6	3.6	6.0	4.7 × 8.2
Mechanical properties	min. bending radius [mm]	during installation	50	70	70	70
		long-term	30	50	50	50*
	max. pull force [N]	short-term	500	250	250	400
		long-term	200	100	100	100
	Approx. cable weight [kg/km]	32	12	11	32	43
Thermal properties	Operating temperature [°C]	-20 to +70	-20 to +70	-20 to +70	-20 to +70	-20 to +70
Attenuation	[dB/km] at 650 nm (laser)	<160	<190	<160	<160	<190
	[dB/km] at 660 nm (LED)	<230	<290	<230	<230	<290

* over flat side



**I-V2Y(ZN)H 2x1P980/1000**

Order no. 84D03000S222

Code no. 31

Flexible applications
with low dynamic stress,
for fixed installation

Assembly Direct connector assembly

Length 500 m

I-V4Y(ZN)11Y 2P980/1000 HEAVY

Order no. 84D01100S333

Code no. 24

Application in harsh industrial environments

Assembly Direct connector assembly

Length 500 m

I-V2Y(ZN)Y 2P980/1000

Order no. 84D01600S333

Code no. 33

Flexible applications
with low dynamic stress,
for fixed installation

Assembly Direct connector assembly

Length 500 m

I-V2Y(ZN)11Y 2P980/1000

Order no. 84D02000S333

Code no. 34

Application in harsh industrial environments

Assembly Direct connector assembly

Length 500 m

I-V2Y(ZN)11Y 2P980/1000 FLEX

Order no. 84D00500S333

Code no. 25

Application in harsh industrial environments,
suitable for drag chains

Assembly Direct connector assembly

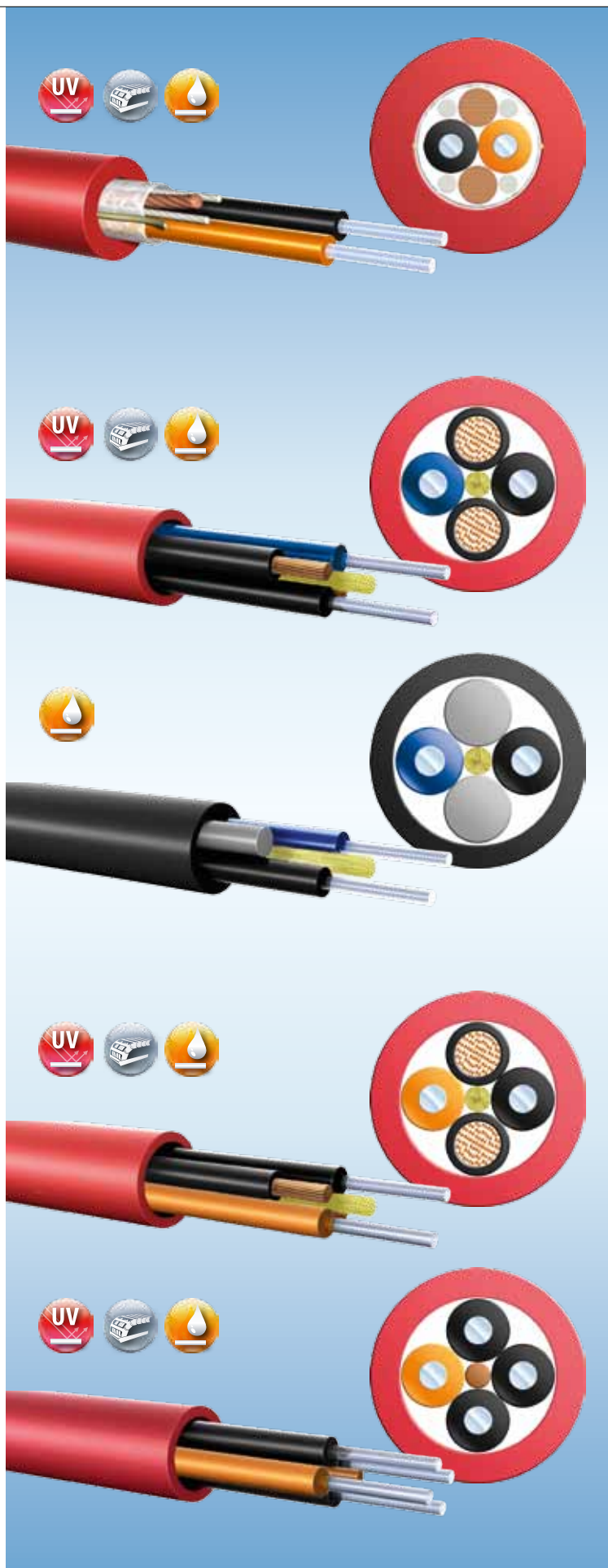
Length 500 m

Variants Dummy elements can be replaced
by copper elements



POF cable specifications		I-V2Y(ZN)H 2x1P980/1000	I-V4Y(ZN)11Y 2P980/1000 HEAVY	I-V2Y(ZN)Y 2P980/1000	I-V2Y(ZN)11Y 2P980/1000	I-V2Y(ZN)11Y 2P980/1000 FLEX
Order no.		84D03000S222	84D01100S333	84D01600S333	84D02000S333	84D00500S333
Composition	Buffer tube material	PE	PA	PE	PE	PE
	Outer jacket material	FRNC	PUR	PVC	PUR	PUR
	No. of POF elements (980/1000 µm)	2	2	2	2	2
	Outer Ø [mm]	3.6 x 7,5	6.0	6.0	5.6	6.4
Mechanical properties	min. bending radius [mm]	during installation	70	60	90	90
		long-term	50*	40	60	60
	max. pull force [N]	short-term	400	500	400	400
		long-term	100	200	100	100
	Approx. cable weight [kg/km]	28	33	54	28	30
Thermal properties	Operating temperature [°C]	-20 to +70	-20 to +70	-20 to +70	-20 to +70	-20 to +70
Attenuation	[dB/km] at 650 nm (laser)	<190	<160	<200	<200	<220
	[dB/km] at 660 nm (LED)	<290	<230	<290	<290	<350

* over flat side

**I-V4Y(ZN)11Y 2P980/1000 FLEX**

Order no.	84D00300S383
Code no.	36
Application	in harsh industrial environments, suitable for drag chains
Assembly	Direct connector assembly
Length	500 m
Variants	Dummy elements can be replaced by copper elements

I-(ZN)V2Y11Y 2P980/1000+2x1.0qmm

Order no.	84D00600S333
Code no.	29
Application	in harsh industrial environments, suitable for drag chains
Assembly	Direct connector assembly
Length	500 m

AT-(ZN)V2Y2Y 2P980/1000

Order no.	84D02500S000
Code no.	37
Application	Splittable cable for fixed outdoor installation
Assembly	Direct connector assembly
Length	500 m
Variants	Dummy elements can be replaced by copper or POF elements

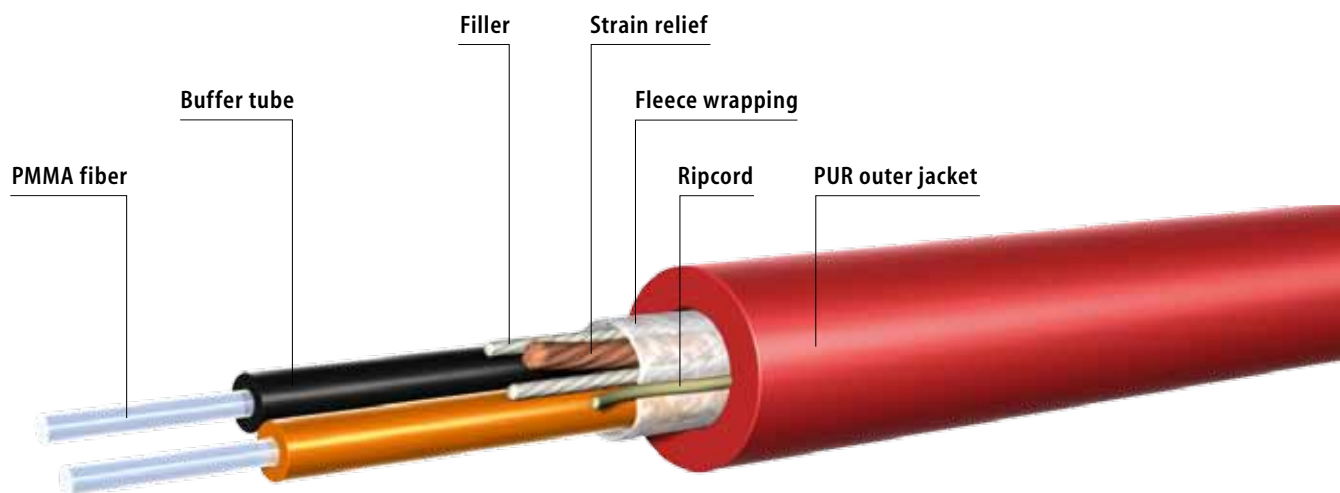
I-(ZN)V4Y11Y 2P980/1000+2x1.0qmm

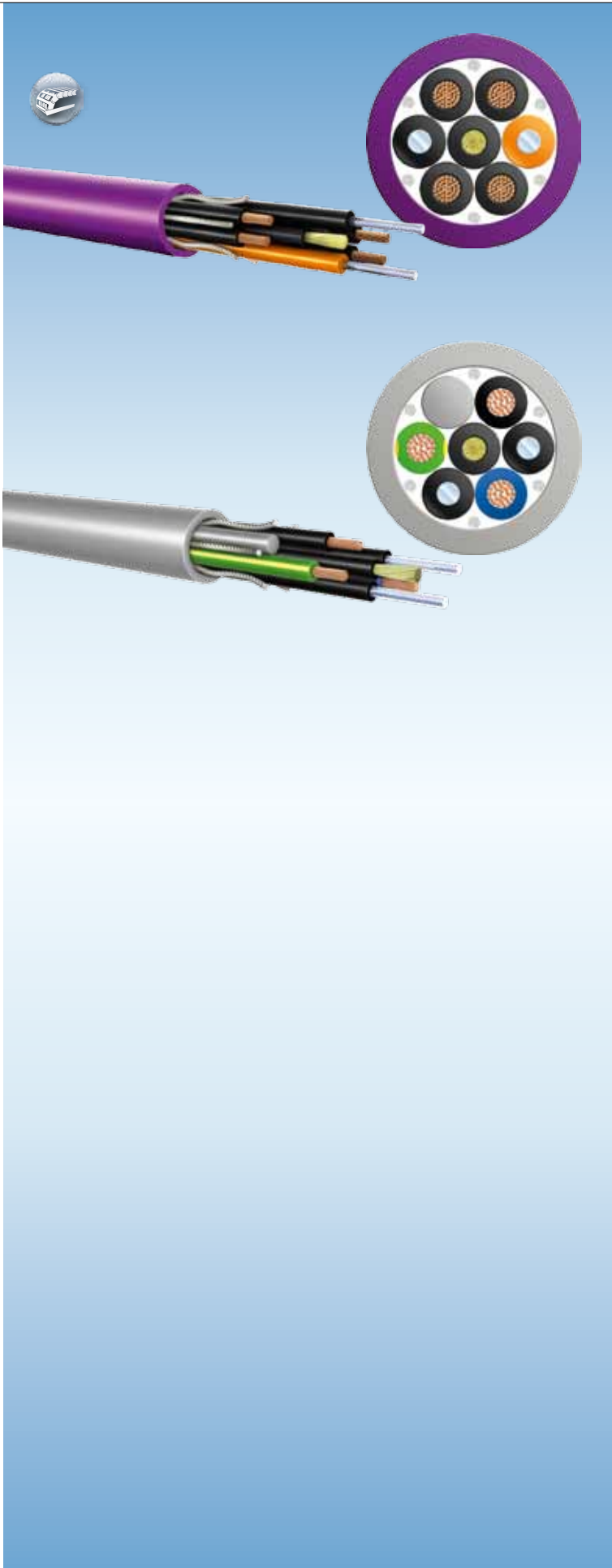
Order no.	84D02800S333
Code no.	38
Application	in harsh industrial environments, suitable for drag chains
Assembly	Direct connector assembly
Length	500 m

I-V4Y11Y 4P980/1000

Order no.	84E00200S333
Code no.	39
Application	in harsh industrial environments, suitable for drag chains
Assembly	Direct connector assembly
Length	500 m

POF cable specifications		I-V4Y(ZN)11Y 2P980/1000 FLEX	I-(ZN)V2Y11Y 2P980/1000 +2x1.0qmm	AT-(ZN)V2Y2Y 2P980/1000	I-(ZN)V4Y11Y 2P980/1000 + 2x1.0qmm	I-V4Y11Y 4P980/1000
Order no.		84D00300S383	84D00600S333	84D02500S000	84D02800S333	84E00200S333
Composition	Buffer tube material	PA	PE	PE	PA	PA
	Outer jacket material	PUR	PUR	PE	PUR	PUR
	No. of POF elements (980/1000 µm)	2	2	2	2	4
	No. of copper elements	–	2	–	2	–
	Outer Ø [mm]	8.0	7.5	7.0	7.5	7.5
Mechanical properties	min. bending radius [mm]	during installation	60	90	90	70
		long-term	40	60	60	50
	max. pull force [N]	short-term	400	200	200	400
		long-term	100	100	100	200
	Approx. cable weight [kg/km]	55	62	33	42	42
Thermal properties	Operating temperature [°C]	–20 to +70	–20 to +70	–25 to +70	–20 to +70	–20 to +70
Attenuation	[dB/km] at 650 nm (laser)	<190	<220	<220	<190	<190
	[dB/km] at 660 nm (LED)	<290	<350	<350	<290	<290





I-(ZN)V4Y11Y 2P980/1000+4x1.5qmm

Order no.	84D01400S444
Code no.	41
Application	in harsh industrial environments, suitable for drag chains
Assembly	Direct connector assembly
Length	500 m

I-(ZN)V4YY 2P980/1000+3x1.5qmm

Order no.	84D01800S707
Code no.	42
Application	Flexible applications with low dynamic stress
Assembly	Direct connector assembly
Length	500 m

POF cable specifications		I-(ZN)V4Y11Y 2P980/1000 +4x1.5qmm	I-(ZN)V4YY 2P980/1000 +3x1.5qmm
Order no.		84D01400S444	84D01800S707
Composition	Buffer tube material	PA	PA
	Outer jacket material	PUR	PVC
	No. of POF elements (980/1000 µm)	2	2
	No. of copper elements	4	3
	Outer Ø [mm]	10.6	10.7
Mechanical properties	min. bending radius [mm]	during installation	110
		long-term	70
	max. pull force [N]	short-term	400
		long-term	100
	Approx. cable weight [kg/km]	146	132
Thermal properties	Operating temperature [°C]	-20 to +70	-20 to +70
Attenuation	[dB/km] at 650 nm (laser)	<230	<230
	[dB/km] at 660 nm (LED)	<330	<330
Flame test	Tested acc. to UL VW-1	–	–



I-V4Y(ZN)11Y 1P980/1000 6.0 mm
UL AWM Style 5422

Order no. 84C01200S333

Code no. 3A

Application in harsh industrial environments,
suitable for drag chains

Assembly Direct connector assembly

Length 500 m



I-V2Y(ZN)11Y 1P980/1000 5.5 mm
UL AWM Style 5422

Order no. 84C01300S333

Code no. 2A

Application Flexible applications
with low dynamic stress

Assembly Direct connector assembly

Length 500 m



I-V4Y(ZN)11Y 2P980/1000 FLEX
UL AWM Style 5422

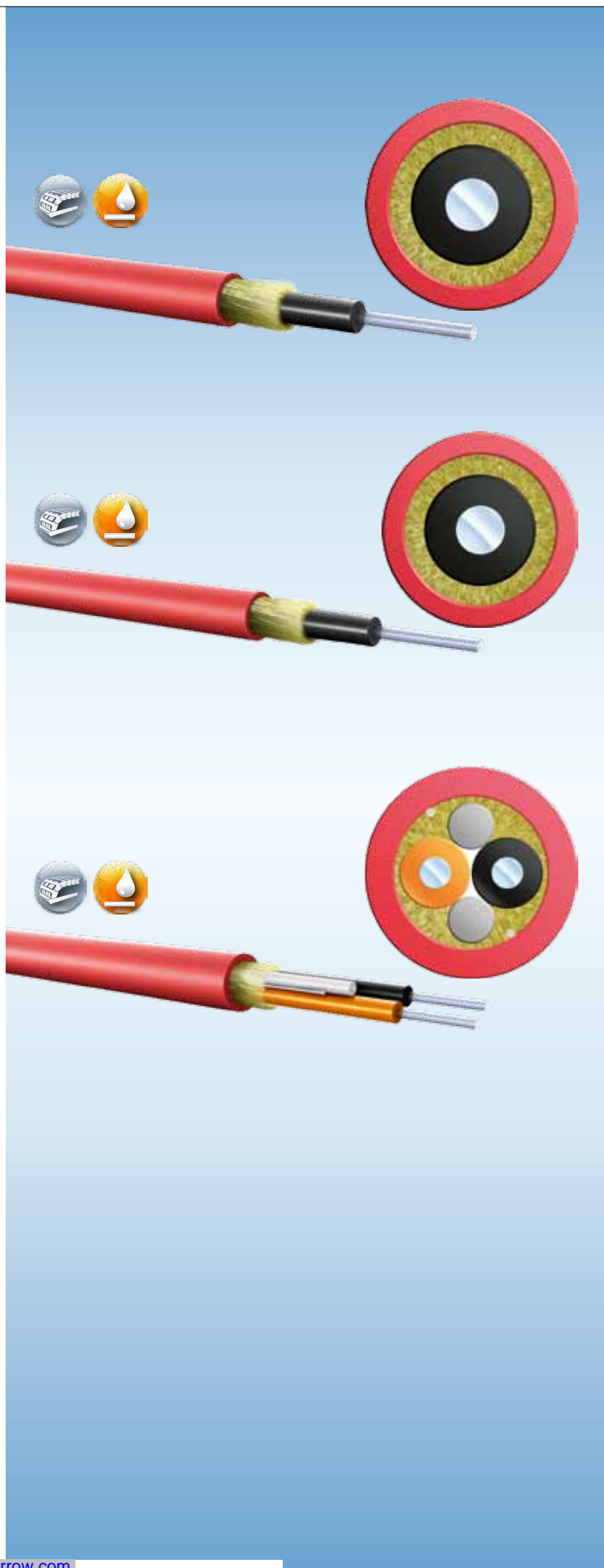
Order no. 84D03500S333

Code no. 1A

Application in harsh industrial environments,
suitable for drag chains

Assembly Direct connector assembly

Length 500 m





Info

Hybrid cables, consisting of different optical fibers and electrical waveguides, are produced on a customer-specific basis.



Cables with UL (Underwriter Laboratories) approval

Cables with UL approval guarantee safety and reliability in the intended application areas. They are specifically tailored to the requirements of the North American market, however demand for them is increasing in Asia and Europe, where they are being used more and more. Insurance companies, public authorities, planners and other regulatory authorities above all place their confidence in UL-approved optical cables with singlemode/multimode or plastic fibers.

Optical cables are described in the standard UL 1651-Fiber Optic Cable and categorised according to OFNP (plenum), OFNR (riser) and OFN (general purpose). Optical cables can also be classified according to the UL 758-Appliance Wiring Material (AWM) standard. UL cables have to meet very high requirements for fire performance in particular, including generation of smoke gas.

POF cable specifications		I-V4Y(ZN)11Y 1P980/1000 6.0 mm UL AWM Style 5422	I-V2Y(ZN)11Y 1P980/1000 5.5 mm UL AWM Style 5422	I-V4Y(ZN)11Y 2P980/1000 FLEX UL AWM Style 5422	
Order no.		84C01200S333	84C01300S333	84D03500S333	
Composition	Buffer tube material	PA	PE	PA	
	Outer jacket material	PUR	PUR	PUR	
	No. of POF elements (980/1000 µm)	1	1	2	
	No. of copper elements	–	–	–	
	Outer Ø [mm]	6.0	5.5	8.0	
Mechanical properties	min. bending radius [mm]	during installation	50	70	60
		long-term	30	50	40
	max. pull force [N]	short-term	500	400	400
		long-term	200	100	100
	Approx. cable weight [kg/km]		32	23	23
Thermal properties	Operating temperature [°C]	–20 to +70	–20 to +70	–20 to +70	
Attenuation	[dB/km] at 650 nm (laser)	<160	<190	<180	
	[dB/km] at 660 nm (LED)	<230	<290	<275	
Flame test	Tested acc. to UL VW-1	For harsh industrial environments	Suitable for flexible applications in areas with low dynamic stress	For harsh industrial environments	

LEONI Dacar® FP – Automotive cables

byteflight

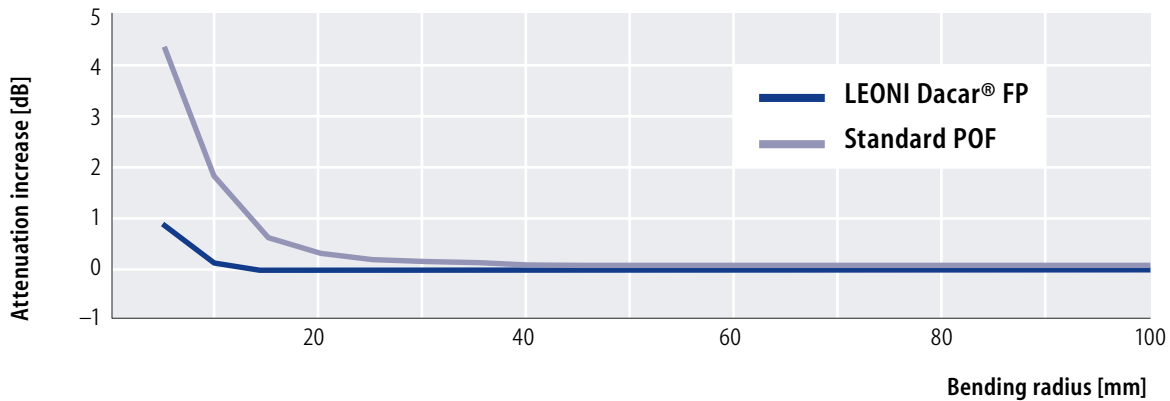
E1394™
TRADE ASSOCIATION

MOST
COOPERATION



Graph:

Attenuation increase as a function of bending radius (standard POF compared to LEONI Dacar® FP)

**LEONI Dacar® FP****– Optical fibers for use in vehicles**

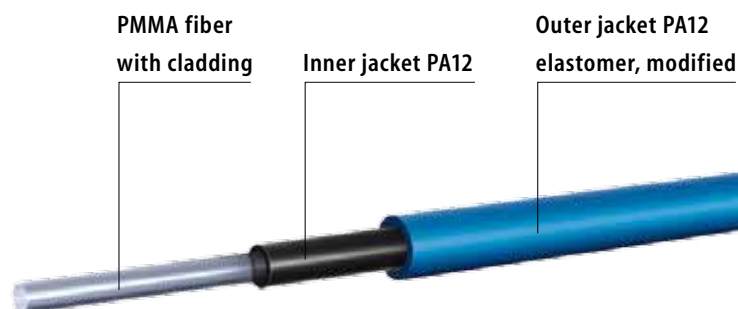
Electronic systems are increasingly being used instead of mechanical components in automotive development to realise more and more comfort and safety functions. This means ever increasing complexity of the vehicle electronics with a fast-growing number of functions, sensors and actuators.

To meet these high technical requirements, LEONI has developed a special assembly technique and an innovative cable for data communication and even slightly modified the fiber for this application.

The buffer tube always consists of two polyamide layers: a black inner jacket to rule out possible interference from outside light and a coloured outer jacket (blue, green, yellow or orange).

The fiber consists of a PMMA core and optimised double cladding.

This construction significantly reduces the attenuation that occurs when the optical fiber is bent compared with standard polymer optical fiber.



**LEONI Dacar® FP**

Order no.	See table
Application	For data communication within the vehicle, for heavy mechanical stress and highly flexible applications with small bending radii
Assembly	Direct connector assembly
Length	5000 m

Order table for LEONI Dacar® FP

Colour	Code no.	Order no.
orange	17	84A00500S262
green	C7	84A00500S666
blue	C8	84A00500S519
yellow	C9	84A00500S201

MOST-Insert Pin POF

Order no.	SMIP-SM0-25-0010
Colour	Metallic
Fiber Ø	1000 µm
Cable Ø	2.3 mm
Assembly	Crimping/cutting
Ferrule	Metal
Incl. dust cap	

MOST-Insert Socket POF

Order no.	SMIS-SM0-25-0010
Colour	Metallic
Fiber Ø	1000 µm
Cable Ø	2.3 mm
Assembly	Crimping/cutting
Ferrule	Metal
Incl. dust cap	



Info

POFs have been used for years for data communication between audio devices and for the airbag management system in the vehicle. Easy and cost-effective assembly of the POF, insusceptibility to interference from electromagnetic radiation, low weight and high bandwidths speak in favour of using these fibers instead of copper cables.

LEONI Dacar® FP assembly available in following designs

Order no.	See table
Design	Pin – pin, pin – socket, with MOST-Inserts in metal or plastic at both ends.
Length	xxx in the order number must be replaced by the required length (in mm or cm) in three digits.

Order table

Colour	Pin – pin		Pin – socket	
	Plastic	Metal	Plastic	Metal
orange	KMIP-MIP-17xxxcM-K	KMIP-MIP-17xxxcM-M	KMIP-MIS-17xxxcM-K	KMIP-MIS-17xxxcM-M
green	KMIP-MIP-C7xxxcM-K	KMIP-MIP-C7xxxcM-M	KMIP-MIS-C7xxxcM-K	KMIP-MIS-C7xxxcM-M
blue	KMIP-MIP-C8xxxcM-K	KMIP-MIP-C8xxxcM-M	KMIP-MIS-C8xxxcM-K	KMIP-MIS-C8xxxcM-M
yellow	KMIP-MIP-C9xxxcM-K	KMIP-MIP-C9xxxcM-M	KMIP-MIS-C9xxxcM-K	KMIP-MIS-C9xxxcM-M

LEONI Dacar® FP Golden Fiber

Order no.	KMIP-MIP17001M pin – pin KMIP-MIS17001M pin – socket
Application	For matching the setup for attenuation measurements in MOST cables. Fiber end faces are inspected using the microscope and the pictures archived. Each fiber end face can be assigned via the ident. number/label. The label is attached directly to the Golden Fiber (side A) and contains the following information: ident. number / date of manufacture / attenuation / measured length. The assembled buffered fibers are individually packaged in sealable PE pouches, the connectors are fitted with dust caps.
Packaging	A certificate is enclosed with each Golden Fiber.
Accessories	Appropriate interchangeable adapters for the optical power meter (page 236)

Order table

Designation	Order no.
Active interchangeable adapter for MOST-Insert pin, 650 nm	ZMIS-Ts0-650
Interchangeable adapter for MOST-Insert connector	ZMIP-TX0

POF connectors



F05 connector POF			
Order no.	SF05-SS0-20-0010	SF05-SG0-02-0010	SF05-SV0-02-0010
Compatibility	TOCP155/TOCP155P/ TOCP172	TOCP155/TOCP155P/ TOCP173	TOCP155/TOCP155P/ TOCP174
Fiber Ø	1000 µm	1000 µm	1000 µm
Cable Ø	2.2 mm	2.2 mm	2.2 mm
Assembly	Crimping/polishing	Clamping/hot plate	Clamping/polishing
Ferrule	Metal	Plastic	Plastic
Reference cable	KF05-F0511050cm for attenuation measurement of 0.5 m	KF05-F0511050cm for attenuation measurement 0.5 m	KF05-F0511050cm for attenuation measurement 0.5 m
Features	Incl. crimping sleeve, black boot, dust cap	Incl. dust cap	Incl. dust cap
Stripping	A2 / A6	A2 / A6	A2 / A6
Crimping	C3	—	—
Polishing	P2 / P3 / P7	P10	P2 / P3 / P7

F07 connector POF
Order no.
Compatibility
Fiber Ø
Cable Ø
Assembly
Ferrule
Reference cable
Features
Stripping
Crimping
Polishing

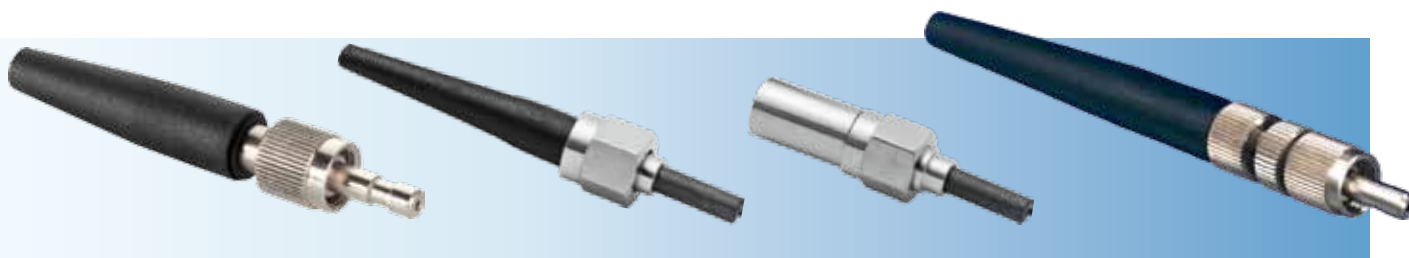


FSMA connector POF			
Order no.	SSMA-SH0-02-0010	SSMA-SH0-02-0020	SSMA-SS0-02-0020
Fiber Ø	1000 µm	1000 µm	1000 µm
Cable Ø	2.2 mm	6.0 mm	6.0 mm
Assembly	Crimping/hot plate	Crimping/hot plate	Crimping/polishing
Ferrule	Metal	Metal	Metal
Reference cable	KSMA-SMA11050cm for attenuation measurement 0.5 m	KSMA-SMA11050cm for attenuation measurement 0.5 m	KSMA-SMA11050cm for attenuation measurement 0.5 m
Features	Incl. black boot and dust cap	Incl. crimping sleeve, black boot and dust cap	Incl. crimping sleeve, black boot and dust cap, also as knurled variant
Stripping	A2 / A6	A2 / A6	A2 / A6
Crimping	C1	C1	—
Polishing	P10	P10	P2 / P3 / P6



Info

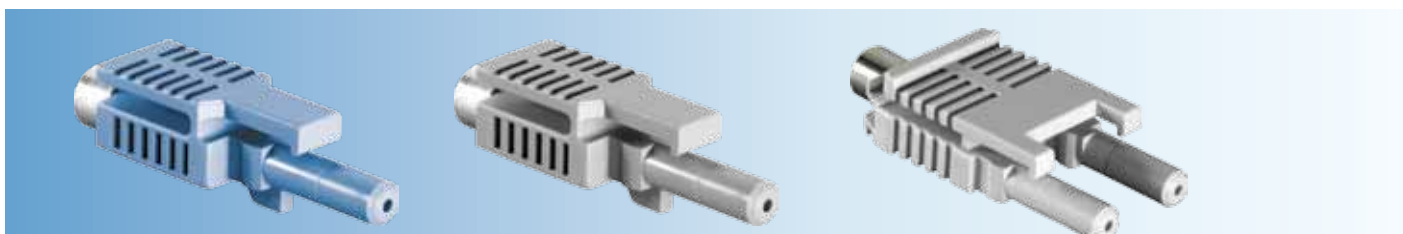
Connectors for POF differ not only in terms of their construction, but also in the technology used to attach to the cable (crimping or clamping) and in the technology used to process the end face. The focus here is on lapping and polishing as well as hot plate technology.



FSMA connector POF				
Order no.	SSMA-SS0-02-0050	SSMA-SS0-02-0060	SSMA-SS0-02-0070	SSMA-SV0-02-0010
Fiber Ø	1000 µm	1000 µm	1000 µm	1000 µm
Cable Ø	2.2 mm	2.2 mm	6.0 mm	2.2 mm
Assembly	Crimping/polishing	Crimping/polishing	Crimping/polishing	Clamping/polishing
Ferrule	Metal	Plastic	Plastic	Metal
Reference cable	KSMA-SMA11050cm for attenuation measurement 0.5 m	KSMA-SMA11050cm for attenuation measurement 0.5 m	KSMA-SMA11050cm for attenuation measurement 0.5 m	KSMA-SMA11050cm for attenuation measurement 0.5 m
Features	Incl. black boot and dust cap, also as hexagonal variant	Incl. black boot and dust cap	Incl. crimping sleeve, black boot and dust cap	Incl. black boot and dust cap
Stripping	A2 / A6	A2 / A6	A2 / A6	A2 / A6
Crimping	C1	C1	C1	–
Polishing	P2 / P3 / P6	P2 / P3 / P6	P2 / P3 / P6	P2 / P3 / P6



HP connector POF			
Order no.	SXHP-SS0-20-0020	SXHP-SS0-19-0010	SXHP-SS0-19-0020
Compatibility	—	HFBR4511	HFBR4501
Fiber Ø	1000 µm	1000 µm	1000 µm
Cable Ø	2.2 mm	2.2 mm	2.2 mm
Assembly	Crimping/polishing	Crimping/polishing	Crimping/polishing
Ferrule	Metal	Plastic	Metal
Reference cable	KHPS-HPS11050cm for attenuation measurement 0.5 m	KHPS-HPS11050cm for attenuation measurement 0.5 m	KHPS-HPS11050cm for attenuation measurement 0.5 m
Features	Incl. green boot and dust cap	Incl. crimping sleeve and dust cap	Incl. crimping sleeve and dust cap
Stripping	A2 / A6	A2 / A6	A2 / A6
Crimping	C3	C3	C3
Polishing	P1 / P2 / P3 / P8	P1 / P2 / P3 / P8	P1 / P2 / P3 / P8



HP connector POF			
Order no.	SXHP-SS0-19-0030	SXHP-SS0-19-0040	SXHP-DS0-19-0020
Compatibility	HFBR4513	HFBR4503	HFBR4516
Fiber Ø	1000 µm	1000 µm	1000 µm
Cable Ø	2.2 mm	2.2 mm	2.2 mm
Assembly	Crimping/polishing	Crimping/polishing	Crimping/polishing
Ferrule	Plastic	Plastic	Plastic
Reference cable	KHPS-HPS11050cm for attenuation measurement 0.5 m	KHPS-HPS11050cm for attenuation measurement 0.5 m	KHPD-HPD13050cm for attenuation measurement 0.5 m
Features	Incl. crimping sleeve	Incl. crimping sleeve	Incl. crimping sleeve and dust cap
Stripping	A2 / A6	A2 / A6	A2 / A6
Crimping	C3	C3	C3
Polishing	P1 / P2 / P3	P1 / P2 / P3	P1 / P2 / P3



HP connector POF	
Order no.	SXHP-SV0-19-0010
Compatibility	HFBR 4531
Fiber Ø	1000 µm
Cable Ø	2.2 mm
Assembly	Clamping/polishing
Ferrule	Plastic
Reference cable	KHPS-HPS11050cm for attenuation measurement 0.5 m
Features	Incl. dust cap
Stripping	A2 / A6
Crimping	C3
Polishing	P1 / P2 / P3 / P8

HP connector POF rugged	
Order no.	SXHP-SV0-02-0010
Compatibility	—
Fiber Ø	1000 µm
Cable Ø	2.2 mm
Assembly	Clamping/polishing
Ferrule	Plastic
Reference cable	KHPS-HPS11050cm for attenuation measurement 0.5 m
Features	Without dust cap
Stripping	A2 / A6
Crimping	C3
Polishing	P1 / P2 / P3 / P8



HP connector duplex POF	
Order no.	SXHP-DS0-19-0010
Compatibility	HFBR 4506
Fiber Ø	1000 µm
Cable Ø	2.2 mm
Assembly	Crimping/polishing
Ferrule	Plastic
Reference cable	KHPD-HPD13050cm for attenuation measurement 0.5 m
Features	Incl. crimping sleeve and dust cap
Stripping	A2 / A6
Crimping	C3
Polishing	P1 / P2 / P3

Anti-kink protecting sleeve for HP connectors	
Order no.	SKNS-CZ0-20-0010 in blue
Order no.	SKNS-GZ0-20-0010 in grey
Compatibility	HFBR 4501, 4503, 4511 and 4513



ST connector (BFOC) POF		
Order no.	SXST-SS0-22-0010	SXST-SV0-02-0010
Fiber Ø	1000 µm	1000 µm
Cable Ø	2.2 mm	2.2 mm
Assembly	Crimping/polishing	Clamping/polishing
Ferrule	Metal	Metal
Reference cable	KXST-XST11050cm for attenuation measurement 0.5 m	KXST-XST11050cm for attenuation measurement 0.5 m
Features	Incl. crimping sleeve, black boot and dust cap	Incl. black boot and dust cap
Stripping	A2 / A6	A2 / A6
Crimping	C1	–
Polishing	P2 / P3 / P9	P2 / P3 / P9

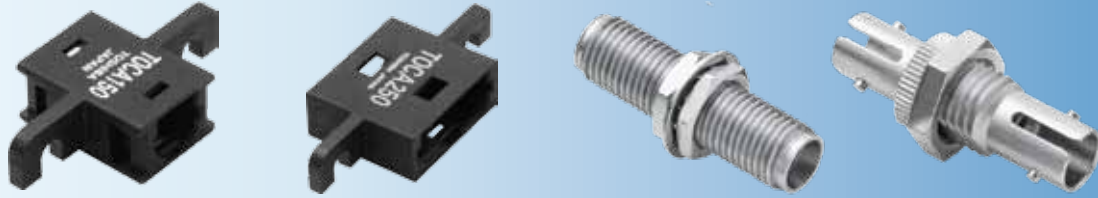
SC connector POF	
Order no.	SXSC-SS0-02-0010
Fiber Ø	1000 µm
Cable Ø	2.2 mm
Assembly	Crimping/polishing
Ferrule	Metal
Reference cable	KXSC-XSC11050cm for attenuation measurement 0.5 m
Features	Incl. crimping sleeve, black boot and dust cap
Stripping	A2 / A6
Crimping	C3
Polishing	P2 / P3



MIP connector POF		MIS connector POF	
Order no.	SMIP-SM0-25-0010	Order no.	SMIS-SM0-25-0010
Fiber Ø	1000 µm	Fiber Ø	1000 µm
Cable Ø	2.3 mm	Cable Ø	2.3 mm
Assembly	Crimping/cutting	Assembly	Crimping/cutting
Ferrule	Metal	Ferrule	Metal
Reference cable	KMIP-MIP17050cm for attenuation measurement 0.5 m	Reference cable	KMIS-MIS17050cm for attenuation measurement 0.5 m
Features	Incl. dust cap	Features	Incl. dust cap
Stripping	A2 / A6	Stripping	A2 / A6
Crimping	On request	Crimping	On request
Polishing	On request	Polishing	On request

SCRJ connector duplex IP20	
Order no.	SSCR-DV0-02-0010
Fiber Ø	1000 µm
Cable Ø	2.2 mm
Assembly	Clamping/polishing
Ferrule	Metal
Reference cable	KSCR-SCR13050cm for attenuation measurement 0.5 m
Features	Incl. black boot and dust cap
Stripping	A2 / A6
Crimping	–
Polishing	P2 / P3 / P6

POF couplings



Coupling for F05 POF		Coupling for F07 POF		Coupling for FSMA POF		Coupling for ST POF	
Order no.	SKUP-2XF05-0010	Order no.	SKUP-2XF07-0010	Order no.	SKUP-2XSMA-0010	Order no.	SKUP-2XXST-0010
Fiber Ø	1000 µm	Fiber Ø	1000 µm	Fiber Ø	1000 µm	Fiber Ø	1000 µm
Ferrule	Plastic	Ferrule	Plastic	Ferrule	Metal without separate insert	Ferrule	Metal with metal insert

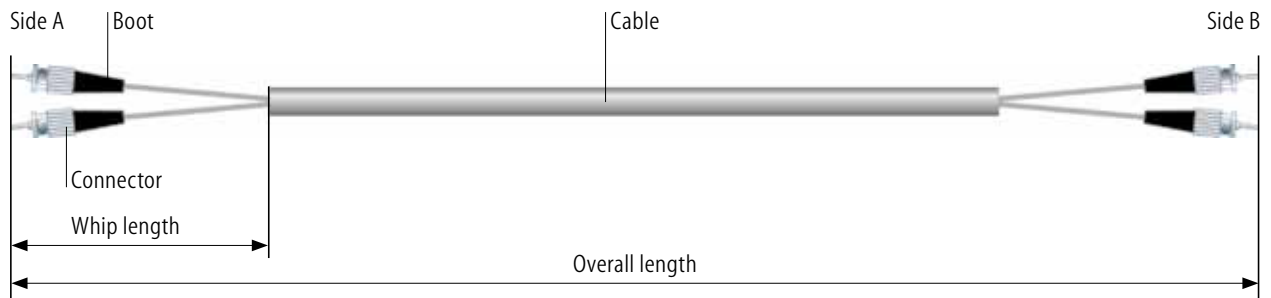


Coupling for HP POF		Coupling for HP POF		Coupling for SCRJ POF	
Order no.	SKUP-2XHPS-0020	Order no.	SKUP-2XHPS-0030	Order no.	SKUP-2XSCR-0010
Compatibility	HFBR 4515	Compatibility	HFBR 4505	Compatibility	—
Fiber Ø	1000 µm	Fiber Ø	1000 µm	Fiber Ø	1000 µm
Ferrule	Plastic without separate metal insert	Ferrule	Plastic without separate metal insert	Ferrule	Plastic with ceramic insert

Pre-assembled POF cables

Description of the structure of pre-assembled POF outdoor cables

- Standard whip lengths 20 ± 4 cm
- Overall length tolerances ($\pm 2\%$)



The production of fibers and cables in LEONI's own facilities and their careful assembly under laboratory conditions ensure superior properties and maximum reliability.

In addition to standard products, we offer a range of special product functionalities as well as customer-specific assembly, engineering and consulting.

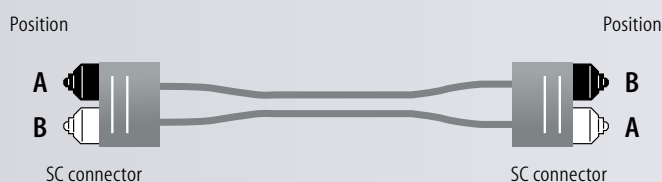
Service features

- All fiber and cable types (including hybrid cables)
- All connector types
- Every attenuation grade for different customer requirements
- Every length, even for small order sizes
- Delivery possible within 24 hours
- Customer-specific assembly
- Customer-specific cable printing
- Additional selective printing of the cable jacket during the process of cutting to length

Quality assurance

The optical attenuation is defined according to IEC60793-1-40 B for POF. The result is shown on the label.

Assembly with logical crossing (= no physical crossing)



Note on polarity

Please note that our products for standard and special assembly are produced acc. to ANSI/TIA/EIA-568-B.1 with logical crossing.

The products can also be assembled with physical crossing on request (please specify when ordering).

POF position switch



Position switch IP67

Order no.	H01x0015500AS0X900
Design	1S/10E snap-action contacts, swivel drive adjustable on right/left, stainless steel lever, 27 mm in length, with 19 mm plastic roller
Fiber type	POF 980/1000 µm
Insertion loss	POF switching mechanism 4 to 6 dB (650 nm) POF cable (84D052SIS) AT-V4YQ(ZN)B2Y 2P980/1000 650 nm (laser) max. 190 dB/km 660 nm (LED) typ. 290 dB/km
Housing	Metal
Protection class	IP66/67 in enclosed system with appropriate cable gland in the housing
Operating temperature	–40°C to +85°C (depending on cable type)
Scope of delivery	POF switching insert with 1x N/O contact and 1x N/C contact

Order number scheme for POF cable assembly

Cable assembly	K	K XST – XST 32 325 cm (example)
Connector type Side A		
BFOC (ST®)	XST	
FSMA	SMA	
HP simplex	HPS	
HP duplex	HPD	
F05, TOSLINK-compatible	F05	
F07, TOSLINK-compatible	F07	
SC	XSC	
SCRJ	SCR	
MIP (Most Insert Pin)	MIP	
MIS (Most Insert Socket)	MIS	
SMI	SMI	
Connector type Side B (see above)	E.g. XST	
POF cable code no.		
E.g. I-V2Y(ZN)HH	32	
AT-(ZN)V2Y2Y 2P980	37	
Length		
128, 010, etc.	E.g. 325	
Unit		
mm, cm, m, etc.	E.g. cm	
Variants		
Customer-specific		

Order example:

K XST-XST 32 325 cm

3.25 m, duplex connection cable (cable type: I-V2Y(ZN) HH2X1P980/1000, PMMA fiber with PE buffer tube and FRNC outer jacket) assembled with ST connectors