

# Fischer *FiberOptic* Series



Technical  
Specifications

## Connect<sup>2</sup>

Expertise | Reliability | Innovation

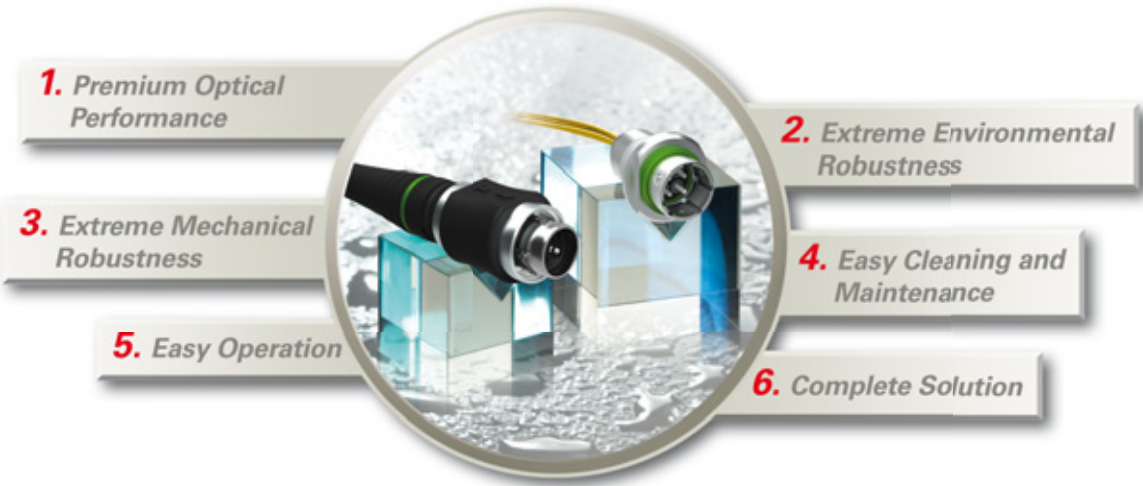


## Connect<sup>2</sup> Expertise

Fischer FiberOptic push-pull connector solutions are purpose built to withstand the elements of rugged and harsh environments, providing virtually faultless performance.

This rugged product line comes pre-cabled to save you time and money without compromise.

### Product Features & Your Benefits



#### 1. Premium Optical Performance (Exceeds IEC 61753-1 Cat. E - Extreme Environment)

- Extreme stability of the attenuation and back-reflection when environmentally exposed
- Single-mode APC option available when low back-reflection values needed
- 1'000 mating cycles without any degradation of the optical link performance



#### 2. Extreme Environmental Robustness

- IP68 ingress protection when mated or with caps
- IP67 sealing even unmated
- Gas tight receptacles available
- 1'000 hours salt mist corrosion resistance



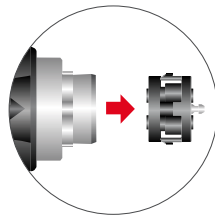
#### 3. Extreme Mechanical Robustness

- Optical performance insensitive to axial bending loads on cable and connector
- Proved vibration and shock resistance
- Mechanical coding with multiple keyways for unbeatable torque resistance



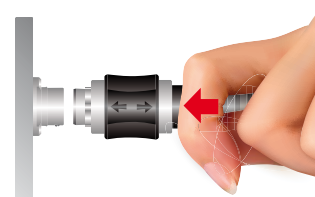
## 4. Easy Cleaning and Maintenance

- High ingress protection mated & unmated to guarantee connector functionality
- Waterproof unmated, i.e. cleanable with water or in ultrasonic bath
- Removable mono-block mate adapter for easy access to ferrules



## 5. Easy Operation

- Push-pull mating for quick handling and safe locking acknowledgment
- Ergonomic design allowing blind mating
- Designed for elegance and “affordance”



## 6. Complete Cable Assembly Solution

- Pre-cabled plugs and receptacles for fast and easy system integration
- Range of standard optical telecom connectors available
- Soft sealing caps for maximum protection when unmated
- Color rings on plug & receptacles available for easy identification

### Applications

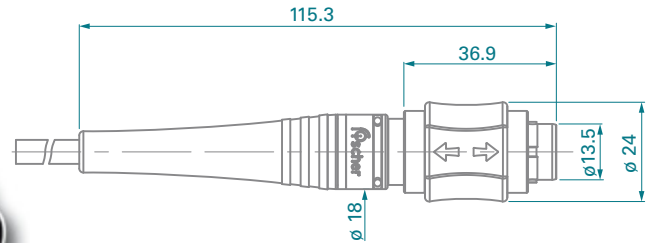
Fischer FiberOptic Series can be used in a wide range of fields requiring faultless quality in indoor, outdoor or for demanding applications, such as Transport, Telecom, Energy, Fiber Sensing, Defense & Security, Broadcast, Civil Construction or Medical Devices.



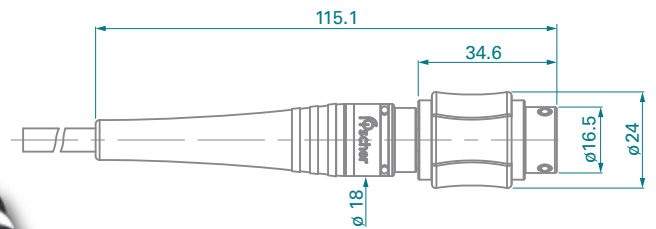
Technical Specifications

**Dimensions**

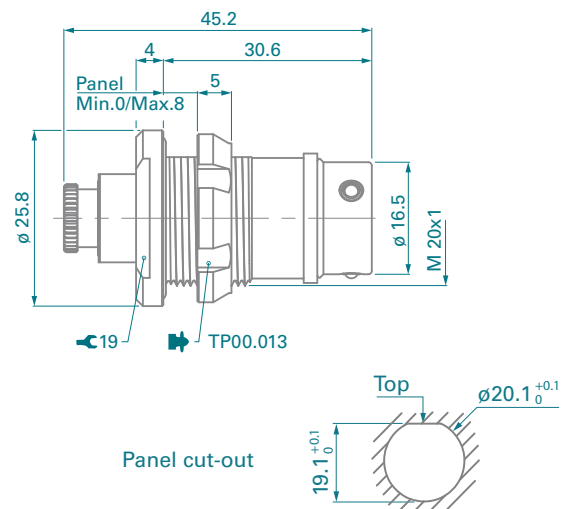
**FO P01: Cable mounted plug**



**FO R50: Cable mounted receptacle**



**FO R01: Panel rear mounted receptacles**

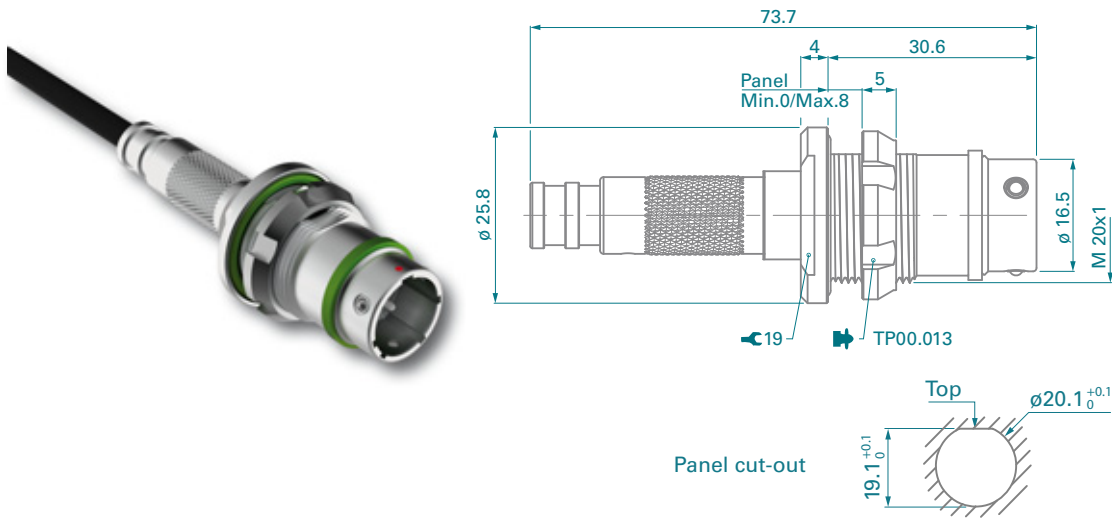


Technical Specifications

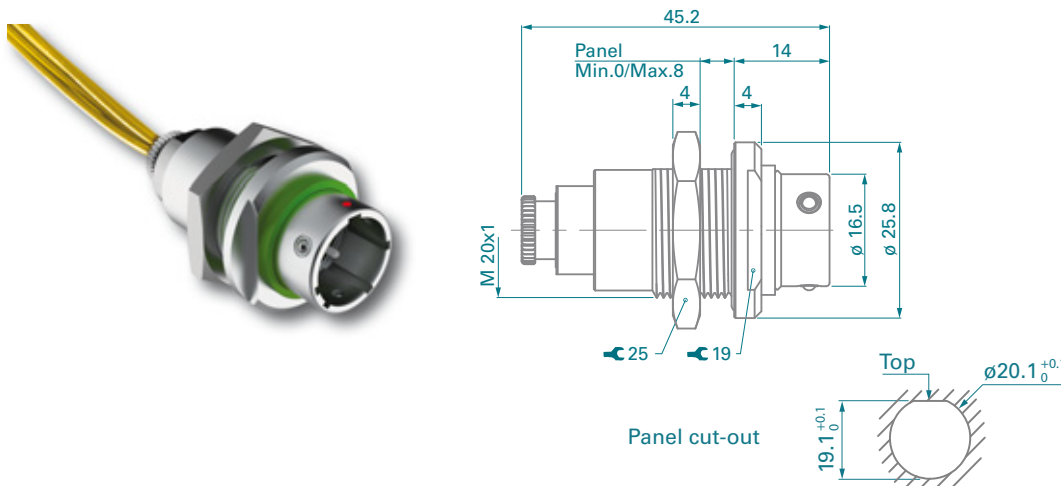
*All dimensions are in millimeters and are for reference only. They are subject to change without prior notice.*

Dimensions

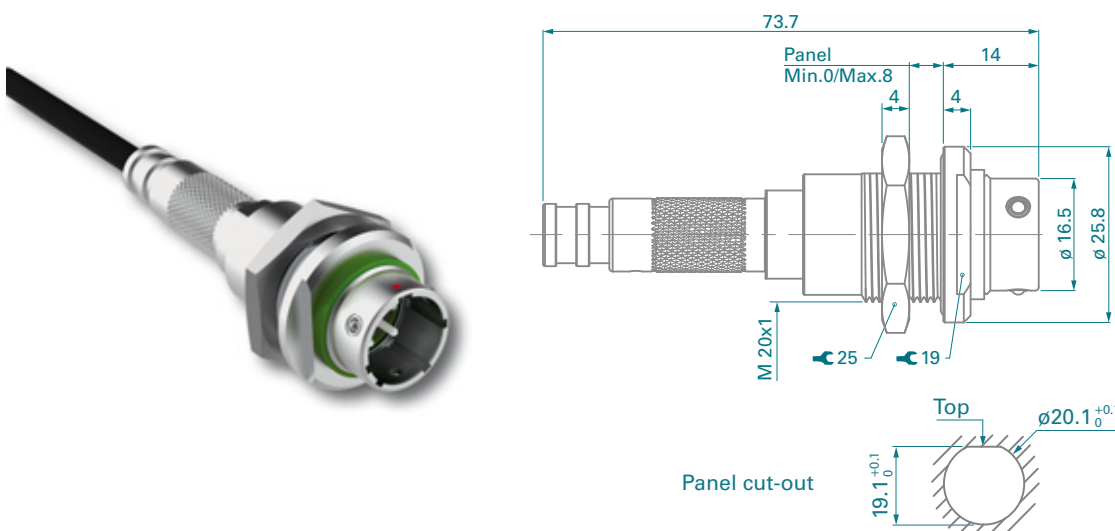
FO R01: Panel rear mounted receptacles - Gas tight



FO R03: Panel front mounted receptacles



FO R03: Panel front mounted receptacles - Gas tight



Technical Specifications

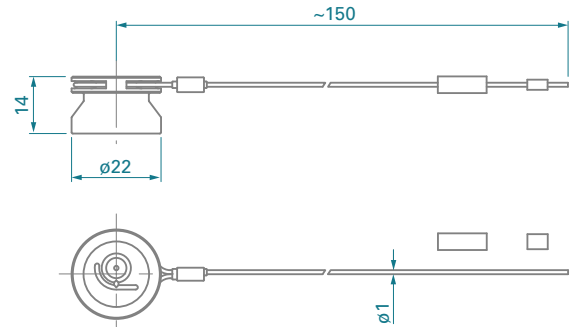
**Soft caps - Lanyard with Stainless Steel Cable\***

**Soft cap for cable mounted plug (spare part)**

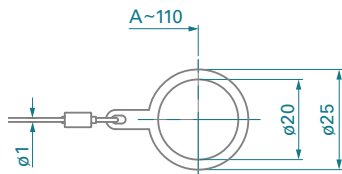
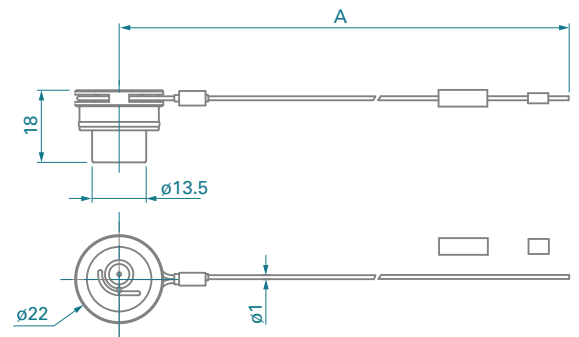


*Crimp ferrule and heat shrink tube are included.*

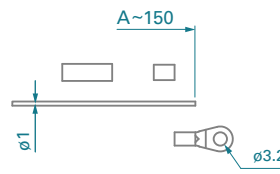
*Part number: F0CP14C 1B2 A150*



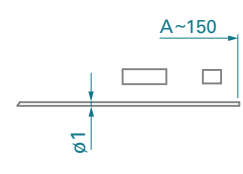
**Soft cap for receptacle (spare part)**



*for receptacle FO R01  
Part number: F0CR14P 1B2 A110*



*for receptacle FO R03  
Part number: F0CR14P 1B2 E150*



*for receptacle FO R50  
Part number: F0CR14C 1B2 A150*

*\* Supplied and assembled with plug and receptacles as standard  
All dimensions are in millimeters and are for reference only. They are subject to change without prior notice.*



## Cable Assembly Standard Product Configurator

**Quantity** - Please use one request form per cable assembly type

Cable Assembly Types	End A	End B
<input type="checkbox"/> Patch cord		
<input type="checkbox"/> Cable receptacle		
<input type="checkbox"/> Gas tight receptacle		
<input type="checkbox"/> Breakout		


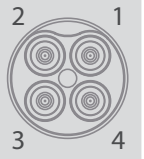
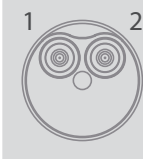

Drawings are for reference only. All types exist for F02 and F04

End A	Assembly	End B
<b>FiberOptic Connector</b> <input type="checkbox"/> P01 - Plug <input type="checkbox"/> R50 - Receptacle <i>Cable Mounted</i> <input type="checkbox"/> R01 - Receptacle <i>Panel Rear Mounted</i> <input type="checkbox"/> R03 - Receptacle <i>Panel Front Mounted</i>	<b>Fiber Type</b> <input type="checkbox"/> SM 9/125um G.657A1 <input type="checkbox"/> MM 50/125um OM3 <input type="checkbox"/> MM 62.5/125um OM1+  <b>Total length <math>L_{tot}</math></b> <i>end-to-end total</i> <i>(min. 0.5)</i> <input type="checkbox"/> 1 meter <input type="checkbox"/> 2 meters <input type="text"/> <input type="text"/>  <i>Cable length in 0.1 meter units only</i> <i>Cable length tolerance according IPC-WHMA-A-620</i>	<b>FiberOptic Connector</b> <input type="checkbox"/> CNA - Free End <i>No Connector</i> <input type="checkbox"/> P01 - Plug <input type="checkbox"/> R50 - Receptacle <i>Cable Mounted</i> <input type="checkbox"/> R01 - Receptacle <i>Panel Rear Mounted</i> <input type="checkbox"/> R03 - Receptacle <i>Panel Front Mounted</i>
<b>Contact End-face</b> <i>Available for SM only</i> <input type="checkbox"/> 0° PC <input type="checkbox"/> 8° APC	<b>Fiber Count</b> <input type="checkbox"/> 2 <input type="checkbox"/> 4  <b>Breakout Length <math>L_b</math></b> <i>for breakout type only</i> <i>(if applicable / min. 0.3)</i> <input type="checkbox"/> 0.5 meter <input type="checkbox"/> 1 meter <input type="text"/> <input type="text"/>	<b>Telecom Connector</b> <input type="checkbox"/> LC <input type="checkbox"/> SC <input type="checkbox"/> FC  <b>Contact End-face</b> <i>Available for SM only</i> <input type="checkbox"/> 0° PC <input type="checkbox"/> 8° APC
<b>Options End A</b> <input type="checkbox"/> Receptacle - Gas tight		<b>Options End B</b> <input type="checkbox"/> Receptacle - Gas tight

## Accessory List

Color Silicon Rings	Sleeves Holder Mate Adapter	Open End Spanner	Nut Driver
 <input type="checkbox"/> Ref: FO CR 14 Beige <input type="checkbox"/> Ref: FO CR 14 Blue <input type="checkbox"/> Ref: FO CR 14 Red <input type="checkbox"/> Ref: FO CR 14 Green	 <input type="checkbox"/> Ref: FOP14 219472	 <input type="checkbox"/> Ref: TX00.025 <input type="checkbox"/> Ref: TX00.019	 <input type="checkbox"/> Ref: TP00.013

## Fiber Type and Pin Layout

Contact Type		Fiber standards	Plug Pin Layout		Receptacle Pin Layout	
Single-mode 9/125	UPC	G.657.A1				
Single-mode 9/125	APC					
Multi-mode 50/125	-	OM3				
Multi-mode 62.5/125	-	OM1+				

## Technical Data

### Environmental & Mechanical Data

Characteristic	Performance	Standard
Sealing Mated	IP68; 2m submersion for 24 hours <sup>1)</sup>	IEC 60529
Sealing Unmated	IP67 <sup>1)</sup>	IEC 60529
Operating Temperature Range	-40°C to +85°C (depending on fiber-optic cable)	IEC 61300-2-22
Vibration	Sinusoidal, 10 - 55Hz, 3 axes, 0.75 mm amplitude <sup>1)</sup>	IEC 61300-2-1
Shock	100 g <sup>1)</sup>	IEC 61300-2-9
Salt Mist	1'000 hours, 5% salt solution, 35°C <sup>1)</sup>	IEC 61300-2-26
Mating Durability	1'000 mating cycles <sup>1)2)</sup>	IEC 61300-2-2

<sup>1)</sup> Exceeds IEC 61753-1 Cat.E Extreme Environment.

<sup>2)</sup> Recommended cleaning every 50 cycles

### Optical Data

Characteristic	Performance	Standard	
Insertion Loss	SM and MM	≤0.20 dB mean	IEC 61300-3-34 Random mated
		≤0.45 dB max for >97% of samples	
		≤0.2 dB change during and after testing	
Return Loss	SM UPC	≥50 dB	IEC 61300-3-6 Random mated
	SM APC	≥70 dB (mated) and ≥50 dB (unmated)	

### Material & Surface Treatments

Metal Parts	Material		Finish	
	Designation	ISO	Designation	Standard
Housing, Nut	Brass		Chrome over Nickel	SAE-AMS2460
	CuZn39Pb3			
Back Nut (Plug)	Brass		Nickel	SAE-AMS-QQ-N-290 SAE-AMS2404
	CuZn39Pb3			
Spring	Stainless Steel	X10CrNi18-8 (1.4310)	-	-
Mantel Clip	Stainless Steel	X5CrNiMo18-10 (1.44001)	-	-
Sleeve holder shaft	Stainless Steel	X8CrNiS18-9(1.4305)	-	-

Other Parts	Material	Flammability
Ferrules & Sleeves	Zirconia	-
Contact Housing	LCP	UL 94 V-0
Contact Bloc & Sleeves Holder	PBT	UL 94 V-0
Mantel Ring	PTFE	UL 94 V-0
O-rings	FPM (Viton®)	UL 94 V-0
	NR (Nitrile)	UL 94 V-0
Sealant Material Cable receptacles & plugs	Bi-component epoxy	-
Cable Strain Relief Cable plugs	TPU	UL 94 V-0

Ref: TP00.013



Our products are RoHS compliant and conform with the EC Directive 2002/95/EC and with the EU Directive 2011/65/EU.



# Fischer sales network

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## Fischer FiberOptic Series



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