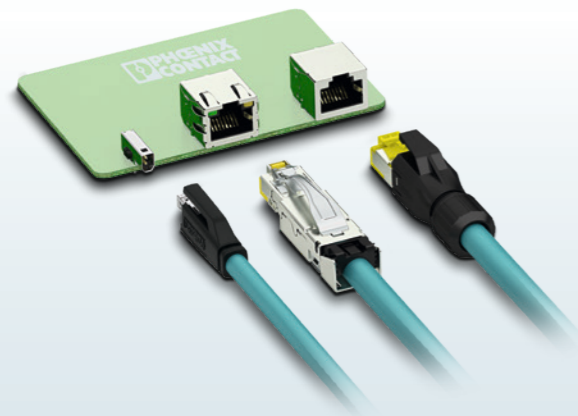


# Data connectors

Product overview 2020/2021

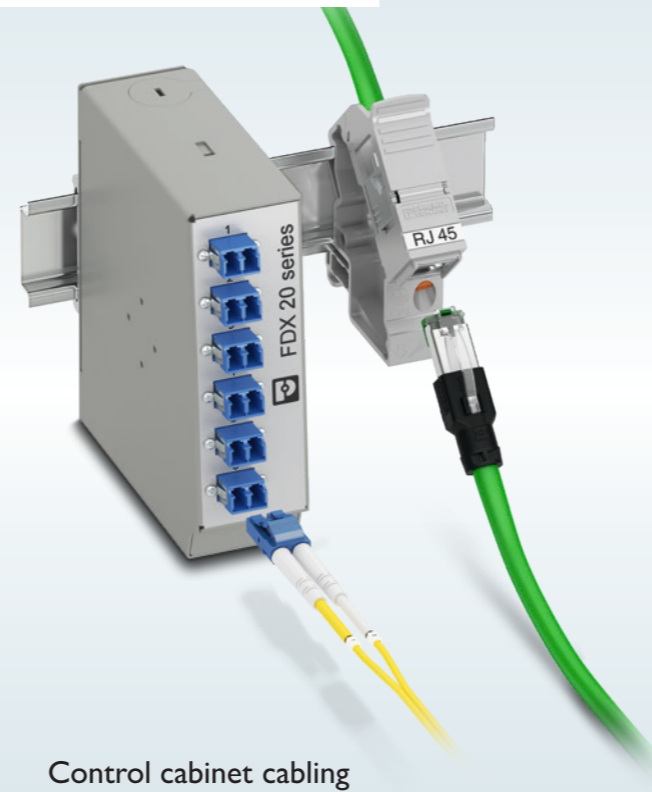
# Reliable data connectors for copper and FO applications

Phoenix Contact provides reliable data connectors for a huge range of industrial and semi-industrial applications. Whether for copper or fiber optics, protection classes IP20 or IP69K – our connection solutions satisfy the highest of demands. Splice boxes, distributors, and adapters round out the comprehensive solution range.



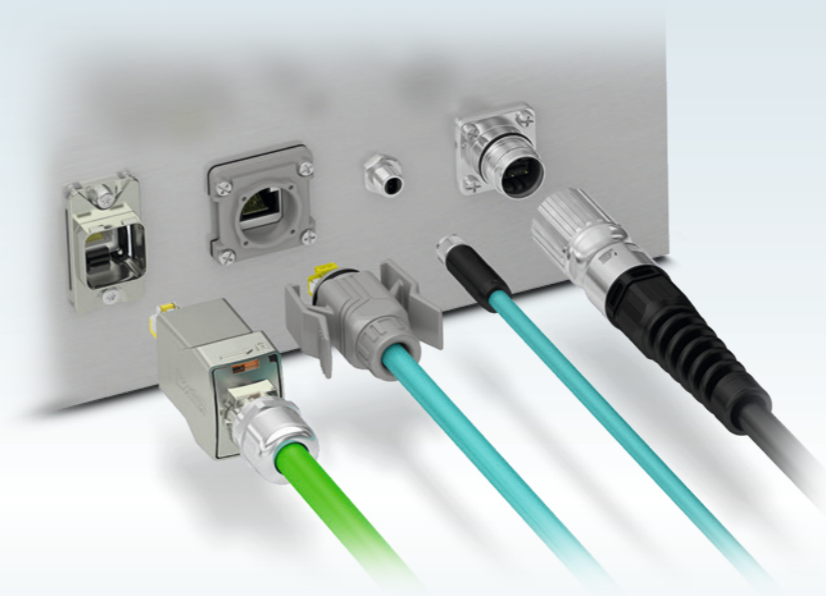
## Device connectors

Phoenix Contact has the right device connector for your application. From RJ45 jacks for printed circuit boards, through M5 to M12 panel feed-throughs, right through to D-SUB connectors, Phoenix Contact has a comprehensive portfolio of different pin connector patterns for a wide range of transmission properties.



## Control cabinet cabling

Along with classic connectors, the product portfolio also includes creative solutions for your control cabinet application. The Phoenix Contact DIN rail adapters and splice boxes combine the highest packing densities with easy handling.



## Field cabling

From the IP20 degree of protection right through to IP67, Phoenix Contact enables easy assembly without the need for special tools and provides reliable components for every application. Whether for direct machine connections, in buildings, or even outdoors, Phoenix Contact connection solutions are the perfect choice in any environment.

## Contents

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## Find out more with the web code

For detailed information, use the web codes provided in this brochure. Simply enter the # and the four-digit number in the search field on our website.

**i** Web code: #1234 (example)

Or use the direct link:  
[phoenixcontact.net/webcode/#1234](https://phoenixcontact.net/webcode/#1234)

# Unique variety for copper and FO cabling

Create consistent solutions for secure data transmission at speeds of up to 40 Gbps with our wide range of designs, codings, and pin assignments.

## Always the right connection



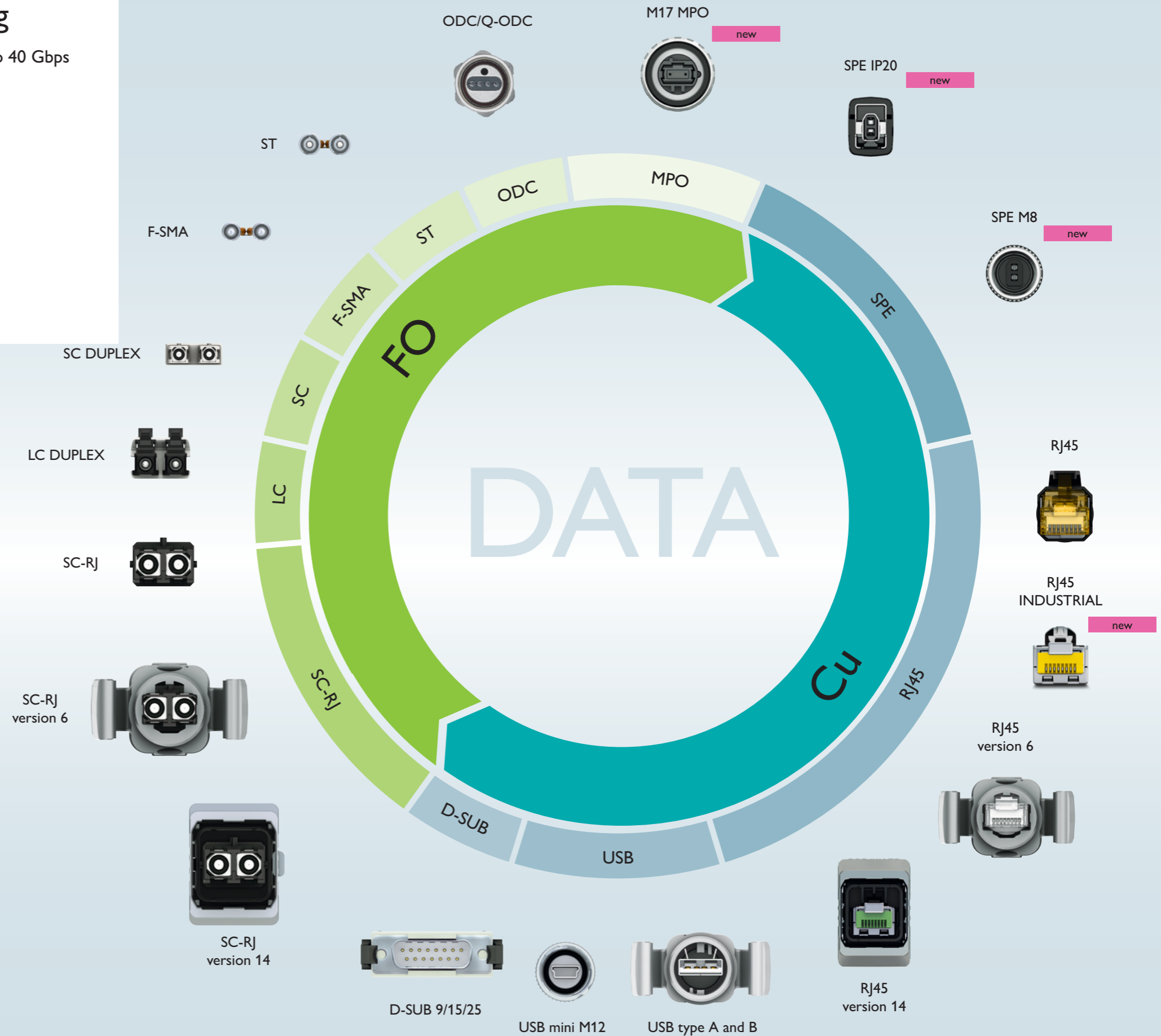
For compact device connections



For flexible on-site connections



For easy cabling



# Copper-based data cabling for networks and fieldbuses

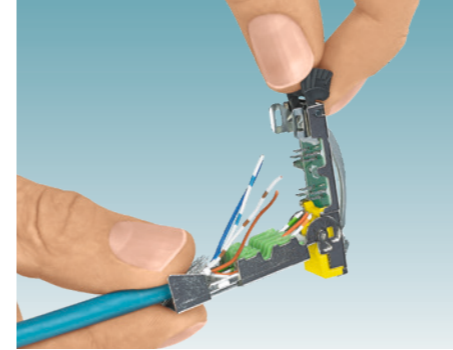
Complex automation processes call for high volumes of data at ever-increasing transmission speeds. Benefit from high-performance connectors and cables for simple assembly on site. Whether future-proof high-speed cabling up to 10 Gbps or innovative hybrid cabling – we have the perfect solution for your automation network.



## Main features

- Transmission speeds of up to 10 Gbps
- Solutions from IP20 through to IP69K
- Spring, pierce, and IDC connection
- 360° shielding concepts

## Your advantages at a glance



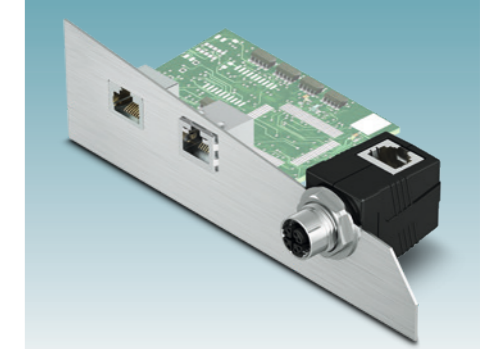
### Fast assembly

without special tools – with IDC and pierce fast connection.



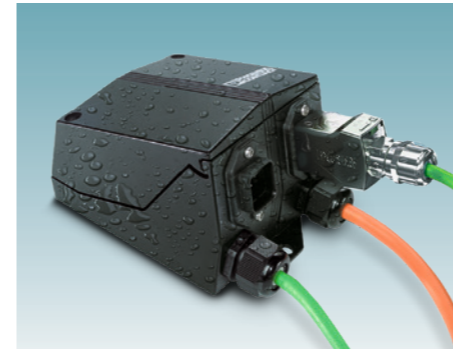
### Wide range of plugs

from RJ45, through USB and D-SUB, right through to M12.



### Flexible device connection

with versatile housing feed-throughs for devices and control cabinets.



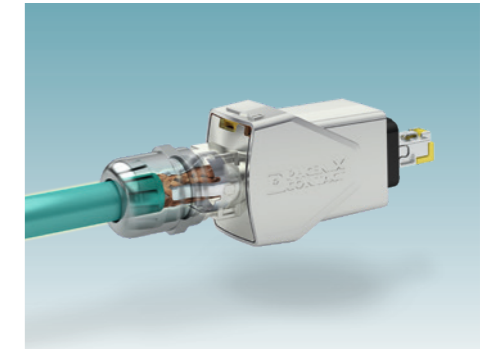
### Reliable protection

against extreme temperatures, liquids, vibrations, and UV light.



### Fast data transmission

with data rates of up to 10 Gbps and components in accordance with the CAT6<sub>A</sub> standard.



### Special shielding concepts

with 360° EMC shielding guarantee a high level of resistance to EMI and ESD.

## Choose a flexible type of cabling

Whether for machine building and systems manufacturing, building automation or process automation – with copper-based data connectors from Phoenix Contact, you are opting for a flexible type of cabling that supports a wide range of bus systems:

- EtherNet/IP™, Ethernet, VARAN
- EtherCAT®, PROFINET, Sercos®
- INTERBUS, PROFIBUS, CANopen®
- DeviceNet™, CC-Link

# FO-based data cabling for networks and fieldbuses

High transmission speed, low attenuation, resistance to electromagnetic interference: FO cables are a modern transmission medium for industrial systems and infrastructure applications. Whatever the fiber type or interface – you can choose the right connection technology from our extensive portfolio.



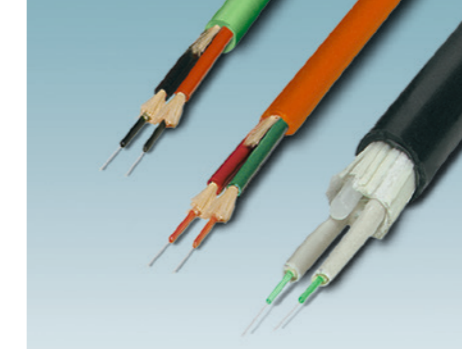
## Main features

- Transmission speeds of up to 40 Gbps
- Solutions for IP20, IP65/IP67, and IP68
- For all common fiber types
- Maximum protection against the effects of EMI and ESD

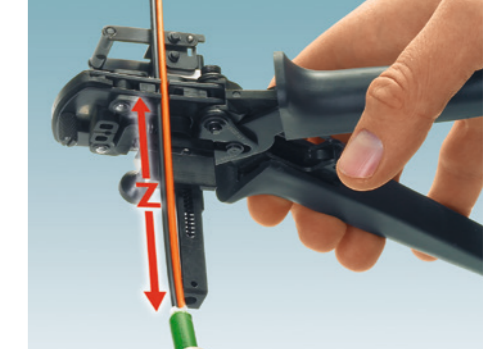
## Your advantages at a glance



**Wide choice of versions**  
from SC-RJ, LC, SC, F-SMA through to ST, plus fiber types POF, PCF, and GOF.



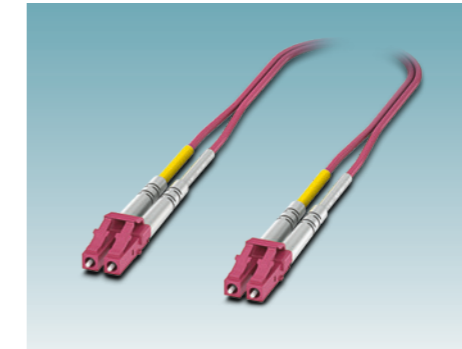
**Comprehensive range of cables**  
for all applications, networks, and standard interfaces.



**Fast assembly**  
in the field using professional tools.



**Reliable protection**  
against extreme temperatures, liquids, and UV light.



**Large selection**  
of patch-cable versions for all typical connection methods.



**High packing density**  
and large-area splice tray in splice boxes for DIN rail and 19" mounting.

## Choose the right fiber type for your application

- POF (Polymer Optical Fiber) for short transmission paths of up to 75 m and data rates of up to max. 100 Mbps
- PCF (Polymer-Clad Fiber) for medium-length transmission paths of up to 500 m and data rates of up to max. 1 Gbps
- GOF (Glass Optical Fiber) multimode for long transmission paths of up to 550 m at 10 Gbps
- GOF single mode for up to 50 km and data rates of up to 40 Gbps

# Industrial device connections RJ45, D-SUB, and M8-M12

Special shielding concepts and torsion-resistant, perfectly coordinated components are essential for the reliable operation of robots and conveying systems. Use Phoenix Contact's reliable and consistent product range for error-free data transmission.

## Product overview



### RJ45-INDUSTRIAL device connectors

The RJ45-INDUSTRIAL jacks for PCB mounting in combination with the RJ45-INDUSTRIAL connectors are the perfect connector system. The precisely coordinated components guarantee the highest transmission reliability in industrial applications. Optional LEDs and shield springs complete the portfolio.



### RJ45 single-port PCB device connectors

The Phoenix Contact RJ45 PCB jacks are a cost-effective choice for reliable data transmissions. With a range of connection options including SMD, THR, and wave-soldering, these PCB jacks are suitable for a wide range of applications.



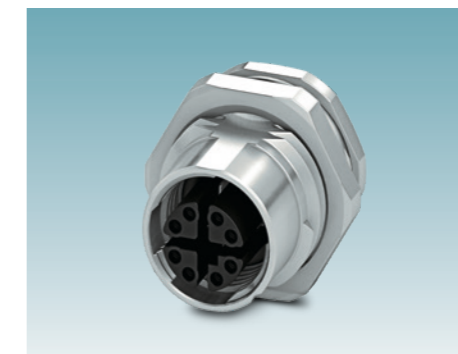
### RJ45 multi-port PCB device connectors

The RJ45 multi-port device connectors round out the RJ45 PCB connector product range perfectly. Compact devices enable high powers in confined spaces. Phoenix Contact has versions for different locking clip positions as well as optional LEDs.



### Single Pair Ethernet device connectors

The compact SPE device connectors are standardized in accordance with IEC 63171-2 and IEC 63171-5. The compact design enables very high packing densities, and therefore smaller device designs. The suitability for reflow soldering, the 360° shielding, and robust latching form the basis for the industrial data interface of the future.



### M8-M12 female connectors

Phoenix Contact provides a wide range of one-piece and two-piece device connectors for PCB mounting in the M8 and M12 designs. You can therefore choose from a wide range of connection solutions for wave, THR, and SMD soldering processes. The two-piece connectors enable you to realize all numbers of positions and codings for signal, data, and power supply in identical mechanical installation conditions.



### D-SUB contact inserts

The D-SUB contact carrier product range provides solutions for individual areas of application, from the standard contact insert, through 44-position high density contact inserts, right through to hybrid contact inserts for signal and power transmission.

**i** Web code: #2240

# Components for your control cabinet

Select the fiber optics or copper components and cabling solutions for Ethernet and PROFINET applications that suit your data transmission system. The extensive product range for control cabinet applications provides the right solution for your requirements.

## Product overview



### Splice boxes

The FDX 20 series splice boxes ensure continuously reliable real-time data transmission. With their compact and uniform design, the splice boxes for both DIN rail and 19" mounting provide plenty of interior space for the secure connection of fiber optics.



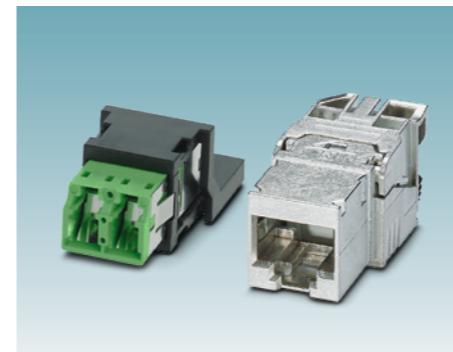
### 19" distributors

High packing densities, greater flexibility: the 19" marshalling panels simplify FO cabling and are therefore ideal for real-time data transmission. The modular design enables a variety of applications such as power distribution and process technology.



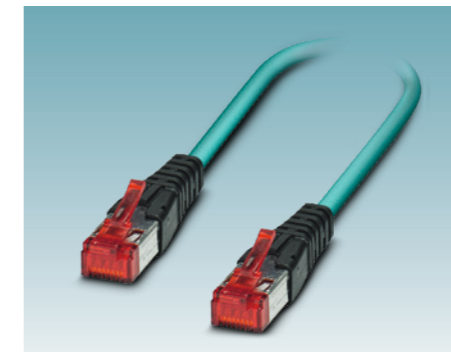
### DIN rail adapters

The universal DIN rail adapters offer maximum flexibility in the tightest space. The one-piece housing snaps quickly and easily onto the DIN rail. Module inserts with RJ45, SC simplex, LC duplex, and MTP connections are available for data transmission with copper and FO conductors.



### FO and copper couplings

The cable connections for RJ45 and coupling modules for RJ45 and fiber optics provide a reliable connection for your conductors and the reliable transmission of data through the interface. The versions for Freenet and Keystone can be integrated into existing panel mounting frames or integrated directly into the DIN rail adapter.



### RJ45 patch cables

The RJ45 patch cables for control cabinet cabling and building cabling are available in various performance classes. From CAT5 with up to 1 Gbps through to CAT6<sub>A</sub> with up to 10 Gbps, Phoenix Contact provides cables with the right materials and shielding for your application.



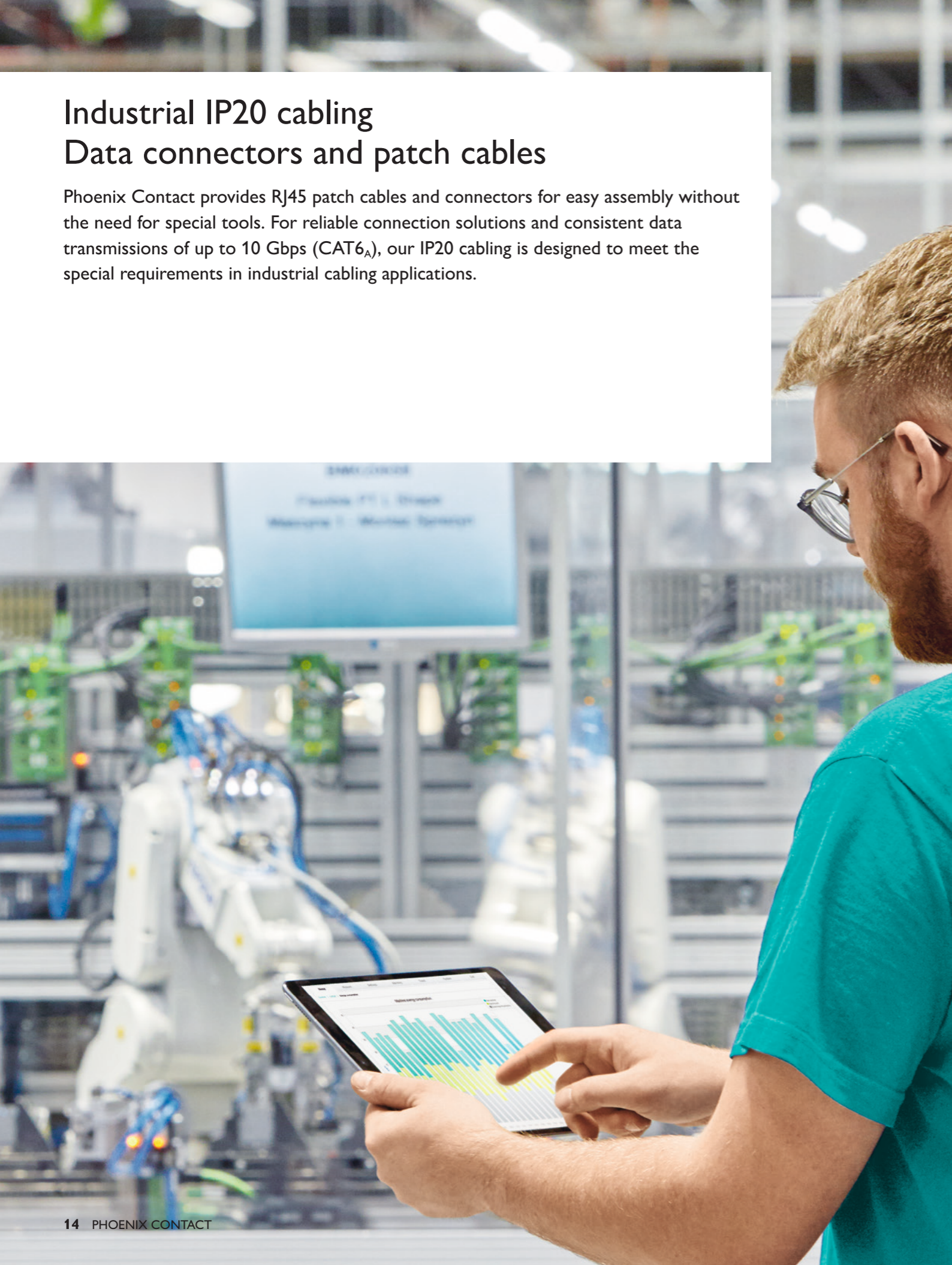
### Bulkheads

The compact control cabinet feed-throughs provide the highest level of flexibility for through-panel applications with an interface change. They are available in various outlet directions and for various M12 codings.

# Industrial IP20 cabling

## Data connectors and patch cables

Phoenix Contact provides RJ45 patch cables and connectors for easy assembly without the need for special tools. For reliable connection solutions and consistent data transmissions of up to 10 Gbps (CAT6<sub>A</sub>), our IP20 cabling is designed to meet the special requirements in industrial cabling applications.



### Product overview



**RJ45-INDUSTRIAL CAT6<sub>A</sub> connectors**

The new RJ45-INDUSTRIAL connectors for data transmission speeds of up to 10 Gbps are the future-oriented solution for your interface. The connectors are specially developed for industrial use and guarantee ideal protection of the connection against vibrations. Furthermore, the new, one-piece design and assembly enable easy handling without the need for special tools.



**RJ45-INDUSTRIAL CAT5 connectors**

The proven RJ45-INDUSTRIAL connectors handle data rates of up to 1 Gbps. The secure shielding against external electrical interferences and the robust design guarantee reliable transmission ideal for industrial environments. The intuitive assembly system of the one-piece connector, which does away with the need for special tools, also saves valuable time during installation and prevents a variety of application-specific errors.



**SPE connectors**

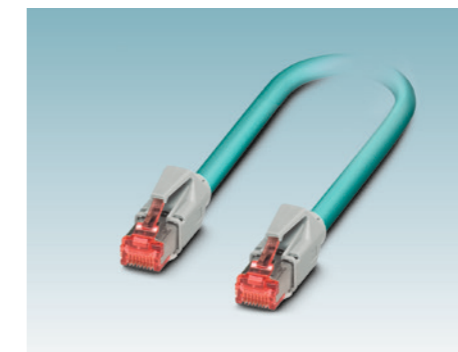
The new SPE connectors and patch cables comply with IEC 63171-2. Using the state-of-the-art SPE interfaces can reduce space requirements and installation work.

**i Web code: #2240**



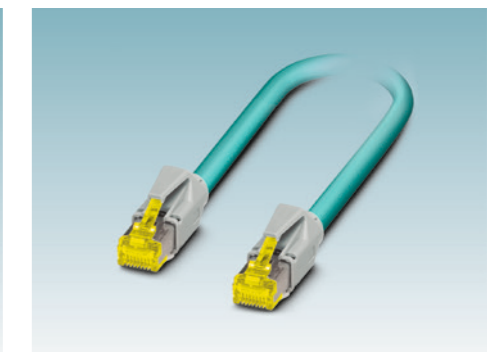
**PROFINET patch cables**

Thanks to a large selection of cable types, the RJ45 patch cables for PROFINET provide the ideal solution for a variety of applications. Along with cables for drag-chain and robotics applications, versions are also available for railway technology applications, among others.



**CAT5 Industrial Ethernet patch cables**

The Industrial Ethernet patch cables for transmission category 5 provide reliable data transmission of up to 1 Gbps. Along with versions in various lengths, different cable types are also available for a wide range of applications.



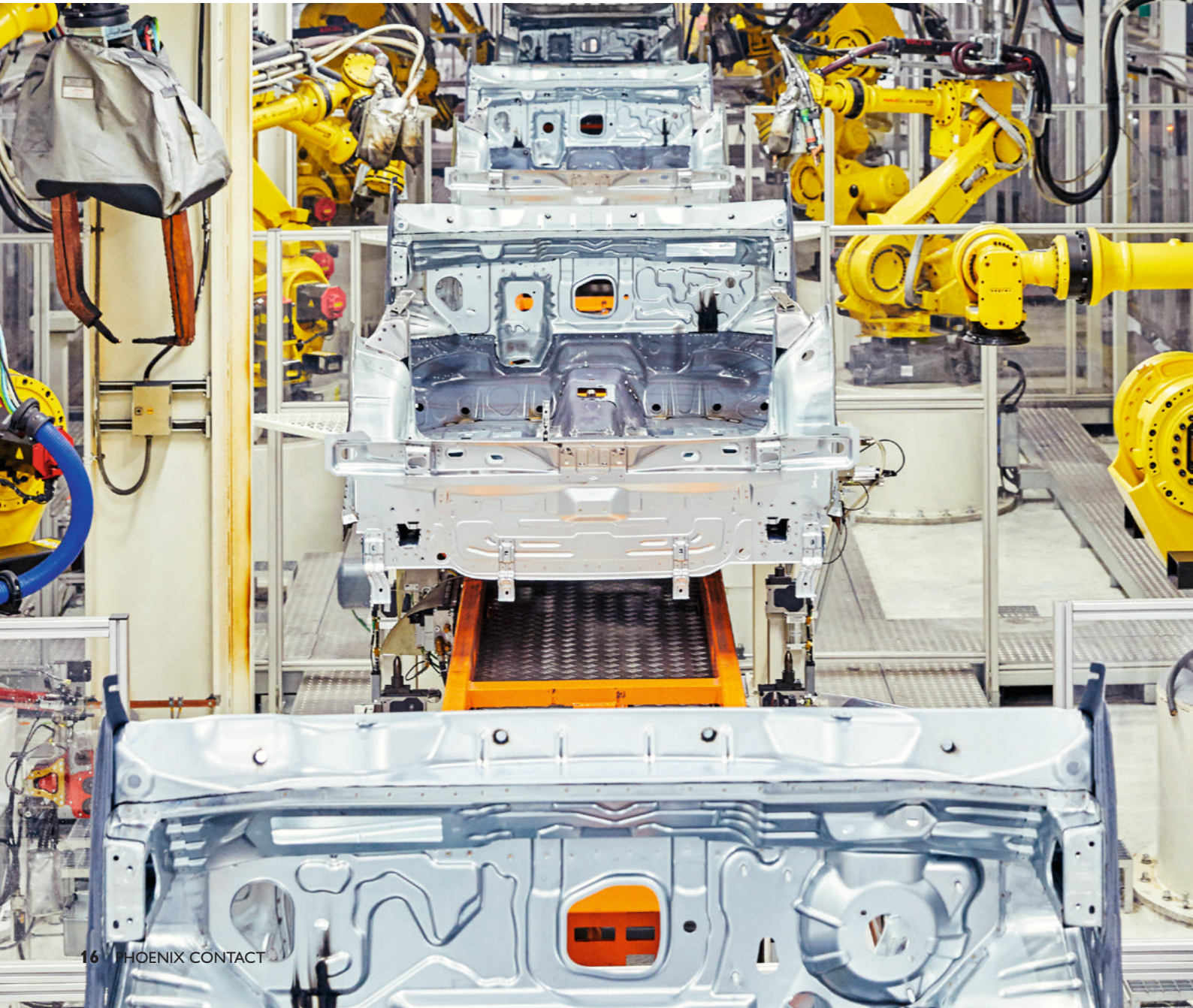
**CAT6<sub>A</sub> Industrial Ethernet patch cables**

Phoenix Contact provides assembled patch cables in the transmission category CAT6<sub>A</sub> for high data transmission speeds of up to 10 Gbps.

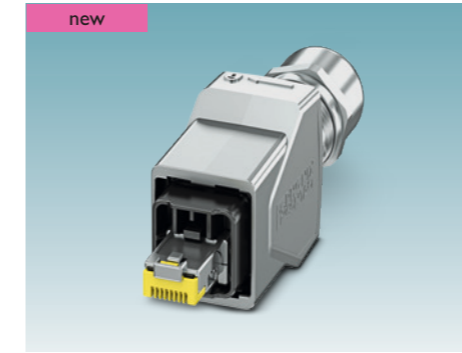


# Industrial IP6X cabling Push-pull connectors

Special shielding concepts and torsion-resistant components are essential for the reliable operation of robots and conveying systems. Use Phoenix Contact's reliable and consistent product range for error-free data transmission.



## Product overview



### Version 14 RJ45 connectors

Push-pull ADVANCE is the new connector for PROFINET and Ethernet cabling with the higher IP65/IP67 protection class. Thanks to its 360° shielding and the optional mechanical locking mechanism, it provides maximum safety in field applications.



### Version 14 FO connectors

Thanks to the robust design, the IP65/IP67 protection class, and an optional mechanical latching system, the push-pull ADVANCE connectors provide maximum safety for FO cabling in the field.



### SPE-M8 connectors

The new SPE-M8 cable and device connectors are the Ethernet interface for industrial field cabling of the future. Established inductive sensors can be connected to the Ethernet protocol easily using the standardized connectors in accordance with IEC 63171-5.

**i** Web code: #2240



### Push-pull power

The push-pull ADVANCE connectors are suitable for power transmission up to 24 V and 16 A. The IP65/IP67 connectors have a one-piece zinc die-cast housing with a large wiring space for outer cable diameters of 6.5 mm to 13 mm. The interlock prevents inadvertent removal.



### Push-pull panel mounting frames

The push-pull ADVANCE panel mounting frames for data connectors are made from robust die-cast zinc and are ideal for industrial applications. The IP65/IP67 panel mounting frames are designed for the connection of RJ45 or SCRJ connectors. They therefore support flexible solutions for data transmission.



### Push-pull outlets

Thanks to the flexible options for combining power and data interfaces, push-pull outlets are ideal for creating IP-protected interfaces from free cable ends.

# Office and building cabling

## Data connectors and patch cables

Our connectors and patch cables enable you to realize secure and flexible cabling in your building. From copper-based transmissions of up to 10 Gbps through to FO transmissions of up to 40 Gbps, Phoenix Contact provides the right solution for any application.

### Product overview



#### RJ45 QUICKON connectors

The RJ45 connectors with QUICKON fast connection technology for assembling without the need for special tools guarantee quick and easy installation in the field. Phoenix Contact provides connectors for PROFINET cabling up to 1 Gbps and Ethernet cabling up to 10 Gbps, depending on the application.



#### RJ45 crimp connectors

The RJ45 connectors with crimp connection technology ensure a secure cabling solution for data transmissions from CAT5 through to CAT6<sub>A</sub>.



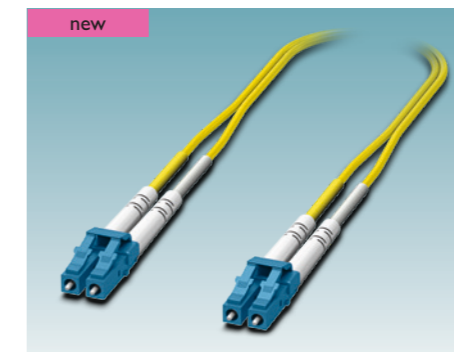
#### RJ45 patch cables

The pre-assembled RJ45 office patch cables feature easy handling and a secure connection for your devices. Special sheathing material for the cabling within buildings and the protective element for the locking clips guarantee ideal and durable cabling in your buildings.



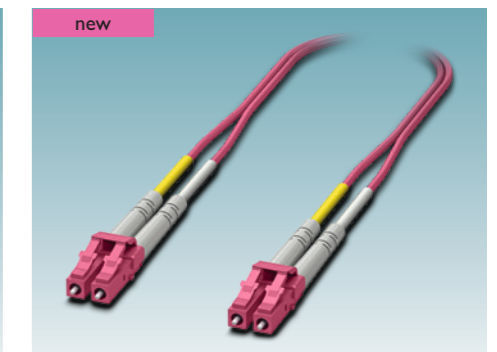
#### FO connectors

The innovative FO connectors feature high process reliability and are quick and easy to connect. Multimode and single-mode versions are available for quartz glass. Furthermore, these connectors can also be re-used.



#### FO single-mode patch cables

The new Phoenix Contact FO single-mode patch cables are high-quality cabling solutions and are ideally suited for high-speed cabling with data rates of up to 40 Gbps across distances of up to 40 km.



#### FO multimode patch cables

Thanks to their exceptional quality, the new FO multimode patch cables provide the ideal conditions for reliable data transmission. Various connector combinations and cable lengths enable a custom solution to be created for any application.

## Data connectors for outdoor applications

High demands are placed on components used for outdoor data transmission, for example, in fields such as telecommunications and renewable energy. Phoenix Contact provides special connectors for outdoor applications. These can withstand aggressive environmental conditions with extreme temperature variations, humidity, UV rays, and vibrations.



### Product overview



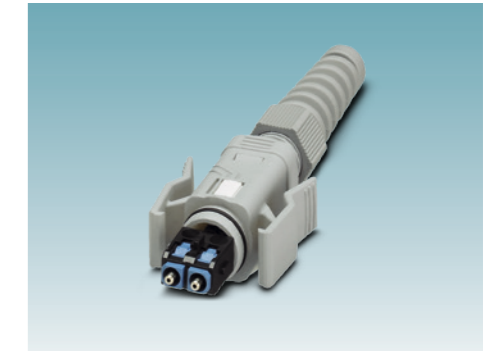
#### Multi-fiber FO connectors

Industrial-standard multi-fiber data connectors are ideally suited for real-time data transmission in intelligent power grids. The robust interfaces feature high-quality fiber optics which ensure stable bandwidths over long transmission distances.



#### Version 6 RJ45 connectors

The version 6 data connectors from Phoenix Contact are a cost-effective option for IP-protected connectors. The portfolio of packaged RJ45 connectors includes versions with IDC and crimp connections for CAT5 and CAT6<sub>A</sub> applications, as well as pre-assembled patch cables.



#### Version 6 FO connectors

The version 6 data connectors, developed in-house by Phoenix Contact, are a cost-effective option for IP-protected connectors. The practical latching wings ensure a reliable connection with the corresponding panel mounting frame and can be operated easily.



#### Version 6 panel mounting frames

The version 6 panel mounting frames are a convenient and simple option for creating a secure IP-protection connection between version 6 data connectors and devices.



#### Version 6 panel mounting frames and inserts


The version 6 panel mounting frames can be extended to create the matching insert for your mating connector by adding the appropriate coupling modules for RJ45 and FO connections, as well as the cable connection modules for copper connections.



#### D-SUB IP6X housings

The IP-protected plastic housing for D-SUB connectors ensure a reliable connection for your interface, even under harsh conditions. The optional protective caps provide reliable protection even when a connector is not plugged in.


## Product application overview of data connectors

	Application	Industrial device connection	Components for the control cabinet	Industrial IP20 cabling	Industrial IP6X cabling	Office and building cabling	IP6X data cabling	
<b>Copper</b>								
<b>RJ45</b>		Female/coupling	24–25	29		32–33, 44–45	44–45	
		Male			30–31	32, 38, 44	38	44
		Patch cable			30–31	34–35	38–39	
<b>M8–M12</b>		Female	25					
		Male				37		
<b>D-SUB</b>		Contact insert	26					
		Panel mounting frame/sleeve housing	27					
<b>USB</b>		Female				45	45	
		Patch cable				39		
<b>Power</b>		Female				36		
		Male				36		

	Application	Industrial device connection	Components for the control cabinet	Industrial IP20 cabling	Industrial IP6X cabling	Office and building cabling	IP6X data cabling			
<b>FO</b>										
<b>POF, PCF, and GOF</b>		Coupling			29		32–33	40	45	
		Male					32	40	44	
		Patch cable							41	42–43
<b>Splice boxes</b>		DIN rail				28				
		19"				28				
<b>Copper/FO</b>										
<b>Distributors</b>						29				

## Products for industrial device connection


### RJ45-INDUSTRIAL PCB jacks

new				
				
<b>i</b> Web code: #2059				
<b>Soldering process</b>	Wave/THR			
<b>Alignment</b>	90° horizontal		180° vertical	
<b>Housing shield springs</b>	Yes	No	Yes	No
<b>Without LED</b>	1099280	1091946	1099279	1091942
<b>With LED</b>	1099281	1091950	1099282	1091947

### RJ45 single-port PCB jacks

new						
						
<b>i</b> Web code: #2341						
<b>Soldering process</b>	SMD			Wave		
<b>Alignment</b>	180° vertical	90° horizontal		180° vertical	90° horizontal	
<b>Locking clip</b>		Top	Bottom		Top	Bottom
<b>Without LED</b>	1149611	1149882	1149874	1149872	1149870	1149868
<b>With LED</b>		1149873		1149871	1149867	1149866


### RJ45 multi-port PCB jacks

new				
				
<b>i</b> Web code: #2341				
<b>Soldering process</b>	Wave			
<b>Alignment</b>	90° horizontal			
<b>RJ45 ports</b>	2		4	
<b>Locking clip</b>	Top	Bottom	Top	Bottom
<b>Without LED</b>	1149858	1149855	1149851	1149849
<b>With LED</b>	1149854	1149852	1149848	1149616


### M12 device connectors with PCB connection

new							
							
<b>i</b> Web code: #0222							
<b>Network</b>	<b>Technology</b>	<b>Wave soldering</b>		<b>THR</b>		<b>SMD</b>	
		<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
<b>Ethernet</b>	CAT5, 4-pos.	1456514	1456527	1552214	1551451	1411956	1411950
	CAT, 8-pos.	1456530	1456543	1557578	1557549		
	CAT, 8-pos. hybrid		1407503		1405225		1411965
	CAT6 <sub>A</sub> , 8-pos.		1424177		1402457		1411964
<b>PROFINET</b>	4-pos.	1456556	1456569	1552175	1542648		
<b>Sercos</b>	4-pos.	1457979	1457966				
<b>EtherCAT</b>	4-pos.	1456556	1456569				
<b>PROFIBUS</b>	5-pos.	1456475	1456488				
<b>INTERBUS</b>	5-pos.	1456572	1456585				
<b>CANopen® EtherNet/IP™</b>	5-pos.	1456491	1456501				
<b>CC-Link</b>	4-pos.	1457856	1457869				
<b>FOUNDATION Fieldbus</b>	4-pos.	1457872	1457885				

### M12 device connectors with assembled cable

new							
							
<b>i</b> Web code: #0222							
<b>Category/version</b>	CAT5, 93E Female	CAT5, 93B		CAT5, 93K		CAT5, 94H Female	CAT6 <sub>A</sub> , 94F Female
		Male	Female	Male	Female		
<b>0.5</b>		1427805	1437766	1410158	1419154	1407504	1424135
<b>1</b>		1437818	1437779	1419159	1419155	1407505	1424148
<b>2</b>	1405866	1437821	1437782	1428160	1419156	1407506	1424751
<b>5</b>		1437834	1437795	1437161	1419157	1407507	1424164

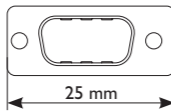
### Bulkheads M12-RJ45

new		
		
<b>i</b> Web code: #0339		
<b>Protocol</b>	Ethernet	
<b>Category/version</b>	CAT5	CAT6 <sub>A</sub>
<b>Straight cable outlet</b>	1414396	1404549
<b>Angled cable outlet</b>	1414393	1404548
		PROFINET
		CAT5
		1414398
		1414397

# Products for industrial device connection

**i** Web code: #0340

Housing size 1



25 mm

Housing size 2



33 mm

Housing size 3



47 mm

D-SUB contact inserts						
	Connection technology	Thread/drill hole	Contacts	Housing size	Male	Female
Signal	Screw connection	3 mm drill hole	9 x signal	1	1688379	1688395
			15 x signal	2	1688078	1688094
			25 x signal	3	1689789	1689776
	Solder connection with solder cup	3 mm drill hole	9 x signal	1	1688793	1688803
			15 x signal	2	1688874	1688887
			25 x signal	3	1689899	1689909
	PCB connection with straight solder pins	3 mm drill hole	9 x signal	1	1418717	1418726
			15 x signal	2	1418718	1418728
			25 x signal	3	1418725	1418729
	PCB connection with angled solder pins	M3 thread	9 x signal	1	1688382	1688405
			15 x signal	2	1688081	1688120
			25 x signal	3	1689873	1689886
	Crimp connection	3 mm drill hole	9 x signal	1	1688858	1688861
			15 x signal	2	1688939	1688942
			25 x signal	3	1689954	1689967
Crimp connection for high-density contacts	3 mm drill hole	15 x signal	1	1655137	1655124	
		26 x signal	2	1655195	1655182	
		44 x signal	3	1655250	1655247	
IDC connection for flat-ribbon cables	4-40 UNC thread	9 x signal	1	1418739	1418742	
		15 x signal	2	1418740	1418744	
		25 x signal	3	1418741	1418745	
Male/male female/female	4-40 UNC thread	9 x signal	1	1652651	1688722	
		15 x signal	2	1652677	1652664	
		25 x signal	3	1652693	1652680	
Hybrid	Solder connection with solder cup	3 mm drill hole	1 x power / 4 x signal	1	1689006	1689019
			2 x power / 5 x signal	2	1688227	1688230
			3 x power / 10 x signal	3	1689996	1690008
			4 x power / 5 x signal	3	1655386	1655373
			1 x power / 10 x signal	2	1418755	1418759
			2 x power / 15 x signal	3	1418757	1418760
			1 x power / 20 x signal	3	1418758	1418761
	PCB connection with straight solder pins	4-40 UNC thread	1 x power / 4 x signal	1	1418762	1418766
			2 x power / 5 x signal	2	1418763	1418767
			1 x power / 10 x signal	2	1418771	1418775
			2 x power / 15 x signal	3	1418773	1418776
			1 x power / 20 x signal	3	1418774	1418777
			3 x power / 10 x signal	3	1418764	1418768
			4 x power / 5 x signal	3	1418765	1418770
	PCB connection with angled solder pins	4-40 UNC thread	1 x power / 10 x signal	2	1418778	1418781
2 x power / 15 x signal			3	1418779	1418782	
1 x power / 20 x signal			3	1418780	1418783	
Power	PCB connection for angled combination contacts with solder pin	4-40 UNC thread	2 x power	1	1655292	1655289
			3 x power	2	1655331	1655328
			5 x power	3	1655441	1655438
	Solder connection for straight combination contacts with solder cup	3 mm drill hole	2 x power	1	1688418	1688421
			3 x power	2	1688201	1688214
5 x power	3	1689970	1689983			

**i** Web code: #0340

Panel mounting frames/sleeve housings for D-SUB contact inserts											
		IP20 full metal				IP20 metal-plated				IP67 plastic	
Contacts	Housing size	Straight		Angled		Straight		Angled		Panel mounting frame	Sleeve housing
		Screw locking	Snap-in locking	Screw locking	Snap-in locking	Screw locking	Snap-in locking	Screw locking	Snap-in locking		
9 x signal	1	1419722	1419746	1419723	1419754	1419705	1419729	1419706	-	1688366	1688353
15 x signal	2	1419724	1419756	1419725	1419757	1419710	1419731	1419718	1419732	1688036	1688052
25 x signal	3	1419727	1419758	1419728	1419759	1419719	1419736	1419721	1419741	1689750	1689792

**i** Web code: #0676

Power contacts for hybrid and power contact inserts						
	Solder cup		PCB mounting			
	Male	Female	Male	Female	Male	Female
Conn. cross-section	AWG 14...12					
Rated current	20 A (at +20°C)		40 A (at +20°C)		40 A (at +20°C)	
Order No.	1688243	1688256	1688269	1688272	1655467	1655454







**i** Web code: #0676



High power contacts		
	Male	Female
Technology	Solder pin	
Rated current	20 A (at +20°C)	
Pcs./Pkt.	100	
Order No.	1426073	1426074

**i** Web code: #0676





Signal contacts for contact inserts with crimp connection						
	Standard			High density		
	Male	Female	Male	Female	Male	Female
Conn. cross-section	AWG 28...26		AWG 24...20		AWG 28...20	
Order No.	1418784	1418787	1418786	1418788	1418789	1418790

## Products for the control cabinet










FO splice boxes, FDX 20 series, IP20					
 Web code: #0336					
	DIN rail mounting				
	6 x LC duplex	12 x LC duplex	6 x SC duplex	6 x ST duplex	6 x LSH duplex
Without pigtails	1019710	1019705	1019686	1019681	
OM1 (G62.5/125 μm)				1019684	
OM2 (G50/125 μm)	1019713	1019709	1019700	1019683	
OM4 (G50/125 μm)	1019712	1019708	1019698		
OS2 (PC) (E9/125 μm)	1019711	1019707	1019692	1019682	
OS2 (APC) (E9/125 μm)	1083665				1019680




FO splice boxes, FDX 20 series, 19" mounting						
 Web code: #0336 <span style="background-color: #e91e63; color: white; padding: 2px;">new</span>						
	12 x LC duplex	24 x LC duplex	12 x SC duplex	24 x SC duplex	12 x ST duplex	24 x ST duplex
	OM1 (G62.5/125 μm)					1145399
OM2 (G50/125 μm)	1145416	1145375	1145408	1145407	1145398	1145397
OM4 (G50/125 μm)	1145415	1145413	1145406	1145403		
OS2 (PC) (E9/125 μm)	1145411	1145409	1143631	1145400	1145395	1145392

DIN rail adapters/marshalling panels		
 Web code: #1643		
Type	DIN rail adapter	Marshalling panel
Gray, unassembled	1041740	1422978
Black, unassembled		1422979
Gray, item set	1100077	

Cable connection and coupling modules			
 Web code: #1643			
Inserts	RJ45 coupling module	RJ45 cable connection with IDC connection	FO coupling module
LC duplex, single mode APC			1041780
SC simplex, single mode APC			1041800
MTP type A			1041820
MTP type B			1041840
CAT6 <sub>A</sub>	1041760	1417274	



## Products for industrial IP20 cabling

RJ45-INDUSTRIAL connectors										
										
	IDC insulation displacement connectors									
Connection technology	IDC insulation displacement connectors									
Protocol	PROFINET					Ethernet				
Connection area	AWG 23...22					AWG 26...24				
Transmission	CAT5			CAT6 <sub>A</sub>		CAT5			CAT6 <sub>A</sub>	
Cable outlet	Straight	Top	Bottom	Straight	Straight	Top	Bottom	Straight		
Order No.	1421126	1421127	1421128	1149847	1421607	1421876	1421877	1149846		



RJ45-INDUSTRIAL patch cables											
											
Protocol	PROFINET					Ethernet					
Transmission	CAT5			EtherCAT		CAT5			CAT6 <sub>A</sub>		
Web code	#0326					#0327			#0328		
Designation	93B	93C	93M	93R	937	93K	93E	94B	94Z	94F	
Application		Drag chain		Robot/torsion	Railway						
Sheath material	PVC	PUR	PUR	PUR	P-EX	PVC (RD)	PUR	PUR	PUR	PUR	
Cable structure	1x4xAWG22/7	1x4xAWG22/7	1x4xAWG22/7	1x4xAWG22/19	1x4xAWG22/7	1x4xAWG22/7	2x2xAWG26/7	2x4xAWG26/7	2x4xAWG26/7	2x4xAWG26/7	
Shielding	SF	SF	SF	Shielding braid	Braided shield	SF	SF/UTP	SF/UTP	SF/UTP	S/FTP	
Length	0.13 m							1422790			
	0.25 m							1423014			
	0.3 m		1404370				1420429		1423032	1422209	
	0.5 m	1426454	1404371				1422683	1412117	1403926	1422210	
	1 m	1408968		1420373			1402512	1408933	1408950	1403927	
	1.5 m	1424815	1404373							1422211	
	2 m	1408969	1418387	1420374			1402516	1408934	1408951	1403929	1408360
	3 m	1405606		1420375			1412376				1408365
	4 m			1420418							
	5 m	1408970		1420376			1412469	1408935	1408952	1403933	
	10 m		1404374				1403874				
Variable	1411861	1411861	1411861	1411861	1411861		1411831	1411842	1411842	1411854	





## Products for industrial IP6X cabling



Version 14 RJ45 connectors							
 Web code: #0325							
	new						
Connection technology	IDC insulation displacement connector						Crimp
Cable outlet	Straight		Bottom		Top		Straight
Connection	AWG 26...24	AWG 23...22	AWG 26...24	AWG 23...22	AWG 23...22	AWG 26...24	
CAT5	1422661	1422664	1422662	1422665	1422663	1422667	
CAT6 <sub>A</sub>	1149841	1149843					1422108

Version 14 FO connectors			
 Web code: #0334			
	new		
Fiber type	POF		
Material	Die-cast zinc		
Cable outlet	Straight	Bottom	Top
Order No.	1407896	1407902	1408028

Version 14 panel mounting frames and inserts			
 Web code: #0325			
	new		
Panel cutout	Rectangular		Circular
Panel mounting frame, unassembled	For PCB modules	For AVAGO transceivers	For Freenet modules
Order No.	1413963	1413981	1405222
Panel mounting frame, assembled	Cable connection CAT6 <sub>A</sub>	Coupler module CAT6 <sub>A</sub>	SC-RJ coupler
Order No.	1413961	1413962	1413964

RJ45 inserts and couplings				
 Web code: #0325				
	new			
Type	RJ45 cable module	RJ45 coupler module	RJ45 coupling	SC-RJ coupling
CAT5	1652936	1419022	1405183	
CAT6 <sub>A</sub>	1418984			
FO				1405206

Version 14 multi-ports					
 Web code: #0325					
	new				
Connection	Power	RJ45	RJ45/RJ45	Power/RJ45	Power/SC-RJ
Connection	AWG 18...13	AWG 18...13	AWG 18...13 AWG 18...13	AWG 18...13 AWG 26...22	AWG 18...13
Cable module		1403678		1403682	1404321
Coupling	1403684		1403685		

Terminal outlets		
 Web code: #0325		
	new	
Connection	Power/RJ45	RJ45/RJ45
Connection	AWG 18...13 AWG 24...22	AWG 18...13 AWG 18...13
Terminal outlet	1404333	1404281

## Products for industrial PROFINET IP6X cabling

 Web code: #0326 Up to 100 Mbps, IP65/IP67, variable cable length								
		Open cable end	RJ45 connector, straight, IP20	RJ45 connector, angled	RJ45 connector, version 14, metal	RJ45 connector, version 14, plastic	M12 male, straight	M12 male, angled
	RJ45 connector, version 14, metal	1411859	1411863	–	1411866	–	1408636	1408610
	RJ45 connector, version 14, plastic	1411860	1411864	–	–	1411867	1408635	1408609
	M12 male, straight	1408640	1408639	1408638	1408636	1408635	1408634	1408608
	M12 male, angled	1408633	1408632	1408631	1408628	1408626	1408625	1408624
	M12 female, straight	1408623	1408622	1408621	1408619	1408618	1408617	1408616
	M12 female, angled	1408615	1408613	1408612	1408610	1408609	1408608	1408607
	M12 flush-type female, rear mounting, limited cable length	1 m 1437779	0.5 m 1404367	–	–	–	–	–
		2 m 1437782	1 m 1404368	–	–	–	–	–
		5 m 1437795	5 m 1404369	–	–	–	–	–

### PROFINET cable, type 93B

The type 93B PROFINET cable is designed for flexible installation and is oil resistant up to a degree. It is suitable for outdoor use, as it is UV-resistant for 1,200 seconds in accordance with UL 1581. Its transmission properties are in accordance with CAT5.

- Outer sheath material: PVC
- Minimum bending radius: 7 x D
- Tested at: +20°C ... +25°C

### Ethernet cable, type 94B

The type 94B Ethernet cable is designed for flexible installation. The cable is resistant to chemicals and oil, and is flame-retardant. Its transmission properties are in accordance with CAT5.




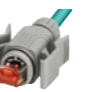










- Outer sheath material: PUR
- Minimum bending radius: 5 x D













### Ethernet cable, type 94F

The type 94F Ethernet cable is designed for flexible installation. The cable is resistant to chemicals and oil, and is flame-retardant. It is also halogen-free, and its transmission properties are in accordance with CAT6A.




- Outer sheath material: PUR
- Minimum bending radius: 10 x D





## Products for industrial Ethernet IP6X cabling

 Web code: #0327 Up to 1 Gbps, IP65/IP67, variable cable length								
		Open cable end	RJ45 connector, IP20	RJ45 connector, version 6, IP20	RJ45 connector, version 14, metal	RJ45 connector, version 14, plastic	M12 male, straight	M12 male, angled
<b>IP65/IP67 cables, variable cable length</b>								
	RJ45 connector, version 6	1411839	1411843	1411846	–	–	1408679	1408671
	RJ45 connector, version 14, metal	1411840	1411844	–	1411847	–	1408678	1408670
	RJ45 connector, version 14, plastic	1411841	1411845	–	–	1411848	1408677	1408668
	M12 male, straight	1408682	1408681	1408679	1408678	1408677	1408676	1408667
	M12 male, angled	1408675	1408674	1408671	1408670	1408668	1408667	1408666
	M12 flush-type female, rear mounting, cable length limited to 5 m	1407877	1412082	1412231	1412503	1412590	–	–




 Web code: #0328 Up to 10 Gbps, IP65/IP67, variable cable length							
		Open cable end	RJ45 connector, IP20	RJ45 connector, version 6, plastic	RJ45 connector, version 14, metal	RJ45 connector, version 14, plastic	M12 male, straight
	RJ45 connector, version 6	1415639	1414321	1414322	–	–	–
	RJ45 connector, version 14, metal	1415637	1411855	–	1414323	–	–
	RJ45 connector, version 14, plastic	1415638	1411856	–	–	1414324	–
	M12 male, straight	1408648	1408647	–	1408646	1408645	1408644
	M12 flush-type female, rear mounting, limited cable length	1 m 1424148	–	–	–	–	–
		2 m 1424151	–	–	–	–	–
		5 m 1424164	–	–	–	–	–






## Products for industrial IP6X cabling

Version 14 power connectors				
 Web code: #0341				
Connection	AWG 18 ... 13			
Coding	Fixed		Variable	
External cable diameter	6.5 ... 9 mm	9 ... 13 mm	6.5 ... 9 mm	9 ... 13 mm
Order No.	1421785	1421783	1425515	1425514

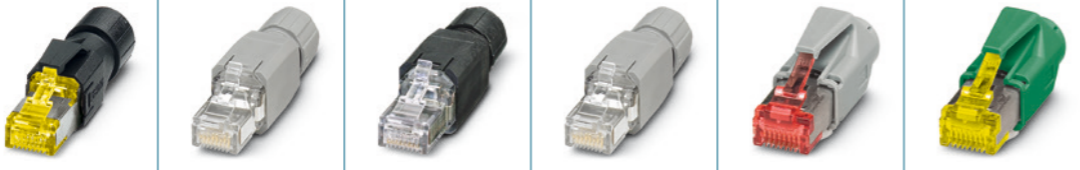
Assembled version 14 panel mounting frames					
 Web code: #0321					
Panel cutout	Rectangular			Circular	
Connection	AWG 13 ... 18				
Assembly	Fixed coding	Variable coding	Unassembled, silver	Fixed	Variable
Order No.	1608249	1408235	1608087	1405248	1409036

Push-pull power contact inserts		
 Web code: #0321		
Alignment	90° horizontal	180° vertical
Order No.	1657915	1609565


Version 14 power distributors		
 Web code: #0341		
Cable	5 x 2.5 mm <sup>2</sup> / 0.2 m cable	
Type	Y distributor	H distributor
Connection	2 x push-pull / 1 x push-pull	2 x push-pull / 2 x push-pull
Order No.	1404799	1405387







M12 connectors									
 Web code: #0338									
	Push-in connection		IDC connection		Piercecon connection		Screw connection		
	Straight	Angled	Straight	Angled	Straight	Angled	Straight	Angled	
Networks									
Ethernet	CAT5, 4-pos.	Male			1411066	1553624			1521261
		Female			1411069	1553637			
	CAT5, 8-pos.	Male			1421679	1553653			
		Female			1421680	1553666			
	CAT6 <sub>A</sub> , 8-pos.	Male			1411043		1417430	1417443	
		Female			1414586				
PROFINET	Male	1424682	1424684	1411068	1554539			1521261	
	Female	1424686	1424685	1411071	1554542				
VARAN	Male			1429130	1429156				
	Female			1429143	1429169				
Fieldbuses									
INTERBUS	Male	1424674	1424675					1507764	1430417
	Female	1424676	1424677					1507777	1430420
PROFIBUS	Male	1424678	1424679	1413931				1507764	1430417
	Female	1424680	1424681	1413932				1507777	1430420
CANopen®, DeviceNet™	Male	1424670	1424671	1422759				1508352	
	Female	1424672	1424673	1422760				1508365	
CC-Link	Male	1424699							
	Female	1424700							

## Products for office and building cabling










RJ45 connectors						
	Ethernet		PROFINET	Ethernet		
<b>Application</b>	Ethernet		PROFINET	Ethernet		
<b>Connection technology</b>	IDC insulation displacement connectors			Crimp		
<b>Connection area</b>	AWG 26...24	AWG 26...23		AWG 22	AWG 27...24	
<b>CAT5</b>		1656725	1658008	1658435	1414382	1414400
<b>CAT6<sub>A</sub></b>	1419001				1414395	1414402

RJ45 office patch cables					
	CAT5		CAT6	CAT6 <sub>A</sub>	
<b>Transmission</b>	CAT5		CAT6	CAT6 <sub>A</sub>	
<b>Shielding</b>	U/UTP	SF/UTP	S/FTP	S/FTP	
<b>Length</b>	0.3 m		2832250	2891181	1413158
	0.5 m	1413086	2832263	2891288	1413159
	1 m	1410595	2832276	2891385	1413160
	2 m	1410596	2832289	2891589	1413161
	3 m	1413019	2832292	2891686	1413162
	5 m	1410694	2832580	2891783	1413163
	10 m	1412973	2832629	2891877	1413164
	15 m	1412971		2891372	1413165
20 m	1412974		2891576	1413166	

Assembled USB cables, type A				
	IP20		IP67	
<b>Degree of protection</b>	IP20		IP67	
<b>Second end</b>	Open cable end	USB connector, type B	M12 mini USB, SPEEDCON	
<b>Length</b>	1 m	1655771	1654853	1420168
	2 m	1655784	1653935	1420171
	4 m			1420184
	5 m	1655797	1653948	








Accessories for office patch cables				Accessories for female connectors	
					
<b>Color coding</b>	<b>Security element</b>	<b>Color coding</b>	<b>Safe clip</b>	<b>Security frame</b>	<b>Dust protection cap</b>
For easy visual color coding	Self-locking, protection against unintentional release, lockable	For easy visual color coding of the security elements	Self-locking, protection against unintentional release	For SFN switches and patch fields, including key	For RJ45 female connectors
Black 2891194	Lockable element 2891424	Black 2891136	2891246	Green 2891615	2832991
Blue 2891291	Key 2891521	Blue 2891233		Red 2891712	
Brown 2891495		Orange 2891330		White 2891819	
Yellow 2891592		Yellow 2891437		Lock 2891220	
Gray 2891699		Turquoise 2891534		Key 2891327	
Green 2891796		Green 2891631			
Red 2891893		Red 2891738			
Violet 2891990		Violet 2891835			


















## Products for office and building cabling

FO connectors, GOF								
 Web code: #0332								
Type	LC	LC duplex	LC duplex couplings	SC	SC duplex	SC duplex couplings	SC-RJ	SC-RJ couplings
MM	1411294	1411052	2700312	1411296	1411292	-	1411290	1652978
SM PC	1411295	1411053	2700313	1411297	1411293	2901788	1411291	-
SM APC	1412476	1412472	1041780	1412478	1412474	-	1412473	-
Tool set	1411049							


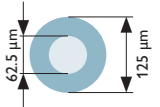

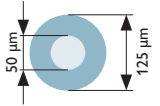

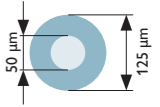

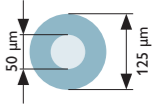

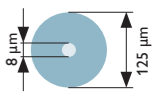
FO connectors, PCF							
 Web code: #0332							
Type	SC-RJ	SC-RJ	ST	SC	SC-RJ	ST	F-SMA
Cable diameter	ø (2.2 mm)				ø (2.9 mm)		
Connector	1411304	1404087	2313782	2313779	1654866	2708481	2799487
Tool set	1411051	2708876	2708465	2708876	2708876	2708465	2799526

FO couplings, PCF				
 Web code: #0332				
Type	SC-RJ	ST	SC duplex	F-SMA
Order No.	1652978	2799429	2901788	2799416




FO connectors, POF								
 Web code: #0332								
Description	Connectors		Couplings			Tools		
Type	SC-RJ	F-SMA	SC-RJ	F-SMA	SC duplex	ST	SC-RJ	F-SMA
Order No.	1654879	2799720	1652978	2799416	2901788	2799429	1658820	2744131

FO patch cables (1 m)*								
 Web code: #0333								
Description	OM1			OM2			OM3	
Type	LC	SC	ST	LC	SC	ST	LC	SC
LC	1146497	1146498	1146499	1115633	1115607	1115588	1185473	1185480
SC	1146498	1146504	-	1115607	1115536	1115574	1185480	1185485
ST	1146499	-	1146501	1115588	1115574	1115560	-	-
 Web code: #0333								
Description	OS2 PC			OS2 APC		OM4		
Type	LC	SC	ST	LC	SC	LC	SC	
LC	1115636	1115618	1115596	1115630	1115613	1115625	1115601	
SC	1115618	1115550	1115582	1115613	1115544	1115601	1115424	
ST	1115596	1115582	1115565	-	-	-	-	



\* Other lengths available: 0.5 / 1 / 2 / 3 / 5 / 10 m




	Zip cord fiber classes	Sheath color	Fiber category	Typical range	Typical wavelength	Fiber structure
Multimode		Orange	OM1	1000BASE-SX: min. 350 m 1000BASE-LX: min. 550 m	850 nm 1,300 nm	
		Orange	OM2	1000BASE-SX: min. 525 m 1000BASE-LX: min. 1,000 m	850 nm 1,300 nm	
		Aqua	OM3	1000BASE-SX: min. 1,000 m 1000BASE-LX: min. 550 m 10GBASE-SX: min. 300 m	850 nm 1,300 nm	
		Heather violet	OM4	1000BASE-SX: min. 1,040 m 1000BASE-LX: min. 600 m 10GBASE-SX: min. 550 m	850 nm 1,300 nm	
Single mode		Yellow	OS2	10GBASE-LR: min. 10 km 10GBASE-ER: min. 40 km	1,310 nm 1,550 nm	

## Products for IP6X data cabling

FO multi-fiber patch cables (plug)						
 Web code: #1623						
	ODC 4-pos.	Q-ODC 12-pos.	Q-ODC 24-pos.	M17 4-pos.	M17 12-pos.	M17 24-pos.
Length	5 m				1018494	
	10 m	1415228	1415353	1007606	1087168	1018526
	15 m	1419720	1415229	1007608		
	20 m	1415347	1415354	1007629	1087167	1019181
	25 m	1419733	1419692	1007609	1183913	1184007
	30 m	1419734	1419693	1007632	1087166	1018528
	35 m	1419735	1419694	1007612	1183914	1184008
	40 m	1415348	1415355	1007803	1087165	1018529
	45 m	1419737	1419695	1007621	1183915	1183993
	50 m	1419738	1419696	1007602	1087164	1018530
	55 m	1419740	1419707		1183958	1184009
	60 m	1415349	1415230	1007626	1087163	1018554
	65 m	1419743	1419708			1184011
	70 m	1419744	1419709	1007635	1087162	1018556
	75 m	1419745	1419711			1184012
	80 m	1415350	1415356	1007627	1087161	1018557
	85 m	1419747	1419712			
	90 m	1419748	1419714	1007636	1087160	1018559
	95 m	1419749	1419715			
	100 m	1415352	1415357	1007809	1087158	1018560
105 m	1421802	1421800				
110 m	1419750	1419716		1087157	1126995	
115 m	1421823	1421806				
120 m	1419751	1419717	1007638	1087146	1127010	
125 m	1421824	1421807				
130 m	1421825	1421808		1087145	1127004	
135 m	1421826	1421809				
140 m	1421827	1421810	1007808	1087144	1127003	
145 m	1421828	1421811				
150 m	1421829	1421812		1087430	1127002	
155 m	1421830	1421813				
160 m	1421831	1421814	1007640	1087143	1127001	
165 m	1421832	1421815				
170 m	1421833	1421816		1087142	1127000	
175 m	1421834	1421817				
180 m	1421835	1421818	1007807	1087141	1150514	
185 m	1421836	1421819				
190 m	1421837	1421820		1087139	1150515	
195 m	1421838	1421821				
200 m	1421839	1421822	1007641	1087138	1018562	

FO multi-fiber socket cables, ODC and Q-ODC						
 Web code: #0337						
	ODC 4-pos.		Q-ODC 12-pos.		Q-ODC 24-pos.	
Length		2 x LC duplex	4 x ST	6 x LC duplex	12 x ST	12 x LC duplex
	0.6 m	1419753		1419752		1007804
	1 m	1415231		1415232		
	2 m	1419656	1419620	1419643	1419644	1007805

FO multi-fiber socket cables, M17					
 Web code: #1623					
	M17 4-pos.		M17 12-pos.	M17 24-pos.	
Length		2 x LC duplex	4 x ST	6 x LC duplex	12 x LC duplex
	0.6 m	1087118	1126996	1018563	1087113
	1 m	1087115	1087108	1018564	1087111
	2 m	1087114	1087107	1018567	1087110






FO multi-fiber connection boxes and modules						
 Web code: #1626						
	ODC 4-pos.	Q-ODC 12-pos.	Q-ODC 24-pos.	M17 4-pos.	M17 12-pos.	M17 24-pos.
Rack unit	1U, 2 sockets	1076851	1419973	1081340	1087121	1018570
	1U, 1 socket	1076661	1419974	1081342	1087135	1018568
	3U, 1 socket		1419978		1018571	
Blanking plate, 3U				1419976		
Blanking plate				1419977		





## Products for IP6X data cabling






Version 6 RJ45 connectors				
 Web code: #0329				
Connection technology	IDC	Crimp	IDC	Crimp
External cable diameter	5...8.5 mm			
Connection area	AWG 26...23	AWG 27...24	AWG 26...23	AWG 27...24
Color	Gray		Black	
Order No. CAT5	1656990	1414383*	1658493	1414408*
Order No. CAT6 <sub>A</sub>		1414406*		1414410*






\* Tool 1653265 required

Version 6 FO connectors		
 Web code: #0329		
Connection	FO	
Fiber type	POF	PCF
Order No.	1657009	1657012

Version 6 couplings and terminal outlets				
 Web code: #0329				
Description	Coupling		Terminal outlet	
Connections	1 x RJ45/RJ45	SC-RJ/SC-RJ	2 x RJ45	2 x SC-RJ
Gray	1689268	1410050	1404278	1404317
Black	1658684			

Version 6 panel mounting frames				
 Web code: #0329				
Panel cutout	Circular		Square	
Mounting	Locking nut		Screw	
Color	Gray	Black	Gray	Black
For Keystone modules	1689844	1658053	1689080	1658642
For Freenet modules	1653744	1658668		
For PCB modules			1689446	1658655

RJ45 female inserts				
 Web code: #0329				
Description	Cable module	Coupler		PCB module
Connection system	Freenet	Keystone	Freenet	
CAT5	1652936	1689064		1688586
CAT6 <sub>A</sub>	1418984	1086108	1086111	
POF/GOF/PCF			1652978	

Version 6 USB device connectors						
 Web code: #0335						
Description	Panel mounting frames, assembled		Panel mounting frame, unassembled	Freenet modules		Solder connection
Connection	USB A / USB B	USB B / USB A	Freenet	USB A	USB B	M12 / USB mini
Order No.	1411904	1411905	1653744	1653854	1653867	1440711

## Customer-specific solutions

Variety has many forms, and countless solutions are possible by using different geometries, printings, colors, and individual assemblies. In addition to customer-specific adaptations, Phoenix Contact also develops new products tailored to your individual needs. We provide you with support from the initial idea to development and production, culminating in quality assurance.



## Connectors and cables

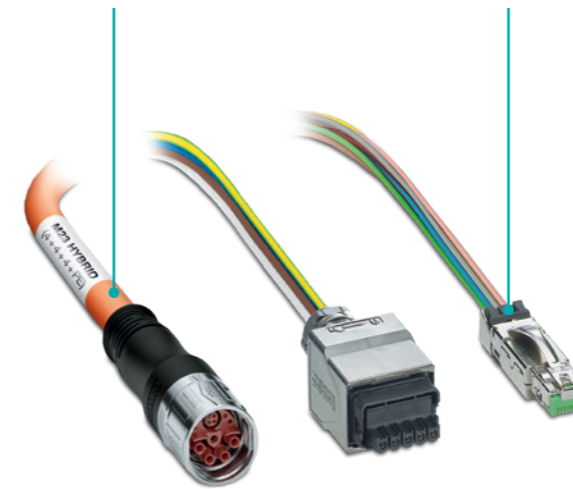
### Connectors and cables

#### Marking

Custom-printed cable assemblies in accordance with your specifications

#### Huge variety

Molded connectors and connectors for assembly with cables or litz wires for direct PCB mounting



#### Assembly

Individual cabling solutions based on circular and rectangular connectors



#### Assembly

Thanks to a multitude of designs, codings, and pin assignments, we can provide you with consistent solutions for transmitting signals, data, and power. We can also supply assemblies with add-on components on request.



#### Marking

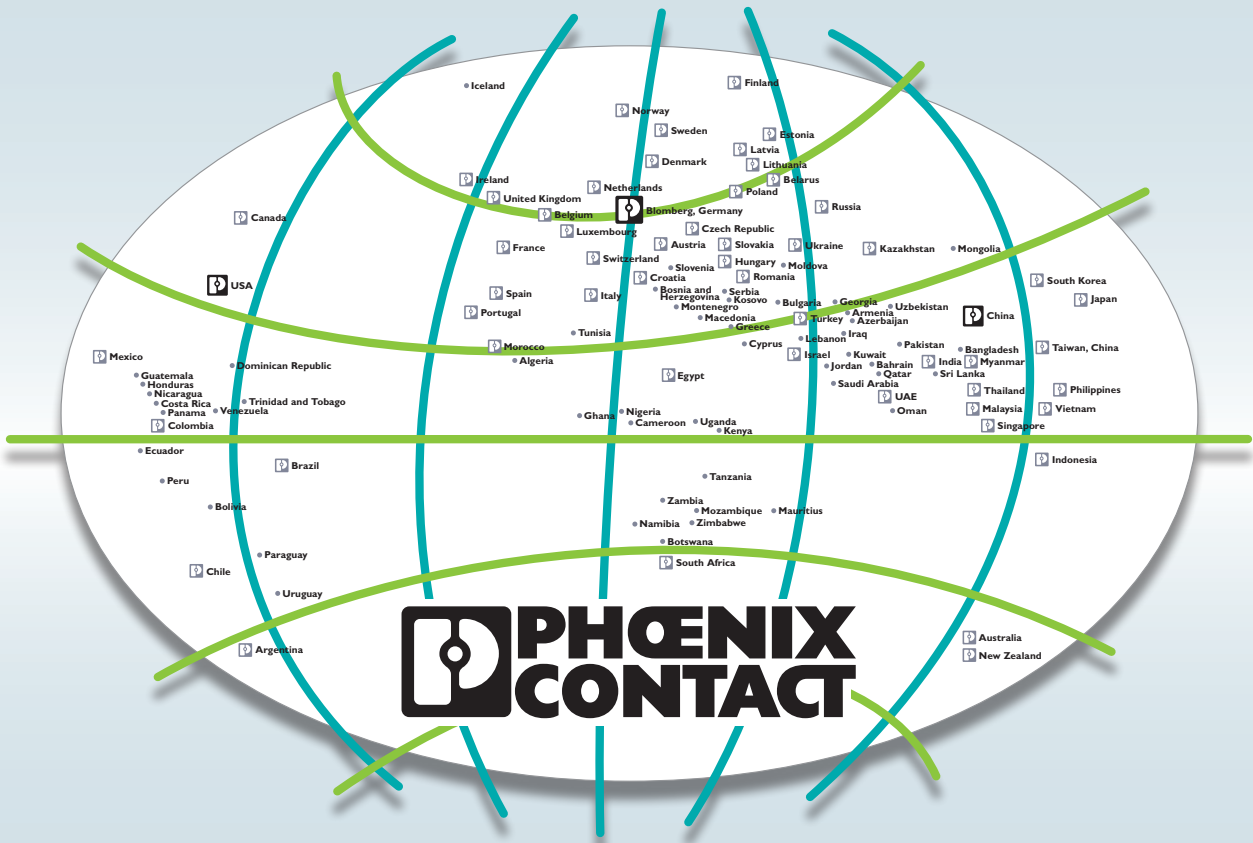
We will print your cables in accordance with your specifications. Whether printing directly on the cable or using wrap-around labels, we offer the appropriate marking solution for every requirement.



#### Labeling and packaging

Your custom cable assemblies are also supplied in custom packaging, labeled with your logo or a bar code on request.





## Ongoing communication with customers and partners worldwide

Phoenix Contact is a global market leader based in Germany. We are known for our future-oriented components, systems, and solutions in the fields of electrical engineering, electronics, and automation. With a global network reaching across more than 100 countries with over 17,400 employees, we stay in close contact with our customers, something we believe is essential for success.

Our wide variety of innovative products makes it easy for our customers to find future-oriented solutions for multiple applications and industries. We focus predominantly on the fields of energy, infrastructure, process, and factory automation.

You can find your local partner at

[www.phoenixcontact.com](http://www.phoenixcontact.com)