

Data connectors

Product overview 2018/2019

Data connectors for copper and fiber-optic cabling

PLUSCON data is the connector range from Phoenix Contact for secure and reliable data transmission. Benefit from innovative connection technologies and a design that is perfectly suited for industrial applications. The product range includes assembled cables, device connectors, and connectors for field assembly, as well as special, tool-free connector systems for fiber-optic-based and copper-based cabling.

Solutions for copper cabling

- Transmission rates up to 10 Gbps
- Protection class IP20 to IP69K
- Spring, pierce, and IDC insulation displacement connection
- 360° shielding concept
- For all common networks and fieldbuses

 Web code: #0297

Solutions for fiber-optic cabling

- Transmission rates up to 40 Gbps
- Protection class IP20, IP65/67, and IP68
- For POF, PCF, and GOF
- For all common fiber-optic interfaces

 Web code: #0298



Cu



FO



Contents

Introduction

Product range overview 4

Copper-based data cabling 6

Fiber-optic-based data cabling 8

Application-specific solutions

Outdoor applications 10

Building cabling 12

Industrial cabling 14

Industrial automation 16

Page navigation 18

Order overview 20

Customer-specific solutions 50

Find out more with the web code

You will find web codes throughout this brochure: a pound sign followed by a four-digit number combination.

i Web code: #1234 (example)

This allows you to access information on our website quickly.

Just follow these simple steps:

1. Go to the Phoenix Contact website
2. Enter # and the number combination in the search field
3. Get more information and product versions

Or use the direct link:
phoenixcontact.net/webcode/#1234

Unique variety for copper and fiber-optic cabling

Create consistent solutions for reliable data transmission up to 40 Gbps with our range of designs, coding, and pin assignments.

Always the right connection



For compact device connection





For flexible on-site connection



For easy cabling


ST 


FSMA 

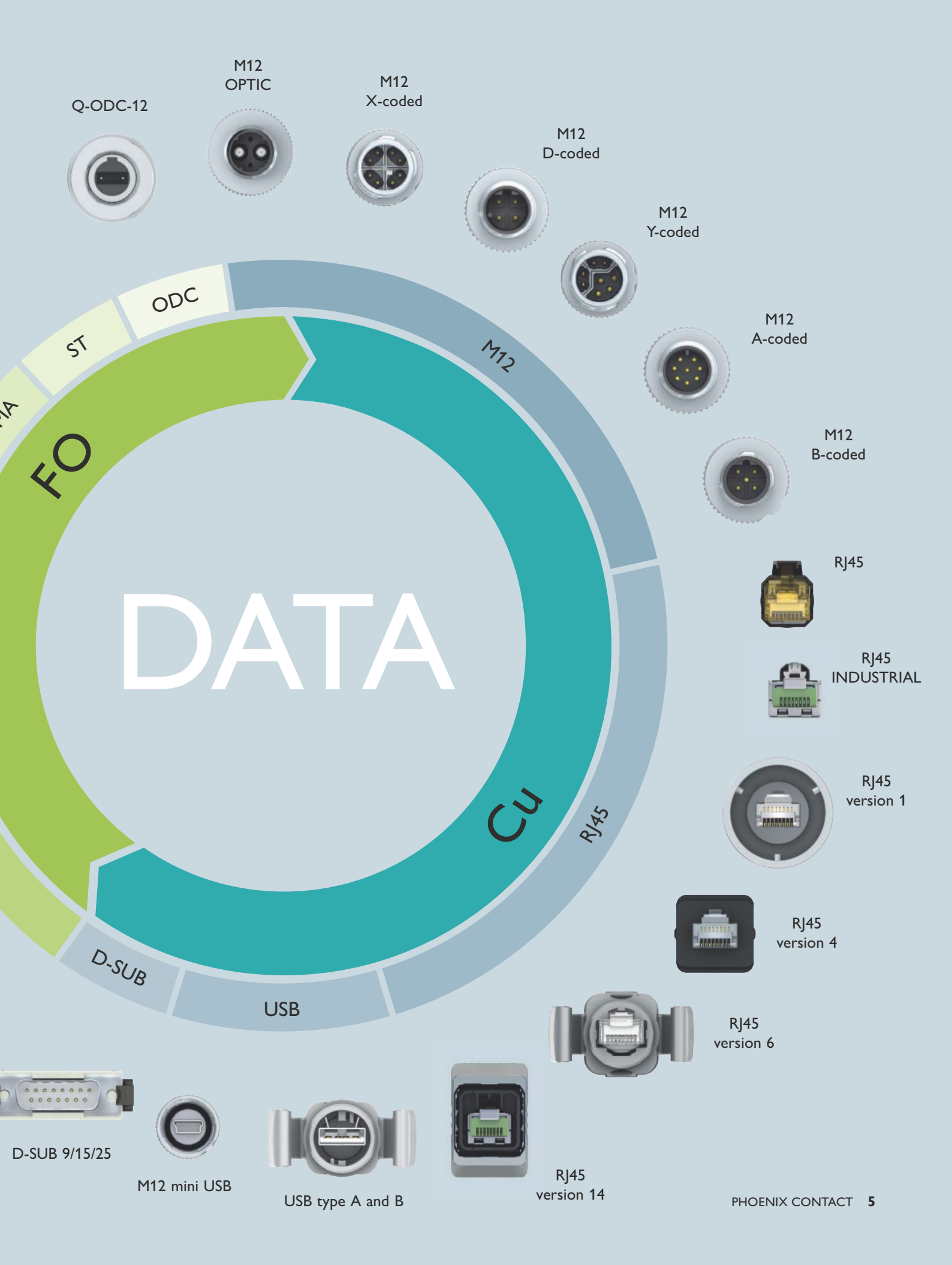
SC DUPLEX 

LC DUPLEX 

SC-RJ 

SC-RJ
version 6 

SC-RJ
version 14 



DATA

Q-ODC-12

M12 OPTIC

M12 X-coded

M12 D-coded

M12 Y-coded

M12 A-coded

M12 B-coded

RJ45

RJ45 INDUSTRIAL

RJ45 version 1

RJ45 version 4

RJ45 version 6

RJ45 version 14

D-SUB 9/15/25

M12 mini USB

USB type A and B

Copper-based data cabling for networks and fieldbuses

Complex automation processes call for high volumes of data at ever-increasing transmission speeds. Benefit now from high-performance connectors and cables for on-site assembly.

Whether it is future-proof high-speed cabling up to 10 Gbps or innovative hybrid cabling – we will find the perfect solution for your automation network.

Main features

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



EtherNet/IP[®]

Ethernet



EtherCAT[®]

PROFI[®]
NET

SERCOS[®]
the automation bus



PROFI[®]
BUS

CANopen[®]

DeviceNet[®]

CC-Link

Choose a flexible cabling type

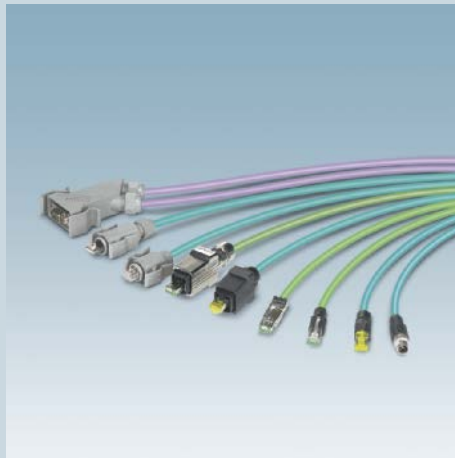
Whether for machine building and systems manufacturing, building automation or process automation – with copper-based data connectors from Phoenix Contact, you are opting for a flexible type of cabling that supports a wide range of bus systems:

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

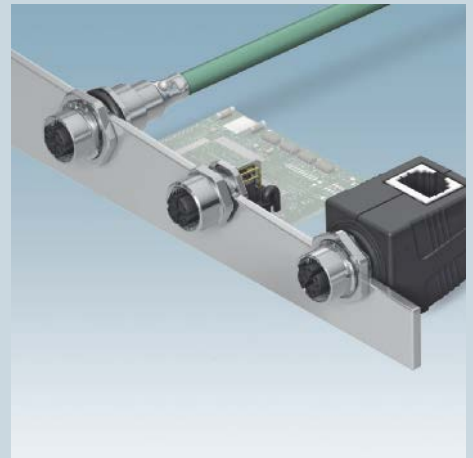
Your advantages at a glance



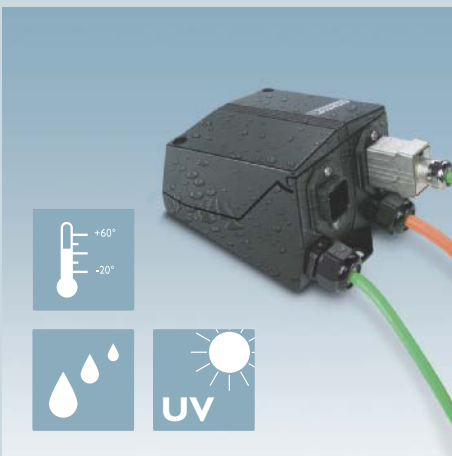
Fast assembly without special tools – with IDC and pierce fast connection



Wide range of connectors from RJ45 to USB and D-SUB to M12



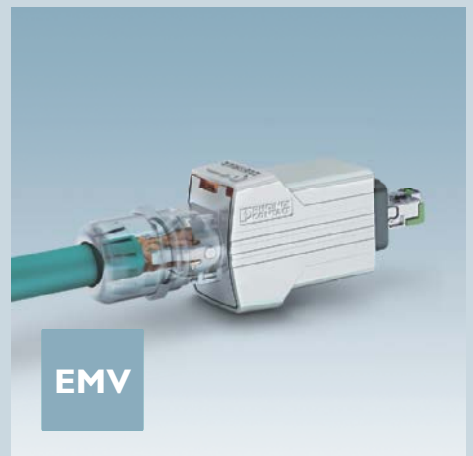
Flexible device connection, thanks to versatile housing feed-throughs for devices and control cabinets



Reliable protection against extreme temperatures, liquids, vibrations, and UV light



Fast data transmission, thanks to data rates up to 10 Gbps and components that meet the CAT6A standard



Special shielding concepts with 360° EMC shielding guarantee a high level of resistance to EMC and ESD

Fiber-optic-based data cabling for networks and fieldbuses

High transmission speed, low attenuation, resistance to electromagnetic interference: fiber-optic cables are among the modern transmission media 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 rates up to 40 Gbps
- Solutions from IP20 to IP65/IP67 and IP68
- For all common fiber types
- Maximum protection against the effects of EMC and ESD

EtherNet/IP™

Ethernet

EtherCAT®

PROFI®
NET

SERCOS
the automation bus



PROFI®
BUS

CANopen®

DeviceNet™

Modbus

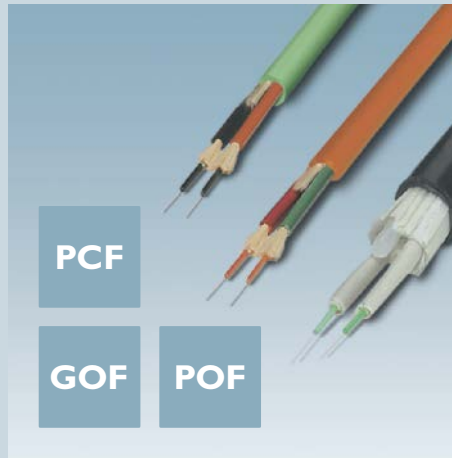
Choose the right fiber type for your application

- POF (polymer optical fiber) for short transmission paths up to 75 m and maximum data transmission rates of 100 Mbps
- PCF (polymer-clad fiber) for medium-length transmission paths up to 500 m and maximum data rates of up to 1 Gbps
- GOF (glass optical fiber) multimode for long transmission paths up to 550 m at 10 Gbps
- GOF single mode for up to 50 km and data rates of up to 40 Gbps

Your advantages at a glance



Wide choice of versions from SC-RJ, LC, SC, FSMA to ST, plus POF, PCF, and GOF fiber types



Extensive range of cables for all applications, networks, and standard interfaces



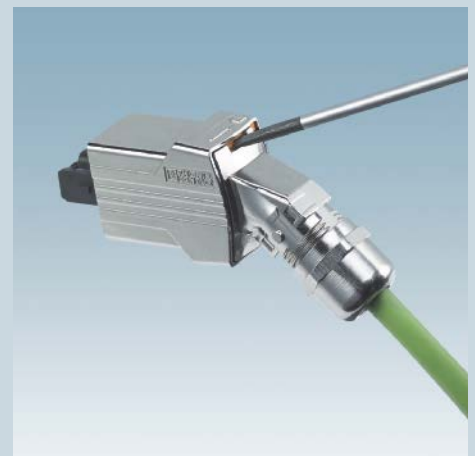
Fast assembly in the field using professional tools



Reliable protection against extreme temperatures, liquids, and UV light



High-quality UL-listed patch cable up to 40 Gbps



Push-pull ADVANCE locking technology protects against unintentional pulling

Data connectors for outdoor applications

High requirements are placed on components used for outdoor data transmission, in fields such as telecommunications and renewable energies. Phoenix Contact offers special connectors for outdoor applications. These can withstand aggressive environmental conditions such as large differences in temperature, humidity, UV rays, and vibrations.

Main features

- Connectors for outdoor applications with IP65/67/69K protection
- Fiber-optic connectors with a robust design
- High-quality and UV-resistant connectors and cables
- Robust connectors made of 1.4404 stainless steel
- Data rates up to 40 Gbps
- GL-approval for offshore applications





Harsh environments and weather conditions are typical for wind turbine generators and photovoltaic systems. Under these conditions, reliability, compact design, and robustness are important requirements for professional data connectors.

Your advantages at a glance

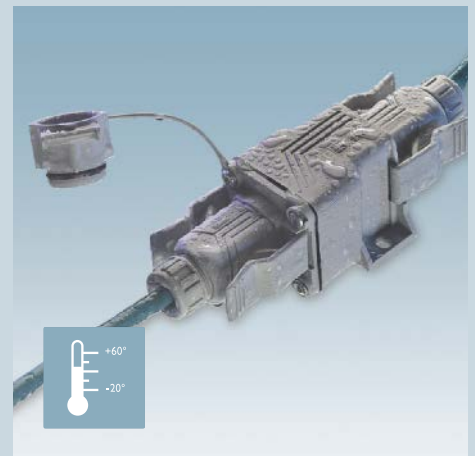


VA

Corrosion-resistant materials such as 1.4404 stainless steel guarantee reliable operation in extreme environmental conditions



High IP protection classes guarantee reliable protection against external weather conditions



Guaranteed durability through the use of high-quality materials and intensive testing processes

Data connectors for building cabling

Phoenix Contact offers an extensive future-oriented product range for modern building cabling.

Our patch cables and patch fields allow you to install flexible and failsafe cabling.

Main features

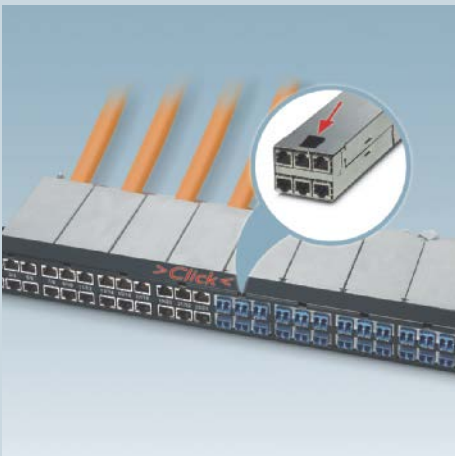
- Consistent cabling systems for 19" technology
- Connection technology for either copper or fiber-optic cabling
- Connection solutions for indoor and outdoor applications
- Consistent range of data connectors, right up to active components for building cabling
- GHMT-certified products





Comfort, flexibility, and versatility are the requirements for modern building cabling. Completely pre-assembled splice boxes with removable front drawer, high-quality individual parts, and individual measurement logs save time during installations.

Your advantages at a glance



Fast installation of 19" components, thanks to the Plug and Play principle and pre-assembled modules



Individual cabling solutions for any area of application



Shielded CAT6_A cable connectors for structured building cabling allow easy assembly

Data connectors for industrial control cabinet cabling

When it comes to special requirements for industrial cabling, especially with a focus on Industrie 4.0, Phoenix Contact offers reliable connection solutions.

Select the fiber optics or copper components and cabling solutions for Ethernet and PROFINET applications that suit your data transmission system.

Main features

- Consistent product range for data transmission up to 10 Gbps (CAT6A)
- Connectors for assembly without special tools
- Individual solutions can be implemented for copper-based data cabling
- SPEEDCON fast-locking technology for easy plugging/unplugging in the field
- Individual solutions can be implemented for fiber optic-based data cabling



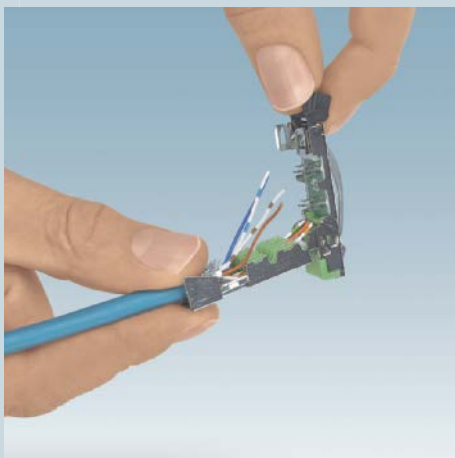
Web code:
#0324



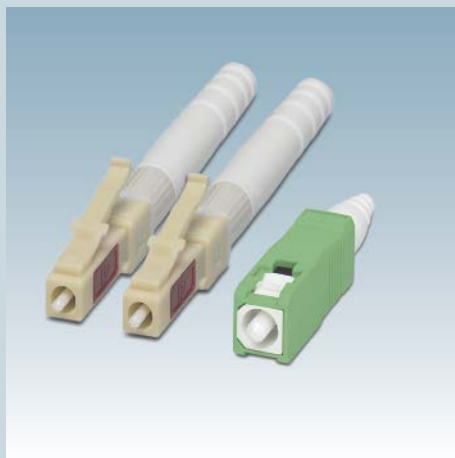


No matter whether they are used in the control cabinet, for the controller or as an end-to-end link directly to the machine – connectors, patch panels, and cables from Phoenix Contact offer flexibility and also meet the requirements for industrial environments.

Your advantages at a glance



Fast assembly without additional tools, thanks to a QUICKON IDC fast connection



Highly flexible, thanks to rapid field connection using cleave technology



Shock and vibration-resistant connectors ensure permanently secure connections

Data connectors for industrial automation in the field

Special shielding concepts and torsion-resistant components are essential for reliable operation of robots and conveying systems.

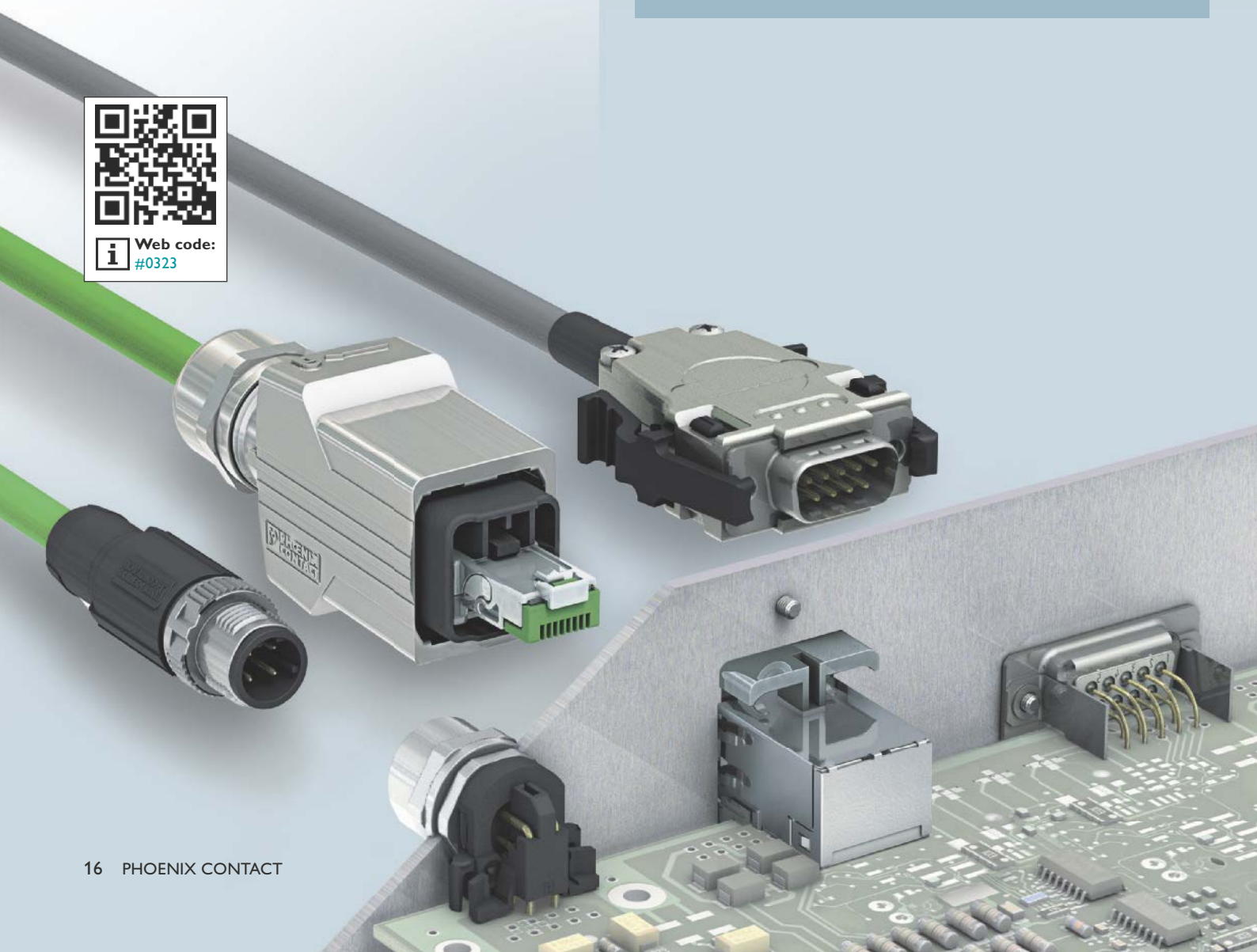
Put your trust in the reliable and consistent product range from Phoenix Contact for fault-free data transmission.

Main features

- Tested connection technology according to the PROFINET standard
- Maximum immunity to EMC and ESD interference, thanks to consistent shielding
- Convenient push-pull connection system for data and 24 V and 16 A power
- Individual solutions for copper and fiber-optic cabling
- Connectors for assembly and pre-assembled cables available



Web code:
#0323





The EMC-protected installation concept facilitates easy and EMC-safe cabling. This is achieved by running hose assemblies from the control cabinet to the robot head, based on the cabling guidelines for PROFINET.

Your advantages at a glance



Welding spatter resistant components for use with robots



Consistent shielding concept for protection against EMC and ESD interference



Guaranteed torsion resistance, thanks to the special cable design

Page navigation – data connectors

		Copper		
		Data		
		100 Mbps	1 Gbps	10 Gbps
IP20				
	Connectors		20	
	Panel mounting frames		20	
	Socket inserts		20	
	Patch cables	30	32 / 36	34
	Tool sets			
IP20 distributor				
	Modular distribution panel		22	
	Patch panels		22	
	Junction boxes		22	
	Socket inserts		22	
	Splice boxes			
Version 14				
	Connectors		24	
	Panel mounting frames		24	
	Socket inserts		24	
	Couplings		24	
	Distributors			
	Multi-ports			24
	Terminal outlets		24	
	Patch cables	30	32	34
	Tool sets			
Version 6				
	Connectors		28	
	Panel mounting frames		28	
	Socket inserts		28	
	Couplings	28		
	Terminal outlets		28	
	Patch cables		32	34
	Tool sets			
D-SUB				
	Connectors			
	Socket inserts			
	Sleeve housings			
	Panel mounting frames			
USB				
	Patch cables		37	
	Panel mounting frames		37	
	Socket inserts		37	
M12				
	Connectors		40	
	Device connectors		41	
	Patch cables	30	32	34
	Couplings			

			FO		
Signal	Power		Data		
			POF	PCF	GOF
				46	
				46 / 47	
				43 / 47	
					45
				46	
				46	
	<?>			42	
	<?>			42	
	<?>				
	<?>			42	
	<?>			42	
	<?>			42	
			42	42	
				42	
				42	
				42	
				42	
				42	
38	38				
38	38				
38	38				
38	38				
					
40				44	
41				44	
				44	

RJ45, male/female connectors, IP20

i Web code: #0330

Connectors

Straight cable outlet							
Ethernet					PROFINET	Ethernet/ PROFINET	PROFINET
Plastic, gray	Plastic, green	Plastic, black	Plastic, gray	Plastic, black	Plastic, gray		
AWG 24 ... 27	AWG 24 ... 27	AWG 24 ... 26	AWG 23 ... 26		AWG 22	AWG 26 ... 24	AWG 23 ... 22

Connectors with IDC fast connection

Up to 100 Mbps CAT5						1658435		
Up to 1 Gbps CAT5			1656725	1658008			1421607	1421126
Up to 10 Gbps CAT6 _A			1419001					

Connectors with crimp connection

Up to 1 Gbps CAT5	1414382*	1414400*						
Up to 10 Gbps CAT6 _A	1414395*	1414402*						

Panel mounting frames, unequipped

Panel mounting frame for Keystone modules								
---	--	--	--	--	--	--	--	--






Keystone modules



Cable module, up to 10 Gbps CAT6 _A								
Coupler module up to 1 Gbps, CAT5								
Coupler module up to 1 Gbps, CAT6								

* Tool 1653265 required



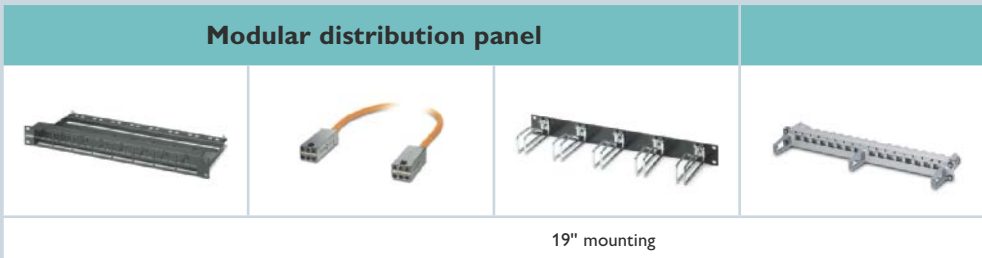
IDC fast connection – quick and easy assembly without special tools

				Panel mounting frames	Socket inserts	
						
Cable outlet at the bottom		Cable outlet at the top			Straight cable outlet	
Ethernet/ PROFINET	PROFINET	Ethernet/ PROFINET	PROFINET		Ethernet/PROFINET	
Zinc die-cast				Plastic, gray	Metal	
AWG 26 ... 24	AWG 23 ... 22	AWG 26 ... 24	AWG 23 ... 22	Square panel cutout	Cable modules	Coupler modules
1421877	1421128	1421876	1421127			
				1689433		
					1419021	
						1689064
						1653155

Freenet and Keystone system	Product example
Freenet system	
<p>Freenet is an adapter system for integrating socket modules into panel mounting frames, junction boxes or distribution panels. Main feature: the adapter plate on the underside for guiding and latching in the panel mounting frame.</p>	
Keystone system	
<p>Keystone also allows socket modules to be quickly and easily integrated in panel mounting frames. Main feature: snap-on hook, which enables the socket module with matching panel cutout to be secured directly in the housing panel, even without a panel mounting frame.</p>	

RJ45, distributors, and modules, IP20

i Web code: #0330



Modular distribution panel				
19" mounting frames, gray	1407986			
19" mounting frames, black	1409140			
RJ45 module, 6 x RJ45 to 6 x RJ45, CAT6 _A		1407995		
Blind module for 19" mounting frames		1407988		
19" patch bay with plastic brackets			1407994	
19" patch bay with metal brackets, gray			1409283	
19" patch bay with metal brackets, black			1409284	
Patch panel for Freenet modules				
16 installation slots, unequipped				1652994
Patch panel for socket inserts, adapter-free				
24 installation slots, unequipped, gray				
24 installation slots, unequipped, black				
Patch panel for DIN rails, adapter-free				
DIN rail adapter, housing without module inserts				
Socket insert, adapter-free				
Cable module, up to 10 Gbps CAT6 _A				
Coupler module, up to 10 Gbps, CAT6 _A				
Junction boxes for Freenet modules				
Surface mounted, unequipped, for 2 modules				
Surface mounted, unequipped, for 6 modules				
Flush mounted, unequipped, for 2 modules				
Freenet modules				
Cable connection module, CAT6 _A				
Cable connection module, CAT5				
Coupler module, CAT6				

Patch panels		Junction boxes			Socket inserts	
						
	DIN rail mounting	Surface mounting		Flush mounting	Cable modules	Coupler modules
1422978						
1422979						
	1041740					
					1417274	
						1041760
		1653003				
			1653029			
				1653016		
					1418984	
					1652936	
						1419022

RJ45, push-pull interlocking (V14), IP65/67

i Web code: #0325

Connectors



Zinc die-cast

Straight outlet		Angled outlet at bottom		Angled outlet at top		Straight outlet	
AWG 26 ... 24	AWG 23 ... 22	AWG 26 ... 24	AWG 23 ... 22	AWG 26 ... 24	AWG 23 ... 22	AWG 26 ... 24	AWG 23 ... 22

Connectors with IDC fast connection

Up to 100 Mbps, CAT5								1403366
Up to 1 Gbps, CAT5	1422661	1422664	1422662	1422665	1422663	1422667	1403367	

Connectors with crimp connection

Up to 10 Gbps, CAT6 _A							1422108*	
----------------------------------	--	--	--	--	--	--	----------	--

Panel mounting frames, equipped

Panel mounting frame with socket insert, CAT6 _A , cable connection								
Panel mounting frame with socket insert, CAT6 _A , coupler module								

Panel mounting frames, unequipped

Panel mounting frame for PCB modules								
Panel mounting frame for Freenet modules								

Socket inserts for panel mounting frames

Freenet cable module, up to 1 Gbps CAT5								
Freenet cable module, up to 10 Gbps CAT6 _A								
Freenet coupler module, up to 1 Gbps, CAT6								
PCB module, up to 10 Gbps, CAT6 _A , angled								
PCB module, up to 1 Gbps CAT6, straight								

Couplings, multi-ports, and terminal outlets







Coupling, 1 x RJ45, 1 x RJ45								
Multi-port cable module, 1 x RJ45								
Multi-port cable module, 1 x RJ45, 1 x power								
Multi-port coupler module, 1 x RJ45, 1 x RJ45								
Multi-port coupler module, 2 x RJ45, 2 x power								
Terminal outlet, 2 x RJ45								
Terminal outlet, 1 x RJ45, 1 x power								

* Tool 1653265 required

Panel mounting frames			Socket inserts			Couplings	Multi-ports	Terminal outlets
								
Zinc die-cast							Aluminum die-cast	
Square panel cutout	Round panel cutout		Cable modules	Coupler modules	PCB modules			
1413961								
1413962								
	1413963							
		1405222						
			1652936					
			1418984					
				1419022				
					1420401			
						1653090		
							1405183	
							1403678	
							1403682	
							1403685	
							1406395	
								1404281
								1404333

Power, push-pull interlocking (V14), IP65/67

i Web code: #0341

Connectors		Panel mounting frames for conductor connection		Panel mounting frames for PCB mounting	
	New 				
Zinc die-cast, fixed coding	Zinc die-cast, flexible coding	Round panel cutout	Square panel cutout	Square panel cutout	Contact insert
AWG 18 ... 13					

Connectors with spring-cage connection

Cable diameter 6.5 mm ... 9 mm	1421785	1425515			
Cable diameter 9 mm ... 13 mm	1421783	1425514			

Panel mounting frames with spring-cage connection

Fixed coding			1405248	1608249	
Variable coding			1409036	1408235	

Panel mounting frames for PCB modules

Panel mounting frames, unequipped				1608087	
Solder connection, angled					1657915
Solder connection, straight					1609565

Distributors, multi-ports, and terminal outlets





Distributor, 2 x push-pull / 1 x push-pull					
Distributor, 2 x push-pull / 1 x 7/8" connector					
Distributor, 2 x push-pull / 2 x push-pull					
Multi-port cable module, 1 x power					
Multi-port cable module, 1 x power / 1 x data					
Multi-port coupler module, 1 x power / 1 x power					
Multi-port coupler module, 2 x power / 2 x RJ45					
Terminal outlet, 1 x power / 1 x data					

Y-distributors	H-distributors	Multi-ports			Terminal outlets	
						
Metal housing		Power	Power/RJ45	Power/SC-RJ	Power/RJ45	Power/SC-RJ
5 x 2.5 mm ² / 0.2 m cable length		AWG 18 ... 13	AWG 18 ... 13 / AWG 26 ... 22	AWG 18 ... 13	AWG 18 ... 13 / AWG 24 ... 22	AWG 18 ... 13
1404799						
	1405387					
		1403681				
			1403682	1404321		
		1403684				
			1406395			
					1404333	1404346

RJ45, snap-in locking (V6), IP65/67

i Web code: #0329

Connectors

			
Plastic, gray		Plastic, black	
AWG 23 ... 26	AWG 24 ... 27	AWG 23 ... 26	AWG 24 ... 27

Connectors with IDC fast connection

Up to 1 Gbps CAT5	1656990		1658493	
-------------------	---------	--	---------	--

Connectors with crimp connection

Up to 1 Gbps CAT5		1414383*		1414408*
Up to 10 Gbps CAT6 _A		1414406*		1414410*

Panel mounting frames, unequipped

Panel mounting frame for Keystone modules				
Panel mounting frame for Freetnet modules				
Panel mounting frame for PCB modules				

Keystone modules

Coupler module, up to 1 Gbps, CAT5				
Coupler module, up to 1 Gbps, CAT6				

Freetnet modules

Cable module, up to 1 Gbps CAT5				
Cable module, up to 10 Gbps CAT6 _A				
Coupler module up to 1 Gbps, CAT6				











PCB modules

Angled, CAT5				
Angled, CAT6				

Couplings and terminal outlets

Coupling, 1 x RJ45/RJ45				
Terminal outlet, 2 x RJ45				

* Tool 1653265 required

Panel mounting frames				Socket inserts			Couplings		Terminal outlets
									
Plastic, gray	Plastic, black	Plastic, gray	Plastic, black	Metal			Plastic, gray	Plastic, black	Aluminum die-cast
Round panel cutout		Square panel cutout		Cable modules	Coupler modules	PCB modules			
1689844	1658053	1689080	1658642						
1653744	1658668								
		1689446	1658655						
					1689064				
					1653155				
				1652936					
				1418984					
					1419022				
						1688586			
						1653087			
							1689268	1658684	
									1404278

RJ45, patch cables for PROFINET, up to 100 Mbps

 Web code: #0326

		IP20 cables		
		RJ45 connector, straight	RJ45 connector, angled	RJ45 connector, version 14, metal
IP20 cables	Free cable end	Cable length		
		variable	1411857	1411858
	RJ45 connector, straight	variable	1411861	1411862
		variable	1411862	1411865
RJ45 connector, angled	variable	1411862	1411865	
	variable	1411863		1411866
RJ45 connector, version 14, metal	variable	1411863		1411866
	variable	1411864		
RJ45 connector, version 14, plastic	variable	1411864		
	variable	1408639	1408638	1408636
M12 connector, SPEEDCON, straight	variable	1408639	1408638	1408636
	variable	1408613	1408612	1408610
M12 connector, SPEEDCON, angled	variable	1408613	1408612	1408610
				

PROFINET cable, type 93B



The PROFINET cable type 93B is designed for flexible installation and is oil-resistant up to a degree. It is suitable for outdoor use, as the cable is UV-resistant according to UL 1581, section 1200. Its transmission properties meet CAT5.








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

IP65/67 cables

RJ45 connector, version 14, plastic	M12 connector, SPEEDCON, straight	M12 connector, SPEEDCON, angled	M12 female connector, SPEEDCON, straight	M12 female connector, SPEEDCON, angled	M12 flush-type female connector, rear mounting
					
					Cable length
1411860	1408640	1408633	1408623	1408615	1 m 1437779
					2 m 1437782
					5 m 1437795
1411864	1408639	1408632	1408622	1408613	0.5 m 1404367
					1 m 1404368
					5 m 1404369
	1408638	1408631	1408621	1408612	
	1408636	1408628	1408619	1408610	
1411867	1408635	1408626	1408618	1408609	
1408635	1408634	1408625	1408617	1408608	
1408609	1408608	1408624	1408616	1408607	

RJ45, patch cables for Ethernet, up to 1 Gbps

i Web code: #0327

		IP20 cables		
		RJ45 connectors	RJ45 connector, version 6	RJ45 connector, version 14, metal
IP20 cables	Free cable end			
		Cable length		
		variable		
	RJ45 connector			
		variable		
		1411838	1411839	1411840
IP65/67 cables	RJ45 connector, version 6			
		variable		
		1411842	1411843	1411844
	RJ45 connector, version 14, metal			
		variable		
		1411843	1411846	
	RJ45 connector, version 14, plastic			
		variable		
	1411844		1411847	
M12 connector, SPEEDCON, straight				
	variable			
	1411845			
M12 connector, SPEEDCON, angled				
	variable			
	1408681	1408679	1408678	
	1408674	1408671	1408670	

Ethernet cable, type 94B



CAT5

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







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

IP65/67 cables

RJ45 connector, version 14, plastic	M12 connector, SPEEDCON, straight	M12 connector, SPEEDCON, angled	M12 female connector, SPEEDCON, straight	M12 female connector, SPEEDCON, angled	M12 flush-type female connector, rear mounting	
					Cable length	
1411841	1408682	1408675	1408665	1408657	5 m	1407877
1411845	1408681	1408674	1408664	1408655	5 m	1412082
	1408679	1408671	1408662	1408653	5 m	1412231
	1408678	1408670	1408661	1408652	5 m	1412503
1411848	1408677	1408668	1408660	1408651	5 m	1412590
1408677	1408676	1408667	1408659	1408650		
1408668	1408667	1408666	1408658	1408649		

RJ45, patch cables for Ethernet, up to 10 Gbps

i Web code: #0328

		IP20 cables	
		RJ45 connector, plastic	RJ45 connector, version 6, plastic
IP20 cables	Free cable end	Cable length	
		variable	1411853
	RJ45 connector		1415639
IP65/67 cables		variable	1411854
	RJ45 connector, version 6, plastic		1414321
		variable	1414321
	RJ45 connector, version 14, metal		1414322
		variable	1411855
	RJ45 connector, version 14, plastic		1411856
		variable	
M12 connector, SPEEDCON			
	variable		
CAT6 _A			

Ethernet cable, type 94F



The Ethernet cable type 94F is designed for flexible installation. The cable is resistant to oil and chemicals and is flame-retardant. It is also halogen-free and its transmission properties meet CAT6_A.

Outer sheath material: PUR
 Minimum bending radius: 10 × D

IP65/67 cables

RJ45 connector, version 14, metal	RJ45 connector, version 14, plastic	M12 connector, SPEEDCON	M12 flush-type female connector, rear mounting	
				
1415637	1415638	1408648	Cable length	CAT6 _A
			1 m	1424148
			2 m	1424151
5 m	1424164			
1411855	1411856	1408647	1 m	1412315
			2 m	1412316
1414323		1408646		
	1414324		1408645	
		1408644		

RJ45, patch cable, IP20

i Web code: #0331

Office patch cables

Assembled patch cables, IP20

New



New



New



Outer sheath material: PUR, outer diameter: 6.1 mm

Ethernet	CAT6, S/FTP shielding		
0.3 m	1413158	1421168	1421138
0.5 m	1413159	1421169	1421139
1 m	1413160	1421170	1421140
1.5 m	1413161	1421171	1421141
2 m	1413162	1421172	1421143
3 m	1413163	1421173	1421144
5 m	1413164	1421174	1421145
7.5 m	1413165	1421175	1421146
10 m	1413166	1421176	1421147













Accessories for office patch cables

Accessories for sockets





Color coding		Security element	Color coding		Safe clip	Security frame		Dust protection cap	
For easy visual color coding		Self-locking, against unintentional release, lockable	For easy visual color coding of the security elements		Self-locking, 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				

USB, patch cables, panel mounting frames

i Web code: #0335

		Assembled USB cables, type A	
		IP20	IP67
	Free cable end		
	Length		
IP20		1 m	1655771
		2 m	1655784
		5 m	1655797
	USB connector type B		
			
IP20		1 m	1654853
		2 m	1653935
		5 m	1653948
	USB connector type B		
			
IP67		2 m	1653919
		5 m	1653922
			1653870
	M12-Mini-USB, SPEEDCON		
		1 m	1420168
		2 m	1420171
		4 m	1420184

i Web code: #0335

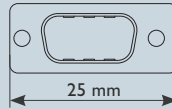
IP65/67 panel mounting frames			
			
Plastic, gray			Zinc die-cast
Round panel cutout		Pin connector	Solder connection

Panel mounting frames, equipped			
Panel mounting frame with USB socket A/socket B	1411904		
Panel mounting frame with USB socket B/socket A	1411905		
Panel mounting frames, unequipped			
Panel mounting frame for Freenet modules		1653744	
Freenet modules			
Type A USB socket to post connector			1653854
Type B USB socket to post connector			1653867
Panel-mount connector			
M12 with USB Mini B, with straight solder connection			1440711

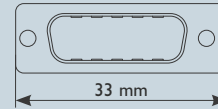
D-SUB, connectors, panel mounting frames

i Web code: #0340

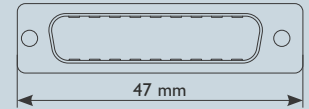
Housing size 1



Housing size 2



Housing size 3



Contact inserts









		Connection technology	Contact arrangement	Housing size	Pin	Socket	
Signal		Screw connection	9 x signal	1	1688379	1688395	
			15 x signal	2	1688078	1688094	
			25 x signal	3	1689789	1689776	
		Solder cup	9 x signal	1	1688793	1688803	
			15 x signal	2	1688874	1688887	
			25 x signal	3	1689899	1689909	
		Straight solder pin	9 x signal	1	1418717	1418726	
			15 x signal	2	1418718	1418728	
			25 x signal	3	1418725	1418729	
		Angled solder pin	9 x signal	1	1688382	1688405	
			15 x signal	2	1688081	1688120	
			25 x signal	3	1689873	1689886	
		Contact carrier, without contacts	9 x signal	1	1688858	1688861	
			15 x signal	2	1688939	1688942	
			25 x signal	3	1689954	1689967	
		Flat-ribbon cable	9 x signal	1	1688816	1688829	
			15 x signal	2	1688890	1688900	
			25 x signal	3	1689912	1689925	
New		Flat-ribbon cable 4-40 UNC thread	9 x signal	1	1418739	1418742	
			15 x signal	2	1418740	1418744	
			25 x signal	3	1418741	1418745	
	Gender changer	9 x signal	1	1652651	1688722		
		15 x signal	2	1652677	1652664		
		25 x signal	3	1652693	1652680		
Hybrid	New		Solder cup	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
	New		Straight solder pin	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
	New		Angled solder pin	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
				2 x power	1	1655292	1655289
				3 x power	2	1655331	1655328
				5 x power	3	1655441	1655438
Power		Straight contact carrier, without contacts	2 x power	1	1688418	1688421	
			3 x power	2	1688201	1688214	
			5 x power	3	1689970	1689983	

Panel mounting frames/sleeve housings

IP20 solid metal				IP20 metal-plated				IP67 plastic	
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		
								1688366	1688353
								1688036	1688052
								1689750	1689792
1419722	1419746	1419723	1419754	1419705	1419729	1419706	-	1688366	1688353
1419724	1419756	1419725	1419757	1419710	1419731	1419718	1419732	1688036	1688052
1419727	1419758	1419728	1419759	1419719	1419736	1419721	1419741	1689750	1689792
								1688366	
								1688036	
								1689750	
								1688366	
								1688036	
								1689750	
1419722	1419746	1419723	1419754	1419705	1419729	1419706	-	1688366	1688353
1419724	1419756	1419725	1419757	1419710	1419731	1419718	1419732	1688036	1688052
1419727	1419758	1419728	1419759	1419719	1419736	1419721	1419741	1689750	1689792
1419727	1419758	1419728	1419759	1419719	1419736	1419721	1419741	1689750	1689792
1419724	1419756	1419725	1419757	1419710	1419731	1419718	1419732	1688036	1688052
1419727	1419758	1419728	1419759	1419719	1419736	1419721	1419741	1689750	1689792
1419727	1419758	1419728	1419759	1419719	1419736	1419721	1419741	1689750	1689792
								1688366	
								1688036	
								1688036	
								1689750	
								1689750	
								1689750	
								1689750	
								1688036	
								1689750	
								1689750	
								1688366	
								1688036	
								1689750	
1419722	1419746	1419723	1419754	1419705	1419729	1419706	-	1688366	1688353
1419724	1419756	1419725	1419757	1419710	1419731	1419718	1419732	1688036	1688052
1419727	1419758	1419728	1419759	1419719	1419736	1419721	1419741	1689750	1689792

IP65/67 M12 connectors

 Web code: #0338

									
		IDC connection		Spring-cage connection		Piercecon connection		Screw connection	
Networks		Straight	Angled	Straight	Angled	Straight	Angled	Straight	Angled
Ethernet CAT5, 4-pos.	Pin	1411066	1553624					1521261	
	Socket	1411069	1553637						
Ethernet 8-pos.	Pin	1421679	1553653						
	Socket	1421680	1553666						
Ethernet CAT6 _A , 8-pos.	Pin	1411043				1417430	1417443		
	Socket	1414586							
	Pin	1411068	1554539	1436738	1436754			1521261	
	Socket	1411071	1554542	1436741	1436767				
	Pin	1429130	1429156						
	Socket	1429143	1429169						
Fieldbuses									
	Pin			1432800	1432813			1507764	1430417
	Socket			1432826	1432839			1507777	1430420
	Pin	1413931		1432842	1432855			1507764	1430417
	Socket	1413932		1432868	1432871			1507777	1430420
DeviceNet	Pin	1422759		1432761	1432774			1508352	
	Socket	1422760		1432787	1432790			1508365	
CC-Link	Pin			1559767					
	Socket			1559770					

IP65/67 M12 device connectors

i Web code: #0339



M12 for networks		For wave soldering		For THR soldering		For SMD soldering		Bulkheads M12 to RJ45		With assembled cable			With 0.5 m long litz wires		
		Pin	Socket	Pin	Socket	Pin	Socket	Straight	Angled	Length	Pin	Socket	Pin	Socket	
Ethernet	CAT5, 4-pos.	1456514	1456527	1552214*	1551451*	1411956*	1411950*						1411592	1411585	
	CAT5, 4-pos., cable type 93E									2 m		1405866			
	CAT5, 8-pos.	1456530	1456543	1557578	1557549			1414396	1414393						
	CAT5, 8-pos., cable type 94B									5 m		1407877			
	CAT5, 8-pos., cable type 94C									2 m		1412820			
	CAT6A, 8-pos.		1424177		1402457*		1411964*	1404549	1404548						
	CAT6A, 8-pos., cable type 94F										0.5 m		1424135		
											1 m		1424148		
											2 m		1424151		
											5 m		1424164		
	CAT5, 8-pos., hybrid		1407503		1405225*		1411965*							1407618	
	CAT5, 8-pos., hybrid, cable type 94H										0.5 m		1407504		
										1 m		1407505			
										2 m		1407506			
										5 m		1407507			
	4-pos.	1456556	1456569	1552175	1542648			1414398	1414397						
	4-pos., cable type 93B										0.5 m	1427805	1437766		
											1 m	1437818	1437779		
											2 m	1437821	1437782		
											5 m	1437834	1437795		
4-pos., cable type 93C									2 m		1416209				
4-pos., cable type 93R									3 m		1416263				
	4-pos.	1457979	1457966												
	4-pos., cable type 93K										0.5 m	1410158	1419154		
											1 m	1419159	1419155		
											2 m	1419160	1419156		
										5 m	1419161	1419157			
	4-pos.	1456556	1456569												
	4-pos., cable type 93K										0.5 m	1419138	1419134		
											1 m	1419139	1419135		
											2 m	1419140	1419136		
										5 m	1419141	1419137			
M12 for fieldbuses															
	5-pos.	1456475	1456488							0.5 m	1534342	1534384			
	5-pos.	1456572	1456585							0.5 m	1534504	1534546			
	5-pos.	1456491	1456501							0.5 m	1534423	1534465			
	4-pos.	1457856	1457869												
	4-pos.	1457872	1457885										1431432	1431429	

* Two-piece versions. Associated housing screw connections can be found under the respective item accessories at phoenixcontact.com.

SC-RJ, push-pull interlocking (V14), IP65/67

i Web code: #0334

Connectors			P
			
			Zinc die-cast
Straight outlet	Angled outlet, at bottom	Angled outlet, at top	Round panel cutout

Connectors for field connection

Up to 100 Mbps, for POF

1407896

1407902

1408028

Panel mounting frames, equipped

Panel mounting frame with coupler module, for POF, PCF, and GOF

1405235

Panel mounting frames, unequipped

Panel mounting frame for AVAGO transceiver

Couplings, multi-ports, and terminal outlets

Coupling, 1 x SC-RJ / 1 x SC-RJ

Multi-port cable module, 1 x SC-RJ



Multi-port cable module, 1 x SC-RJ / 1 x power

Terminal outlet, 2 x SC-RJ

Terminal outlet, 1 x SC-RJ / 1 x power

SC-RJ, snap-in locking (V6), IP65/67

i Web code: #0334

Connectors	Panel mounting frames	
		
	Plastic	
	Round panel cutout	

Connectors for field connection

Up to 100 Mbps, for POF

1657009

Up to 100 Mbps, for PCF

1657012

Panel mounting frames, unequipped

Panel mounting frame for Freenet modules

1653744

1658668

Panel mounting frame for AVAGO transceiver

1658545

Socket insert for panel mounting frames

Freenet coupler module for POF, PCF, and GOF

Couplings and terminal outlets

Coupling, 1 x SC-RJ / 1 x SC-RJ

Terminal outlet, 2 x SC-RJ

Panel mounting frames		Coupling	Multi-ports	Terminal outlets	Tool sets
					
Square panel cutout				Aluminum die-cast	
					1405246
1413964					
	1413981				
		1405206			
			1404319		
			1404321		
				1404320	
				1404346	


Socket insert	Coupling	Terminal outlets	Tool sets	
				
		Aluminum die-cast		
			1405246	
				2708876
1652978				
	1410050			
		1404317		

M12 OPTIC, patch cable, couplings, IP20, and IP65/67



i Web code: #0337

M12 OPTIC	SC-RJ IP20	M12 OPTIC	SC-RJ IP20	M12 OPTIC	LC duplex IP20
					
POF		PCF-GI		GOF MM	
980 / 1000 µm		200 / 230 µm		50 / 125 µm	

Patch cable

 M12 OPTIC	1 m	1408871	1408865	1408873	1408867	1408875	1408869
	2 m	1408870	1408864	1408872	1408866	1408874	1408868
	5 m	1416680	1416648	1416693	1416651	1416703	1416664

Coupling and transceiver



 M12 coupling	for POF, PCF, and GOF	1416677					
 M12 transceiver	for POF and PCF	1416716					
	for GOF	1416729					

You can find further information and our video animation on FO-based data connectors under:

i Web code: #0298

Fiber optics, patch panels, and socket inserts, IP20

i Web code: #0336



Patch panels	Socket inserts
New 	New 
DIN rail mounting	Coupler modules
Plastic, gray	

Patch panels for DIN rails

DIN rail adapter, compact design, unequipped	1041740
Module insert, LC Duplex, single mode APC	1041780
Module insert, SC Simplex, single mode APC	1041800
Module insert, MTP type A	1041820
Module insert, MTP type B	1041840

FO splice boxes, FDX-20 series, IP20






i Web code: #0336

	DIN rail mounting					19" mounting	
	New	New	New	New	New		
	6 x LC duplex	12 x LC duplex	6 x SC duplex	6x ST-Duplex	6x LSH-Duplex	12 x LC duplex	24 x LC duplex
Without pigtails	1019710	1019705	1019686	1019681			
OM1 (G62.5/125µm)				1019684			
OM2 (G50/125µm)	1019713	1019709	1019700	1019683		1418815	1418816
OM4 (G50/125µm)	1019712	1019708	1019698			1418817	1418818
OS2 (PC) (E9/125µm)	1019711	1019707	1019692	1019682			
OS2 (APC) (E9/125µm)					1019680		

Other versions available on request.

Q-ODC-12, push-pull circular connector, marshalling panel, and patch cable

i Web code: #0337

	Modular 19" distribution panel, 3HE				Patch cable
	New	New	New	New	New
					
	19" patch bay, 1 RU, 2x Q-ODC-12 socket on 12x LC duplex coupling	19" frame, 3 RU, modular, unequipped	Module insert, marshalling panel, 3 RU, 1x Q-ODC-12 socket on 6x LC duplex coupling	Dummy module, 3 RU	Patch cable, IP68, 10 meters, Q-ODC-12-Plug on Q-ODC-12-Plug
Order number	1419973	1419976	1419978	1419977	1415353

Other versions available on request.



Fiber optics, connectors for assembly

i Web code: #0332





	LC			SC	
	Connectors		Couplings	Connectors	
					
GOF					
Multimode connectors	1411294	1411052		1411296	1411292
Single mode PC connectors	1411295	1411053		1411297	1411293
Single mode APC connectors	1412476	1412472		1412478	1412474
Couplings			Multimode: 2700312 Single mode: 2700313		
PCF					
SC, SC-RJ connectors (Ø 2...3 mm)					
SC, SC-RJ connectors (Ø 2.2 mm)					2313779
ST connectors (Ø 2.2 mm)					
SC-RJ connectors (Ø 2.9 mm)					
F-SMA connectors (Ø 2.9 mm)					
ST connectors (Ø 2.9 mm)					
Couplings					
POF					
SC-RJ connectors					
F-SMA connectors					
Couplings					

Fiber optics, patch panels, and socket inserts, IP20

i Web code: #0336

	Patch panels	
		
	DIN rail mounting	19" mounting
	Plastic, gray	
Patch panel for Freenet modules		
DIN rail adapter, incl. coupler module SC-RJ for POF, PCF and GOF	1658121	
19" patch panel, 16 installation slots, unequipped		1652994
Junction boxes for Freenet modules		
Surface mounted, unequipped, for 2 modules		
Surface mounted, unequipped, for 6 modules		
Flush mounted, unequipped, for 2 modules		
Freenet modules		
Coupler module, SC-RJ, for POF, PCF, and GOF		
Coupler module, LC duplex, multimode		
Coupler module, LC duplex, single mode		






SC-RJ		F-SMA			ST (B-FOC)		
Couplings	Connectors	Couplings	Connectors	Couplings	Connectors	Couplings	Tool sets
							
	1411290						1411049
	1411291						1411049
	1412473						1411049
2901788		1652978		2799416		2799429	
	1411304						1411051
	1404087						2708876
					2313782		2708465
	1654866						2708876
			2799487				2799526
					2708481		2708465
2901788		1652978		2799416		2799429	
	1654879						1405246
			2799720				
2901788		1652978		2799416		2799429	

IP20 junction boxes			Socket inserts
			
Surface mounting		Flush mounting	Coupler modules
Plastic, white			
1653003			
	1653029		
		1653016	
			1654358
			2700312
			2700313

Fiber optics, fiberglass zip cords, multimode, IP20

 Web code: #0333






Variable lengths 1 m ... 1,000 m

		FSMA	SC-RJ	SC duplex	ST (B-FOC)	LC duplex
						
FSMA	Fiber class					
	OM1	1409855	1406532	1406536	1406535	1413787
	OM2					
	OM3					
	OM4					
SC-RJ						
	OM1					
	OM2		1405703	1405700	1405710	1405694
	OM3		1405704	1405701	1405711	1405695
	OM4		1405705	1405702		1405696
SC duplex						
	OM1	1406536		1413790	1413791	1413789
	OM2		1405700	1405697	1405708	1405691
	OM3		1405701	1405698	1405709	1405692
	OM4		1405702	1405699		1405693
ST (B-FOC)						
	OM1	1406535		1413791	1413821	1413792
	OM2		1405710	1405708	1405712	1405706
	OM3		1405711	1405709		1405707
	OM4					
LC duplex						
	OM1	1413787		1413789	1413792	1413788
	OM2		1405694	1405691	1405706	1405688
	OM3		1405695	1405692	1405707	1405689
	OM4		1405696	1405693		1405690

Fiber optics, fiberglass zip cords, single mode, IP20

i Web code: #0333

		Fixed lengths		
		LC duplex	SC duplex	ST (B-FOC)
				
LC duplex	Cable length	OS2	OS2	OS2
	1 m	2989187	2989190	2989242
	2 m	2989284	2989297	2989349
	5 m	2901826	2901827	2901828
SC duplex				
	1 m	2989190	2901829	2901832
	2 m	2989297	2901830	2901833
	5 m	2901827	2901831	2901834
ST (B-FOC)				
	1 m	2989242	2901832	2901836
	2 m	2989349	2901833	2901837
	5 m	2901828	2901834	2901838

	Zipcord fiber classes	Sheath color	Fiber category	Typical range	Typical wavelength	Fiber design
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	

Customized solutions

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



Cables and connectors

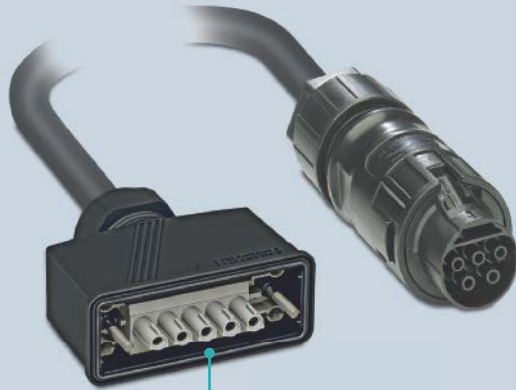
Marking

Individually printed cable assemblies according to your specifications



Huge variety

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



Assembly

Individual cabling solutions based on circular and rectangular connectors



Your individual cabling solution



Assembly

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



Marking

We print your cables according to your specifications. We have the right method for every requirement, whether it be printing directly on the cable or using wrap-around labels.



Labeling and packaging

Your custom cable assemblies are also supplied in custom packaging. On request, we will label these with your logo or with a barcode.

In dialog with customers and partners worldwide

Phoenix Contact is a globally present, Germany-based market leader. Our group is synonym for future-oriented components, systems, and solutions in the fields of electrical engineering, electronics, and automation. A global network across more than 100 countries, and 15,000 employees ensure a close proximity to our customers, which we believe is particularly important.

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



You will find our complete product range at:
phoenixcontact.com

USA:

PHOENIX CONTACT Inc.
P.O. Box 4100
Harrisburg
PA 17111-0100
Phone (717) 944-1300
Fax (717) 944-1625
phoenixcontact.com

Canada:

PHOENIX CONTACT Ltd.
8240 Parkhill Drive
Milton, Ontario L9T 5V7
Toll Free (800) 890-2820
Phone (905) 864-8700
Fax (905) 890-0180
phoenixcontact.ca