

PLUSCON circular

Circular connectors
in M5, M8, and M12

Circular connectors for demanding applications

The PLUSCON circular M5 - M12 range of products from Phoenix Contact exemplifies standardized device plug-in connectors that have been a proven industrial standard in industrial automation, infrastructure, railway technology, and outdoor applications for a number of years.

The wide range of designs facilitates consistent connection solutions for devices in data transmission ranges up to 10 Gbps, the connection of signals up to 17-pos., and power supply up to 630 V and 12 A in the smallest of spaces.



Signals up to 17-pos.

- Currents up to 4 A
- Voltages up to 250 V
- Available with an optional shield connection



The right connection technology for every application



Controllers

Shielded device plug-in connectors for signals and data.



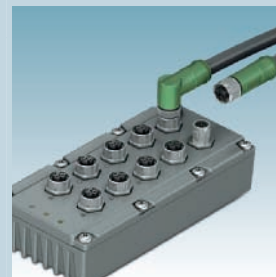
Component housings

Device plug-in connectors for the automated assembly of PCBs.



Sensors/motors

Device plug-in connectors for fieldbus and Ethernet connections.



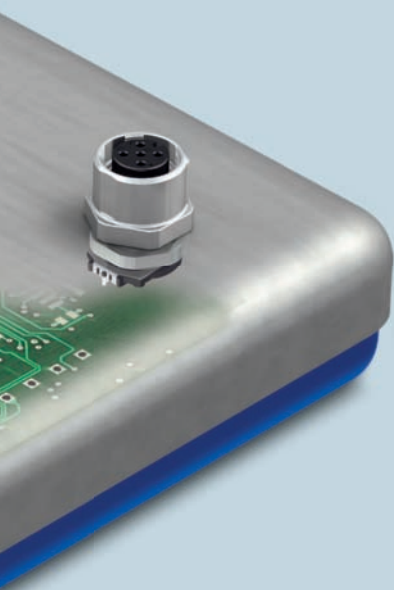
I/O modules

Device plug-in connectors for flexible integration in housings and front plates.



Data up to 10 Gbps

- Codings for all commonly used fieldbus systems
- Hybrid for simultaneous data and power transmission, PoE
- Components according to CAT6_A



Power up to 12 A/630 V

- Connection cross section up to 1.5 mm²
- No risk of mismatching for AC and DC applications

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Service

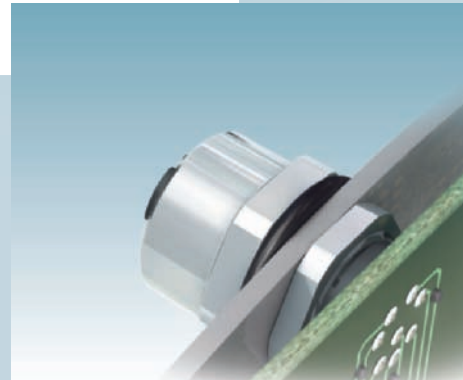
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Unique variety for signals, data, and power

The rapid enhancement of industrial electronics is constantly placing fresh demands on device connection technology.

Phoenix Contact is an innovative partner for customers when it comes to the practical integration capability of device plug-in connectors into a wide variety of applications.

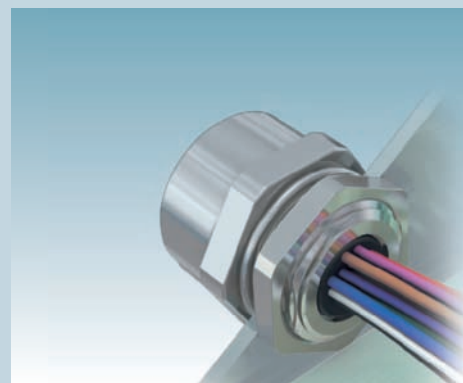
The modular structure of device plug-in connectors facilitates the simple and cost-effective integration of various data, signal, and power supply pin assignments into a device concept.



For PCB connection



With pre-assembled cable



With pre-assembled litz wires

For fiber optic applications in POF

T-coded for power up to 12 A and 60 V

With Mini-B USB connection

S-coded for power up to 12 A and 630 V

Y-coded, hybrid for data and power

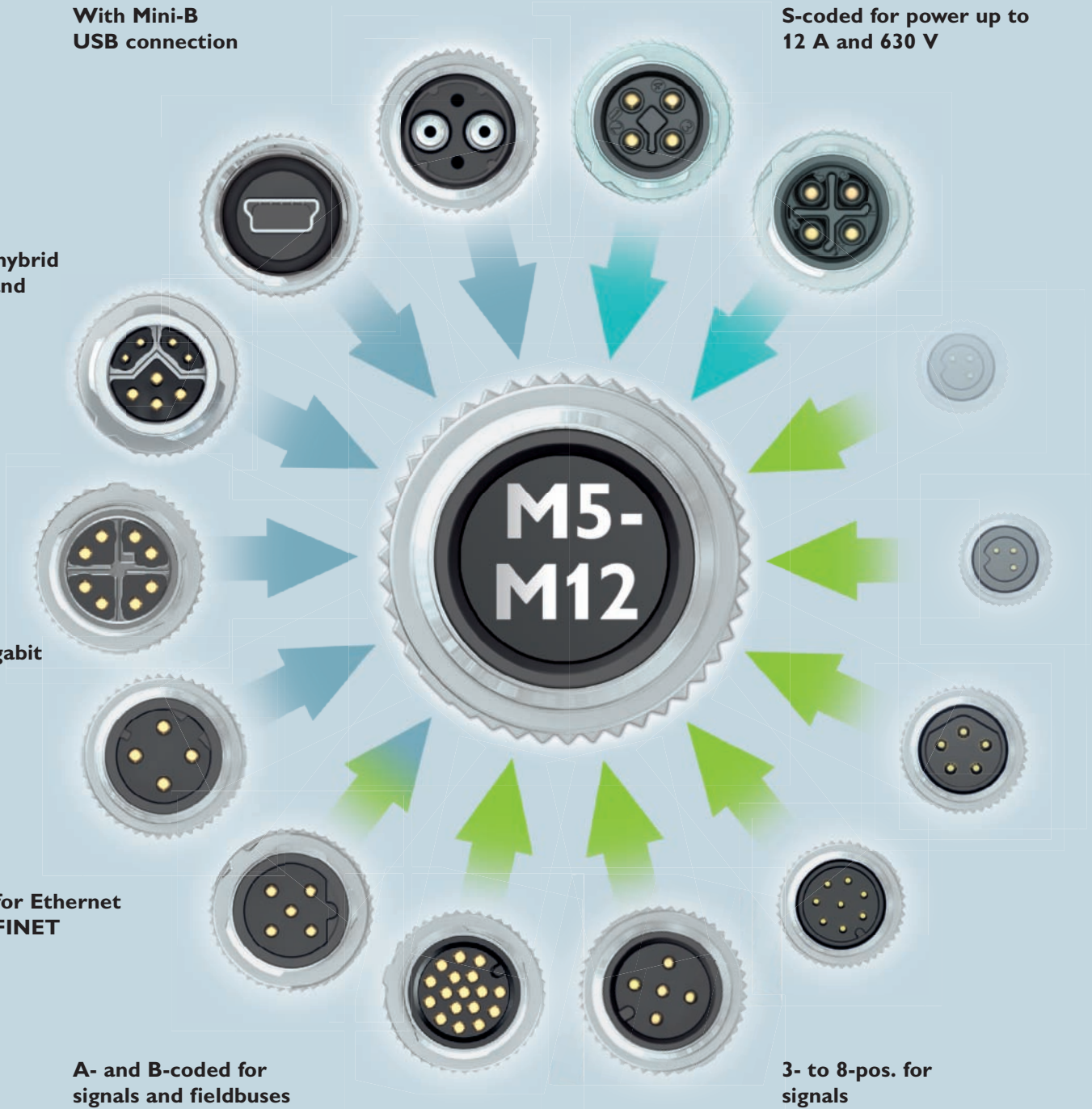
X-coded for 10 Gigabit Ethernet

D-coded for Ethernet and PROFINET

A- and B-coded for signals and fieldbuses

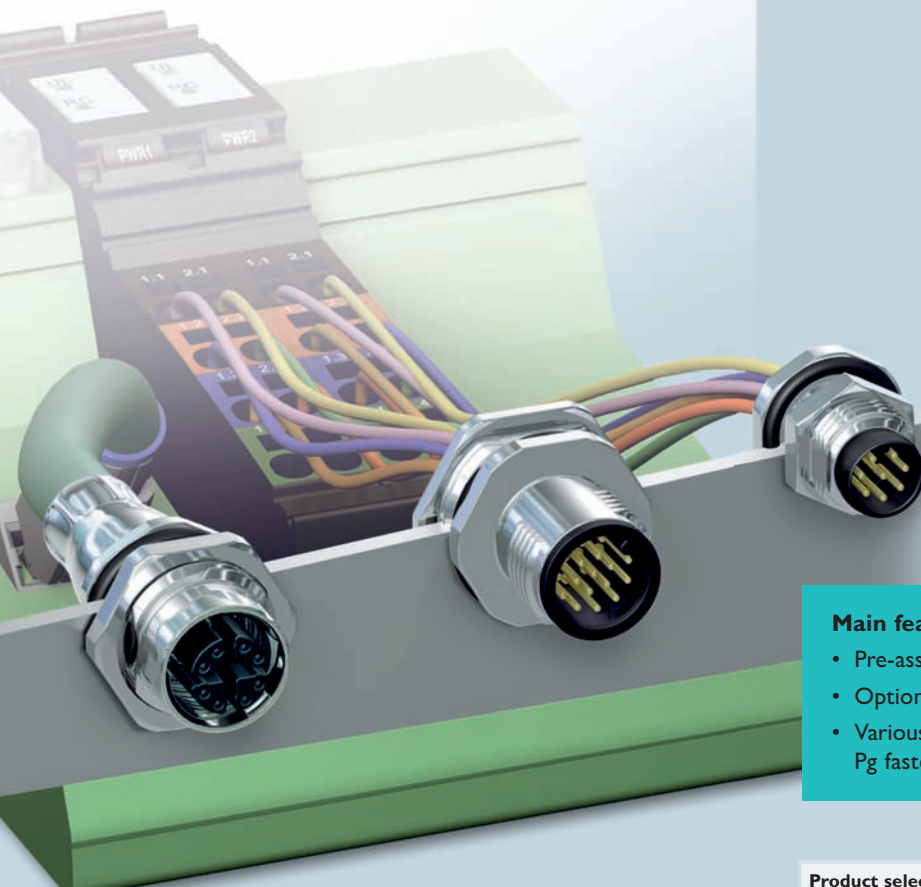
3- to 8-pos. for signals

High-density 12- and 17-pos. for signals



Device plug-in connectors with litz wire and cable connection

Device plug-in connectors with litz wires or size M5, M8, and M12 round cables are available as an alternative to a fixed cable connection. Thanks to its wide range of housing designs, Phoenix Contact can offer an appropriate solution for every individual application.



Variety of mounting options



Front mounting



Rear mounting



Modular mounting

Main features

- Pre-assembled with litz wires or cables
- Optional shield connection
- Various assembly methods with metric or Pg fastening threads

Product selection

Signal: p. 10 - 15, 20 - 22/Data: p. 23 - 31/Power: p. 32 - 33



Our device connection technology for distributed modules is designed for harsh ambient conditions in industrial production processes.

Advantages and benefits at a glance



Pre-assembled cables

- No field assembly necessary
- Various cable lengths and assemblies



Positionability

- Defined cable outlet direction



Rapid interlock system

- Compatible with the M12 standard
- Secure locking
- Reduced connection time



Reliable seals

- IP67 when unplugged
- Device electronics protection



Reliable transmission

- 360° shield connection
- Fieldbus-specific cables



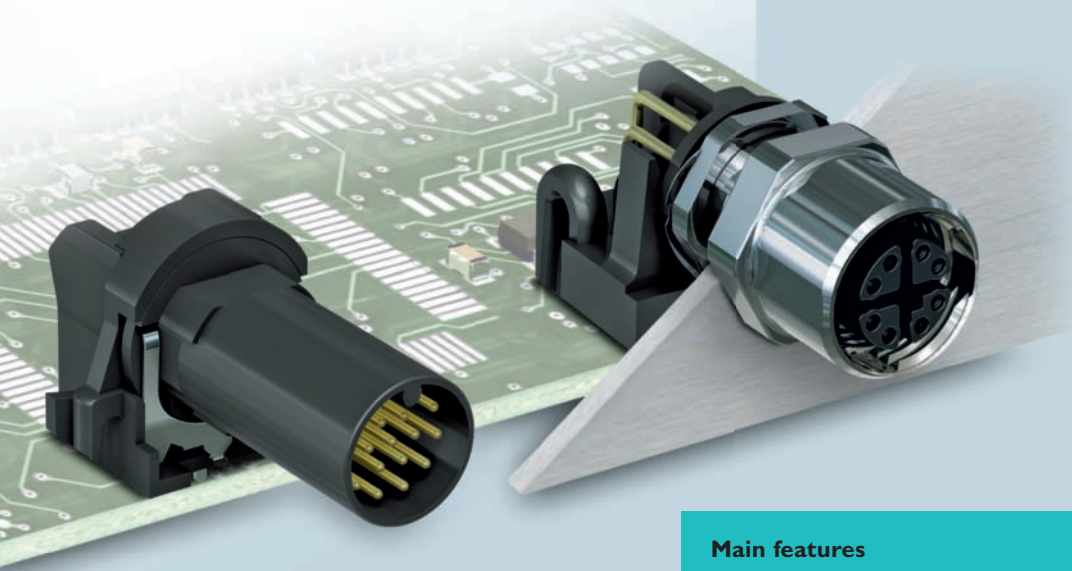
Codings for fieldbuses

- No risk of mismatching, thanks to colored and mechanical fieldbus-specific codings

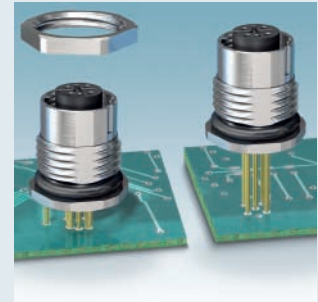
Device plug-in connectors for PCB connection

Phoenix Contact offers a wide range of one- and two-piece M5, M8, and M12 design device plug-in connectors for PCB assembly. This means that various connection solutions are available for wave soldering and reflow processes.

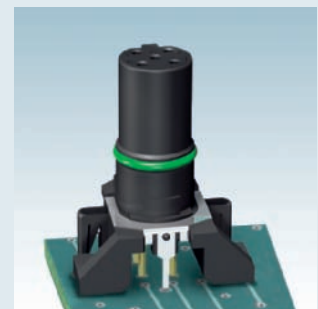
The two-piece M12 device plug-in connectors facilitate the realization of all numbers of positions and codings for signal, data, and power supply in identical mechanical installation conditions.



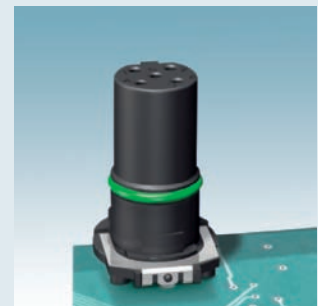
Connection technologies



One-piece, for wave soldering processes



Two-piece, for wave soldering processes



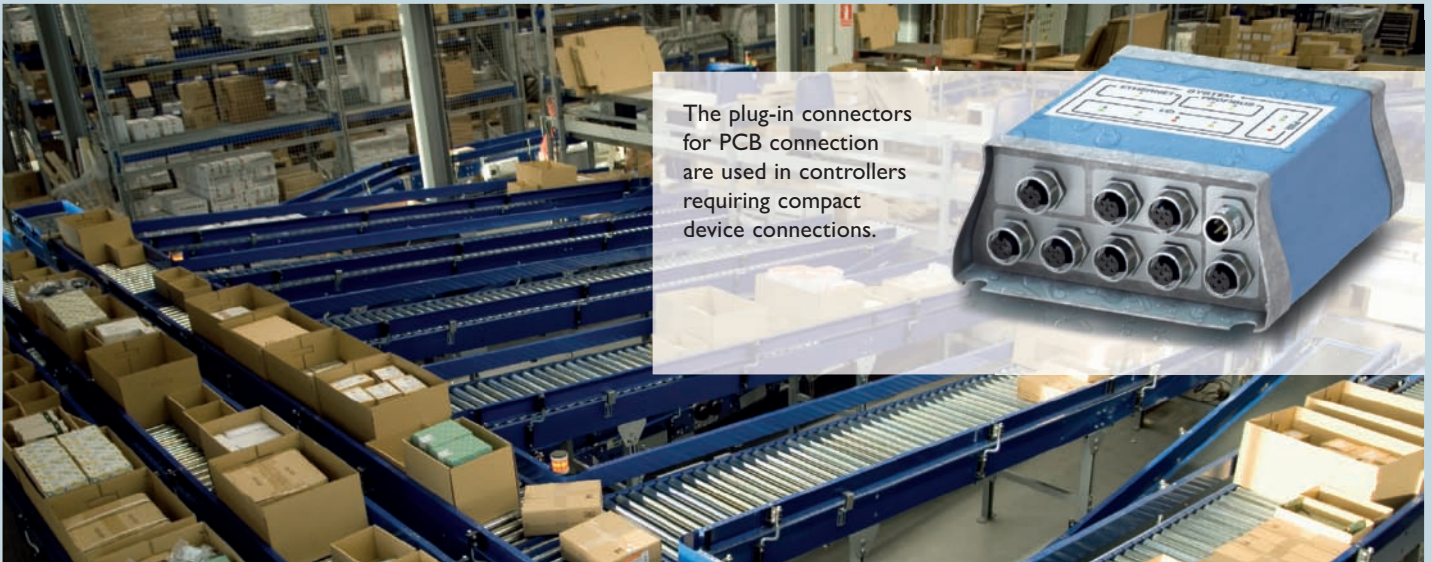
Two-piece, for reflow processes

Product selection

Signal: p. 14 - 22/Data: p. 23 - 31/Power: p. 32

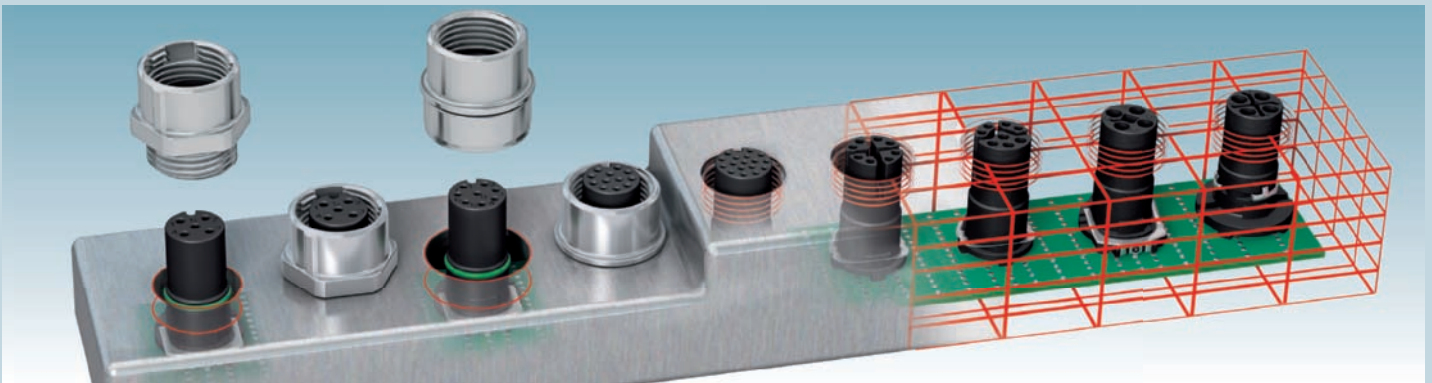
Main features

- One-piece plug-in connectors for the wave soldering process with 6 mm and 12 mm contact lengths
- Available with an optional shield connection
- Two-piece device plug-in connectors for the wave soldering and reflow processes with straight or angled solder contacts
- Easy housing integration, thanks to uniform Design-In designs



The plug-in connectors for PCB connection are used in controllers requiring compact device connections.

Advantages and benefits at a glance



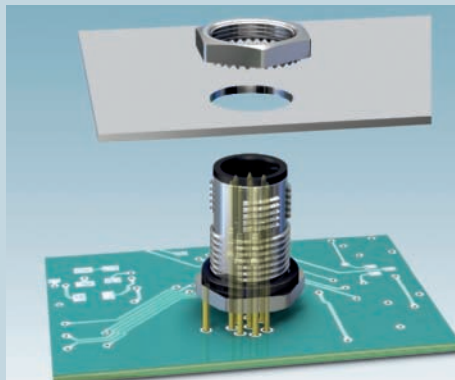
Integration of two-piece device plug-in connectors into customer-specific housings

- Use of housing screw connections with a threaded fastening, a press-in contour or for direct integration into the front plate
- Identical mechanical installation conditions for all numbers of positions and codings on one PCB level



Shield spring

- Shield connection via a shield spring on the PCB



Shield pin/EMC nut


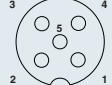
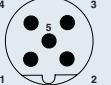

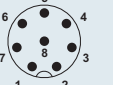
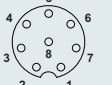
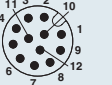


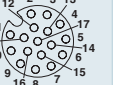
- Shield connection via a shield pin on the PCB or via an EMC nut on the front plate



Automatic pick-and-place assembly

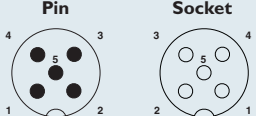
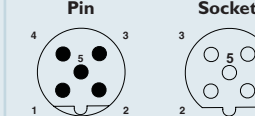
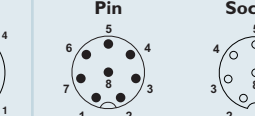
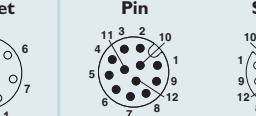
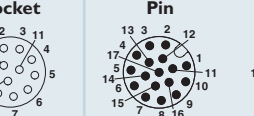

- Tape-on-reel or tray packaging

Signal – M12, with litz wires, front mounting		4-pos.			
Pre-assembled with 0.5 m long litz wires	Coding	A		D	
	Rated voltage	250 V		250 V	
	Nominal current	4 A		4 A	
	Conductor cross section	0.34 mm ²		0.34 mm ²	
	Pin assignment				
Versions for screw fixing					
	Pg9	1603762	1693788	–	–
	Pg9 flat nut				
	M16 x 1.5	1523450	1523434	1551558	1535202
	M16 x 1.5 flat nut				
	Pg9, can be positioned	1693775	1693791	–	–
	M16 x 1.5, can be positioned	1523463	1523447	1552256	1535215
	20 mm square flange, mounting holes 4 x Ø 3.2 mm	1419784	1419797	1441626	1441639
	25 mm square flange, mounting holes 4 x Ø 2.7 mm	1419991	1420003	1440957	1440960
Plastic and brass (nickel-plated) versions for screw fixing					
	Plastic M16 x 1.5	–	–	–	–
	Brass (nickel-plated) M20 x 1.5	1408451	1408436	–	–
Stainless steel versions (1.4404), for screw fixing					
	Pg9	1554555	1555448	–	–
	Pg9 flat nut				
	M16 x 1.5	1405233	1458855	–	–
	M16 x 1.5 flat nut				
	Pg9, can be positioned	1554610	1554649	–	–
	M20 x 1.5	1408415	1408416	–	–

5-pos.				8-pos.		12-pos.		17-pos.	
A		B		A		A		A	
60 V		60 V		30 V		30 V		30 V	
4 A		4 A		2 A		1.5 A		1.5 A	
0.34 mm ²		0.34 mm ²		0.25 mm ²		0.14 mm ²		0.14 mm ²	
									
1671111	1671098	–	–	1513774	1513758	–	–	–	–
1504084									
1520055	1520039	1520013	1520000	1523492	1523476	1556265	1556252	1556304	1556294
1504097									
1671124	1671108	1515057	1515044	1513787	1513761	–	–	–	–
1520068	1520042	1520026	1519998	1523502	1523489	–	–	–	–
1441642	1441655	1441668	1441671	1441684	1441697	1441707	1441710	1441723	1441736
1440973	1440986	1440999	1441558	1441561	1441574	1441587	1441590	1441600	1441613
1436411	–	–	–	1436424	–	–	–	–	–
1408446	1408454	–	–	1408442	1408453	–	–	–	–
1554568	1699863	–	1452343	1554571	1554607	–	–	–	–
1404984									
1458868	1458871	–	–	1405221	1458842	1405238	1405242	1405243	1405244
1404983									
1554623	1554652	–	1424023	1554636	1554665	–	–	–	–
1452068	1452071	1452084	1452097	1452107	1452110	–	–	–	–

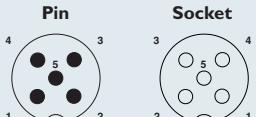
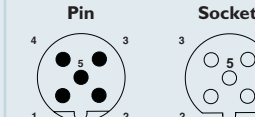
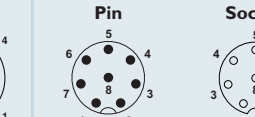
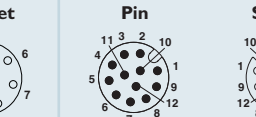
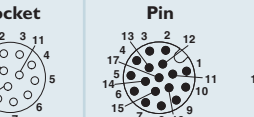

Signal – M12, crimp connection, front mounting		4-pos.			
Modular	Coding	A		D	
	Rated voltage	250 V		250 V	
	Nominal current	4 A		4 A	
	Conductor cross section	0.34 mm ²		0.34 mm ²	
	Pin assignment				
	25 mm square flange, mounting holes 4 x Ø 3.2 mm				
	Pre-assembled contact carrier, with 0.5 m long litz wires	1440805	–	1440821	–
	Contact carrier for crimp contacts, can be assembled	1440931	–	1440944	–
	Crimp contacts Ø 1.0 mm, 0.14 ... 0.34 mm ²	14252356	–	14252356	–
	Crimp contacts Ø 0.8 mm, 0.14 ... 0.34 mm ²	–	–	–	–

Signal – M12, with litz wires, rear mounting		4-pos.			
Pre-assembled with 0.5 m long litz wires	Coding	A		D	
	Rated voltage	250 V		250 V	
	Nominal current	4 A		4 A	
	Conductor cross section	0.34 mm ²		0.34 mm ²	
	Pin assignment				
Versions for screw fixing					
	Pg9	1556618	1556621	1551532	1551529
	M12 x 1	1551875	–	1551901	–
	M16 x 1.5	1419629	1419632	1419603	1419616
Plastic versions, for screw fixing					
	Pg9	–	–	–	–
Stainless steel versions (1.4404), for screw fixing					
	Pg9	1405239	1405240	–	–

5-pos.		8-pos.		12-pos.		17-pos.	
A	B	A	B	A	A	A	A
60 V	60 V	30 V	30 V	30 V	30 V	30 V	30 V
4 A	4 A	2 A	2 A	1.5 A	1.5 A	1.5 A	1.5 A
0.34 mm ²	0.34 mm ²	0.25 mm ²	0.25 mm ²	0.14 mm ²	0.14 mm ²	0.14 mm ²	0.14 mm ²
							

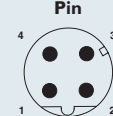
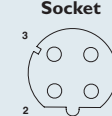

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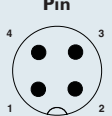
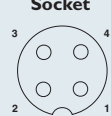
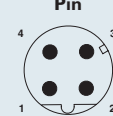


1440818	–	1440759	–	1457827	–	–	–	–	–
1419988	–	1440915	–	1440928	–	–	–	–	–
14252356	–	14252356	–	–	–	–	–	–	–
–	–	–	–	1452372	–	–	–	–	–

5-pos.		8-pos.		12-pos.		17-pos.	
A	B	A	B	A	A	A	A
60 V	60 V	30 V	30 V	30 V	30 V	30 V	30 V
4 A	4 A	2 A	2 A	1.5 A	1.5 A	1.5 A	1.5 A
0.34 mm ²	0.34 mm ²	0.25 mm ²	0.25 mm ²	0.14 mm ²	0.14 mm ²	0.14 mm ²	0.14 mm ²
							

1542703	1542729	1543663	1543676	1542716	1542732	1430459	1430446	1430475	1430462
1551888	–	1551891	–	1551914	–	1437122	–	1437135	–
1419645	1419658	1419661	1419674	1419687	1419690	1419700	1419713	1419726	1419739
–	1436356	–	–	–	1436369	–	–	–	–

1554681	1554717	–	–	1554694	1554720	–	–	–	–
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Signal – M12, with cable, rear mounting		4-pos.			
Assembled cable/control cabinet feed-through	Coding	A		D	
	Rated voltage	250 V		250 V	
	Nominal current	4 A		4 A	
	Pin assignment				
Versions for screw fixing, shielded					
	M16 x 1.5 cable length 1 m, PUR black	1419399	1419302	–	–
	M16 x 1.5 cable length 2 m, PUR black	1419386	1419315	–	–
Control cabinet feed-throughs for screw fixing					
	M16 x 1.5 pin to socket	–	–	–	–
	M16 x 1.5 socket to socket	–	–	–	1424326

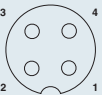
Signal – M12, solder connection, front mounting		4-pos.			
For soldering processes	Coding	A		D	
	Rated voltage	250 V		250 V	
	Nominal current	4 A		4 A	
	Pin assignment				
Versions for PCB assembly featuring torsion protection					
	20 mm square flange	1456417	1456420	1456394	1456404
Plastic versions, with solder cups					
	M12 x 1 fastening thread	–	–	–	–
	M16 x 1.5 fastening thread	–	–	–	–

5-pos.				8-pos.		12-pos.		17-pos.	
A		B		A		A		A	
60 V		60 V		30 V		30 V		30 V	
4 A		4 A		2 A		1.5 A		1.5 A	
Pin	Socket	Pin	Socket	Pin	Socket	Pin	Socket	Pin	Socket
1419409	1419328	–	–	1419425	1419357	1442227	1442188	1442308	1442269
1419412	1419331	–	–	1419438	1419344	1442230	1442191	1442311	1442272
1551671	–	1551684	–	1551697	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–

5-pos.				8-pos.		12-pos.		17-pos.	
A		B		A		A		A	
60 V		60 V		30 V		30 V		30 V	
4 A		4 A		2 A		1.5 A		1.5 A	
Pin	Socket	Pin	Socket	Pin	Socket	Pin	Socket	Pin	Socket
1456433	1456446	1456459	1456462	1408574	1408573	–	–	–	–
1436437	–	–	–	1436440	–	–	–	–	–
1436398	–	–	–	1436408	–	–	–	–	–













Signal – M12, solder connection, rear mounting		4-pos.				
For wave soldering processes	Coding	A		D		
	Rated voltage	250 V		250 V		
	Nominal current	4 A		4 A		
	Pin assignment					
One-piece, straight, for screw fixing						
	Pg9	6 mm solder pins	1553459	1553462	1551516	1551503
		12 mm solder pins	–	–	1552308	1552272
	M12 x 1		1551820	–	1551859	–
	M16 x 1.5		1419742	1419755	1441749	1441752
	Pg9, with shield contact	6 mm solder pins	1556841	–	1553035	1553006
		12 mm solder pins	1558535	1558522	1558519	1558506
	M12 x 1, with shield contact		1552955	–	1552984	–
	M16 x 1.5, with shield contact		1419768	1419771	1441862	1441875
Plastic versions, one-piece, straight for screw fixing						
	Pg9		–	–	–	–
	Pg9 with solder cups	Max. 0.34 mm ²	–	–	–	–
		Max. 0.25 mm ²	–	–	–	–
Stainless steel versions (1.4404), one-piece, straight for screw fixing						
	Pg9		1404979	1404974	–	–
Two-piece, straight						
	Straight, shielded		–	–	–	1534627
	Straight		–	–	–	–

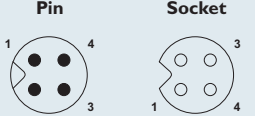
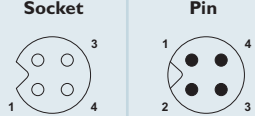
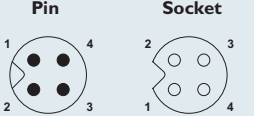
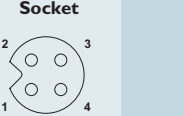


5-pos.				8-pos.		12-pos.		17-pos.	
A		B		A		A		A	
60 V		60 V		30 V		30 V		30 V	
4 A		4 A		2 A		1.5 A		1.5 A	
1542745	1542761	1543647	1543650	1542758	1542774	1559932	1559929	1559961	1559958
1552311	1552285	1552324	1552298	-	1408770	-	-	-	-
1551833	-	1551846	-	1551862	-	1559945	-	1559974	-
1441765	1441778	1441781	1441794	1441804	1441817	1441820	1441833	1441846	1441859
1553048	1553019	1553051	1553022	1553873	1553860	1436783	1436770	1436819	1436806
1558551	1558548	1558577	1558564	-	1408771	-	-	-	-
1552968	-	1552971	-	1552997	-	1437106	-	1437119	-
1441888	1441891	1441901	1441914	1441927	1441930	1441943	1441956	1441969	1441972
-	1436330	-	-	-	1436343	-	-	-	-
-	1436314	-	-	-	-	-	-	-	-
-	-	-	-	-	1436327	-	-	-	-
1554746	1554733	-	-	1529807	1529797	-	-	-	-
1437193	-	1437203	1437180	-	-	-	-	-	-
1694211	1694237	1514883	1515934	-	1556854	-	-	-	-

Signal – M12, solder connection, rear mounting		4-pos.			
For soldering processes	Coding	A		D	
	Rated voltage	250 V		250 V	
	Nominal current	4 A		4 A	
	Pin assignment				
Two-piece contact carriers for reflow processes					
	Straight, shielded, THR in tray	1439939	1439955	1552214	1551451
	Straight, shielded, THR on reel	1457500	1457623	1457513	1457636
	Straight, THR in tray	1437164	1439942	–	–
	Straight, THR on reel	1457490	1457610	–	–
Two-piece contact carriers for wave soldering processes					
	Angled, shielded	1439887	1432444	1436673	1432457
	Angled	1436660	1436628	–	–
	Straight, shielded	–	–	–	1551480
	Straight	–	–	–	–
Housing screw connections for two-piece contact carriers					
	SPEEDCON screw versions with O-Ring	Socket			
		Pin			
	SPEEDCON screw versions with flat gasket	Socket			
		Pin			
	Press-in versions	Socket			
		Pin			

5-pos.				8-pos.		12-pos.		17-pos.	
A		B		A		A		A	
60 V		60 V		30 V		30 V		30 V	
4 A		4 A		2 A		1.5 A		1.5 A	
1432350	1432363	1552230	1551435	1557581	1551422	1442065	1442052	1442081	1442078
1457539	1457652	1457542	1457665	1457568	1457681	1457584	1457704	1457607	1457720
1552227	1551448	–	–	1552269	1557808	1441985	1441970	1442007	1441998
1457526	1457649	–	–	1457555	1457678	1457571	1457694	1457597	1457717
1439890	1432431	1436699	1432512	1437038	1437009	1424198	1424199	1424200	1424201
1436686	1436644	–	–	1436987	1436990	1424194	1424195	1424196	1424197
–	–	–	1551477	–	–	–	–	–	–
–	1551464	–	–	–	–	–	–	–	–
1552243									
1551493									
1432460									
1436709									
1437889									
1437892									

Signal – M8, with litz wires		3-pos.	
Pre-assembled with 0.5 m long litz wires	Coding	A	
	Rated voltage	60 V	
	Nominal current	4 A	
	Conductor cross section	0.25 mm ²	
	Pin assignment		
Front mounting			
	M8 fastening thread	1500334	1500350
	M8 flat nut		
	M10 fastening thread	–	–
Rear mounting			
	M8 fastening thread	1453478	–
	M10 fastening thread	–	1456080
	M12 fastening thread	–	1453449
Signal – M8, solder connection		3-pos.	
For wave soldering processes	Coding	A	
	Rated voltage	60 V	
	Nominal current	4 A	
	Pin assignment		
Rear mounting, one-piece			
	M8 fastening thread, straight	1694334	–
	M12 fastening thread, straight	–	1694363
	M8 fastening thread, straight, shielded	1455997	–
	M8 fastening thread, angled, shielded	1456035	–
	M10 fastening thread, straight, shielded	–	1456116
	M10 fastening thread, angled, shielded	–	1456145
Rear mounting, two-piece			
	M8 fastening thread, straight	–	1524776
	M8 fastening thread, angled	1440070	1524788

4-pos.		6-pos.		8-pos.	
A		A		A	
60 V		60 V		30 V	
4 A		2 A		1.5 A	
0.25 mm ²		0.14 mm ²		0.14 mm ²	
Pin	Socket	Pin	Socket	Pin	Socket
					
1500347	1500363	1542664	1542677	–	–
1504071					
–	–	–	–	1424232	1424231
1453481	–	1453494	–	1424230	–
–	1456093	–	1456103	–	–
–	1453452	–	1453465	–	–
4-pos.		6-pos.		8-pos.	
A		A		A	
60 V		60 V		30 V	
4 A		2 A		1.5 A	
Pin	Socket	Pin	Socket	Pin	Socket
					
1694347	–	1436521	–	1424238	–
–	1694376	–	1436534	–	1424237
1456019	–	1456022	–	1424236	–
1456048	–	1424244	–	–	–
–	1456129	–	1456132	–	1424235
–	1456158	–	1424243	–	–
–	1524789	–	–	–	–
1440096	1526169	–	–	–	–

Signal – M5		3-pos.		4-pos.	
	Coding	A		A	
	Rated voltage	60 V		60 V	
	Nominal current	1 A		4 A	
	Conductor cross section	0.14 mm ²		0.14 mm ²	
	Pin assignment				
Front mounting, pre-assembled with 0.5 m long litz wires					
	M5 fastening thread	1530582	1530605	1530595	1530618
	Flat nut with M5 thread	1535901			
Rear mounting, one-piece for wave soldering processes					
	M5 fastening thread	1530621	1530647	1530634	1530650
	Flat nut with M5 thread	1535901			

Data – M12 for networks		4-pos.		8-pos.		
Ethernet 	Coding	D		A		
	Rated voltage	250 V		30 V		
	Nominal current	4 A		2 A		
	Conductor cross section	0.14/0.34 mm ²		0.14 mm ²		
	Pin assignment					
Front/screw mounting, with assembled cable						
Ethernet 	M16 x 1.5, can be positioned, water blue, cable type 93E	2 m	–	1405837	–	–
Rear/screw mounting, with assembled cable						
Ethernet 	M16 x 1.5, water blue, cable type 93E	2 m	–	1405866	–	–
	M16 x 1.5, water blue, cable type 94B	5 m	–	–	–	1407877
	M16 x 1.5, water blue, cable type 94C	2 m	–	–	–	1412820
Rear/screw mounting, for soldering processes						
Ethernet 	M16 x 1.5, one-piece, contact carrier, water blue		1456514	1456527	–	–
Rear/screw mounting, with assembled cable						
 	M16 x 1.5, green, cable type 93B	0.5 m	1437805	1437766	–	–
		1 m	1437818	1437779	–	–
		2 m	1437821	1437782	–	–
		5 m	1437834	1437795	–	–
	M16 x 1.5, green, cable type 93C	2 m	–	1416209	–	–
	M16 x 1.5, green, cable type 93R	2 m	–	1416263	–	–
Rear/screw mounting, for soldering processes						
 	M16 x 1.5, one-piece, contact carrier, green		1456556	1456569	–	–

See the Signal – M12 section for additional 4-pos., D-coded and 8-pos., A-coded plug-in connectors


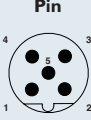
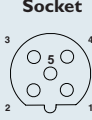



Data – M12 for networks		8-pos.	8-pos.	
Ethernet	Coding	X	Y	
	Rated voltage	48 V	30 V	
	Nominal current	0.5 A	0.5 A/6 A	
	Conductor cross section	0.25 mm ²	0.14/0.5 mm ²	
Hybrid	Pin assignment	Socket	Socket	
				
Rear/screw mounting, with assembled cable				
 	M16 x 1.5, water blue, cable type 94F	0.5 m	1424135	–
		1 m	1424148	–
		2 m	1424151	–
		5 m	1424164	–
Hybrid 	M16 x 1.5, black, cable type 94H	0.5 m	–	1407504
		1 m	–	1407505
		2 m	–	1407506
		5 m	–	1407507
Rear/screw mounting, for soldering processes				
 	M12, two-piece		1440669	–
	Pg9, one-piece		1404741	–
	M16 x 1.5, one-piece		1424177	–
Hybrid 	M12 x 1, two-piece		–	1456666
	M16 x 1.5, one-piece		–	1407503
Rear mounting, two-piece contact carriers for soldering processes				
 	Straight, shielded		1402457	–
	Angled, shielded		1424180	–
Hybrid 	Straight, shielded		–	1405225
	Angled, shielded		–	1424193
See page 18 for housing screw connections for two-piece contact carriers				

Data – M12 for networks		4-pos.		8-pos.		
  	Coding	D		A		
	Rated voltage	250 V		30 V		
	Nominal current	4 A		2 A		
	Conductor cross section	0.14/0.34 mm ²		0.14 mm ²		
	Pin assignment					
Rear/screw mounting, with assembled cable						
 	M16 x 1.5, red, cable type 93K	0.5 m	1410158	1419154	–	–
		1 m	1419159	1419155	–	–
		2 m	1419160	1419156	–	–
		5 m	1419161	1419157	–	–
		Rear/screw mounting, for soldering processes				
 	M16 x 1.5, one-piece, contact carrier, red		1457979	1457966	–	–
Rear/screw mounting, with assembled cable						
 	M16 x 1.5, green, cable type 93G	0.5 m	1419138	1419134	–	–
		1 m	1419139	1419135	–	–
		2 m	1419140	1419136	–	–
		5 m	1419141	1419137	–	–
		Rear/screw mounting, for soldering processes				
 	M16 x 1.5, one-piece, contact carrier, green		1456556	1456569	–	–
Rear/screw mounting, with assembled cable						
 	M16 x 1.5, black, cable type 970	0.5 m	–	–	1429059	1429091
		1 m	–	–	1429062	1429101
		2 m	–	–	1429075	1429114
		5 m	–	–	1429088	1429127

See the Signal – M12 section for additional 4-pos., D-coded and 8-pos., A-coded plug-in connectors

Data – M12 for fieldbuses		5-pos.		
	Coding	B		
	Rated voltage	60 V		
	Nominal current	4 A		
	Conductor cross section	0.34 mm ²		
	Pin assignment			
Front/screw mounting, with assembled cable				
	M16 x 1.5, can be positioned, violet, cable type 910	0.5 m	1525555	1525597
		1 m	1525568	1525607
		2 m	1519561	1519574
		5 m	1525571	1525610
Rear/screw mounting, with assembled cable				
	Pg9, violet, cable type 910	0.5 m	1437481	1437449
		1 m	1437494	1437452
		2 m	1437504	1437465
		5 m	1437517	1437478
	M16 x 1.5, violet, cable type 910	0.5 m	1534342	1534384
		1 m	1534355	1534397
		2 m	1534368	1534407
		5 m	1534371	1534410
Rear/screw mounting, for soldering processes				
	M16 x 1.5, one-piece, contact carrier, violet		1456475	1456488

See the Signal – M12 section for additional 5-pos., B-coded plug-in connectors

Data – M12 for fieldbuses		5-pos.		
	Coding	B		
	Rated voltage	60 V		
	Nominal current	4 A		
	Conductor cross section	0.34 mm ²		
	Pin assignment			
Front/screw mounting, with assembled cable				
	M16 x 1.5, green, cable type 910	0.5 m	1529629	1529742
		1 m	1530223	1529755
		2 m	1529726	1529768
		5 m	1529739	1529771
Rear/screw mounting, with assembled cable				
	Pg9, green, cable type 900	0.5 m	1437643	1437601
		1 m	1434656	1437614
		2 m	1437669	1437627
		5 m	1437672	1437630
	Pg9 EMC nut	1440177		
	M16 x 1.5, green, cable type 900	0.5 m	1534504	1534546
		1 m	1534517	1534559
		2 m	1534520	1534562
		5 m	1534533	1534575
	M16 x 1.5 EMC nut	1440164		
	Rear/screw mounting, for soldering processes			
		M16 x 1.5, one-piece, contact carrier, green		1456572
M16 x 1.5 EMC nut			1440164	





See the Signal – M12 section for additional 5-pos., B-coded plug-in connectors






Data – M12 for fieldbuses		5-pos.		
	Coding	A		
	Rated voltage	60 V		
	Nominal current	4 A		
	Conductor cross section	0.25/0.34 mm ²		
Pin assignment				
Front/screw mounting, with assembled cable				
	M16 x 1.5, violet, cable type 920	0.5 m	1525623	1525678
		1 m	1525636	1525681
		2 m	1525649	1525694
		5 m	1525652	1525704
Rear/screw mounting, with assembled cable				
	Pg9, violet, cable type 920	0.5 m	1437562	1437520
		1 m	1437575	1437533
		2 m	1437588	1437546
		5 m	1437591	1437559
	Pg9 EMC nut	1440177		
	M16 x 1.5, violet, cable type 920	0.5 m	1534423	1534465
		1 m	1534436	1534478
		2 m	1534449	1534481
5 m		1534452	1534494	
M16 x 1.5 EMC nut	1440164			
Rear/screw mounting, for soldering processes				
	M16 x 1.5, one-piece, contact carrier, violet		1456491	1456501
		M16 x 1.5 EMC nut	1440164	

See the Signal – M12 section for additional 5-pos., A-coded plug-in connectors

Data – M12 for fieldbuses		4-pos.		
 	Coding	A		
	Rated voltage	250 V		
	Nominal current	4 A		
	Conductor cross section	0.34 mm ²		
Pin assignment				
Rear/screw mounting, with assembled cable				
 	Pg9, red, cable type 990	0.5 m	–	1559819
		1 m	–	1559822
		2 m	–	1559835
		5 m	–	1559848
	M16 x 1.5, red, cable type 990	0.5 m	–	1437847
		1 m	–	1437850
		2 m	–	1437863
		5 m	–	1437876
Rear/screw mounting, for soldering processes				
 	M16 x 1.5, one-piece, contact carrier, red	1457856	1457869	
Front/screw mounting, pre-assembled with 0.5 m long litz wires				
 	Pg9, shielded	1431432	1431429	
	Pg9 flat nut	1504084		
Rear/screw mounting, for soldering processes, shielded				
 	M16 x 1.5, one-piece, stainless steel (1.4404)	1554746	1554733	
	M16 x 1.5, one-piece, contact carrier, yellow	1457872	1457885	
	M16 x 1.5, one-piece, contact carrier, blue	1457953	1457940	

See the Signal – M12 section for additional 4-pos., A-coded plug-in connectors

Data – M12 for USB and fiber optics		USB	FO
	Pin assignment		
Rear/screw mounting, with solder connection			
 	M12 x 1, Mini-B USB 2.0	1440711	–
	M16 x 1.5, fiber optic transceiver	–	1416716

Data – M8		5-pos.	
	Coding	B	
	Rated voltage	30 V	
	Nominal current	3 A	
	Conductor cross section	0.25 mm ²	
	Pin assignment		
Front mounting, pre-assembled with 0.5 m long litz wires			
	M10 fastening thread	1424234	1424233
Rear mounting, for wave soldering processes			
	M8 fastening thread, straight, shielded	1424242	–
	M8 fastening thread, angled, shielded	1424240	–
	M10 fastening thread, straight, shielded	–	1424241
	M10 fastening thread, angled, shielded	–	1424239

Power – M12 up to 12 A/630 V		4 (3+PE)-pos.		4-pos.	
	Coding	S (AC)		T (DC)	
	Rated voltage	630 V		60 V	
	Nominal current	12 A		12 A	
	Conductor cross section	1.5 mm ²		1.5 mm ²	
	Pin assignment	Pin 	Socket 	Pin 	Socket 
Front mounting, pre-assembled with 0.5 m long litz wires					
	M16 x 1.5 fastening thread, one-piece	1424139	1424137	1424140	1424138
	M16 x 1.5 flat nut	1504097			
	25 mm square flange, modular, mounting holes 4 x Ø 2.7 mm	1424131			
	Pre-assembled contact carrier, modular	1424129	–	1424130	–
Rear mounting, pre-assembled with 0.5 m long litz wires					
	M16 x 1.5 fastening thread, one-piece	1424132	1424133	1424136	1424134
Rear mounting, two-piece contact carriers for reflow processes					
	Straight	1406410	1406409	1406396	1406411
	Straight, shielded	–	–	1406397	1406412
	See page 18 for housing screw connections for two-piece contact carriers				





Power – M12 up to 12 A/630 V		4 (3+PE)-pos.		4-pos.		
PUR-molded	Coding	S (AC)		T (DC)		
	Rated voltage	630 V		60 V		
	Nominal current	12 A		12 A		
	Conductor cross section	1.5 mm ²		1.5 mm ²		
	Pin assignment	Pin	Socket	Pin	Socket	
Cable with free cable end, PUR						
	Straight, shielded	1.5 m	1424104	1424096	1424120	1424112
		3.0 m	1424105	1424097	1424121	1424113
		5.0 m	1424245	1424098	1424122	1424114
		10.0 m	1424107	1424099	1424123	1424115
	Angled, shielded	1.5 m	1424108	1424100	1424124	1424116
		3.0 m	1424109	1424101	1424125	1424117
		5.0 m	1424110	1424102	1424126	1424118
		10.0 m	1424111	1424103	1424127	1424128
	Straight	1.0 m	1408835	1408843	1408812	1408823
		2.0 m	1408836	1408844	1408813	1408824
		5.0 m	1408837	1408845	1408814	1408825
		10.0 m	1408838	1408846	1408815	1408826
	Angled	1.0 m	1408839	1408848	1408816	1408827
		2.0 m	1408840	1408852	1408819	1408828
		5.0 m	1408841	1408853	1408820	1408829
		10.0 m	1408842	1408854	1408822	1408830

Additional plastic-molded plug-in connectors in sizes M5 to M40 for signals, data, and power can be found at phoenixcontact.com


Signal – M12 plug-in connectors that can be assembled

	Coding	Design	4-pos.		5-pos.		8-pos.	
			Pin	Socket	Pin	Socket	Pin	Socket
Screw connection, SPEEDCON knurl, Pg7 screw connection								
	A - Standard	Straight	1542952	1543029	1542965	1543032		
	A - Standard	Angled	1542981	1543058	1542994	1543061		
Screw connection, SPEEDCON knurl, Pg9 screw connection								
	A - Standard	Straight			1542978	1543045		
	A - Standard	Angled			1543003	1543414		
Screw connection, metal knurl, Pg7 screw connection								
	A - Standard	Straight	1662528	1681127	1663116	1662968		
	A - Standard	Angled	1681101	1681143	1663129	1662984		
Screw connection, metal knurl, Pg9 screw connection								
	A - Standard	Straight			1681460	1681486	1513334	1513347
	A - Standard	Angled			1681473	1681499		
Screw connection, metal knurl, Pg7 SKINTOP screw connection								
	A - Standard	Straight	1556870	1430381	1456466	1559000		
Screw connection, metal knurl, Pg9 SKINTOP screw connection								
	A - Standard	Straight			1556825	1556838		
	A - Standard	Angled			1561742	1556812		
Screw connection, metal knurl, Pg7 screw connection, shielded								
	A - Standard	Straight	1693830	1694295	1693416	1694305		
	A - Standard	Angled	1694279		1693429			
Screw connection, metal knurl, Pg9 screw connection, shielded								
	A - Standard	Straight	1501540	1515170	1694266	1694318	1511857	1511860
	A - Standard	Angled			1694282	1430433		

Signal – M12 plug-in connectors that can be assembled

	Coding	Design	4-pos.		5-pos.		
			Pin	Socket	Pin	Socket	
Spring connection							
	A - Standard	Straight	1432635	1432619	1432567	1432583	
	A - Standard	Angled	1432606	1432622	1432570	1432596	
Spring connection, shielded							
	A - Standard	Straight	1432729	1432745	1432648	1432664	
	A - Standard	Angled	1432732	1432758	1432651	1432677	
IDC connection, 0.14 mm² – 0.34 mm²							
	A - Standard	Plastic knurl	1641714	1641701			
	A - Standard	SPEEDCON knurl	1521575	1521588			
	A - Standard	Metal knurl	1641691	1641688			
IDC connection, 0.34 mm² – 0.75 mm²							
	A - Standard	Plastic knurl	1641769	1641756			
	A - Standard	SPEEDCON knurl	1521591	1521601			
	A - Standard	Metal knurl	1641785	1641772			


Signal – M12 plug-in connectors that can be assembled

	Coding	Design	12-pos.		17-pos.		
			Pin	Socket	Pin	Socket	
Piercecon connection, 0.14 mm², SPEEDCON							
	A - Standard	Straight	1559592	1559631	1559602	1559644	



Signal – M8 plug-in connectors that can be assembled

	Design	3-pos.		4-pos.	
		Pin	Socket	Pin	Socket
Solder connection					
	Straight	1681156	1681172	1681169	1681185
	Angled	1699902	1529399	1554209	1513444
Solder connection, shielded					
	Straight	1506901	1506927	1506914	1506930
	Angled	1436453	1436479	1436466	1436482
Screw connection					
	Straight	1501252	1506888	1501265	1506891
	Angled	1407583	1407582	1407585	1407584
Screw connection, shielded					
	Straight	1542884	1542907	1542897	1542910
IDC connection, 0.08 mm² – 0.25 mm²					
	Straight	1441008	1441040	1441011	1441053
IDC connection, 0.25 mm² – 0.5 mm²					
	Straight	1441024	1441066	1441037	1441079

Data – M12 plug-in connectors that can be assembled

	Coding	Design	4-pos.		5-pos.		8-pos.	
			Pin	Socket	Pin	Socket	Pin	Socket
Spring connection, shielded, for fieldbuses								
	B - Inverse	Straight			1432680	1432703		
	B - Inverse	Angled			1432693	1432716		
Spring connection, shielded, for fieldbuses								
	INTERBUS	Straight			1432800	1432826		
		Angled			1432813	1432839		
	PROFIBUS	Straight			1432842	1432868		
		Angled			1432855	1432871		
	DeviceNet	Straight			1432761	1432787		
		Angled			1432774	1432790		
IDC connection, shielded, for networks								
	Ethernet	Straight	1543223	1553611				
		Angled	1553624	1553637				
	PROFINET	Straight	1554513	1554526				
		Angled	1554539	1554542				
Piercecon connection, shielded, for 10 Gbps Ethernet								
	CAT6 _A	Straight					1417430	
		Angled					1417443	

Power – M12 plug-in connectors that can be assembled

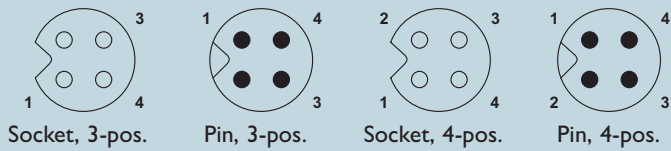
	Coding	Design	4-pos. (DC)		3+PE-pos. (AC)			
			Pin	Socket	Pin	Socket		
Straight, screw connection up to 1.5 mm², Pg11 screw connection, cable inlet 8 - 10 mm								
	T - Standard	Straight	1404643	1404644				
	S - Standard	Straight			1404641	1404642		
Angled, screw connection up to 1.5 mm², Pg11 screw connection, cable inlet 8 - 10 mm								
	T - Standard	Angled	1408988	1408989				
	S - Standard	Angled			1408985	1408987		

Pin assignments and litz wire colors

Signal

M5 device plug-in connector

Pin assignments



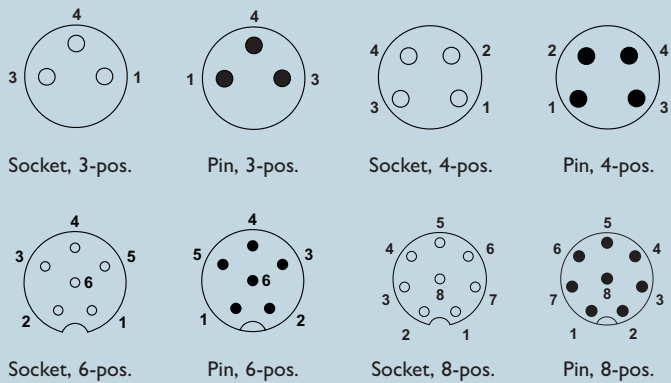
Litz wire colors

Assignment: M5 pin/sockets

Pin	Wire color			
	3-pos.		4-pos.	
1	BN		BN	
2	–		WH	
3	BU		BU	
4	BK		BK	

M8 device plug-in connector

Pin assignments



Litz wire colors

Assignment: M8 pin/sockets

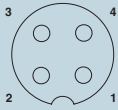
Pin	Wire color			
	3-pos.		4-pos.	
1	BN		BN	
2	–		WH	
3	BU		BU	
4	BK		BK	
5	–		–	
6	–		–	

Assignment: M8 pin/sockets

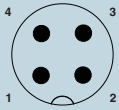
Pin	Wire color			
	6-pos.		8-pos.	
1	BN		WH	
2	WH		BN	
3	BU		GN	
4	BK		YE	
5	GY		GY	
6	PK		PK	
7	–		BU	
8	–		RD	

M12 device plug-in connector

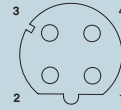
Pin assignments



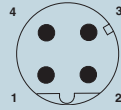
Socket, 4-pos.,
A-coded



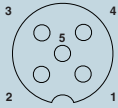
Pin, 4-pos.,
A-coded



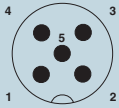
Socket, 4-pos.,
D-coded



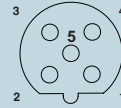
Pin, 4-pos.,
D-coded



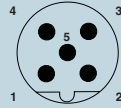
Socket, 5-pos.,
A-coded



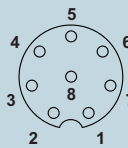
Pin, 5-pos.,
A-coded



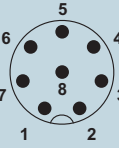
Socket, 5-pos.,
B-coded



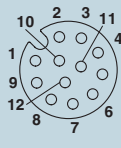
Pin, 5-pos.,
B-coded



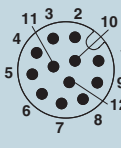
Socket, 8-pos.



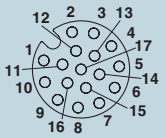
Pin, 8-pos.



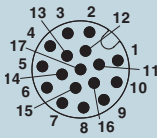
Socket, 12-pos.



Pin, 12-pos.



Socket, 17-pos.



Pin, 17-pos.

Assignment: M12 pin/sockets

Pin	8-pos.	12-pos.
1	WH	BN
2	BN	BU
3	GN	WH
4	YE	GN
5	GY	PK
6	PK	YE
7	BU	BK
8	RD	GY
9	–	RD
10	–	VT
11	–	GYPK
12	–	RDBU

Litz wire colors

Assignment: M12 pin/sockets

Pin	4-pos. A-coded	4-pos. D-coded
1	BN	YE
2	WH	WH
3	BU	OG
4	BK	BU

Assignment: M12 pin/sockets

Pin	5-pos. A-coded	5-pos. B-coded
1	BN	BN
2	WH	WH
3	BU	BU
4	BK	BK
5	GY	GY

Assignment: M12 pin/sockets

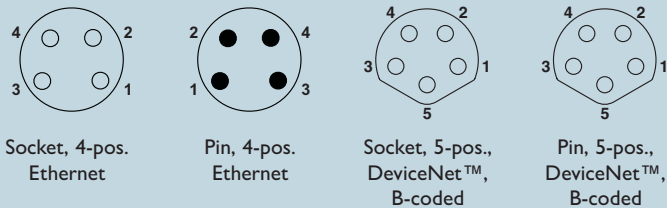
Pin	17-pos.
1	BN
2	BU
3	WH
4	GN
5	PK
6	YE
7	BK
8	GY
9	RD
10	VT
11	GYPK
12	RDBU
13	WHGN
14	BNGN
15	WHYE
16	YEBN
17	WHGY

Pin assignments and litz wire colors

Data

M8 device plug-in connector

Pin assignments



Assignment: Ethernet, 4-pos., A-coded

Pin	Wire color	Signal Ethernet
1	YE	TD+
2	OG	TD-
3	WH	RD+
4	BU	RD-

Assignment: CANopen®/DeviceNet™, 5-pos., B-coded

Pin	Wire color	Signal DeviceNet
1	Shield	Drain
2	RD	V+
3	BK	V-
4	WH	CAN_H
5	BU	CAN_L

M12 device plug-in connector

Pin assignments



Litz wire colors

Assignment: PROFIBUS, 5-pos., B-coded

Pin	Wire color	Signal PROFIBUS
1	–	–
2	GN	A cable
3	–	–
4	RD	B cable
5	Filler litz wire	–

Shield on housing

Assignment: CANopen®, 5-pos., A-coded

Pin	Wire color	Signal CANopen®
1	Shield	Drain
2	RD	V+
3	BK	V-
4	WH	CAN_H
5	BU	CAN_L

Shield on housing

Assignment: DeviceNet, 5-pos., A-coded

Pin	Wire color	Signal DeviceNet
1	Shield	Drain
2	RD	V+
3	BK	V-
4	WH	CAN_H
5	BU	CAN_L

Shield on housing

Data

M12 device plug-in connector

Litz wire colors

Assignment: INTERBUS, 5-pos., B-coded

Pin	Wire color	Signal
1	YE	DO
2	GN	DO
3	GY	DI
4	PK	DI
5	BN	COM
–	WH	NC

Shield on housing

Assignment: Ethernet, 8-pos., A-coded

Pin	Wire color	Signal Ethernet
1	WHBU	D3–
2	WHBN	D4+
3	BN	D4–
4	OG	D1–
5	WHGN	D2+
6	WHOG	D1+
7	BU	D3+
8	GN	D2–

Assignment: Varan, 8-pos., A-coded

Pin	Wire color	Signal
1	n. c.	
2	OG	TD–
3	WHOG	TD+
4	n. c.	
5	WHGN	RD+
6	BU	
7	BN	
8	GN	RD–

Assignment: PROFINET, EtherCAT, Sercos, 4-pos., D-coded

Pin	Wire color	Signal
1	YE	TD+
2	WH	RD+
3	OG	TD–
4	BU	RD–

Assignment: Ethernet, 8-pos., X-coded

Pin	Wire color	Signal Ethernet
1	WHOG	D1+
2	OG	D1–
3	WHGN	D2+
4	GN	D2–
5	WHBN	D4+
6	BN	D4–
7	WHBU	D3–
8	BU	D3+

Assignment: AS-Interface, 4-pos., A-coded

Pin	Wire color	Signal
1	BU	AS-i+
2	WH	
3	BN	AS-i–
4	BK	

Assignment: Ethernet, 4-pos., D-coded

Pin	Wire color	Signal Ethernet
1	WHOG	TD+
2	WHGN	RD+
3	OG	TD–
4	GN	RD–

Shield on housing

Assignment: Ethernet hybrid, 8-pos., Y-coded

Pin	Wire color	Signal Ethernet
1	WHOG	TD+
2	OG	TD–
3	WHGN	RD+
4	GN	RD–
5	BU	
6	WH	
7	BN	
8	BK	

Assignment: CC-Link, 4-pos., A-coded

Pin	Wire color	Signal
1	Shield	SLD
2	WH	DB
3	YE	DG
4	BU	DA

Assignment: Foundation Fieldbus, 4-pos., A-coded

Pin	Wire color	Signal
1	BU	DATA–
2	OG	DATA+
3		Shield
4		

Power

M12 device plug-in connector

Pin assignments



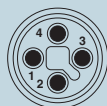
Socket, 3+PE, S-coded



Pin, 3+PE, S-coded



Socket, 4-pos., T-coded



Pin, 4-pos., T-coded

Litz wire colors

Assignment: 3+PE, S-coded

Pin	Wire color
1	BK1
2	BK2
3	BK3
PE	GNYE

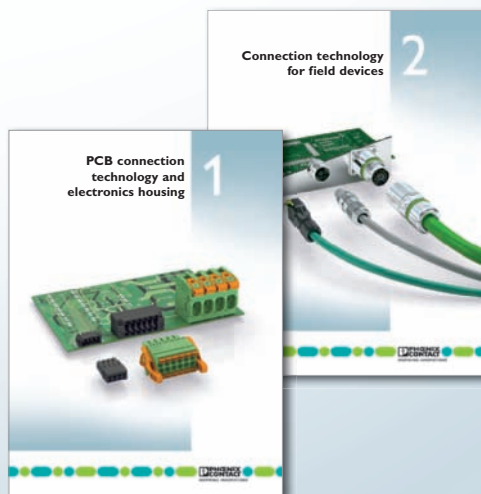
Assignment: 4-pos., T-coded

Pin	Wire color
1	BN
2	WH
3	BU
4	BK

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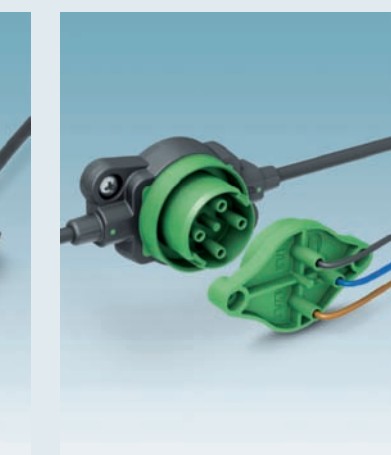
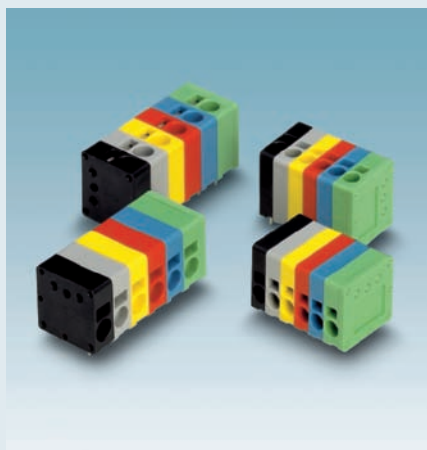
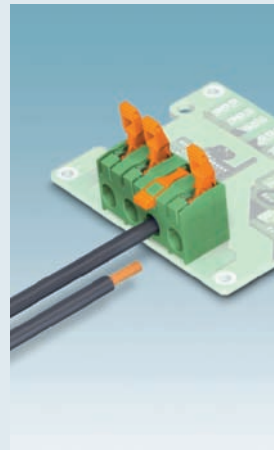
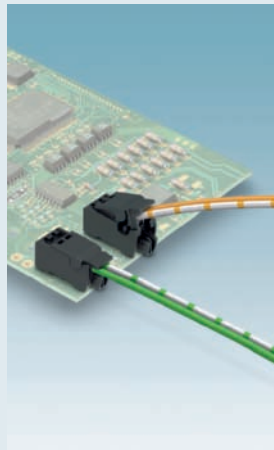
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