

# New products for 2013

## Plug-in connectors and housing systems

# New products for 2013 – plug-in connectors and housing systems for your devices

As a leading provider of plug-in connectors and housing systems, we always work to meet the growing requirements of your applications and markets in new innovations.

Even when it comes to the topics of the future, such as photovoltaics and e-mobility, we aim to be pathfinders in the field of technology and to set standards across the globe.

Discover our new products for the transmission of signals, data, and power.



# Small plug-in connectors for flexible LED PCBs

The new plug-in connectors from the PTF series enable you to quickly and easily connect LED PCBs with the smallest external dimensions for 8 mm LED strips.






## Your advantages

- ✓ Soldering connection litz wires onto the contact surfaces is no longer necessary
- ✓ Secure hold on the PCB, thanks to integrated locking mechanism
- ✓ Smallest external dimensions of the connection technology for 8 mm LED strips

## Main features

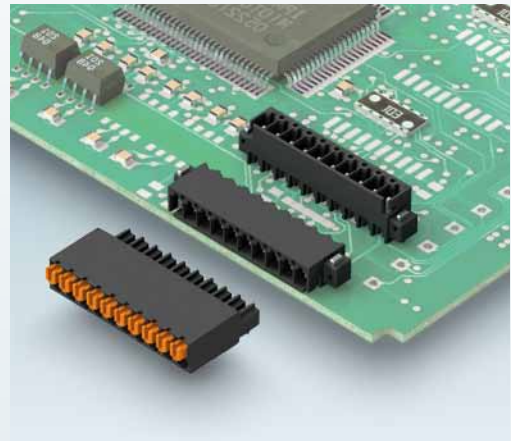
- Currents up to 10 A per plug
- Voltages up to 25 V
- 22 AWG cables for the supply
- 2- and 4-pos. supply version
- Operating temperature between -30°C and 70°C

			
<b>Description</b>	<b>Butt connector for flexible PCBs</b>	<b>Supply element for flexible PCBs</b>	<b>Supply element for flexible PCBs</b>
<b>Number of positions</b>	4-pos.	4-pos.	2-pos.
<b>Designation</b>	PTF 0,3/4-BB-1,8 H	PTF 0,3/4-WB-1,8-H	PTF 0,3/2-WB-1,8-H
<b>Order No.</b>	1826101	1826114	1826091



# Compact PCB plug-in connectors for SMT soldering processes

The new plug-in connectors from the FMC 0,5 series set new standards for the 2.54 mm pitch and are suitable for the SMD as well as the THR soldering processes. Despite the compact design height of just 5.4 mm, the plug offers the full convenience of the push-in connection with an integrated spring opener.



## Your advantages

- ✓ Gold-plated contact system for maximum contact reliability
- ✓ Smallest push-in connection in 2.54 mm pitch
- ✓ Headers in horizontal and vertical design tailored to SMT processes
- ✓ Headers in tape-on-reel packing for automatic PCB assembly
- ✓ Compliant with railway and household-device standards

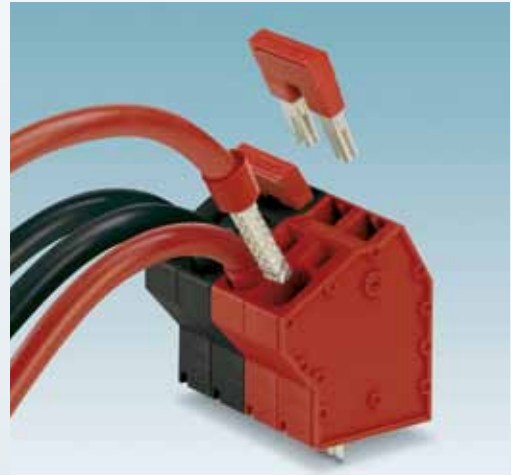
### Main features

- Currents up to 6 A
- Voltages up to 160 V
- 2- to 16-pos.
- 2.54 mm pitch
- 5.4 mm design height

					
Description	Horizontal plug-in connector	Horizontal header	Vertical header	Horizontal header	Vertical header
Soldering method	–	THR	THR	SMD	SMD
Designation	FMC 0,5/...-ST-2,54	MC 0,5/...-G-2,54 P20THRR...	MCV 0,5/...-G-2,54 P20THRR...	MC 0,5/...-G-2,54 SMDR...	MCV 0,5/...-G-2,54 SMDR...
Order No. 10-pos. version	1821177	1821326	1821478	1821779	1821627

# PCB terminal block with push-in connection for power electronics

The new SPTA 16 PCB terminal block offers a 30° angled cable connection funnel for optimum conductor connection. The corresponding insulated plug-in bridges enable the easy and convenient connection of multiple positions.






## Your advantages

- ✓ Fast push-in connection
- ✓ Unlimited 600 V UL approval, thanks to compact zigzag pinning
- ✓ Angled connection direction for optimum conductor access
- ✓ Convenient connection of positions, thanks to insulated bridges

### Main features

- Currents up to 76 A
- Voltages up to 600 V
- Conductor cross sections from 0.75 to 16 mm<sup>2</sup>
- 1 to 9-pos.
- 10 mm pitch
- Bridgeable

			
Description	PCB terminal block, 1-pos.	PCB terminal block, 5-pos.	Bridge
Designation	SPTA 16/1-10,0	SPTA 16/5-10,0 ZB	FBSK 2-10/ZFKDS 10
Version	Double pinning	Zigzag pinning	2-pos.
Pcs. / Pkt.	50	50	50
Order No.	1819192	1819231	1986644

# Feed-through terminal blocks with push-in connection for power electronics

A feed-through terminal block with angled push-in connection, which supports 16 mm<sup>2</sup> cables and is sealed using sealing compounds – that is the new PWO 16 for transmitting currents up to 76 A.









## Your advantages

- ✓ Space-saving 45° conductor connection
- ✓ Maximum tightness of seal even with low-viscosity sealing compounds
- ✓ Easy grouping with engagement pin version
- ✓ Automatic panel thickness compensation
- ✓ Additional fixing options that can be screwed or riveted in
- ✓ Fast push-in connection

### Main features

- Currents up to 76 A
- Voltages up to 1000 V
- Conductor cross sections from 1.5 to 16 mm<sup>2</sup>
- 1-pos. modular design for alignment

						
Description	Flange plate	Feed-through terminal block	Feed-through terminal block	3 mm spacer plate	6 mm spacer plate	9 mm spacer plate
Explanation	For mounting from the outside of the device	1-pos. without engagement pin	1-pos. with engagement pin	To meet air and creepage distances (UL Use Group C: 150 V)	To meet air and creepage distances (UL Use Group C: 300 V)	To meet air and creepage distances (UL Use Group C: 600 V)
Designation	PWO 16-F	PWO 16-POT	PWO 16-POT/S	DP-PWO 16-3	DP-PWO 16-6	DP-PWO 16-9
Order No.	1705659	1705653	1705654	1705655	1705657	1705658

# IP-protected circular plug-in connectors for power electronics

The new 3 and 5-pos. AC plug-in connectors in the PRC series enable you to reliably and conveniently connect AC cables to your inverters. The device plug-in connectors with crimp connection are supplied pre-assembled with punched-on litz wires.



## Your advantages

- ✓ Easy conductor connection using universal screw connection technology
- ✓ Suitable for stranded and solid cables
- ✓ Snaps in automatically when inserted
- ✓ Can only be separated using tools
- ✓ Sealing option
- ✓ UV resistant

## Main features

- Currents up to 35 A (3-pos.) and up to 30 A (5-pos.)
- Voltages up to 600 V
- Conductor cross sections from 1.5 mm<sup>2</sup> to 6 mm<sup>2</sup>
- Cable diameters from 9 to 21 mm
- M25 panel cutout
- IP65/IP68 degree of protection

					
Description	Plug-in connector, 3-pos.	Device plug, 3-pos.	Plug-in connector, 5-pos.	Device plug, 5-pos.	Nut (SW 34)
Connection method	Screw	Crimp	Screw	Crimp	–
Order No.	1409217	–	1409205	–	1457937
Order No. 2.5 mm <sup>2</sup> /150 mm cable	–	1409219	–	1409211	–
Order No. 4 mm <sup>2</sup> /150 mm cable	–	1409220	–	1409212	–
Order No. 6 mm <sup>2</sup> /150 mm cable	–	1409221	–	1409213	–

# IP-protected rectangular plug-in connectors for power electronics

The new black VARIOCON plug-in connectors provide high-performance and IP-protected device connection for currents up to 70 A. Furthermore, the range provides extremely high flexibility, thanks to the modular design of contact inserts offering screw, crimp or direct PCB connection.



## Your advantages

- ✓ Modular contact inserts for transmitting signals, data, and power
- ✓ Screw connection for all cable diameters from 10 to 25 mm
- ✓ Optional cylinder or knurled head interlocking
- ✓ Optional sealing
- ✓ Optional panel mounting plug with crimp connection for efficient series production

### Main features

- Currents up to 70 A
- Voltages up to 690 V
- Conductor cross sections from 1.5 to 16 mm<sup>2</sup>
- Modular contact inserts from 4- to 32-pos.
- IP65, IP67, IP68 protection
- Straight cable outlet

Description	Sleeve housing	Contact insert set	Device plug-in connector	Device plug-in connector
<b>Connection method</b>	–	Screw connection	Crimp connection	Screw connection
<b>Order No.</b> size VC2: 19.5 x 47.4 mm	1583880	1607467 (4x16 mm <sup>2</sup> ) 1607154 (6x4 mm <sup>2</sup> ) 1607250 (24x1.5 mm <sup>2</sup> )	1583877 (4x4 - 16 mm <sup>2</sup> )	1607745 (4x16 mm <sup>2</sup> ) 1607311 (6x4 mm <sup>2</sup> ) 1607407 (24x1.5 mm <sup>2</sup> )
<b>Order No.</b> size VC3: 19.5 x 62.4 mm	1424368	1607474 (5x16 mm <sup>2</sup> ) 1607167 (8x4 mm <sup>2</sup> ) 1607263 (32x1.5 mm <sup>2</sup> )	1583878 (5x4 - 16 mm <sup>2</sup> )	1607748 (5x16 mm <sup>2</sup> ) 1607322 (8x4 mm <sup>2</sup> ) 1607418 (32x1.5 mm <sup>2</sup> )



# Compact AC connection system for PV microinverters

You can now connect your photovoltaic modules easily and reliably with SUNCLIX micon, the new compact AC connection system for microinverters.






## Your advantages

- ✓ Compact design – connection technology is hidden behind the module frame
- ✓ Permanent safety and reliability, thanks to high-quality materials and user-friendly handling
- ✓ High degree of flexibility – cable lengths and assembly as per customer requirements
- ✓ Two versions cover the requirements for worldwide use of the product

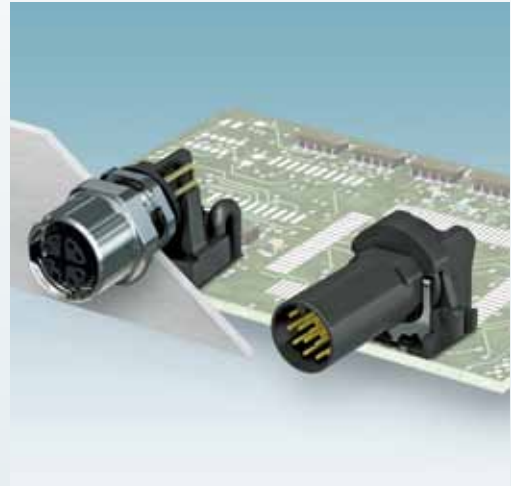
### Main features

- Currents up to 20 A
- Voltages up to 600 V
- Conductor cross sections:
  - Drop line: 18 AWG
  - Trunk line: 12 AWG
- IP67 degree of protection
- Operating temperature: -40°C to +90°C

Description	 AC Y-connector for PV microinverters	 Mains connector plug for AC Y-connectors	 Contact removal tool for AC Y-connectors
Type	Version for the North American market Drop: 18 AWG, 0.5 m Trunk: 12 AWG, 1.15 m	Mains connector plug for the North American market: 12 AWG, 1 m	–
Order No.	1706518	Coupling: 1706609 Plug: 1706517	1706514

# M12 device plug-in connectors for signal transmission

For the first time, 12- and 17-pos. device plug-in connectors are available with angled solder-in contacts for PCB assembly. Thanks to the two-piece design, the device plug-in connectors are suitable for the automated reflow process, which makes efficient assembly possible.



## Your advantages

- ✓ Up to 17 positions in compact M12 format
- ✓ Available with straight and angled solder-in contacts
- ✓ Available with optional shield connection
- ✓ Uses the existing two-part housing screw connections
- ✓ Straight versions for automated assembly processes available in tape-on-reel or tray packaging

### Main features

- Currents up to 1.5 A
- Voltages up to 30 V
- 4- to 17-pos.
- IP65/67 degree of protection

					
Description		Device plug-in connector	Device plug-in connector	Device plug-in connector	Device plug-in connector
Version		Angled	Angled, shielded	Straight	Straight, shielded
Order No. 12-pos.	Socket:	1424195	1424199	1441970	1457584
	Pin:	1424194	1424198	1441985	1457704
Order No. 17-pos.	Socket:	1424197	1424201	1441998	1457720
	Pin:	1424196	1424200	1442007	1457607

# Plastic-molded circular plug-in connectors for signal and power transmission

With the M17 to M40 circular plug-in connectors, Phoenix Contact has rounded off its range of plastic-molded plug-in connectors for signal, data, and power transmission. As such, the M5 to M40 circular plug-in connectors are now all available with 360° shielding.







## Your advantages

- ✓ 360° shielding to protect against interference signals
- ✓ With SPEEDCON rapid interlock system as an option for safe interlocking with just half a turn
- ✓ Optimum cable routing: the angled M23 circular plug-in connector can be turned more than 240°
- ✓ Customer-specific color coding, design, and logo possible

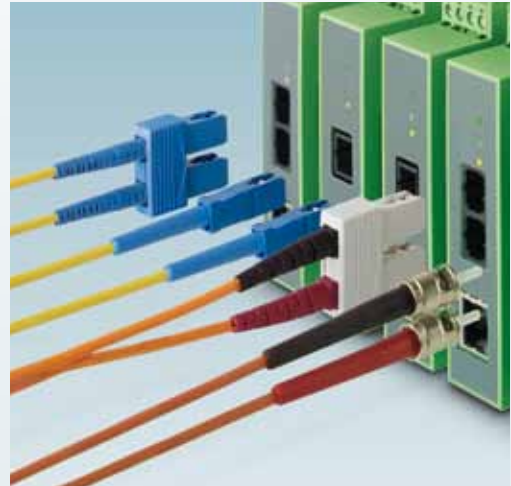
## Main features

- Currents up to 70 A
- Voltages up to 630 V
- IP65/67 degree of protection
- Customer-specific versions and lengths
- UV resistant

				
Description	M17 plug-in connector Signal	M23 plug-in connector Signal, angled, rotatable	M23 plug-in connector Power	M40 cable plug-in connector Power
Number of positions	17-pos.	12-pos.	5+PE	4+3+PE
Current	9 A	9 A	26 A	61 A
Voltage	60 V	150 V	630 V	630 V
Cable structure	3×2×0.14 + 2×0.5 + 4×0.14 + 4×0.22	4×2×0.25 + 2×0.5	4×2.5 + 2×1.5	4×10.0 + 2×1.5 + 2×1.0
Cable color	Green	Orange	Orange	Orange
Order No.	1624780	1619285	1618396	1620342

# Assembled zip cord fiberglass cable for interference-free data transmission

Use the new zip cord fiberglass cable from Phoenix Contact for flexible and interruption-free data networking with fiber optic technology.







## Your advantages

- ✓ Test report with each product delivered
- ✓ Assembled cables in customer-specific lengths
- ✓ LC duplex with push/pull technology
- ✓ High data rates up to 10 Gbps
- ✓ UL approval type OFNR (riser) for USA and Canada

### Main features

- Fiber type: 50/125  $\mu\text{m}$
- Low attenuation:  
2.5 dB/km (at 850 nm)  
0.7 dB/km (at 1300 nm)
- 2.8 mm individual elements
- Data rate: 10 Gbps up to 550 m
- Low-bend fiber

				
<b>Description</b>	<b>Zip cord cable</b>	<b>Zip cord cable</b>	<b>Zip cord cable</b>	<b>Zip cord cable</b>
<b>Plug</b>	2xLC	1x SCRJ 1xB-FOC	1xLC 1xSC-Duplex	1xFSMA 1xB-FOC
<b>Designation</b>	FOC-LC:A-LC:A-GZ01/2	FOC-ST:A-SJ:A-GZ02/2	FOC-SC:A-LC:A-GZ03/2	FOC-FS:A-ST:A-GZ04/...
<b>Order No.</b>	1400604	1400711	1400681	1406535

# RJ45 plug-in connector for assembly for data transmission at 10 Gbps

Use the new RJ45 plug-in connectors with push/pull interlocking for fast data transmission at 10 Gbps according to CAT6<sub>A</sub>. This means that even in an industrial environment, there is nothing in your way when it comes to safe communication.



## Your advantages

- ✓ Available with straight and angled RJ45 socket insert
- ✓ Compact design in version 4
- ✓ Compact plastic housing for easy handling
- ✓ High data rate up to 10 Gbps

### Main features

- Plug-in connectors: 10 Gbps (CAT6<sub>A</sub>)
- Conductor cross section: 28...24 AWG (stranded)
- Crimp connection
- Operating temperature between -40°C and +70°C
- IP65/67 degree of protection

				
<b>Description</b>	RJ45 plug-in connector, with push/pull interlocking	Panel mounting frame	RJ45 contact insert	Panel mounting frame with socket to socket
<b>Version</b>	–	Vertical alignment	Angled solder pins	RJ45 to RJ45
<b>Designation</b>	CUC-V04-RJ45-POBK-8	CUC-V04-F-POBK-90	CUC-V04-BU-90	CUC-V04-F-BU/BU-RJ45
<b>Order No.</b>	1407413	1407411	1407408	1407412



# Universal housing system with front connection and rail connector

The new ME-PLC housing system from Phoenix Contact won't leave you wishing for more. It provides convenient connection options in the front area, easy communication from device to device with the DIN rail connector, and lots of space on the PCB.






## Your advantages

- ✓ Plenty of space for your electronics
- ✓ Convenient insertion and removal, thanks to lever technology at the front connection
- ✓ Individual housing printing – also with barcodes
- ✓ With bus connector as an option for customer-specific bus PCBs
- ✓ Error-free housing assembly, thanks to mechanical coding

### Main features

- Functionally designed with front connection technology and DIN rail connector
- Can be used universally
- Width: 40 mm
- Height: 180 mm
- Depth: 145 mm
- Housing color: light gray (RAL 7035)

			
Description	Housing	Front connection module	Bus connector set
Order No.	For bus connector mounting kit, 50/40-pos.: 2201500	Consists of 2xFKCN 10-pos.: 2201493	With plug-in connector version 50/40-pos.: 2201502
Order No.	For bus connector mounting kit, 10/10-pos.: 2201499	Consists of 2xFKCN 18-pos.: 2201494	With plug-in connector version 2 x 10-pos.: 2201503
Order No.	–	Consists of 1xFKCN 10-pos.: 2201492	–
Order No.	–	Consists of 2xRJ45: 2201495	–
Order No.	–	Universal cover: 2201505	–

# Type 2 AC and DC connectors for electric vehicles and charging stations

With the ergonomically designed AC and DC connectors which conform to the European type 2 standard, you can charge electric vehicles quickly, safely, and conveniently. Use charging systems from Phoenix Contact for modern mobility with electric vehicles.



## Your advantages

- ✓ The AC connector and the DC connector are both compatible with the combined AC/DC vehicle inlet
- ✓ The combined DC connector supports fast DC charging for short downtimes
- ✓ Safe charging process, thanks to a special interlocking system which prevents premature removal of the charging plug
- ✓ Intelligent monitoring of the charging process via communication and control electronics

### Main features

- AC charging:
  - Currents up to 32 A
  - Voltages up to 480 V
- DC charging:
  - Currents up to 125 A
  - Voltages up to 850 V
- IEC 62196

Description	DC connector (mode 4)	AC connector and plug	AC connector (open cable end)	AC connector and plug	AC connector (open cable end)
Current	125 A	20 A	20 A	32 A	32 A
Voltage	850 V	Single-phase: 250 V 3-phase: 480 V	Single-phase: 250 V 3-phase: 480 V	Single-phase: 250 V 3-phase: 480 V	Single-phase: 250 V 3-phase: 480 V
Cable length	5 m	4 m	4 m	4 m	4 m
Cable color	Black	Red or black	Red or black	Black	Black
Cable type	Straight	Straight or spiraled	Straight or spiraled	Straight	Straight

# More than just standard

## Our service – added value for you

In addition to this year's new products, we are also offering a comprehensive standard range. If desired, this can be individually customized. From color versions, to special imprinting, right through to special packaging, we can provide you with almost anything – even brand new product developments.



Order the new catalogs now or visit our website:  
[phoenixcontact.com](http://phoenixcontact.com)

### Unique variety in the standard

With more than 50,000 products, we offer you a full range of device connection technology for signals, data, and power – from miniature plug-in connectors right through to high-current feed-through terminal blocks.



### Flexible versions

Whether it's individual colors, modern special imprinting, a specific number of contacts or complete cable assembly – our service center would be happy to support you in implementing your requirements.



### Innovation expertise

Benefit from our extensive development and manufacturing expertise for your individual solution – right from the initial idea through to series production.





Always up-to-date, always available to you. Here you'll find everything on our products, solutions and service:

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## Product range

- Cables and connectors
- Controllers and PLCs
- DIN rail power supplies and UPS
- Electronic reversing contactors and motor control
- Electronics housing
- Ethernet networks
- Fieldbus components and systems
- Functional safety
- HMIs and industrial PCs
- I/O systems
- Industrial communication technology
- Industrial lighting
- Installation and mounting material
- Marking and labeling
- Measurement and control technology
- Modular terminal blocks
- Monitoring and signaling
- PCB terminal blocks and PCB connectors
- Plug-in connectors
- Protective devices
- Relays
- Sensor cables and connectors
- Software
- Surge protection devices
- System cabling for DCS and PLC
- Tools
- Wireless data communication

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