



# Photovoltaic connectors

Product overview 2016/2017

# Photovoltaic connectors for DC and AC cabling

Are you looking for innovative and reliable connection technology for your photovoltaic panels, inverters or the complete photovoltaic system? Then Phoenix Contact is the right partner for you!

We offer the perfect and consistent solution for cabling your photovoltaic system.



## Find out more with the web code

You can find web codes in 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.

### It couldn't be simpler:

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](https://phoenixcontact.net/webcode/#1234)



# DC

### DC connectors

- Currents up to 65 A
- Voltages up to 1500 V
- Conductor cross sections from 2.5 to 16 mm<sup>2</sup>
- Connection technology for building-integrated photovoltaics (BIPV)

# AC



## AC connectors

- Currents up to 70 A
- Voltages up to 690 V
- Conductor cross sections from 1.5 to 16 mm<sup>2</sup>
- Circular and rectangular connectors
- Connection technology for micro inverters

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## The right connection technology for every application



Building-integrated photovoltaics (BIPV)



Rooftop systems



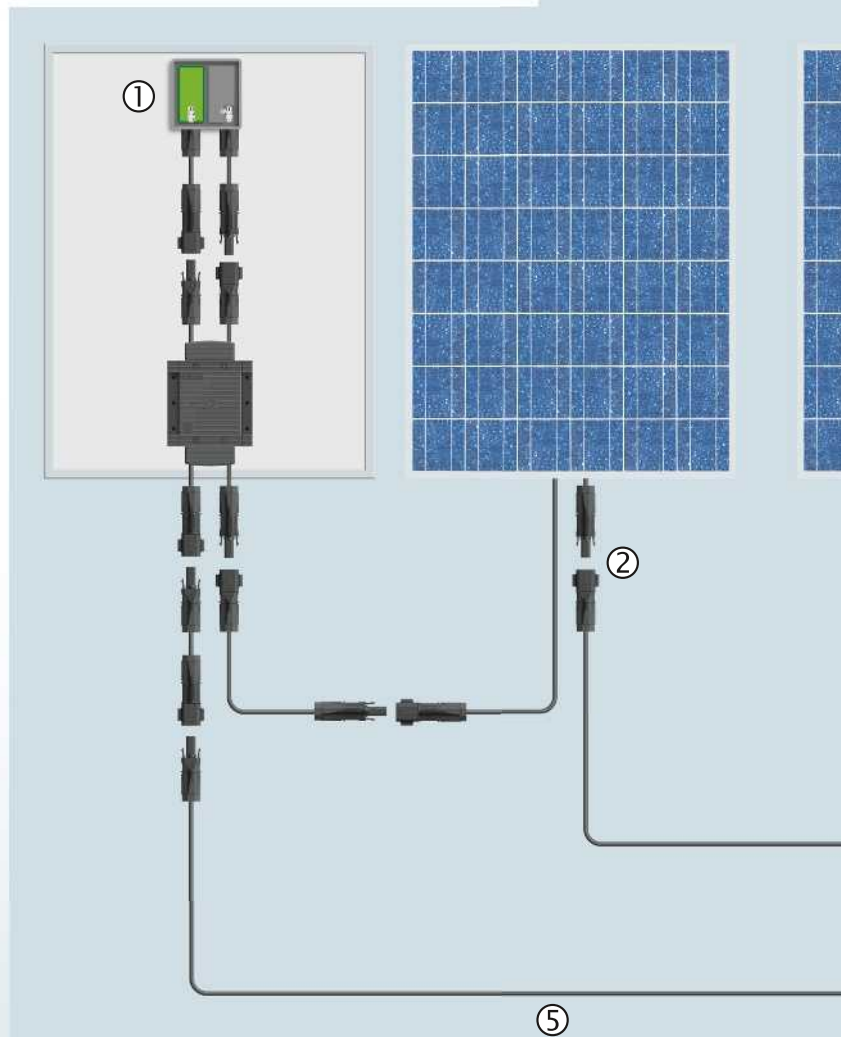
Free-standing systems

# Product range overview

## Photovoltaic connectors

We have the right connection solution for you – from connection technology for photovoltaic panels to DC connectors for field cabling and device connection for signals, data, and power.

The tailored, high-quality components contribute to the long-term and increased availability of your system.



### Seamless connection technology from the photovoltaic panel to the supply



PCB terminal blocks for module junction boxes



Connector with crimp connection for module junction boxes



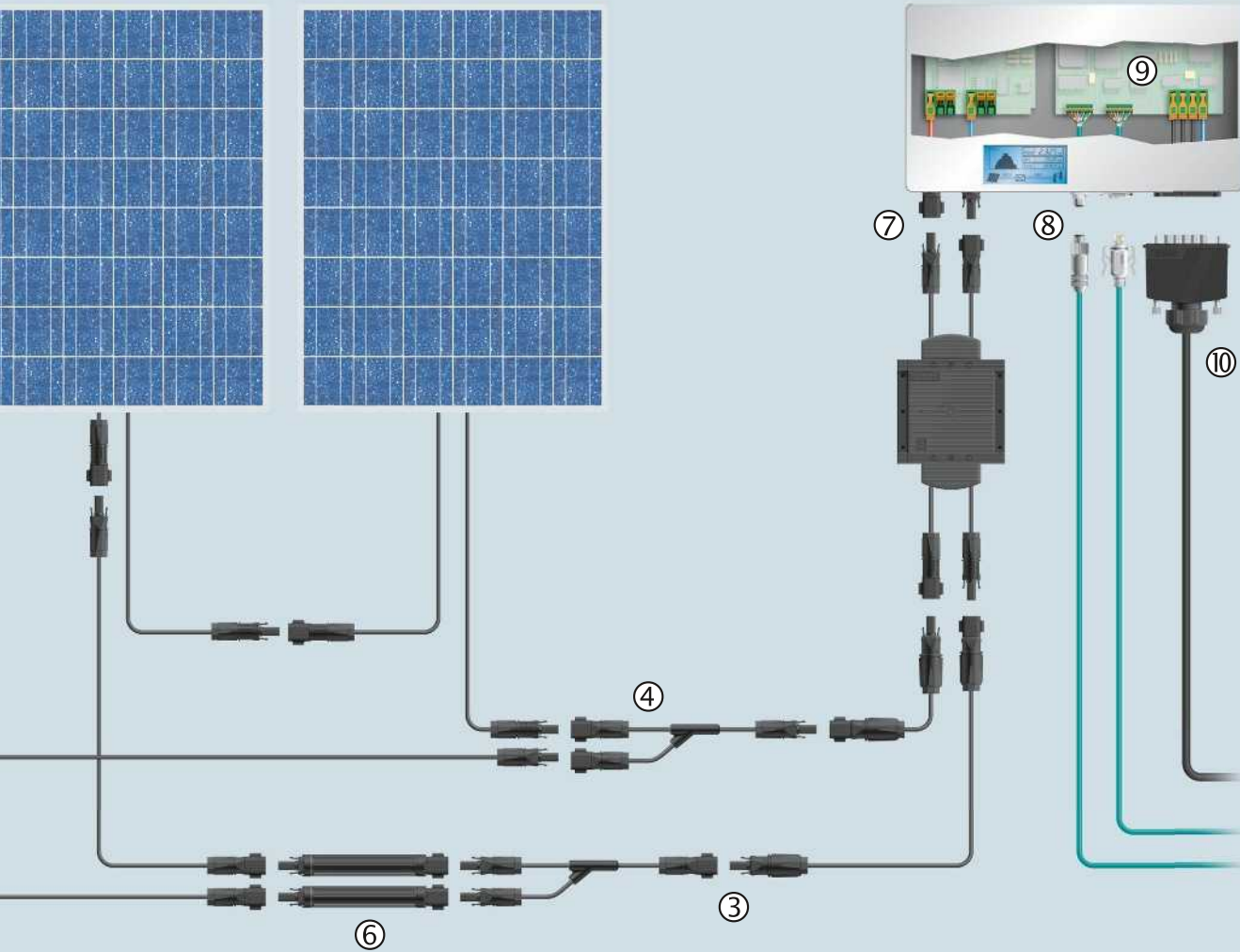
DC connectors with SUNCLIX spring connection



Y-distributors



Photovoltaic cables



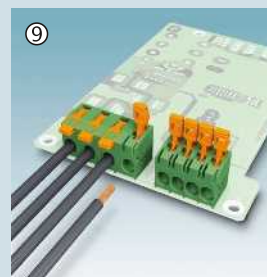
DC fuse adapters



DC panel feed-throughs



Data and signal connectors



PCB connections



AC connectors

# DC connection technology for photovoltaic panels

Using cost-optimized PCB terminal blocks without insulating bodies, you can connect circular and flat conductors to the module junction box quickly and safely.

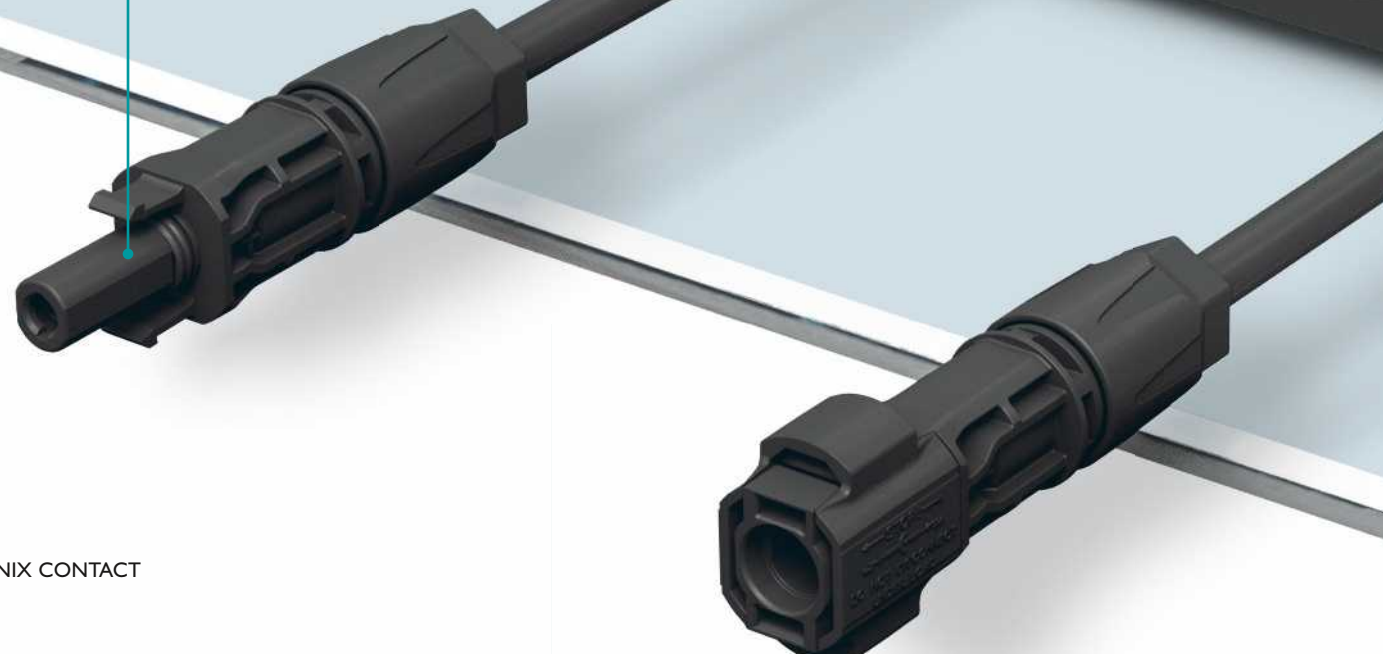
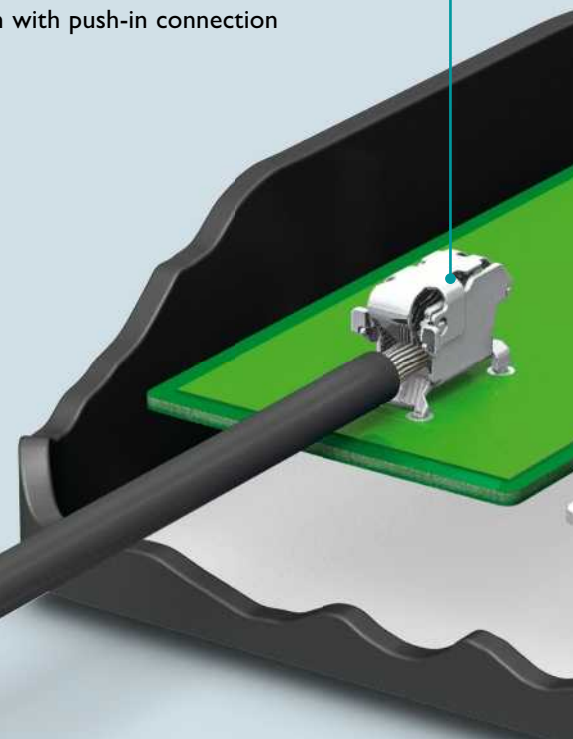
## PTSPL 6 PCB terminal block with solder connection

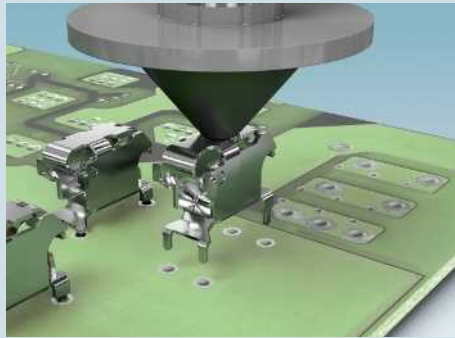
- Currents up to 41 A
- Designed for automated THR soldering processes
- Available with a solder pin length of 2.1 or 2.9 mm
- SUNCLIX spring connection for conductor cross sections from 2.5 to 6 mm<sup>2</sup>
- Closed version with push-in connection



## SUNCLIX DC connector with crimp connection

- A single connector for all crimp contacts
- Conductor cross sections from 2.5 to 4 mm<sup>2</sup> (AWG 14 to AWG 12) and 6 mm<sup>2</sup> (AWG 10)
- Voltages up to 1500 V (1000 V UL)
- Degree of protection: IP68 (24 h/2 m)
- Approval in accordance with DIN EN 50521 (UL 6703 in preparation)
- Suitable for automated processing

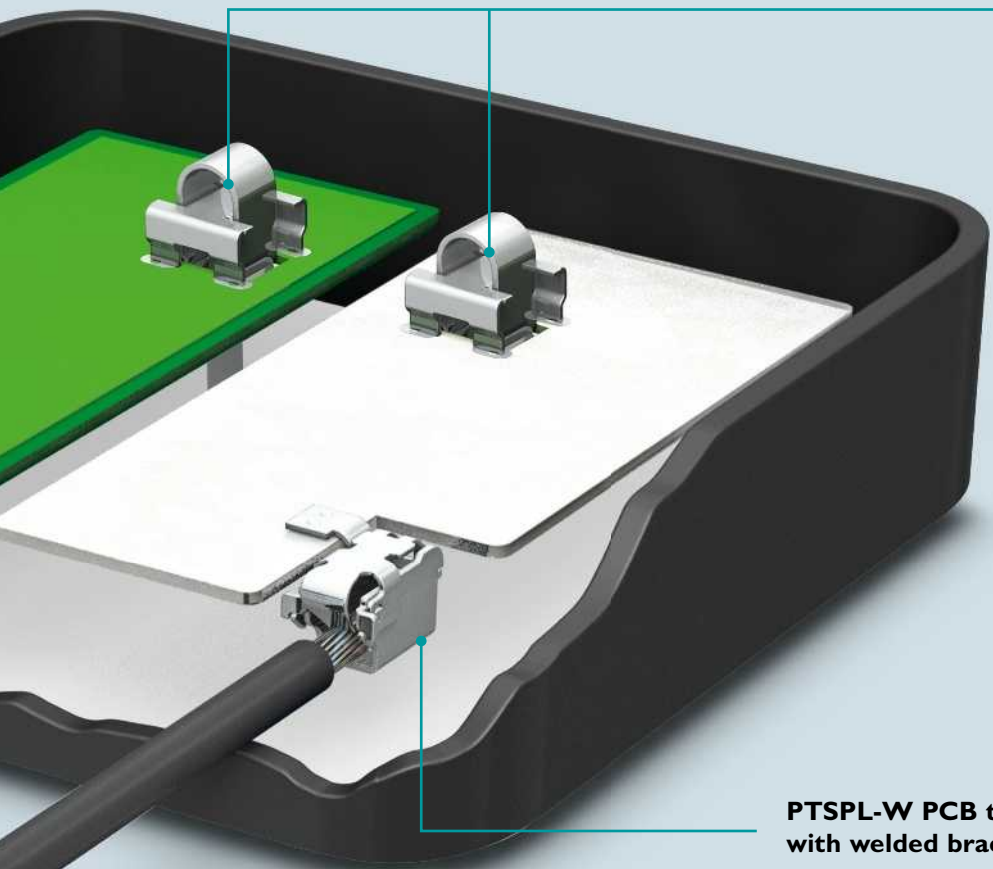




Optimized for SMT and THR mounting thanks to integrated suction areas



Insert the stripped conductor, snap in the spring, and you're done!



**PT-SG 1 PCB terminal block for contacting flat-ribbon conductors**

- Currents up to 41 A
- Flat-ribbon conductor: up to  $8 \times 0.1$  to  $2 \text{ mm}^2$
- Suitable for fully automated PCB assembly
- THR item for reflow soldering

**PT-SPL-W PCB terminal block with welded bracket**

- Currents up to 41 A
- Available with welded bracket right or left for spot-welding procedures
- SUNCLIX spring connection for conductor cross sections from  $2.5$  to  $6 \text{ mm}^2$
- Delivery with closed spring in bulk or in the tray for automated processes

# DC connection technology for field cabling

When installing photovoltaic systems, there is now a more efficient way of wiring cables of various lengths from the panel to the inverter – with the SUNCLIX connection system from Phoenix Contact.

The one-piece DC connectors can be connected quickly and easily without using special tools thanks to spring technology. The unique spring technology ensures that contact to the conductors is always reliable and stable.

## Fuse adapters

- Robust, easy-to-install fuse element for outdoor use
- High-quality Littelfuse fuse link
- Nominal currents of the fuse link: 6 to 30 A
- 1000 V/1500 V (EN) or 600 V/1000 V (UL) system voltage
- Degree of protection: IP68 (24 h/2 m)
- UL 6703 in preparation

## Connectors with crimp connection

- For conductor cross sections from 2.5 to 6 mm<sup>2</sup>
- Voltages up to 1500 V
- Degree of protection: IP68 (24 h/2 m)
- Approval in accordance with DIN EN 50521 (UL 6703 in preparation)



**i** Web code:  
#0543



### Panel feed-throughs

- Pre-assembled or for assembly with crimp connection
- Voltages up to 1500 V
- Currents up to 40 A
- Approval in accordance with DIN EN 50521 (UL 6703 in preparation)

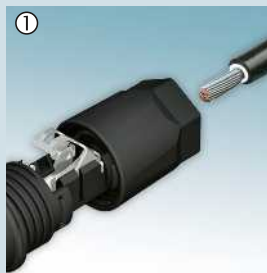
### Connectors for field assembly

- Only two versions for conductor cross sections from 2.5 to 16 mm<sup>2</sup>
- Patented SUNCLIX spring connection
- Voltages up to 1100 V or 1500 V
- Degree of protection: IP68 (24 h/2 m)
- Approval in accordance with DIN EN 50521 and UL 6703

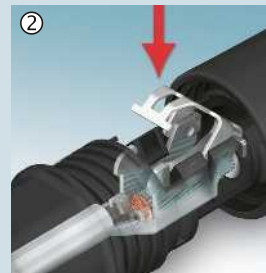
### Y-distributors

- For the parallel connection of panels and strings
- Voltages up to 1100 V
- Customer-specific pre-assembly possible
- Choice of 4 or 6 mm<sup>2</sup> conductor cross section for the trunk line
- According to DIN EN 50521

## SUNCLIX spring connection



① Insert the stripped photovoltaic conductor



② Press down on the spring and snap it in place



③ Tighten the screw connection - you're done!



# DC panel shutdown – intelligent and autonomous

Photovoltaic rooftop systems generate DC voltages of up to 1000 volts and cannot be disconnected easily on the DC side. This presents a problem if the system is damaged. SOLARCHECK RSD automatically shuts down your system safely. You are protected from the risk of fatal electric shock during installation and maintenance or in dangerous situations.

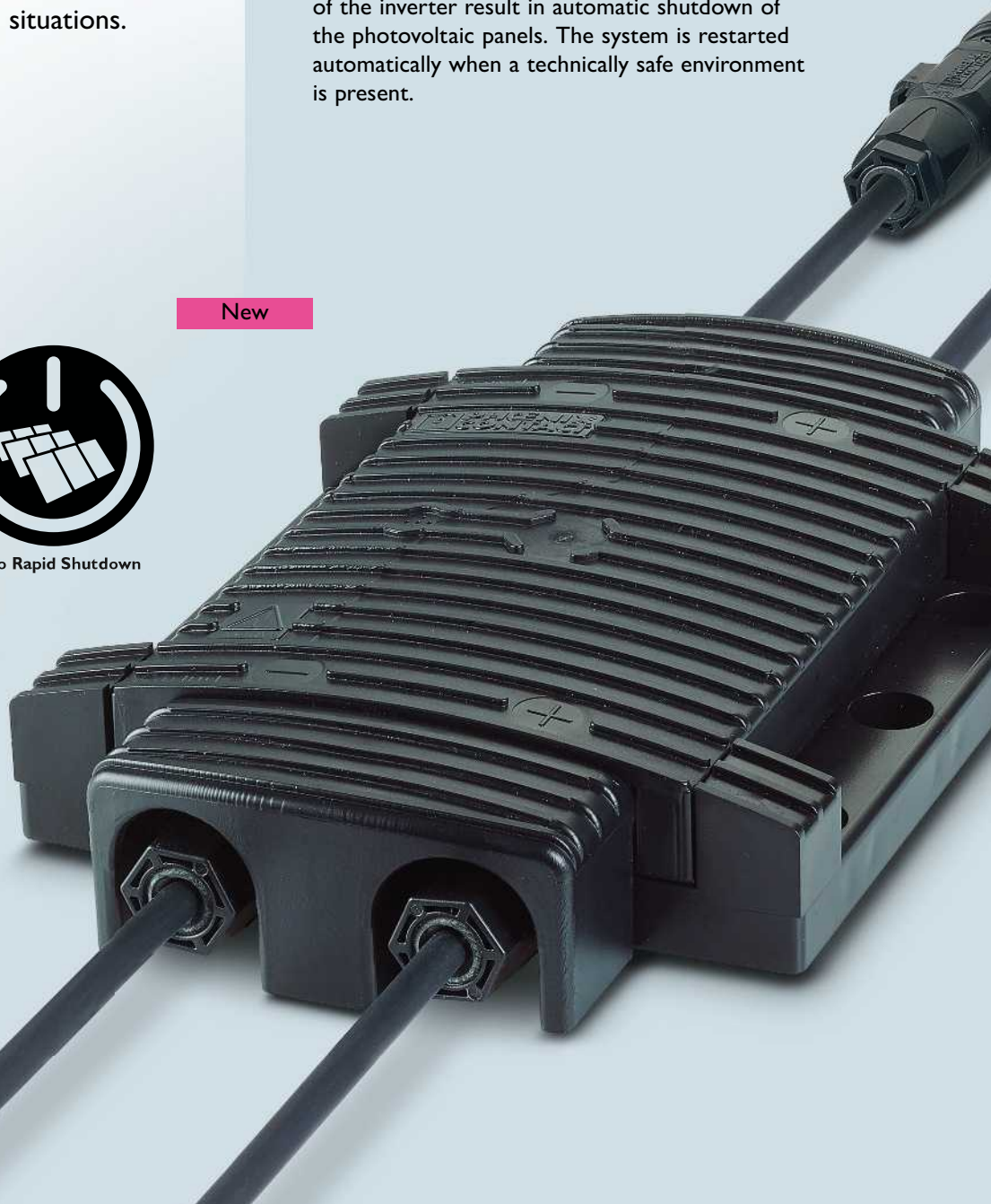
## Photovoltaic panel shutdown with Auto Rapid Shutdown

SOLARCHECK RSD analyzes the current and voltage conditions on the DC side in the system. Deviations from the normal state or shutdown of the inverter result in automatic shutdown of the photovoltaic panels. The system is restarted automatically when a technically safe environment is present.

New



Auto Rapid Shutdown

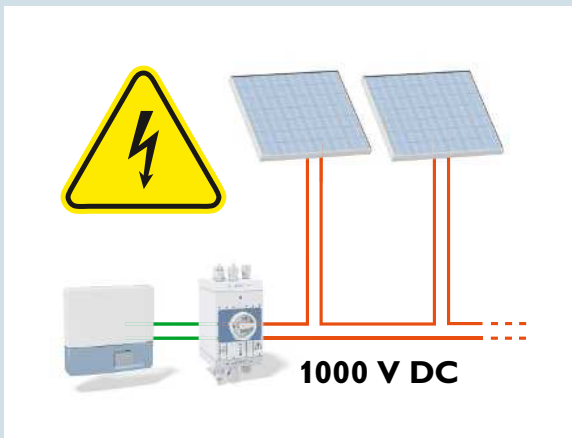




### Your advantages

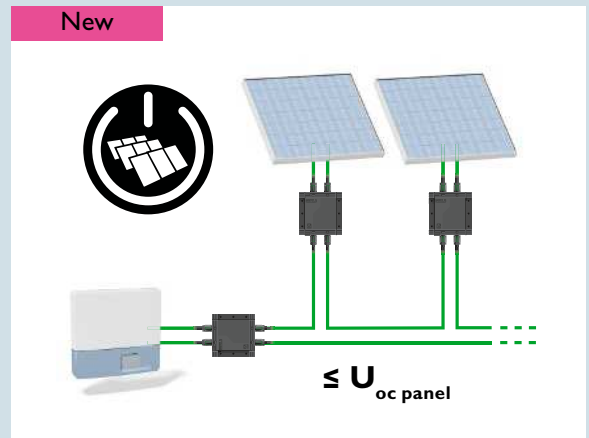
- Safe connections which are stable over the long term thanks to tried-and-tested SUNCLIX components
- Safety as a result of patented fault detection and safe photovoltaic panel shutdown
- Controlled restart via safe autostart
- No additional communication is necessary via cables or wirelessly
- Easy to install in new and existing systems using existing DC cables
- Simple startup: no programming or manual set-up

## Intelligent photovoltaic panel shutdown with SOLARCHECK RSD



### Danger to life without panel shutdown

The series connection of photovoltaic panels to strings generates voltages of up to 1000 volts. Disconnection at the inverter is not safe, as the DC cables continue to carry high voltages.

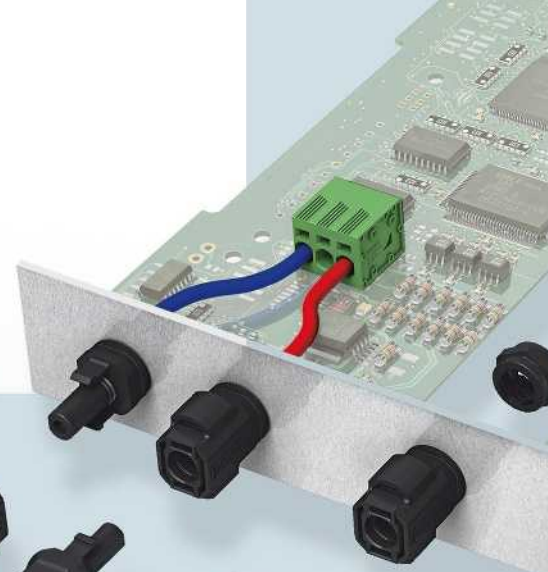


### Electrical safety with panel shutdown

Each shutdown unit disconnects the corresponding photovoltaic panel from the string group. There is no risk of electric shock posed by the system.

# AC and DC connection technology for the device connection

Phoenix Contact provides a comprehensive range for connection to inverters of all performance classes. Whether AC or DC, circular or rectangular, for signals, data or power – the connectors cover a wide range of requirements. Device connectors, PCB connection technology and accessories complete the comprehensive portfolio.



## **SUNCLIX DC connectors with spring connection**

- Currents up to 65 A
- Voltages up to 1500 V
- Conductor cross section of 2.5 to 16 mm<sup>2</sup>
- Degree of protection: IP66/IP68 (24 h/2 m)

## **Signal and data connectors**

- Copper and fiber optic-based data connectors
- M5 to M23 signal connectors
- 3- to 19-pos. signal connectors
- Connector systems for assembly and pre-assembled connector systems
- Solutions for IP20, IP65/IP67 and IP69K



**PLW 16 panel feed-through terminal block with push-lock spring connection**

- For 1-phase and 3-phase devices
- Easy connection and removal of conductors using a push-in spring connection on the outside
- Fast push-in spring connection on the inside
- Currents up to 41 A
- Voltages up to 1000 V
- Conductor cross section of 2.5 to 16 mm<sup>2</sup>
- Can be sealed

**AC PRC connectors with screw connection**

- For 1-phase and 3-phase devices
- Currents up to 35 A
- Voltages up to 630 V
- Conductor cross section of 1.5 to 6 mm<sup>2</sup>
- Degree of protection: IP68 (24 h/2 m)
- Can be sealed

**VARIOCON AC connectors with screw connection**

- For 1-phase and 3-phase devices
- Currents up to 70 A
- Voltages up to 690 V
- Conductor cross section of 1.5 to 16 mm<sup>2</sup>
- Degree of protection: IP65/IP68 (24 h/2 m)

# AC connection technology for micro inverters

Are you looking for an innovative, universal, and easy-to-install connection technology for your micro inverters?

SUNCLIX micon, the new connection system from Phoenix Contact, was developed to meet your requirements. This connection system is user-friendly and can be pre-assembled according to your requirements to enable "Plug and Play" at the installation site.



## Protective caps

Dust protective caps, made from biodegradable plastic, protect the pin connector pattern from contamination during transport. When it comes to installation, they can be easily removed from the connector without any special tools. During installation, the IP protective caps are inserted as end caps on the last connector; in order to protect the connector from atmospheric influences.



## Main features

- Three-pos., coded pin connector pattern (protection against polarity reversal)
- Maximum reliability, thanks to SUNCLIX contacts
- Trunk line:
  - Nominal currents up to 600 A
  - Voltages up to 20 V
- Drop line:
  - Nominal currents up to 5 A (use of micro inverters with 500 W output power possible)
- Degree of protection: IP67
- Connection system for the AC and DC side of your micro inverters from a single source
- Approval in accordance with UL 6703



### DC connectors with spring connection

With the SUNCLIX DC connectors as a device connector or for field assembly, you can also impress with performance and quality on the panel side.

### Mains connectors

The mains connectors provide the connecting link between the photovoltaic system and mains. Depending on the system structure, the mains can be connected via the connector or coupling side of the AC-Y connector. The free cable end is either connected in a distributor box or fed into a service panel via a cable sleeve.

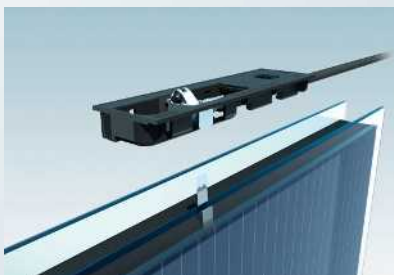


# DC connection technology for building-integrated photovoltaics (BIPV)

Phoenix Contact is offering a particularly compact DC connection system, SUNCLIX mini, which is designed to meet the trend of producing energy using photovoltaics integrated into buildings. For a permanently safe and secure connection from panel to inverter.



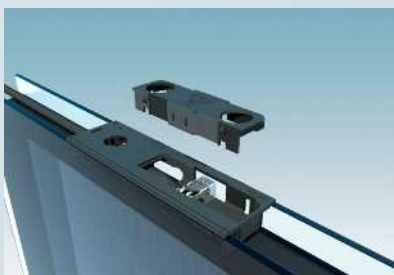
## Installation of the module junction box



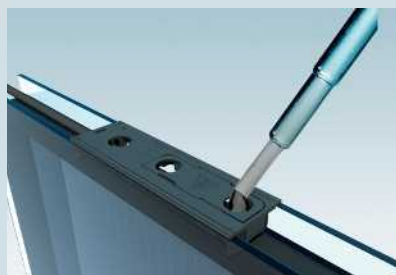
1. Position the module junction box above the ribbon



2. Remove the adhesive strip and position the module junction box on the edges of the glass



3. Insert the ribbon into the spring case and snap in the spring. Close the connection area with the cover



4. Fill the module junction box with sealant using the special openings one after the other



### Single-position module junction box

One module junction box is used per ribbon (right and left module junction box). Both module junction boxes are integrated into the building-integrated panel and sealed with sealant.

- Current: 15 A
- Voltage: 1000 V DC
- Qualified ribbon:  
Width: 5 mm/thickness: 0.05 to 0.2 mm
- Conductor cross section: 2.5 mm<sup>2</sup>
- Spring connection

### Miniature DC connectors for assembly

The compact design of the connectors enables concealed installation behind the photovoltaic panels or direct installation within building-integrated frames.

- Current: 15 A
- Voltage: 1000 V
- Conductor cross section: 2.5 mm<sup>2</sup>
- Compact design: Ø only 11 mm
- Pierce connection
- Degree of protection: IP67
- Approval in accordance with DIN EN 50521

### Compact DC string diode

The stable housing and flat design of the DC string diode protects the panels from return currents created as a result of shading. The optimized design ensures effective heat dissipation and, as a result, the long service life of the components.

- Current: 5 A
- Voltage: 1000 V
- Reverse voltage: 2200 V
- Conductor cross section: 2.5 mm<sup>2</sup>
- Degree of protection: IP67
- Approval in accordance with DIN EN 50548 (VDE 126-3)

# Technical data and ordering information

The following tables contain selected components together with their key technical properties. Thanks to integrated web codes, you can find more information about the products listed in our web portal.

## DC connection technology for photovoltaic panels

 Web code: #0361

Description	Push-lock PCB terminal block with spring connection for circular conductors				Push-lock terminal block with spring connection and welded bracket		Push-lock terminal block with spring connection for flat-ribbon conductors	
	Solder pin length	Order No.	Solder pin length	Order No.	Version	Order No.	Solder pin length	Order No.
	2.1 mm	1704836	2.1 mm	1705081	Welded bracket right	1705624	2.1 mm	1841830
	2.9 mm	1704837	2.9 mm	1705085	Welded bracket left	1705625	2.9 mm	1841843
Design	Closed		Open		Closed		Closed	
Cross section	max. 6 mm <sup>2</sup>							
Number of positions	1							
Nominal current	max. 41 A							

 Web code: #0674

Description	Housings for male (-) crimp connectors	Housings for female (+) crimp connectors	Contacts for crimp connection		Contacts for crimp connection	
	Pin (-)	Socket (+)	Pin contact		Socket contact	
Type	Pin (-)	Socket (+)	Pin contact		Socket contact	
Order No.	1622661	1622662	1704927	1704928	1704930	1704931
Cross section	-	-	2.5/4 mm <sup>2</sup>	6 mm <sup>2</sup>	2.5/4 mm <sup>2</sup>	6 mm <sup>2</sup>
External cable diameter	5 mm ... 8 mm	5 mm ... 8 mm	14 AWG/12 AWG	10 AWG	14 AWG/12 AWG	10 AWG
Rated voltage	1500 V (1000 V UL)	1500 V (1000 V UL)	-	-	-	-
Nominal current	-	-	max. 30 A		max. 30 A	
Degree of protection	IP68 (24 h/2 m)	IP68 (24 h/2 m)	-		-	
Product information	Temperature range: -40 °C ... +90 °C, Protection class II, approval in accordance with UL 6703 and DIN EN 50521 (in preparation).		Pcs./Pkt.: 1000 pcs./roll		Pcs./Pkt.: 1000 pcs./roll.	

## DC connection technology for field cabling

**i** Web code: #0358

<b>SUNCLIX DC connectors</b> For assembly with SUNCLIX spring connection						
<b>Type</b>	<b>Pin (-)</b>	<b>Socket (+)</b>	<b>Pin (-)</b>	<b>Socket (+)</b>	<b>Pin (-)</b>	<b>Socket (+)</b>
<b>Order No.</b>	1774687	1774674	1789834	1789821	1790797	1790784
<b>Cross section</b>	2,5 mm <sup>2</sup> ... 6 mm <sup>2</sup>		2,5 mm <sup>2</sup> ... 6 mm <sup>2</sup>		6 mm <sup>2</sup> ... 16 mm <sup>2</sup>	
<b>Rated voltage</b>	1100 V		1500 V		1500 V	
<b>Nominal current</b>	max. 40 A		max. 40 A		max. 65 A	
<b>Degree of protection</b>	IP65/68 (24 h/2 m)		IP66/68 (24 h/2 m)		IP66/68 (24 h/2 m)	
<b>Product information</b>	Temperature range: -40 °C ... +85 °C, protection class II, approval in accordance with UL 6703 and DIN EN 50521.		Temperature range: -40 °C ... +85 °C, protection class II, approval in accordance with DIN EN 50521.		Temperature range: -40 °C ... +85 °C, protection class II, approval in accordance with DIN EN 50521.	

<b>SUNCLIX</b>											
<b>Description</b>	<b>Solar cable</b>				<b>Fuse adapter</b>				<b>Y-distributors (cable-based)</b>		
<b>Product information</b>	Tin-plated single litz wires, suitable for permanent and flexible installation; double insulation, voltage 1800 V DC; insulating and sheath material offers excellent resistance to weather, UV rays, and wear; TÜV and VDE-certified cable in accordance with DIN EN 50618				Fuse adapters for securing panels and devices in photovoltaic systems				Connection set with branch line (4 mm <sup>2</sup> ) for fast parallel interconnection of photovoltaic panels. Length of the individual cables: 120 mm each; other lengths possible on customer request.		
	Cross section	100 m ring	500 m drum	1000 m drum	Nominal voltage				Trunk line cross section	Design	Order No.
<b>Order No.</b>	2.5 mm <sup>2</sup>	1459509	1459540	1459566	1000 V	I <sub>nom</sub>	1500 V	I <sub>nom</sub>	4 mm <sup>2</sup>	Pin to 2x socket (-/++)	1795019
<b>Order No.</b>	4 mm <sup>2</sup>	1459511	1787700	1459579	1622788	6	1622787	5	4 mm <sup>2</sup>	Socket to 2x pin (+/-)	1795022
<b>Order No.</b>	6 mm <sup>2</sup>	1459524	1787713	1459582	1622153	8	1622146	7	6 mm <sup>2</sup>	Pin to 2x socket (-/++)	1787726
<b>Order No.</b>	10 mm <sup>2</sup>	1459537	1459553	1459595	1622154	10	1622147	10	6 mm <sup>2</sup>	Socket to 2x pin (+/-)	1787739
<b>Order No.</b>					1622155	12	1622148	11			
<b>Order No.</b>					1622156	15	1622149	13			
<b>Order No.</b>					1622157	20	1622150	17			
<b>Order No.</b>					1622158	25	1622151	23			
<b>Order No.</b>					1622159	28	1622152	25			
<b>Degree of protection</b>									IP66/IP68 (24 h/2 m)		
<b>Ambient temperature (operating)</b>									-40 °C ... +85 °C		
<b>Accessories</b>					A spacer for improved heat dissipation is available as an option (see Accessories on page 20)						

## SOLARCHECK RSD DC panel shutdown

**i** Web code: #0609

<b>SOLARCHECK RSD</b>						
<b>Type</b>	<b>Shutdown unit</b>		<b>Startup unit, autonomous</b>		<b>Startup unit, externally supplied</b>	
<b>Order No.</b>	SCK-RSD-100		SCK-RSD-400		SCK-RSD-600	
<b>Order No.</b>	2905029		2905030		2906273	
<b>Input voltage range</b>	20 V DC ... 50 V DC		40 V DC ... 800 V DC		40 V DC ... 800 V DC	
<b>System voltage</b>	≤ 1000 V DC		≤ 1000 V DC		≤ 1000 V DC	
<b>Max. input current</b>	10 A		10 A		10 A	

## DC connection technology for the device connection

**i** Web code: #0359






SUNCLIX DC device connector 130 mm litz wire length; other lengths available on request						
Type	Pin	Socket	Pin	Socket	Pin	Socket
Order No.	1805148	1805135	1805164	1805151	1805180	1805177
Cross section	2.5 mm <sup>2</sup>		4 mm <sup>2</sup>		6 mm <sup>2</sup>	
Rated voltage	1500 V		1500 V		1500 V	
Nominal current	max. 27.5 A		max. 40 A		max. 40 A	
Degree of protection	IP65/66/68 (24 h/2 m)		IP65/66/68 (24 h/2 m)		IP65/66/68 (24 h/2 m)	
Properties	Temperature range: -40 °C ... +85 °C, approval in accordance with DIN EN 50521 and UL 6703 (in preparation), Required accessories: 1775880.					

SUNCLIX DC device connector For user assembly						
Description	Plastic housings		Contacts for crimp connection		Contacts for crimp connection	
Type	Pin	Socket	Pin	Socket	Pin	Socket
Order No.	1704925	1704926	1704927	1704930	1704928	1704931
Cross section			2.5 mm <sup>2</sup> /4 mm <sup>2</sup> (14 AWG/12 AWG)		6 mm <sup>2</sup> (10 AWG)	
Rated voltage	1500 V					
Nominal current			max. 40 A		max. 40 A	
Degree of protection	IP66/IP68 (24 h/2 m)					
Properties	Temperature range: -40 °C ... +85 °C, approval in accordance with DIN EN 50521 and UL 6703 (in preparation), required accessories: 1775880.		Temperature range: -40 °C ... +85 °C, approval in accordance with DIN EN 50521. Pcs./Pkt.: 1000 pcs./roll.			

## Accessories and tools

**i** Web code: #0362

				
Description	Fastening nut	Protective cap	Filler plug	Spacer
Order No.	1775880	1785430	1775631	1623253
Properties	Nut for securing the SUNCLIX device connectors to the housing.	IP67 protective cap for SUNCLIX connectors; transport protection for the pin connector pattern; for sealing and protecting unused device inputs and for transport protection.	Filler plug for SUNCLIX connectors, IP67 in the cable gland.	Spacer for fuse adapters ensure better heat dissipation if multiple fuses are bundled in one application.




					
Description	Crimping pliers	Mounting pliers	Test pin	SZF 1 screwdriver	Wirefox stripping tool
Order No.	1212755	1200137	1705589	1204517	1212511
Properties	For PV-CF(M) contacts 2.5, 4, and 6 mm <sup>2</sup> (AWG 14/12/10).	To snap the crimp contacts into the plastic housing. Suitable for conductor diameters of 4.2 ... 6.0 mm.	For SUNCLIX device connectors, to check correct positioning of contacts during user assembly.	Actuation tool, for unlocking the SUNCLIX connectors as well as opening the SUNCLIX spring connection, also suitable for use as a flat-bladed screwdriver; size: 0.6 x 3.5 x 100 mm, 2-component handle, with non-slip grip.	For standard 2.5, 4, and 6 mm <sup>2</sup> solar cables, with 15 mm longitudinal stop, for SUNCLIX field connectors.

PRC						
Description		Field connectors	Device connectors	Device connectors	Device connectors	Test plugs
Order No.	3-pos.	1410661	1409219	1409220	1409221	1621326
Order No.	5-pos.	1410656	1409211	1409212	1409213	1621325
Conductor cross section		1,5 mm <sup>2</sup> ... 6 mm <sup>2</sup>	2,5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	
Cable length			150 mm	150 mm	150 mm	
Screw connection			M25	M25	M25	
Connection method		Screw connection	Crimp connection	Crimp connection	Crimp connection	Screw connection

PRC						
Description		Holders	Contacts	Protective cap	PRC crimping tool	Nut
Order No.	3-pos.	1409218	2.5 mm <sup>2</sup> : 1409207		2.5 mm <sup>2</sup> : 1867419	1457937
Order No.	5-pos.	1409206	4 mm <sup>2</sup> : 1409208		4 mm <sup>2</sup> : 1867419, 1205859	
Order No.			6 mm <sup>2</sup> : 1409209		6 mm <sup>2</sup> : 1205859	
Order No. device connector protective cap				1409237		
Order No. field connector protective cap				1409236		

**PLUSCON device**  
Modular rectangular connectors for the AC connection

Description		Panel feed-through with screw connection and panel mounting frame	Panel feed-through with conductor connection	Field connector sleeve housing	Field connector contact inserts
Type	Order No.				
Design: VC 2	4-pos.	1607745 + 1852985	1583877	1852948 + 1855107	1607467
Design: VC 3	5-pos.	1607748 + 1852998	1583878	1852961 + 1855120	1607474
Crimp contacts	4 mm <sup>2</sup>		1761467		
Crimp contacts	10 mm <sup>2</sup>		1761470		
Crimp contacts	16 mm <sup>2</sup>		1761483		
Rated voltage		690 V	690 V		690 V
Nominal current		63 A	70 A		70 A
Number of positions		4 – 7	4 – 5		4 – 7
Contact/contact surface material		Cu alloy/Ag	Cu alloy/Ag		Cu alloy/Ag
Connection method		Solder connection	Crimp connection		Screw connection





<b>SUNCLIX micon</b>				
<b>Description</b>	<b>AC-Y connectors for PV micro inverters</b>		<b>Mains connector for the coupling side of the AC-Y distributor</b>	<b>Mains connectors for the connector side of the AC-Y distributor</b>
<b>Order No.</b>	1706518		1706517	1706609
<b>Cross section</b>	Trunk	12 AWG	12 AWG	12 AWG
	Drop	18 AWG		
<b>Cable length</b>	Trunk	1150 mm	Trunk	1000 mm
	Drop	500 mm		
<b>Rated voltage</b>			600 V	
<b>Nominal current</b>	Trunk	20 A	20 A	20 A
	Drop	5 A		
<b>Degree of protection</b>	IP67		IP67	IP67
<b>Product information</b>	Version for the North American market. Approval in accordance with UL 6703.			





<b>Accessories</b>				
<b>Description</b>	<b>Dust protective caps for protecting the pin connector pattern during transport</b>		<b>IP protective caps for safe operation of the connection system</b>	<b>Unlocking tool for releasing the connectors</b>
<b>Order No.</b>	For connector	1706608	For connector	1706610
	For coupling	1706599	For coupling	1706515
<b>Degree of protection</b>	IP20		IP67	
<b>Properties</b>	Biodegradable plastic, can be removed without an unlocking tool.		Can only be removed with an unlocking tool.	After releasing the connector, the tool does not fall off, instead it remains on the connector housing.





## SUNCLIX mini



Description	Miniature DC connectors for assembly		Single-position module junction box		Compact DC string diode	
	Pin (-)	Socket (+)	Left	Right	with SUNCLIX mini connectors	without connector, free cable ends
Type						
Order No.	1795336	1795323	1705132	1705131	1463065	1811239
Cross section	2.5 mm <sup>2</sup>		2.5 mm <sup>2</sup>		2.5 mm <sup>2</sup>	
Rated voltage	1000 V		1000 V		1000 V	
Nominal current	15 A		15 A		5 A	
Product information	Protection class II, Ø 11 mm, degree of protection: IP67, temperature range: -40°C ... +85°C, approval in accordance with DIN EN 50521.		The width of the module junction box can be adapted by the customer (width from 18.3 mm ... 34.3 mm). Ribbon width: < 5 mm, 0.05 ... 0.2 mm thick, temperature range: -40°C ... +85 °C.		Protection class II, 100 x 38 x 11 mm (L x W x H), temperature range: -40 °C ... +85 °C, approval in accordance with DIN EN 50548.	





<b>COMBICON power</b> PCB terminal blocks and PCB connectors for power electronics up to 125 A					
Description		Push-in PCB terminal block up to 6 mm <sup>2</sup>	Push-in PCB terminal block up to 10 mm <sup>2</sup>	Push-lock PCB terminal block with lever-type actuation up to 16 mm <sup>2</sup>	Push-lock/push-in panel feed-through terminal block up to 16/6 mm <sup>2</sup>
5-pos.	Order No.	1719341	1735817	1770490	1821083
Cross section		6 mm <sup>2</sup>	16 mm <sup>2</sup>	16 mm <sup>2</sup>	16/6 mm <sup>2</sup>
Pitch		7.5 mm	10 mm	10 mm	-
Number of positions		2 – 12	2 – 9	2 – 8	3 – 5
IEC/UL rated voltage		1000 V/600 V	1000 V/600 V	1000 V/600 V	1000 V/600 V
IEC/UL nominal current		41 A/35 A	76 A/66 A	76 A/51 A	41 A/-
Comment		1-pos. on request	1-pos. on request	1-pos. on request	UL/CUL on request





<b>COMBICON control</b> PCB connectors for data and power transmission in MCR technology					
Description		TWIN bus connector with push-in spring connection up to 1.5 mm <sup>2</sup>	Flat connector with push-in spring connection up to 1.5 mm <sup>2</sup>	Flat connector with push-in spring connection up to 2.5 mm <sup>2</sup>	Inverted connector with screw connection up to 2.5 mm <sup>2</sup>
5-pos.	Order No.	1713868	1952050	1732771	1858905
Cross section		1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>
Pitch		5 mm	3.5 mm	5 mm/5.08 mm	7.62 mm
Number of positions		2 – 20	2 – 20	2 – 18	2 – 12
IEC/UL rated voltage		320 V/250 V	160 V/150 V	320 V/250 V	630 V/250 V
IEC/UL nominal current		10 A/8 A	8 A/8 A	12 A/10 A	12 A/12 A

<b>COMBICON control / compact</b> PCB terminal blocks and connectors for signal transmission in MCR technology					
Description		PCB terminal block with push-in spring connection with 35° angle up to 1.5 mm <sup>2</sup>	PCB terminal block with push-in spring connection up to 2.5 mm <sup>2</sup>	PCB terminal block with push-in double spring connection up to 2.5 mm <sup>2</sup>	PCB terminal block with push-in spring connection for SMD application up to 0.5 mm <sup>2</sup>
5-pos.	Order No.	1751503	1792892	1725341	1771059
Cross section		1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	0.5 mm <sup>2</sup>
Pitch		3.81 mm	5 mm	5 mm	2.5 mm
Number of positions		2 – 12	2 – 12	2 – 16	2 – 8
IEC/UL rated voltage		160 V/300 V	400 V/300 V	400 V/300 V	160 V/150 V
IEC/UL nominal current		9 A/10 A	12 A/10 A	13.5 A/13.5 A	6 A/5 A

For more connectors, please visit [phoenixcontact.com](http://phoenixcontact.com)



<b>PLUSCON circular</b> Circular connectors for sensor/actuator applications					
Description		M8 flush-type connectors with halogen-free litz wires, front mounting	M12 flush-type connectors with halogen-free litz wires, front mounting	M12 flush-type connectors for wave soldering processes, two-piece, rear mounting	M12 flush-type connectors, for reflow processes, two-piece, rear mounting
Type	Order No.				
Pin	5-pos.	1440119	1520068	1436602	1551752
Socket	5-pos.	1440106	1520042	1436563	1542622
Number of positions		4/5	4/5	4/5	4/5
Rated voltage		30 V	60 V	60 V	60 V
Nominal current		2 A	4 A	4 A	4 A
Contact carrier material		PA 66	PA 66	PA 66	PPA
Contact/contact surface material		Cu alloy/Au	Cu alloy/Au	Cu alloy/Au	Cu alloy/Au
Connection method		Individual litz wires	Individual litz wires	Solder pins	THR solder connection

<b>PLUSCON data</b> Connectors with standard interfaces such as RJ45, USB and M12 for data transmission					
Description		RJ45 socket inserts and panel mounting frames, for Freenet system	RJ45 socket inserts and panel mounting frames, for PCB connection	USB socket inserts and panel mounting frames, for flat-ribbon cable connection	M12 flush-type connector for wave soldering processes, one-piece
Socket insert	CAT5	1652936	1688586	1653854	
Socket insert	CAT6	1652949	1653090	1653867	
Panel mounting frame		1653744	1689446	1653744	
Flush-type connector	4-pos., socket				1551503
Flush-type connector	8-pos., socket				1553860
Rated voltage		50 V	150 V	30 V	250 V
Nominal current		1 A	1.5 A	1 A	4 A
Number of positions		8	8	4	4-pos./8-pos.
Contact material		Cu alloy	Cu alloy	Cu alloy	Cu alloy
Connection method		IDC	Solder connection	Flat-ribbon cable connection	Solder pins

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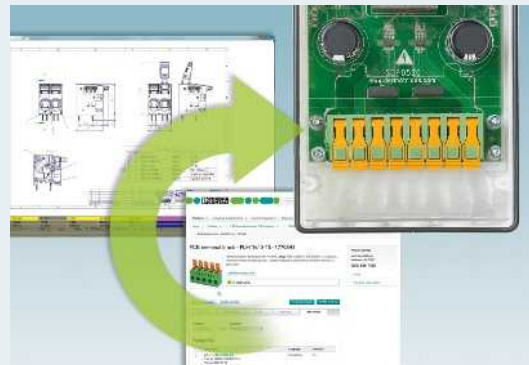
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