

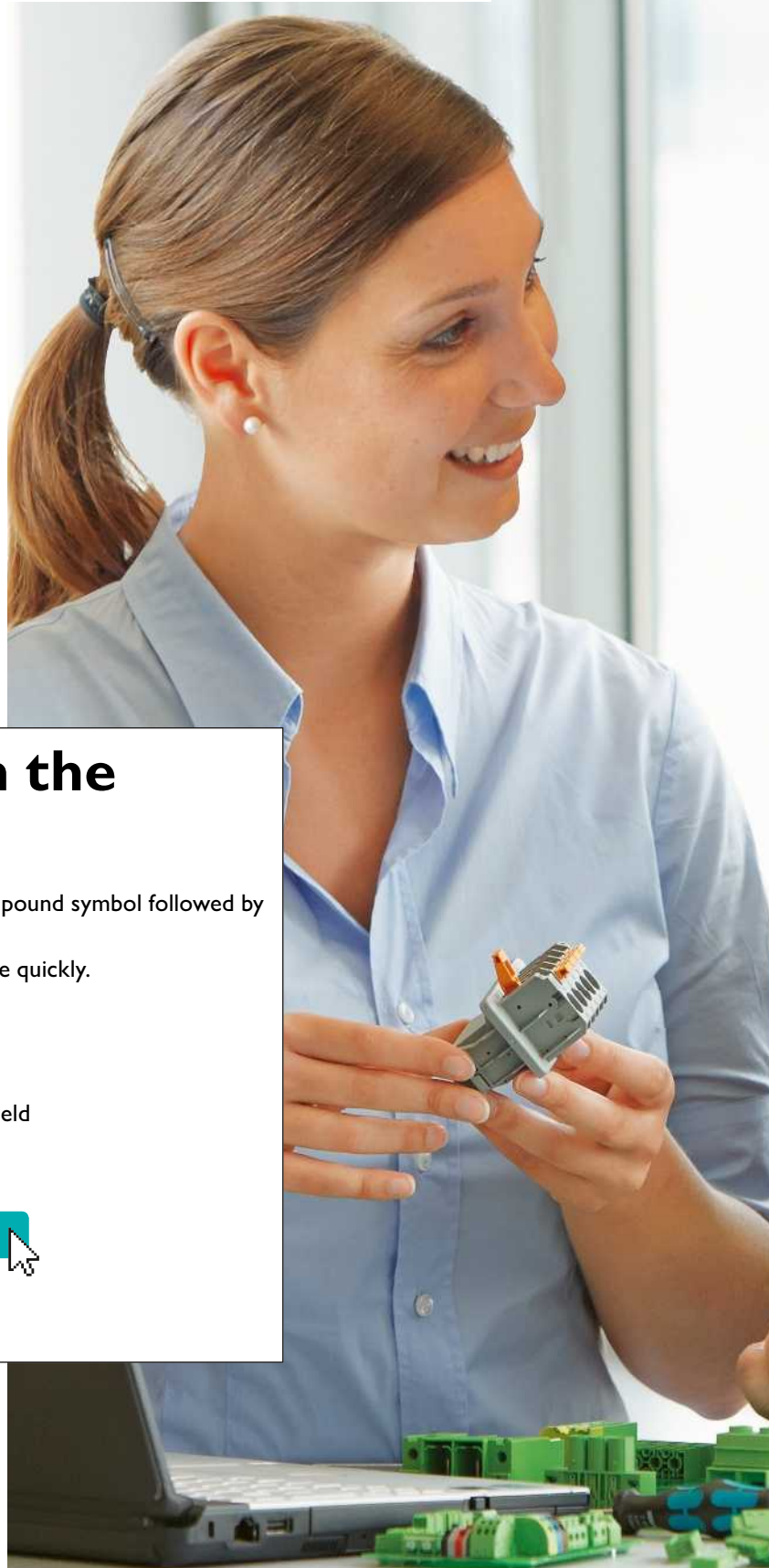


# New products 2014/2015

## Connectors and electronics housings

# New products for 2014/2015 – connectors and housing systems for your devices

As a leading manufacturer of connectors and housing systems, we are always working to transform the growing requirements placed on your applications and markets into new innovations. Discover our wide range of new products for 2014/2015 for the transmission of signals, data and power and take advantage of our professional service.



## Find out more with the web code

You can find our web code in each product table: a pound symbol followed by a four-digit number combination (example: #1234).

This allows you to reach information on our website quickly.

### It couldn't be simpler:

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

Or use the direct link:

[phoenixcontact.net/webcode/#1234](http://phoenixcontact.net/webcode/#1234)



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## Compact connectors for flexible LED PCBs

The new PTF series of direct connectors can be used to connect your flexible LED printed-circuit boards quickly and conveniently. Their small design allows you to connect printed-circuit boards in narrow linear profiles as well.






### Your advantages

- ✓ Easy connection of the printed-circuit board saves time
- ✓ The small size lets you make the connection even in applications where space is limited
- ✓ The tight fit and high current carrying capacity create a safe connection
- ✓ Two and four-position variants for various LED applications

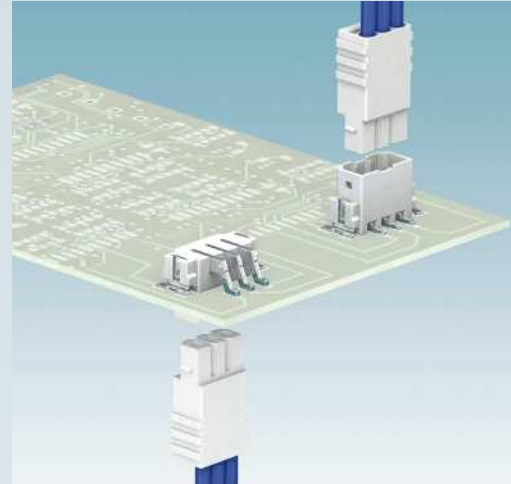
### Main features

- Currents: up to 10 A per connector
- Voltages: up to 24 V
- For 8 and 10 mm-wide LED strips
- According to IEC 60838-2-2

| <p>New product for 2015</p> <p> Web code: #0166</p> |  |                      |                       |                       |  |                       |
|--|---|----------------------|-----------------------|-----------------------|---|-----------------------|
| Description  | Supply element  |                      |                       |                       | Butt connector  |                       |
| Designation  | PTF 0,3/<br>2-WB-8-H  | PTF 0,3/<br>4-WB-8-H | PTF 0,3/<br>2-WB-10-H | PTF 0,3/<br>4-WB-10-H | PTF 0,3/<br>4-BB-8-H  | PTF 0,3/<br>4-BB-10-H |
| Number of positions  | 2   | 4                    | 2                     | 4                     | 4   | 4                     |
| Printed-circuit board width  | 8 mm  | 8 mm                 | 10 mm                 | 10 mm                 | 8 mm  | 10 mm                 |
| Order No.  | 1707558   | 1707561              | 1707562               | 1707565               | 1707559   | 1707563               |

# White PCB terminal blocks for LED applications

Benefit from the advantages of the only 5 mm high PTSM series connector optimized for LED applications. It lets you to get more components and functions onto the confined space available on a printed-circuit board and save time connecting the board with the push-in connection.







## Your advantages

- ✓ Complete product range for wire-to-board and board-to-board connections
- ✓ Horizontal and vertical versions are available
- ✓ For the SMT process, products are delivered in tape-on-reel packaging
- ✓ High performance with a compact design
- ✓ Fast push-in connection

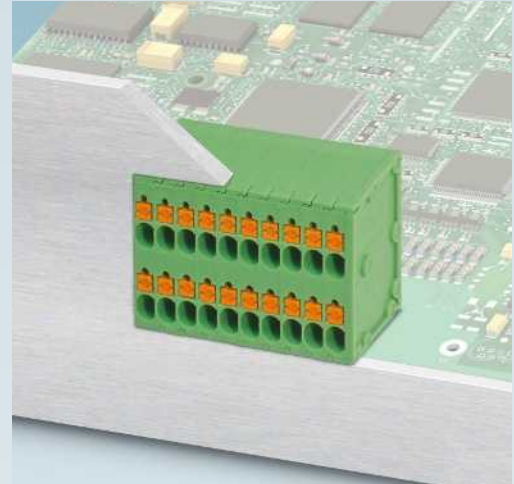
### Main features

- Currents: up to 6 A
- Voltages: up to 320 V
- Conductor cross sections: up to 0.5 mm<sup>2</sup>
- Design height: 5 mm
- Pitch: 2.5 mm
- 1 to 8-pos.

|   |   |   |  |   |
|---|---|---|--|---|
| <p>New product for 2014</p> <p><b>i</b> Web code: #0167</p> |  |  |  |  |
| <b>Description</b>  | <b>1 to 8-pos. PCB terminal block</b>   | <b>Through-board header</b>   | <b>Vertical header</b>   | <b>Connector for header</b>   |
| <b>Designation</b>  | PTSM 0,5/ 1-2,5-H SMD L R24   | PTSM 0,5/...-HTB-2,5-SMD WH R32   | PTSM 0,5/...-HV-2,5-SMD WH R32   | PTSM 0,5/...-P-2,5 WH   |
| <b>Soldering method</b>                                     | SMD   | SMD   | SMD  | -   |
| <b>Order No., 1-pos.</b>                                    | 1840035   | -   | -  | -   |
| <b>Order No., 2-pos.</b>                                    | 1814634   | 1830126   | 1778696  | 1704853   |
| <b>Order No., 8-pos.</b>                                    | 1814692   | 1830184   | 1839321  | 1704861   |

# Double-row PCB terminal block with push-in connection

Use the new SPTD 1,5 conductor with a cross section up to 1.5 mm<sup>2</sup> with ferrule to connect to two levels with ease. Release them easily using the integrated N/C contact. The arrangement of the solder pins ensures high stability while simultaneously taking up a small amount of space on the printed-circuit board.







## Your advantages

- ✓ Fast push-in connection with integrated spring lever
- ✓ Unique integration in front panels in two rows
- ✓ Conductor cross sections up to 1.5 mm<sup>2</sup> with ferrule
- ✓ Test connection and printing area at the front
- ✓ Suitable for railway applications and household appliances

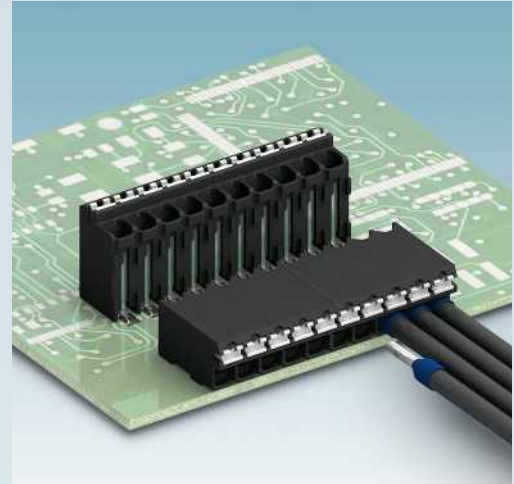
### Main features

- Currents: up to 10 A
- Voltages: up to 200 V
- Pitch: 3.5 mm
- 2 to 12 pos., larger numbers of positions available on request
- Horizontal design

|   |   |   |   |
|---|---|---|---|
| New product for 2014<br><br> Web code: #0168 |  |  |  |
| <b>Description</b>  | <b>Double-row PCB terminal block</b>  | <b>Double-row PCB terminal block</b>  | <b>Double-row PCB terminal block</b>  |
| <b>Designation</b>  | SPTD 1,5/2-H-3,5  | SPTD 1,5/5-H-3,5  | SPTD 1,5/10-H-3,5   |
| <b>Number of positions</b>  | 2   | 5   | 10  |
| <b>Order No.</b>  | 1841490   | 1841526   | 1841571   |

# Robust SMD PCB terminal blocks with push-in connection

With the new SPT-SMD PCB terminal block, Phoenix Contact is extending its product range to include SMD components for surface mounting technology. The push-in connection with integrated spring lever offers an easy way to connect and release conductors up to 1.5 mm<sup>2</sup> without using special tools.








## Your advantages

- ✓ Fast push-in connection with integrated spring lever for solid or stranded conductors up to 1.5 mm<sup>2</sup>
- ✓ Solid contact system with separate, current-carrying spring lug
- ✓ Easy handling thanks to LCP insulating material and MSL level 1
- ✓ Horizontal versions with anchor pin

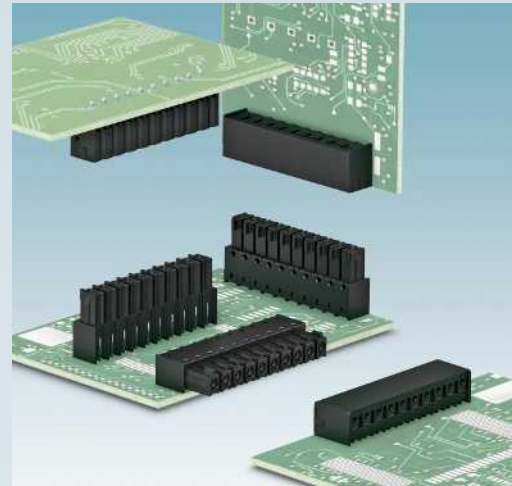
### Main features

- Currents: up to 13.5 A
- Voltages: up to 320 V
- 2 to 12-pos.
- Horizontal or vertical connection direction
- Pitch: 3.50/3.81/5.00/5.08 mm
- Delivery in tape-on-reel packing

| New product for 2014  |   |   |  |   |
|---|---|---|--|---|
|  Web code: #0169 |   |   |  |   |
|   |  |  |  |  |
| Description   | Horizontal PCB terminal block   | Vertical PCB terminal block   | Horizontal PCB terminal block  | Vertical PCB terminal block   |
| <b>Designation</b>  | SPT-SMD 1,5/ 10-H-3,5 R56   | SPT-SMD 1,5/ 10-V-3,5 R56   | SPT-SMD 1,5/ 10-H-5,0 R88  | SPT-SMD 1,5/ 10-V-5,0 R88   |
| <b>Pitch</b>  | 3.5 mm  | 3.5 mm  | 5.0 mm   | 5.0 mm  |
| <b>Connection direction</b>   | Horizontal  | Vertical  | Horizontal   | Vertical  |
| <b>Tape width</b>   | 56 mm   | 56 mm   | 88 mm  | 88 mm   |
| <b>Order No., 10-pos.</b>   | 1824608   | 1824161   | 1824828  | 1824381   |

# Inverted THR PCB header for the SMT soldering process

The headers in the IMC 1,5 series were developed for board-to-board connections. The horizontal and vertical versions mean that both horizontal and vertical PCB outlets can be implemented. In addition, the headers are suitable for the SMT soldering process.








## Your advantages

- ✓ The versions with snap-in lug fit the inverted IFMC connectors with self-locking flange
- ✓ Plug-in direction parallel or vertical to the PCB
- ✓ In combination with MC (V) 1,5 headers for the board-to-board connection
- ✓ THR part for use in SMT reflow or wave soldering processes
- ✓ Touch-proof voltage output

### Main features

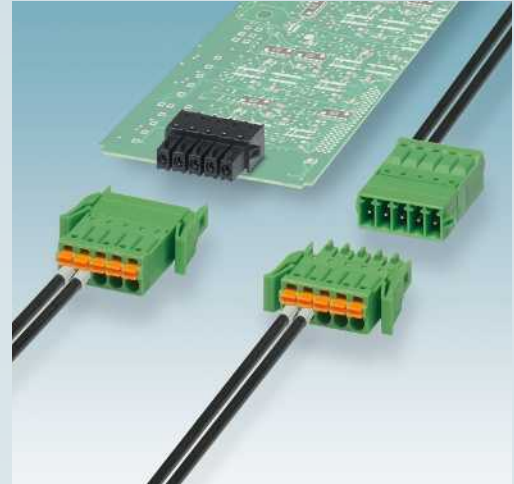
- Currents: up to 8 A
- Voltages: up to 160 V
- Pitch: 3.5 mm
- 2 to 12-pos.
- 2 mm pin length

| New product for 2014  |   |   |  |   |
|---|---|---|--|---|
|  Web code: #0170 |   |   |  |   |
|   |  |  |  |  |
| Description   | Header  | Header with snap-in lug   | Header   | Header with snap-in lug   |
| Designation   | IMC 1,5/10-G-3,5 P20 THR  | IMC 1,5/10-G-3,5 RN P20 THR   | IMCV 1,5/10-G-3,5 P20 THR  | IMCV 1,5/10-G-3,5 RN P20 THR  |
| Plug-in direction   | Parallel to the PCB   | Parallel to the PCB   | Vertical to the PCB  | Vertical to the PCB   |
| Number of positions   | 10  | 10  | 10   | 10  |
| Order No.   | 1830498   | 1830647   | 1830799  | 1830948   |



# Inverted PCB connector with lateral self-locking flange

Both wire-to-wire and wire-to-board connections can be implemented with the inverted PCB connectors in the IFMC 1,5 series. The lateral self-locking flanges ensure secure latching and prevent unintentional release.







## Your advantages

- ✓ Secure latching, thanks to lateral self-locking flanges
- ✓ Fast push-in connection with integrated spring lever
- ✓ For stranded and solid conductors up to 1.5 mm<sup>2</sup>
- ✓ Wire-to-wire or wire-to-board free-hanging connection in combination with the base strips in the IMC (V) 1,5 series
- ✓ Extremely compact design height of just 7.8 mm

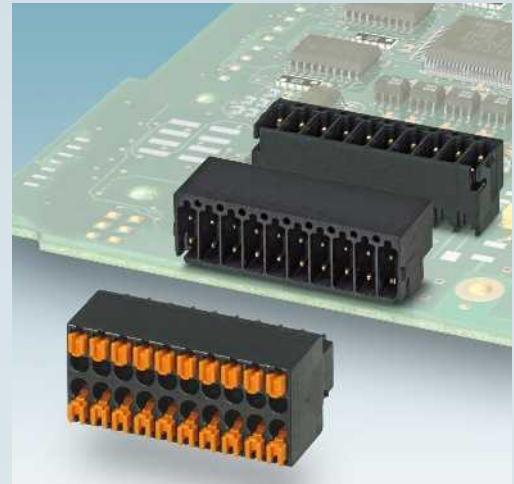
### Main features

- Currents: up to 8 A
- Voltages: up to 160 V
- Pitch: 3.5 mm
- 2 to 12-pos.

|   |   |  |   |
|---|---|--|---|
| New product for 2014  |   |  |   |
|  Web code: #0171 |   |  |   |
|   |  |  |  |
| <b>Description</b>  | <b>Connector without latching</b>   | <b>Connector with self-locking flange</b>  | <b>Connector with snap-in lug</b>   |
| <b>Designation</b>  | IFMC 1,5/10-ST-3,5  | IFMC 1,5/10-ST-3,5-RF  | IFMC 1,5/10-ST-3,5-RN   |
| <b>Type of latching</b>   | -   | Self-locking flange  | Snap-in lug   |
| <b>Number of positions</b>  | 10  | 10   | 10  |
| <b>Order No.</b>  | 1844073   | 1844293  | 1844183   |

# Double-row PCB connector with push-in connection

The flat push-in connector in the DFMC 0,5 series enables the double-level connection of conductors with a design height of just 10.5 mm. The gold-plated contact system offers maximum transmission reliability even for the lowest currents and voltages.



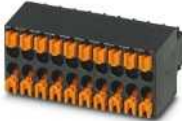
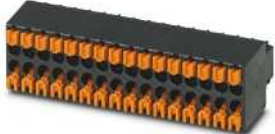


## Your advantages

- ✓ Fast push-in connection with integrated spring lever
- ✓ Gold-plated contact system for the lowest currents and voltages with high transmission reliability
- ✓ 40% higher packing density than 3.5 mm pitch
- ✓ Touch connection for voltage testing using a 0.64 mm test pin
- ✓ Versions with coding available on request

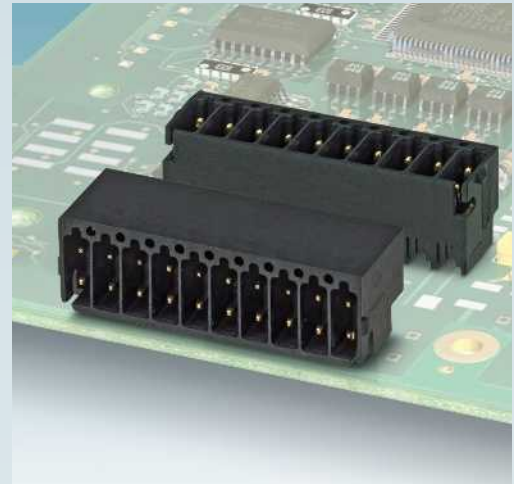
### Main features

- Currents: up to 6 A
- Voltages: up to 160 V
- Conductor cross sections: up to 0.5 mm<sup>2</sup>
- Design height: only 10.5 mm
- Pitch: 2.54 mm
- 2 to 16-pos.

|   |   |  |   |
|---|---|--|---|
| New product for 2014<br><br> Web code: #0172 |  |  |  |
| <b>Description</b>  | <b>Connectors</b>   | <b>Connectors</b>  | <b>Connectors</b>   |
| <b>Designation</b>  | DFMC 0,5/ 2-ST-2,54   | DFMC 0,5/10-ST-2,54  | DFMC 0,5/16-ST-2,54   |
| <b>Number of positions</b>  | 2   | 10   | 16  |
| <b>Order No.</b>  | <a href="#">1844578</a>   | <a href="#">1844659</a>  | <a href="#">1844714</a>   |

# Compact THR and SMD headers for SMT soldering processes

The DMC(V) 0,5 headers are extremely small and provide variants for both THR and SMT soldering processes. In addition, the gold-plated contact system also ensures maximum transmission reliability for the smallest currents and voltages.








## Your advantages

- ✓ Gold-plated contact system for the lowest currents and voltages with high transmission reliability
- ✓ Anchor metals ensure that the SMD components are held securely on the PCB
- ✓ Vertical and horizontal variants for THR and SMT processes
- ✓ Tape-on-reel packing for automated processes
- ✓ Versions with coding available on request

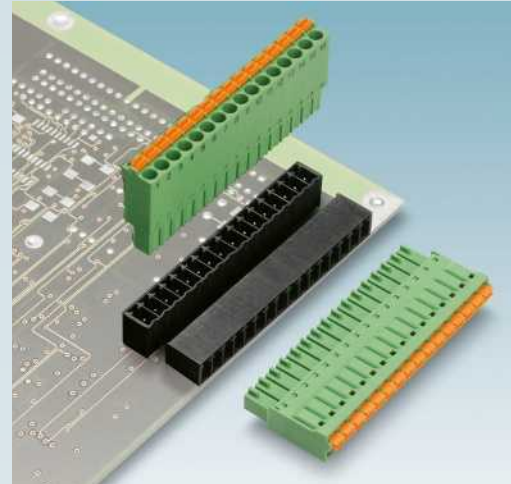
### Main features

- Currents: up to 6 A
- Voltages: up to 160 V
- Design height: only 7.4 mm
- Pitch: 2.54 mm
- 2 to 16-pos.
- Pin length: 2 mm at THR

|   |   |   |  |   |
|---|---|---|--|---|
| New product for 2014  |   |   |  |   |
|  Web code: #0173 |   |   |  |   |
|   |  |  |  |  |
| <b>Description</b>  | <b>Header</b>   | <b>Header</b>   | <b>Header</b>  | <b>Header</b>   |
| <b>Designation</b>  | DMC 0,5/10-G1-2,54<br>SMD R56   | DMCV 0,5/10-G1-2,54<br>SMD R56  | DMC 0,5/10-G1-2,54<br>P20THR R56   | DMCV 0,5/10-G1-2,54<br>P20THR R56   |
| <b>Plug-in direction</b>  | Parallel<br>to the PCB  | Vertical<br>to the PCB  | Parallel<br>to the PCB   | Vertical<br>to the PCB  |
| <b>Soldering process</b>  | SMT   | SMT   | THR  | THR   |
| <b>Number of positions</b>  | 10  | 10  | 10   | 10  |
| <b>Order No.</b>  | 1845108   | 1845250   | 1844808  | 1844950   |

# High-position THR headers for SMT soldering processes

The new high-position THR headers with 3.81 pitch add high-position versions from 13 to 20 positions to the existing range. Housing versions with straight and angled pins, with and without flange, are available.



## Your advantages

- ✓ High-position THR pin strip for use in SMT reflow processes
- ✓ Standard pin length of 2.0 mm also suitable for wave soldering processes
- ✓ Optional tape-on-reel packing for automated assembly
- ✓ Highly precise position tolerance of the pins in accordance with IEC 61760-3

### Main features

- Currents: up to 8 A
- Voltages: up to 160 V
- 13 to 20-pos.
- LCP insulation material
- Pitch: 3.81 mm

| New product for 2014  |   |   |  |   |
|---|---|---|--|---|
|  Web code: #0174 |   |   |  |   |
|   |  |  |  |  |
| Description   | Horizontal header   | Horizontal header with flange   | Vertical header  | Vertical header with flange   |
| Designation   | MC 1,5/...-G-3,81<br>P20THR...  | MC 1,5/...-GF-3,81<br>P20THR...   | MCV 1,5/...-G-3,81<br>P20THR...  | MCV 1,5/...-GF-3,81<br>P20THR...  |
| Soldering method  | THR and wave soldering  | THR and wave soldering  | THR and wave soldering   | THR and wave soldering  |
| Packaging   | Bulk  | Bulk  | Bulk   | Bulk  |
| Order No., 16-pos.  | 1829085   | 1829166   | 1828921  | 1829001   |

# Single-position THR PCB terminal block for contacting flat-ribbon conductors

The PT-SG/1 is a single-position and THR-solderable PCB terminal block without insulating bodies. It ensures space-saving, quick and cost-efficient contacting of flat-ribbon conductors using the spring-based connection principle.




## Your advantages

- ✓ THR article suitable for reflow soldering
- ✓ Suitable for fully automatic PCB assembly
- ✓ Reliable conductor contacting thanks to programmed contact force
- ✓ Tool-free, quick conductor connection

### Main features

- Currents: up to 41 A
- 1-pos. version
- Solder pin lengths: 2.1 or 2.9 mm
- Flat-ribbon conductor: up to 8 x 0.1 - 2 mm

|   |   |                                      |
|---|---|--------------------------------------|
| <p>New product for 2014</p> <p><b>i</b> Web code: #0180</p> |  |                                      |
| <b>Description</b>  | <b>1-pos.<br/>PCB terminal block</b>  | <b>1-pos.<br/>PCB terminal block</b> |
| <b>Designation</b>  | PT-SG/ 1 8X0,1-2 THR2,1 R24   | PT-SG/ 1 8X0,1-2 THR2,9 R24          |
| <b>Pin length</b>   | 2.1 mm  | 2.9 mm                               |
| <b>Order No.</b>  | 1841830   | 1841843                              |

# Angled PCB terminal block for power electronics up to 41 A

The new SPTA 5 PCB terminal block provides you with a cable connection funnel angled 30° for the convenient conductor connection. The insulated plug-in bridges enable quick distribution of potential.







## Your advantages

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

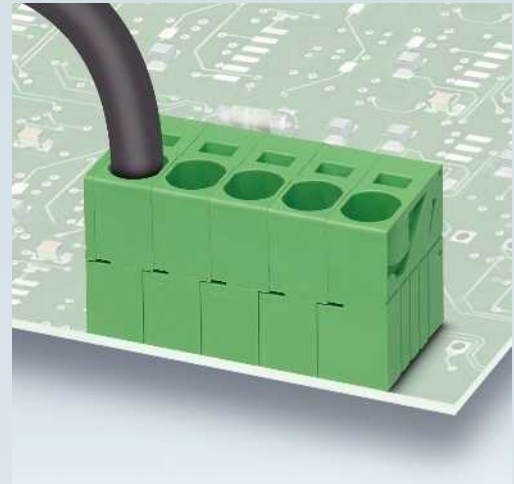
### Main features

- Currents: up to 41 A
- Voltages: up to 1000 V (600 V UL)
- Conductor cross sections: 0.2 to 6 mm<sup>2</sup>
- 1 to 12-pos.
- Pitch: 7.5 mm
- Bridgeable

|   |   |  |   |
|---|---|--|---|
| New product for 2014  |   |  |   |
|  Web code: #0177 |   |  |   |
|   |  |  |  |
| <b>Description</b>  | <b>PCB terminal block 1-pos.</b>  | <b>PCB terminal block 5-pos.</b>   | <b>Bridge</b>   |
| <b>Designation</b>  | SPTA 5/ 5-7,5   | SPTA 5/ 5-7,5 ZB   | FBSK 2-7,5  |
| <b>Type</b>   | Double pinning  | Zigzag pinning   | 2-pos.  |
| <b>Order No.</b>  | 1819079   | 1819118  | 1928343   |

# Compact PCB terminal block for power electronics up to 125 A

The SPT 35 PCB terminal block for currents up to 125 A offers maximum clamping space with minimum dimensions. Conductors with a cross section of up to 35 mm<sup>2</sup> can be connected by means of convenient and tool-free push-in connection technology.







## Your advantages

- ✓ Tool-free conductor connection, thanks to fast push-in connection
- ✓ Reliable conductor contacting, thanks to programmed contact force
- ✓ Ideal for internal device wiring, thanks to the vertical connection direction

### Main features

- Currents: up to 125 A
- Voltages: up to 1000 V (600 V UL)
- Pitch: 15 mm
- Conductor cross sections: up to 35 mm<sup>2</sup>
- 1 to 5-pos. (larger numbers of positions available on request)

|   |   |  |   |
|---|---|--|---|
| New product for 2014<br><br> Web code: #0176 |  |  |  |
| <b>Description</b>  | <b>PCB terminal block, 1-pos.</b>   | <b>PCB terminal block, 3-pos.</b>  | <b>PCB terminal block, 5-pos.</b>   |
| <b>Designation</b>  | SPT 35/ 1-V-15,00   | SPT 35/ 3-V-15,00  | SPT 35/ 5-V-15,00   |
| <b>Order No.</b>  | 1845331   | 1845357  | 1845373   |

# High-current PCB terminal block for power electronics up to 150 A

You can use the MKDSP 50 PCB terminal block, which can be wave soldered, to transmit up to 150 A directly onto the PCB. During this process, you simply connect the conductor to a cross section of up to 50 mm<sup>2</sup> using a commercially available Torx screwdriver.







## Your advantages

- ✓ Less mounting effort thanks to wave soldering capabilities
- ✓ High degree of connection convenience thanks to tried-and-tested screw connection with tension sleeve
- ✓ Easy connection using a standard Torx screwdriver
- ✓ Flexible use for conductors with or without ferrule

### Main features

- Currents: up to 150 A
- Voltages: up to 1000 V (600 V UL)
- Pitch: 17.50 mm
- Conductor cross sections: 0.5 to 50 mm<sup>2</sup>
- 1 to 5-pos. (with flange)
- 2 to 5-pos. (without flange)
- Integrated test connection

|   |   |  |   |
|---|---|--|---|
| New product for 2015<br><br> Web code: #0178 |  |  |  |
| <b>Description</b>  | <b>PCB terminal block 1-pos.</b>  | <b>PCB terminal block 3-pos.</b>   | <b>PCB terminal block 5-pos.</b>  |
| <b>Designation</b>  | MKDSP 50/ 1-17,5-FL   | MKDSP 50/ 3-17,5(-F)   | MKDSP 50/ 5-17,5(-F)  |
| <b>Order No. without flange</b>   | -   | 1856139  | 1856155   |
| <b>Order No. with flange</b>  | 1856168   | 1856184  | 1856207   |



# High-current PCB terminal block for power electronics up to 232 A

You can use the MKDSP 95 PCB terminal block, which can be wave soldered, to transmit up to 232 A directly onto the PCB. During this process, you simply connect the conductor to a cross section of up to 95 mm<sup>2</sup> using a commercially available Torx screwdriver.







## Your advantages

- ✓ Less mounting effort thanks to wave soldering capabilities
- ✓ High degree of connection convenience thanks to tried-and-tested screw connection with tension sleeve
- ✓ Easy connection using a standard Torx screwdriver
- ✓ Flexible use for conductors with or without ferrule

### Main features

- Currents: up to 232 A
- Voltages: up to 1000 V (600 V UL)
- Pitch: 20 mm
- Conductor cross sections: 16 to 95 mm<sup>2</sup>
- 1 to 5-pos. (with flange)
- Integrated test connection

|   |   |  |   |
|---|---|--|---|
| New product for 2014  |   |  |   |
|  Web code: #0179 |   |  |   |
|   |  |  |  |
| <b>Description</b>  | <b>PCB terminal block 1-pos.</b>  | <b>PCB terminal block 3-pos.</b>   | <b>PCB terminal block 5-pos.</b>  |
| <b>Designation</b>  | MKDSP 95 / 1 - 20,00 - FL   | MKDSP 95 / 3 - 20,00 - F   | MKDSP 95 / 5 - 20,00 - F  |
| <b>Order No.</b>  | 1841856   | 1841872  | 1841898   |

# DIN rail bracket for IPC 16 and IPC 35 power connectors

Use the new DR 35 series DIN rail brackets to securely fix IPC 16 and IPC 35 inverted high-power connectors in the control cabinet. This allows you to establish a convenient, plug-in wire-to-wire connection on the DIN rail.



## Your advantages

- ✓ Bracket for inverted high-power connectors for DIN rail mounting in the control cabinet
- ✓ Quick installation and flexible adaptation of the electrical installation thanks to the plug-in solution
- ✓ A connector for control cabinet and device

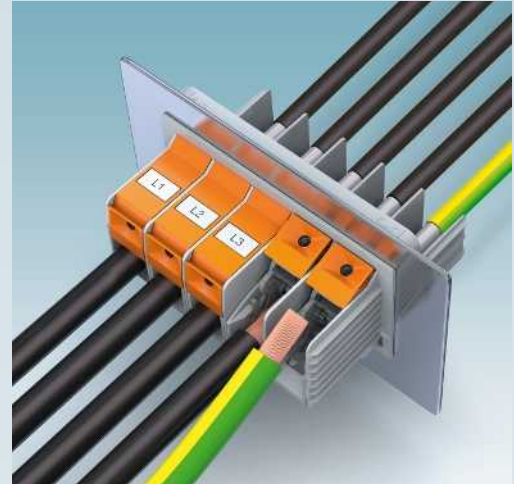
### Main features

- For DIN rail mounting in the control cabinet
- Compatible with IPC 16 and IPC 35 series power connectors

|  |                                    |                                    |
|--|------------------------------------|------------------------------------|
| New product for 2014   |                                    |                                    |
|  Web code: #0181  |                                    |                                    |
| <b>Description</b>   | <b>DIN rail bracket for IPC 16</b> | <b>DIN rail bracket for IPC 35</b> |
| <b>Designation</b>   | DR 35-PC 16                        | DR 35-PC 35                        |
| <b>Order No.</b>   | 1708410                            | 1708409                            |

# High-current feed-through terminal block with new T-LOX connection technology

The TW 50 series panel feed-through terminal blocks provide a reliable and convenient conductor connection with the new T-LOX connection technology. Here, the terminal block is fastened to the housing using a reversible wedge that can be operated without tools.







## Your advantages

- ✓ Reliable conductor contacting thanks to programmed contact force
- ✓ Fast and convenient conductor insertion from above
- ✓ User-friendly operating forces for the conductor connection
- ✓ Quick, tool-free fastening in the housing wall

### Main features

- Currents: up to 150 A
- Voltages: up to 1000 V (600 V UL)
- Conductor cross sections: 16 to 50 mm<sup>2</sup>
- 1 to 6-pos.
- Wall thicknesses: 1 to 5 mm

|   |   |   |   |
|---|---|---|---|
| New product for 2015  |   |   |   |
|  Web code: #0175 |   |   |   |
|   |  |  |  |
| <b>Description</b>  | <b>Panel feed-through terminal block</b>  | <b>Panel feed-through terminal block</b>  | <b>Panel feed-through terminal block</b>  |
| <b>Designation</b>  | TW 50/ 1-CL   | TW 50/ 3-CL   | TW 50/ 5-CL   |
| <b>Number of positions</b>  | 1   | 3   | 5   |
| <b>Order No.</b>  | 1708744   | 1708746   | 1708749   |

# Multimode zip cord patch cables for fast data transmission up to 10 Gbps

Thanks to extensive testing, the new zip cord patch cables achieve an optimum level of quality. Various connectors, fiber types, and customer-specific cable lengths allow custom solutions to be created for every application.








## Your advantages

- ✓ Excellent mechanical and optical transmission quality
- ✓ Various connectors, cable lengths and fiber categories according to customer requirements
- ✓ OM3 and OM4: bend-resistant fibers
- ✓ Individual test report for each item

### Main features

- Up to 10 Gbps
- UPC polishing process IL < 0.3 dB; RL > 35 dB
- Extensive test program (including change of climate, vibration, torsion)
- Consistent interferometer tests in each certification process
- Fire protection in accordance with UL OFNR and LSZH

|   |   |   |  |   |
|---|---|---|--|---|
| New product for 2014<br><br> Web code: #0186 |  |  |  |  |
| <b>Description</b>  | <b>Patch cable MM</b>   | <b>Patch cable MM</b>   | <b>Patch cable MM</b>  | <b>Patch cable MM</b>   |
| <b>Designation</b>  | FOC-LC:A-LC:A-GZ03/...  | FOC-SC:A-LC:A-GZ02/...  | FOC-ST:A-SJ:A-GZ01/...   | FOC-LC:A-LC:A-GZ01/2  |
| <b>Head combination</b>   | LC to LC  | SC to LC  | ST to SC-RJ  | LC to LC  |
| <b>Fiber category</b>   | OM4   | OM3   | OM2  | OM2   |
| <b>Length</b>   | Custom  | Custom  | Custom   | 2.0 m   |
| <b>Order No.</b>  | 1405690   | 1405692   | 1405710  | 1400604   |

# Compact fiber-optic splice boxes for the DIN rail

The new splice boxes for direct DIN rail mounting are available for LC, SC-Duplex and ST. Thanks to the robust sheet steel housing, they are also excellent for use in industrial environments. The snap-in adapter for the DIN rail enables quick installation in a control cabinet.






## Your advantages

- ✓ Cable insertion possible by means of screw connection on top and bottom
- ✓ Compact dimensions despite large splice comb
- ✓ Snap-in adapter for easy DIN rail mounting

### Main features

- Robust metal housing
- M20 x 1.5 cable gland
- Ready for equipotential bonding
- Conductor cross sections: 0.2 to 6 mm<sup>2</sup>
- Suitable for industrial applications

|   |   |   |   |
|---|---|---|---|
| <p>New product for 2014</p> <p><b>i</b> Web code: #0187</p> |  |  |  |
| <b>Description</b>  | <b>Splice box for<br/>6 x LC duplex</b>   | <b>Splice box for<br/>6 x SC duplex</b>   | <b>Splice box for<br/>12 x ST</b>   |
| <b>Designation</b>  | FOC-PP-SB-LC:6  | FOC-PP-SB-SC:6  | FOC-PP-SB-ST:6  |
| <b>Order No.</b>  | 1411901   | 1411902   | 1411903   |

## Fiber-optic tools for easy assembly in the field

The new tool sets ensure quick and easy assembly in the field. The GOF tool is suitable for assembling all LC and SC connectors for multimode and single mode. The PCF can be used to connect SC-RJ and SC duplex.



### Your advantages

- ✓ Quick and easy field assembly
- ✓ Suitable for all LC and SC connectors
- ✓ Easy assembly without bonding or time-consuming polishing

### Main features

- All tools in a single case
- Assembly using cleave technology
- Multimode and single-mode connectors for assembly
- Assembly video available

|  |   |   |
|--|---|---|
| <p>New product for 2014</p> <p> Web code: #0184</p> |  |  |
| <p><b>Description</b></p>  | <p><b>Tool set for GOF assembly</b></p>   | <p><b>Tool set for PCF assembly</b></p>   |
| <p><b>Designation</b></p>  | <p>FOC-TOOL-GOF KONF SET</p>  | <p>FOC-TOOL-PCF KONF SET</p>  |
| <p><b>Order No.</b></p>  | <p>1411049</p>  | <p>1411051</p>  |

## Fiber-optic connectors for easy assembly in the field

In conjunction with the new tool sets, new innovative connectors are also available. They feature high process reliability and are quick and easy to connect. Multimode and single-mode versions are available for quartz glass. These connectors can also be re-used.








### Your advantages

- ✓ Easy assembly without bonding or polishing
- ✓ GOF: optimum attenuation values thanks to pre-polished fiber end faces
- ✓ Cost savings: GOF connectors are re-usable
- ✓ QR code for downloading the assembly instructions

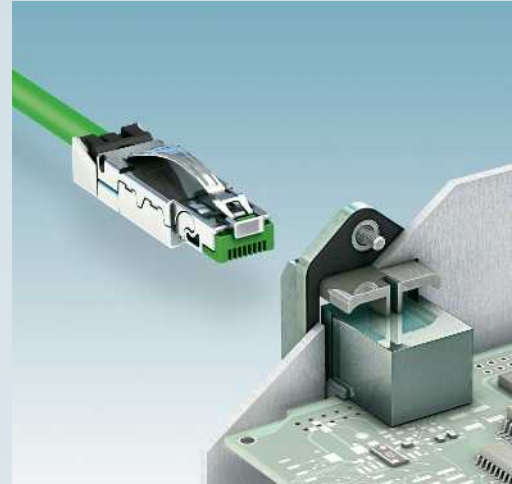
### Main features

- GOF: LC, SC and SC-RJ available
- PCF: SC duplex and SC-RJ available
- GOF: available for fiber types 50/125  $\mu\text{m}$  and 9/125  $\mu\text{m}$  (PC/APC)
- Cleave technology
- GOF: index matching gel with extended temperature range

|   |   |   |  |   |
|---|---|---|--|---|
| New product for 2014  |  |  |  |  |
|  Web code: #0185 |   |   |  |   |
| <b>Description</b>  | <b>LC duplex MM</b>   | <b>LC simplex MM</b>  | <b>LC duplex SM APC (8°)</b>   | <b>SC-RJ PCF</b>  |
| <b>Designation</b>  | FOC-C-LCDU-GOF-MM   | FOC-C-LC:P-GOF-MM   | FOC-C-LCDU-GOF-SM-APC  | FOC-C-SCRJ-PCF  |
| <b>Cable diameter</b>   | < 3.0 mm  | 0.6 ... 0.9 mm  | < 3.0 mm   | -   |
| <b>Cable type</b>   | Patch cord  | Pigtail   | Patch cord   | Patch cord  |
| <b>Order No.</b>  | 1411052   | 1411294   | 1412472  | 1411304   |

# Robust RJ45 connectors for fast data transmission in industrial environments

RJ45 INDUSTRIAL is the new, robust data connector for the industrial IP20 environment. The new, one-piece design enables easy and safe handling in the field. The robust zinc die-cast housing offers a high degree of protection against mechanical and electrical sources of interference.






## Your advantages

- ✓ Optimized for industrial use with a high degree of resistance to vibration
- ✓ High resistance to ESD and EMC for reliable transmission
- ✓ Easy handling thanks to the one-piece design
- ✓ Easy use without special tools
- ✓ Data transmission rate of up to 10 Gbps

### Main features

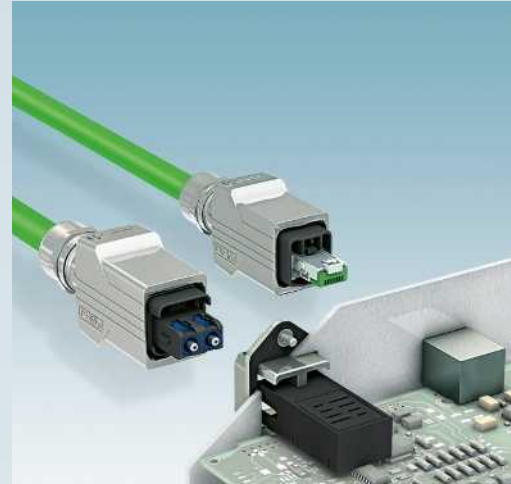
- Up to 10 Gbps
- AWG 22-26 solid and flexible
- Cable diameter: up to 9.5 mm
- Additional pressure spring
- IDC fast connection
- Straight and angled version
- Degree of protection: IP20

| <p>New product for 2014</p> <p><b>i</b> Web code: #0182</p> |  |  |  |
|---|---|---|---|
| Description   | RJ45 INDUSTRIAL<br>Straight   | RJ45 INDUSTRIAL<br>Cable outlet at the top  | RJ45 INDUSTRIAL<br>Cable outlet at the bottom   |
| Order No. AWG 23-22   | 1406334   | 1406337   | 1406340   |
| Order No. AWG 26-24   | 1406333   | 1406336   | 1406339   |



# RJ45 and fiber-optic connectors for safe data transmission

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








## Your advantages

- ✓ High resistance to ESD and EMC for reliable transmission
- ✓ Locking system to prevent inadvertent removal
- ✓ Protected data transmission thanks to 360° shielding concept

### Main features

- Up to 10 Gbps
- AWG 22-26 solid and flexible
- Cable diameter: up to 10 mm
- For copper and FO applications (RJ45 and SCRJ)
- Fiber types: POF, GOF, PCF
- Straight and 45° angled version
- Degree of protection: IP65/67

| New product for 2014  |   |  |   |   |                                    |
|---|---|--|---|---|------------------------------------|
|  Web code: #0183 |   |  |   |   |                                    |
|   |  |  |  |  |                                    |
| Description   | RJ45 push-pull ADVANCE connectors   | RJ45 push-pull ADVANCE connectors  | SC-RJ push-pull ADVANCE connectors  | SC-RJ push-pull ADVANCE connectors  | SC-RJ push-pull ADVANCE connectors |
| Version   | 4 to 8-pos. for AWG 23-22   | 4 to 8-pos. for AWG 26-24  | POF   | PCF   | GOF MM                             |
| Order No. Straight cable outlet   | 1407889   | 1407890  | 1407896   | 1407897   | 1407898                            |
| Order No. Cable outlet at the top   | 1408027   | 1468007  | 1408028   | 1408029   | 1408030                            |
| Order No. Cable outlet at the bottom  | 1407895   | 1408011  | 1407902   | 1407904   | 1407905                            |

# M12 connector with QUICKON conductor connection

Assembled M12 connectors with QUICKON fast connection technology and 360° shielding securely transmit Ethernet, PROFINET, PROFIBUS and standard signals. You can use simple standard tools to connect the cables quickly.








## Your advantages

- ✓ Time savings of up to 80% with QUICKON fast connection technology
- ✓ Suitable for railways with special plastic and shock and vibration-resistant cutting contacts
- ✓ Reliable positioning and contacting of the shield using limit stop in the splice body
- ✓ Protected thread even at high torque
- ✓ Flexible connector thanks to large conductor cross section

### Main features

- QUICKON fast connection technology (IDC)
- 360° shielded housing
- SPEEDCON fast locking system
- External cable diameter: 5 mm to 10 mm
- Degree of protection: IP65/IP67
- Temperature range: -40 °C... +85 °C

| New product for 2015  |  |                            |  |          |  |  |
|---|---|----------------------------|--|----------|---|---|
|  Web code: #0031 |   |                            |  |          |   |   |
| Description   | X-coded connector   |                            | D-coded connector  |          | B-coded connector   | A-coded connector   |
| Number of positions   | 8   |                            | 4  |          | 2   | 5   |
| Transmission speed  | 10 Gbps   |                            | 100 Mbps   |          | 12 Mbps   | -   |
| Conductor cross section (AWG/mm <sup>2</sup> )  | 26 ... 22/<br>0.14 ... 0.34   | 24 ... 20/<br>0.25 ... 0.5 | 26 ... 20/<br>0.14 ... 0.5   |          | 18/<br>0.75   | 26 ... 18/<br>0.14 ... 0.75   |
| Application   | Ethernet  | PROFINET                   | Ethernet   | PROFINET | PROFIBUS DP   | Standard signals  |
| Plug order no.  | 1411043   | 1411044                    | 1411066  | 1411068  | 1413931   | 1413991   |
| Socket order no.  | 1414586   | 1414587                    | 1411069  | 1411071  | 1413932   | 1413992   |

# Network cabling for the railway industry

The shielded gigabit Ethernet cables are ideal for the high requirements of the railway industry thanks to the specific selection of material. The X-coding allows you to transfer large amounts of data within rail vehicles, such as in the case of passenger information or entertainment systems.






## Your advantages

- ✓ High transmission quality thanks to consistent shielding concept
- ✓ Fulfill the highest fire requirements for rail vehicles
- ✓ Vibration and shock resistance
- ✓ Tested on extended temperature range
- ✓ Fast cabling through M12 SPEEDCON fast locking system

### Main features

- X-coding with pair shielding up to the plug area
- Transmission rate: up to 10 Gbps
- Grip: PA 6.6
- Sheath: cross-linked elastomer
- Oil and fuel-resistant
- Temperature range: -25 °C... +90 °C
- 8-pos. (4 pair)

|   |   |                                   |   |                              |                               |
|---|---|-----------------------------------|---|------------------------------|-------------------------------|
| New product for 2015  |   |                                   |   |                              |                               |
|  Web code: #0032 |   |                                   |   |                              |                               |
|   |  |                                   |  |                              |                               |
| <b>Description</b>  | <b>Assembled network cables</b>   |                                   | <b>Network cable with free cable end</b>  |                              |                               |
| <b>Cable length</b>   | 2 m   | 5 m                               | 2 m   | 5 m                          | 10 m                          |
| <b>Designation</b>  | NBC-MSX/ 2,0-94S/<br>MSX SCO RAIL   | NBC-MSX/ 5,0-94S/<br>MSX SCO RAIL | NBC-MSX/ 2,0-94S<br>SCO RAIL  | NBC-MSX/ 5,0-94S<br>SCO RAIL | NBC-MSX/<br>10,0-94S SCO RAIL |
| <b>Order No.</b>  | 1415595   | 1415598                           | 1415599   | 1415600                      | 1415601                       |

## Assembled cables in PVC design

The assembled sensor/actuator conductors with PVC cables are suited for many applications, particularly machine building. The conductors are available in sizes M8 and M12 and with valve connectors. Choose between connecting conductors or variants with free conductor ends.




### Your advantages

- ✓ Robust cable sheath and good isolation properties with PVC
- ✓ Very good strippability for easy installation on site
- ✓ Complete product range can be ordered from stock in quantities as low as 1
- ✓ PVC conductors available in various lengths (configurable material)

### Main features

- PVC conductors
- Current: up to 4 A
- Good resistance to chemicals
- Low susceptibility to wear
- Very good resistance to oils and lubricants
- Degree of protection: IP65/IP67
- Temperature range: -20°C... +85°C

| New product for 2015<br><br> Web code: #0033 |                                  |                         |                          |                              |                          |                           |
|---|----------------------------------|-------------------------|--------------------------|------------------------------|--------------------------|---------------------------|
| Description   | Sensor/actuator cables           |                         |                          |                              |                          | Valve connectors          |
| Type  | Assembled                        | Free cable end          | Free cable end           | Free cable end               | Free cable end           | Free cable end            |
| Number of positions   | 3                                | 4                       | 4                        | 4                            | 8                        | 3                         |
| Designation   | SAC-3P-M<br>8MS/1,5-PVC/M<br>8FR | SAC-4P-M<br>8MS/1,5-PVC | SAC-4P-M12MS/<br>1,5-PVC | SAC-4P- 1,5-<br>PVC/M12FS-2L | SAC-8P-M12MR/<br>1,5-PVC | SAC-3P-<br>1,5-PVC/A-1L-Z |
| Order No.   | 1415889                          | 1415542                 | 1415585                  | 1415596                      | 1415720                  | 1438684                   |

# M8 and M12 device connectors for the SMD soldering process

The product range for two-piece M8 and M12 SMD device connectors supplements the existing THR range in terms of reflow-capable PCB connectors. The SMD connectors are designed for PCBs that can be equipped on both sides and do not have bore holes for the connection pins.



## Your advantages

- ✓ New two-piece product range in M8 and M12 for the SMD reflow process
- ✓ Additional optional gasket for the device when not plugged in (IP67)
- ✓ Tray or tape-on-reel packing for automated assembly

### Main features

- Currents: up to 12 A
- Voltages: up to 250 V
- M8 in 3, 4, 5, 6, and 8-pos.
- M12 in 3 to 17-pos.
- Coding and pin assignments for signals, data, and power
- Optional housing connection on the PCB using a shield spring

|   |  |   |         |   |         |  |         |   |         |
|---|--|---|---------|---|---------|--|---------|---|---------|
| New product for 2014  |  |   |         |   |         |  |         |   |         |
|  Web code: #0188 |  |   |         |   |         |  |         |   |         |
|   |  |  |         |  |         |  |         |  |         |
| <b>Description</b>  |  | <b>M8 two-piece contact carrier</b>   |         | <b>M8 two-piece contact carrier</b>   |         | <b>M12 two-piece contact carrier</b>   |         | <b>M12 two-piece contact carrier</b>  |         |
| <b>Number of positions/coding</b>   |  | 3/A   |         | 4/A   |         | 5/A  |         | 8/A   |         |
| <b>Type of contact</b>  |  | Pin   | Socket  | Pin   | Socket  | Pin  | Socket  | Pin   | Socket  |
| <b>Order No.</b>  |  | 1412225   | 1412220 | 1412264   | 1412236 | 1411926  | 1411913 | 1411959   | 1411953 |

# M12 device connectors with stranded wires for power electronics up to 16 A

The M12 POWER series has been extended to include connectors with 2+PE contacts. Due to the increased current carrying capacity of 16 A and connection cross section of 1.5 mm<sup>2</sup>, the connectors are suitable for use as low-voltage connectors.






## Your advantages

- ✓ Compact power supply voltage connector
- ✓ For industrial infrastructure applications
- ✓ Protection against mismatching, thanks to S-coding
- ✓ Pre-assembled with 0.5 m long litz wires

### Main features

- Currents: up to 16 A
- Voltages up to 250 and 630 V
- Front and rear mounting
- M16 x 1.5 fastening thread
- Conductor cross section: 1.5 mm<sup>2</sup>
- 2+PE contacts

|   |   |   |  |   |
|---|---|---|--|---|
| New product for 2014  |   |   |  |   |
|  Web code: #0189 |   |   |  |   |
|   |  |  |  |  |
| <b>Description</b>  | <b>Front mounting, pin</b>  | <b>Front mounting, socket</b>   | <b>Rear mounting, pin</b>  | <b>Rear mounting, socket</b>  |
| <b>Order No.</b>  | 1411655   | 1411654   | 1411653  | 1411652   |
| <b>Accessories:<br/>M16 x 1.5 flat nut</b>  | 1504097   | 1504097   | -  | -   |

# M12 device connectors with easy-to-install XL housing

The standard M12 device connector type has been extended to include a new, larger screw-in housing. Mounting is made easier thanks to wider wrench flats and the simplified mounting contour in the device front plate.



## Your advantages

- ✓ Easy-to-install, optimized housing contour with wrench size 19
- ✓ Tightening limitation for the O-ring gasket
- ✓ High level of security and tightness when mounting
- ✓ Pre-assembled with 0.5 m long litz wires for immediate use

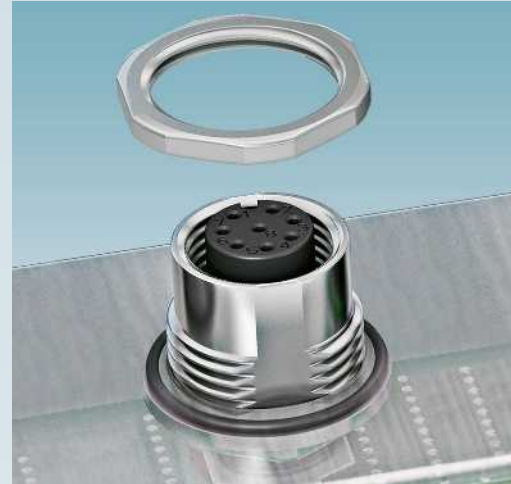
### Main features

- 3 to 17-pos.
- Pin and socket versions
- Coding and pin assignments for signals, data and power
- Rear and front mounting

| New product for 2014  |   |         |   |         |  |         |   |         |
|---|---|---------|---|---------|--|---------|---|---------|
|  Web code: #0190 |   |         |   |         |  |         |   |         |
|   |  |         |  |         |  |         |  |         |
| Description   | Front mounting  |         | Front mounting  |         | Rear mounting  |         | Rear mounting   |         |
| Number of positions   | 17  |         | 5   |         | 4  |         | 3+PE  |         |
| Coding  | A-coded for signals   |         | B-coded for signals   |         | D-coded for data   |         | S-coded for power   |         |
| Type of contact   | Pin   | Socket  | Pin   | Socket  | Pin  | Socket  | Pin   | Socket  |
| Order No.   | 1411583   | 1411576 | 1411580   | 1411572 | 1411592  | 1411585 | 1411603   | 1411598 |
| Accessories:<br>M16 x 1.5 flat nut  | 1504097   |         | 1504097   |         | -  |         | -   |         |

# M8/M12 housing screw connection for THR and SMD contact carrier

The new M8/M12 housing screw connection system makes it possible to combine two-piece M8 and M12 connectors for reflow processes. Rear mounting ensures a defined positioning of the printed-circuit board to the device housing.



## Your advantages

- ✓ For connectors capable of two-part reflow and wave soldering processes
- ✓ Defined tightening limitation of the seal contour
- ✓ M12 locking in SPEEDCON and standard locking
- ✓ M8 locking in screw and snap version
- ✓ Enables mounting processes with tolerance compensation

## Main features

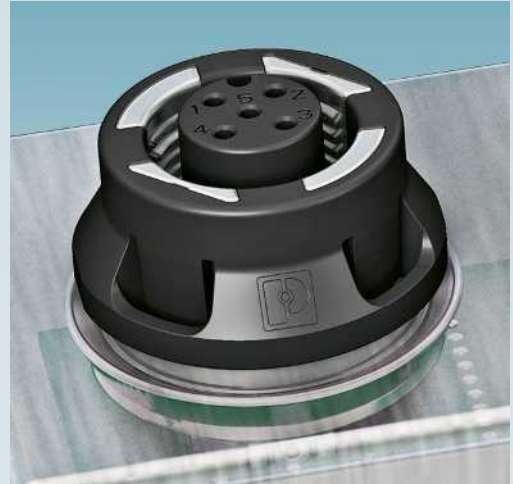
- For combining two-piece M8 SMD and M12 THR/SMD connectors
- 6 mm front plate distance for the printed-circuit board
- Easy assembly through hexagon outline on the housing
- Standard or fast locking

|   |   |         |   |         |  |         |   |         |
|---|---|---------|---|---------|--|---------|---|---------|
| New product for 2015<br><br> Web code: #0191 |                    |         |  |         |  |         |  |         |
| <b>Description</b>  | <b>Housing screw connection, rear mounting, for two-piece THR and wave soldering contact carriers</b> |         |   |         | <b>Housing screw connection, rear mounting, for two-piece SMD contact carriers</b>   |         |   |         |
| <b>Locking type</b>   | Standard  |         | SPEEDCON  |         | Standard   |         | SPEEDCON  |         |
| <b>Type of contact</b>  | Pin   | Socket  | Pin   | Socket  | Pin  | Socket  | Pin   | Socket  |
| <b>Order No. M12</b>  | 1413997   | 1414004 | 1413999   | 1414020 | 1414000  | 1414021 | 1414002   | 1414023 |
| <b>Order No. M8</b>   | -   | -       | -   | -       | 1412505  | 1412506 | -   | -       |



## Tolerance balancing M12 housing screw connection for THR contact carriers

The new M12 housing screw connection compensates for process-related production tolerances for two-piece device ports. Compensation is provided by means of a unique, floating snap-on mounting in the housing mechanics.



### Your advantages

- ✓ Tolerance-compensating M12 technology
- ✓ Prevents force being applied to soldering spots
- ✓ Easy integration, thanks to tool-free mounting
- ✓ Safe mounting, thanks to tightening limitation

### Main features

- Easy mounting by snapping on
- For M12 THR socket contact carrier
- Tolerance-compensating function between PCB and housing
- Prevents force being applied to the soldering spots
- Port sealing without protective cap
- For two-piece, reflow and wave-solderable connectors

New product for 2015

**i** Web code: #0192



| Description     | M12 THR screw connection | M12 THR screw connection | M12 THR screw connection | M12 THR screw connection |
|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Panel thickness | 1.0 ... 1.8 mm           | 1.7 ... 2.5 mm           | 2.4 ... 3.2 mm           | 3.1 ... 3.9 mm           |
| Contact carrier | Socket                   | Socket                   | Socket                   | Socket                   |
| Order No.       | 1414231                  | 1414232                  | 1414233                  | 1414234                  |

# M23 hybrid connectors for signal, data and power transmission

The new M23 HYBRID circular connector allows you to transmit signals, data and power safely using just one connector – in a compact and robust M23 design.








## Your advantages

- ✓ Signals, data, and power in just one circular connector
- ✓ Compact M23 circular connector for high power
- ✓ 0.8 mm contacts for secure data transmission according to CAT5

### Main features

- Currents: up to 30 A
- Voltages: up to 850 V DC and 630 V AC
- Degree of protection: IP65/67
- Temperature range: -40 °C... +125 °C
- Contacts:
  - 4 x signal
  - 4 x data (can be swapped with 4 x signal)
  - 4 x power + PE

| New product for 2014  |   |          |   |         |  |         |   |         |         |
|---|---|----------|---|---------|--|---------|---|---------|---------|
|  Web code: #0193 |   |          |   |         |  |         |   |         |         |
|   |  |          |  |         |  |         |  |         |         |
| Description   | M23 cable plug  |          | M23 coupling plug   |         | M23 device connector, angled, rotatable  |         | M23 device connector, straight  |         |         |
| Locking type  | SPEEDCON  | SPEEDCON | Default   | Default | Default  | Default | Default   | Default | Default |
| Connection method   | Crimp   | Crimp    | Crimp   | Crimp   | Crimp  | Crimp   | Crimp   | Crimp   | Crimp   |
| Type of contact   | Socket  | Pin      | Socket  | Pin     | Socket   | Pin     | Socket  | Pin     |         |
| Order No.   | 1621517   | 1621529  | 1621539   | 1621549 | 1621563  | 1621565 | 1621567   | 1621569 |         |

## Plastic molded M23 hybrid connectors for signal, data and power transmission

The molded version of the M23 HYBRID circular connector is ready for use immediately due to its prefabrication. In the angled version, it also offers a cable outlet direction that can be adjusted more than 240°.



### Your advantages

- ✓ Transmission of signals, data, and power in only a single connector
- ✓ Compact M23 circular connector for high power
- ✓ Angled cable connectors can be configured more than 240°
- ✓ Customer-specific assemblies and cable lengths can be supplied

### Main features

- Currents: up to 26 A
- Voltages: up to 630 V DC and 850 V AC
- Degree of protection: IP65/67
- Temperature range:
  - 40 °C ... +80 °C (fixed routing),
  - 30 °C ... +60 °C (moving routing)
- Contacts:
  - 4x signal
  - 4x data (can be swapped with 4x signal)
  - 4x power + PE

New product for 2014

**i** Web code: #0194



| Description      | M23 hybrid connector, straight | M23 hybrid connector, straight | M23 hybrid connector, angled | M23 hybrid connector, angled |
|------------------|--------------------------------|--------------------------------|------------------------------|------------------------------|
| Locking type     | SPEEDCON                       | SPEEDCON                       | SPEEDCON                     | SPEEDCON                     |
| First cable end  | Socket                         | Socket                         | Socket                       | Pin                          |
| Second cable end | Open                           | Pin                            | Pin                          | Open                         |
| Order No. 2 m    | 1622224                        | 1622244                        | 1622250                      | 1622233                      |
| Order No. 5 m    | 1622225                        | 1622245                        | 1622251                      | 1622234                      |
| Order No. 10 m   | 1622226                        | 1622246                        | 1622252                      | 1622243                      |

# Installation system with QUICKON conductor connection

QPD is an installation range with QUICKON fast connection technology suitable for industrial use. It provides you with all the essential components for power distribution in machines, systems and buildings spread out over a wide area. The new compact product group for litz wire cross sections of 0.5 mm<sup>2</sup> to 1.5 mm<sup>2</sup> is particularly well suited for applications with limited installation space.



## Your advantages

- ✓ Time savings of up to 80% with QUICKON fast connection technology
- ✓ Quick and easy assembly without special tools
- ✓ Flexible power distribution design, thanks to fixed and plug-in QPD versions
- ✓ High level of reliability thanks to robust housing with IP69K protection and up to IK07 impact strength
- ✓ Protected electronics as the housing does not have to be opened when connecting the supply line

### Main features

- QUICKON fast connection technology (IDC)
- Voltage: 690 V
- Current: 17.5 A
- Cross section: 0.5 to 1.5 mm<sup>2</sup>
- Degree of protection: IP68/IP69K with IK07
- Temperature range: -40 °C... +80 °C

New product for 2015

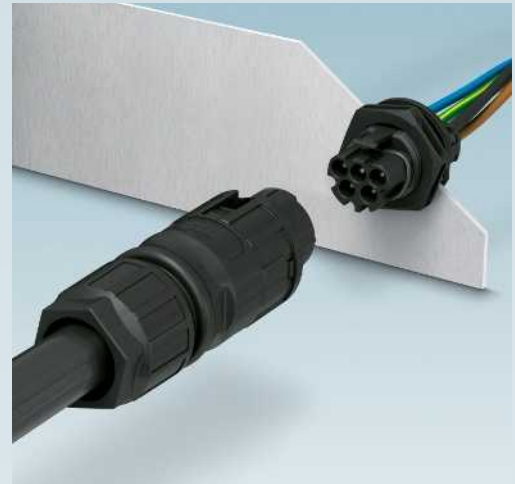
**i** Web code: #0030



| Description | Panel feed-through          | Connectors          | Cable connector       | T-distributors         | H-distributors         |
|-------------|-----------------------------|---------------------|-----------------------|------------------------|------------------------|
| Connections | 1                           | 1                   | 2                     | 3                      | 4                      |
| Designation | QPD W 2PE1,5 4-9 M20 0,5 BK | QPD P 3PE1,5 4-9 BK | QPD C 3PE1,5 2X4-9 BK | QPD T 4PE1,5 3X5-10 BK | QPD H 4PE1,5 4X9-14 BK |
| Order No.   | 1414684                     | 1414703             | 1414696               | 1414753                | 1414756                |

# IP-protected circular connectors for power electronics

The new 3 and 5-pos. power connectors in the PRC series enable you to reliably and conveniently connect AC cables to your inverters. The device connectors with crimp connection are supplied pre-assembled with punched-on stranded wires or alternatively they can be self-assembled.











## 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
- ✓ Optional sealing

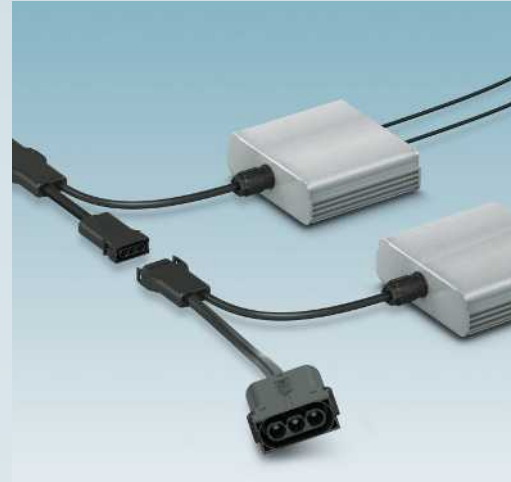
### Main features

- Currents: up to 35 A (3-pos.) and up to 30 A (5-pos.)
- Voltages: up to 600 V
- Conductor cross sections: 1.5 to 6 mm<sup>2</sup>
- Cable diameter: 8 to 21 mm
- Degree of protection: IP65/68
- M25 panel cutout
- UV resistant

| New product for 2014  |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
|  Web code: #0200 |   |   |   |   |   |   |   |
|   |  |  |  |  |  |  |  |
| Description   | Connectors with screw connection  |   | Device connector with 150 mm cable  |   | Device connector without contacts   |   | Crimp contacts  |
| <b>Number of positions</b>  | 3-pos.  | 5-pos.  | 3-pos.  | 5-pos.  | 3-pos.  | 5-pos.  | -   |
| <b>Order No.</b>  | 1410661   | 1410656   | -   | -   | -   | -   | -   |
| <b>Order No., 2.5 to 6 mm<sup>2</sup></b>   | -   | -   | -   | -   | 1409218   | 1409206   | -   |
| <b>Order No., 2.5 mm<sup>2</sup></b>  | -   | -   | 1409219   | 1409211   | -   | -   | 1409207   |
| <b>Order No., 4 mm<sup>2</sup></b>  | -   | -   | 1409220   | 1409212   | -   | -   | 1409208   |
| <b>Order No., 6 mm<sup>2</sup></b>  | -   | -   | 1409221   | 1409213   | -   | -   | 1409209   |

# Compact AC connection system for PV micro inverters

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







## Your advantages

- ✓ Compact design – the 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
- ✓ Versions with North American and European certification allow the system to be used worldwide

### Main features

- Currents: up to 20 A
- Voltages: up to 600 V
- Conductor cross sections:
  - Drop line: 14 AWG/0.75 mm<sup>2</sup>
  - Trunk line: 12 AWG/2.5 mm<sup>2</sup>
- Degree of protection: IP67
- Temperature range: -40 °C... +90 °C

| New product for 2014<br> Web code: #0201 |      |  |  |
|---|---|--|---|
| Description   | AC Y-connector for PV micro inverters   | Mains connector for AC Y-connectors  | Unlocking tool for AC Y-connectors  |
| Type  | Versions for the North American market:<br>Drop: 14 AWG, 0.5 m<br>Trunk: 12 AWG, 1.15 m | Power grid connector for the North American market:<br>12 AWG, 1 m                   | -   |
| Protective cap  | Transport protective cap biodegradable  | Transport protective cap biodegradable   | -   |
| Order No.   | 1706518   | Coupling: 1706609<br>Connector: 1706517  | 1706514   |

# Robust DC fuse adapter for photovoltaics

The SUNCLIX DC fuse adapter is an easy-to-install protective element for your valuable photovoltaic system. Age-related, early fuse failure does not occur thanks to the optimized thermal behavior.



## Your advantages

- ✓ Robust, easy-to-install fuse element for outdoor use
- ✓ Long-term stability thanks to optimized thermal behavior
- ✓ High-quality Littelfuse fuse-link
- ✓ All relevant international approvals including the most recent TÜV test specification

### Main features

- 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 (24h / 2m)
- SUNCLIX pin connector pattern
- Approval in accordance with 2PFG 2380-2014-02 (TÜV) / UL 4248 (in preparation)

|   |   |   |
|---|---|---|
| New product for 2015<br> Web code: #0202 |  |  |
| <b>Description</b>  | <b>PV fuse plug adapter</b>   | <b>PV fuse plug adapter</b>   |
| <b>Designation</b>  | PV-C-M/F-PRO/F-1000-20/25/30  | PV-C-M/F-PRO/F-1500-20/25/30  |
| <b>I<sub>N</sub> (Si insert)</b>  | 20 / 25 / 30 A  | 20 / 25 / 30 A  |
| <b>I<sub>R</sub></b>  | 20 kA   | 15 kA   |
| <b>Max. system voltage</b>  | 1000 V (EN), 600 V (UL)   | 1500 V (EN), 1000 V (UL)  |
| <b>Order No.</b>  | 1622157 / 1622158 / 1622159   | 1622150 / 1622151 / 1622152   |

# Heavy-duty connectors for extremely demanding requirements

HEAVYCON ADVANCE heavy-duty connectors are uncompromisingly robust and sealed to degree of protection IP69K. They are manufactured from particularly corrosion-resistant die-cast aluminum. By using conductive seals, the housings are also well suited for EMC applications.



## Your advantages

- ✓ Ideal for challenging environmental requirements in aggressive environments
- ✓ Save costs by direct mounting without panel mounting base
- ✓ EMC-ready by means of conductive surface and seals
- ✓ Compatible with standard panel cutouts

## Main features

- Size: B6 ... B24
- Corrosion-resistant die-cast aluminum
- Conductive surfaces
- Seals: NBR, conductive
- Degree of protection: IP65/IP68/IP69K / NEMA 6P
- Temperature range: -40 °C... +125 °C
- Stainless steel screw locking

New product for 2015

**i** Web code: #0028



| Description | Sleeve housing High           | Sleeve housing Low            | Panel mounting flange set | Box mounting housing       |
|-------------|-------------------------------|-------------------------------|---------------------------|----------------------------|
| Size        | B16                           | B16                           | -                         | B16                        |
| Thread      | M25                           | M25                           | -                         | M25                        |
| Designation | HC-ADV-B16-HHWH-1TTM25-EMC-AL | HC-ADV-B16-HLWH-1TTM25-EMC-AL | HC-B-AF-SET               | HC-ADV-B16-SHFH-2STM25-EEE |
| Order No.   | 1414977                       | 1414975                       | 1604638                   | 1408834                    |



# Heavy-duty connectors with two flexible cable outlets

HEAVYCON EVO heavy-duty connectors are very flexible in handling. You can use the bayonet locking to set the cable outlet direction on-site. The new TWIN housings have two flexible cable outlets on one plastic housing, offering space for a wide variety of cables.




## Your advantages

- ✓ Flexible due to on-site selection of cable outlet direction and two cable outputs on only one housing
- ✓ Lower inventory costs with reduced part count
- ✓ Safe and reliable: the plastic housing meets IP66 protection and is shock-proof up to IK09
- ✓ Can be combined with all standardized aluminum housings on the market because it is compatible with the industry standard
- ✓ Safety via leading PE contact

## Main features

- Size: B10 ... B24
- Polyamide
- Seals: NBR
- Degree of protection: IP66/NEMA 4X
- Temperature range: -40 °C... +125 °C
- Interlock with double locking latch

| New product for 2015  |   |   |   |   |
|---|---|---|---|---|
|  Web code: #0029 |   |   |   |   |
|   |  |  |  |  |
| Description   | Sleeve housing  | Thread adapter  | Corrugated pipe adapter   | Adapter with clamping jaws  |
| Size  | B16   | -   | -   | -   |
| Thread  | -   | M25   | M25   | M25   |
| Designation   | HC-EVO-B16-HHFD-2B-PL-BK  | HC-B-TA-M25-PLR-BK  | HC-B-GCA-M25-PLRBK  | HC-B-GTRS-M25-PLR-BK  |
| Order No.   | 1411496   | 1414244   | 1411973   | 1414652   |

# Heavy-duty connectors for versatile applications

High degree of protection, quick assembly and a particularly robust design – these are the key features of the HEAVYCON series heavy-duty connector. The new STANDARD metal housings are made of particularly corrosion-resistant and conductive aluminum and are also suited for EMC applications thanks to conductive seals.



## Your advantages

- ✓ Maximum corrosion resistance due to die-cast aluminum
- ✓ Save space and time with flexible single and double locking latches
- ✓ EMC-ready by means of conductive surface and seals
- ✓ Completely compatible with the industry standard through standard-compliant sizes
- ✓ Quick and easy installation and maintenance

## Main features

- Size: B6 ... B24
- Corrosion-resistant die-cast aluminum
- Conductive surfaces
- Seals: NBR, conductive
- Degree of protection: IP66/NEMA 4X
- Temperature range: -40 °C... +125 °C
- Locking with double and single locking latches

New product for 2015

**i** Web code: #0027



| Description | Sleeve housing               | Panel mounting base   | Coupling housing              | Box mounting base             | Cable gland           | Connector set                  |
|-------------|------------------------------|-----------------------|-------------------------------|-------------------------------|-----------------------|--------------------------------|
| Size        | B16                          | B16                   | B16                           | B16                           | -                     | B16                            |
| Thread      | M25                          | -                     | M25                           | M25                           | M25                   | M25                            |
| Designation | HC-STA-B16-HLFD-1TTM25-EL-AL | HC-STA-B16-BWD-ELC-AL | HC-STA-B16-CHWD-1TTM25-ELC-AL | HC-STA-B16-SLWD-2SSM25-ELC-AL | G-INS-M25-M68N-NNES-S | HC-STA-B16PT-BWSC-LT-M25-ELCAL |
| Order No.   | 1412721                      | 1411327               | 1412641                       | 1412855                       | 1411165               | 1416348                        |

# Universal housing system with integrated connection technology

The EH housing system makes it possible to design universal device applications with incredible ease. A range of 7 overall widths, 2 overall heights and 3 cover versions provide over 100 possible combinations. A wide variety of different PCB connection technology can be integrated conveniently here.






## Your advantages

- ✓ Easy design-in through variable housing shape factors
- ✓ Full flexibility through PCB installation in all directions in space
- ✓ Integration of a wide variety of PCB connection technology for a functional device design
- ✓ Efficient pricing through targeted material selection

### Main features

- 2 overall heights
- 7 overall widths
- 3 cover versions
- Integrated label field
- DIN rail or wall mounting
- Tool-free locking mechanism
- Material version: ABS
- Flammability rating: HB

|   |   |   |  |   |
|---|---|---|--|---|
| New product for 2015  |   |   |  |   |
|  Web code: #0196 |   |   |  |   |
|   |  |  |  |  |
| <b>Description</b>  | <b>Lower housing part for tall design</b>   | <b>Housing cover for tall design</b>  | <b>Lower housing part for flat design</b>  | <b>Housing cover for flat design</b>  |
| <b>Designation</b>  | EH 22,5-B/ABS   | EH 22,5-C DS/ABS  | EH 52,5 F-B/ABS  | EH 52,5 F-C CS/ABS  |
| <b>Color Order No.</b>  | Light gray<br>2201248   | Light gray<br>2201251   | Light gray<br>2201816  | Light gray<br>2201835   |
| <b>Color Order No.</b>  | Black<br>2201249  | Black<br>2201254  | Black<br>2201817   | Black<br>2201834  |

# Compact housing system with front connection

One housing, various connection options – this is the principle behind the new ME-IO housing system. With an overall width of just 18.8 mm, you can implement up to 36 connection terminals per module thanks to the push-in connection.








## Your advantages

- ✓ Tool-free push-in wiring on the front
- ✓ Up to 36 positions with a module width of just 18.8 mm
- ✓ Safe connector locking and unlocking, thanks to the Lock and Release system
- ✓ Connector version with TWIN connection
- ✓ Error-free connection of connectors and headers, thanks to coding

### Main features

- Front push-in connection technology
- Module width: 18.8 mm
- Depth: 113 mm
- Height: 77 mm
- Housing color: light gray (RAL 7035)

| New product for 2014  |   |   |   |   |
|---|---|---|---|---|
|  Web code: #0195 |   |   |   |   |
|   |  |  |  |  |
| Description   | Lower housing part  | Housing cover   | Push-in connector   | Header for connector  |
| <b>Order No.</b>  | 3U*: 2201963  | 2U: 2201799   | 4-pos.: 2201780   | 3U for 3 x 4-pos. connector: 2201788  |
| <b>Order No.</b>  | 5U: 2201962   | 3U: 2201800<br>3U S1: 2201801   | 2-pos.: 2201782   | 2U for 2 x 4-pos. connector: 2201789  |
| <b>Order No.</b>  | 7U: 2201961   | 4U: 2201802   | 2 x TWIN connection:<br>2201781   | 2U for 4 x TWIN connection: 2201790   |
| <b>Order No.</b>  | 9U: 2201960   | 5U: 2201803   | -   | 2U for 4-pos. and 2-pos. connectors:<br>2201792                                       |
| <b>Order No.</b>  | -   | 6U: 2201804<br>7U: 2201805  | -   | -   |

\* 3U corresponds to three rack units

# Light conductor for electronics housings

The HS LC light conductors for EH, ME, ME-MAX, ME-PLC, ME-IO and BC electronics housing are available in a variety of versions.






## Your advantages

- ✓ Light conductors are perfectly matched to electronics housings
- ✓ Easy assembly on printed-circuit board using press pins
- ✓ Resistance to ESD
- ✓ Housing processing available based on customer request

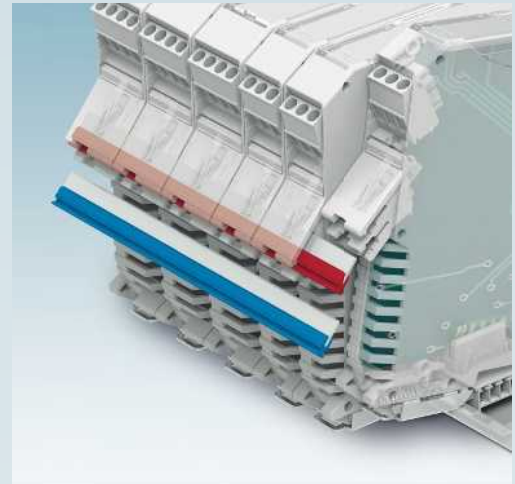
### Main features

- Horizontal and vertical versions
- 1 to 40x displays
- Cross sections of the round displays: 2 or 3 mm
- Dimension of the rectangular display: 5 x 2 mm
- Compatible with EH, ME, ME-MAX, ME-PLC, ME-IO and BC

| New product for 2015  |   |   |   |  |   |   |
|---|---|---|---|--|---|---|
|  Web code: #0199 |   |   |   |  |   |   |
|   |  |  |  |  |  |  |
| Description   | Light conductor for housing   | Light conductor for housing   | Light conductor for housing   | Light conductor for housing  | Light conductor for housing   | Light conductor for housing   |
| <b>Alignment</b>  | Vertical  | Horizontal  | Horizontal  | Horizontal   | Horizontal  | Horizontal  |
| <b>Version Order No.</b>  | 2 displays<br>2202311   | 1 display<br>2202313  | 1 display<br>2202314  | 1 display<br>2202315   | 2 x 1 display<br>2202316  | 4 x 2 displays<br>2202320   |
| <b>Version Order No.</b>  | 3 displays<br>2202312   | -   | -   | -  | 2 x 2 displays<br>2202317   | 4 x 5 displays<br>2202321   |
| <b>Version Order No.</b>  | -   | -   | -   | -  | 2 x 5 displays<br>2202318   | 4 x 9 displays<br>2202322   |
| <b>Version Order No.</b>  | -   | -   | -   | -  | 2 x 10 displays<br>2202319  | 4 x 10 displays<br>2202323  |

# Power connector for the ME-MAX housing system

With the new PCO power connector for ME-MAX housing, you can transmit up to 42 A quickly and easily between the individual ME-MAX housing modules.




## Your advantages

- ✓ Distribution of high currents between modules
- ✓ Mounting and removal of modules in a group
- ✓ Simplified device system wiring saves money

### Main features

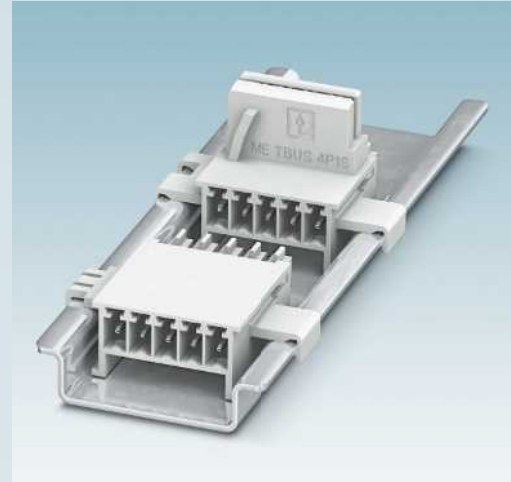
- Currents: up to 42 A
- Currents: up to 8 A per module
- Voltages: up to 60 V DC
- 2-pos.

| New product for 2014  |   |                 |  |   |   |
|---|---|-----------------|--|---|---|
|  Web code: #0197 |   |                 |  |   |   |
|   |  |                 |  |  |  |
| Description   | Power connector   | Power connector | Jumper,<br>light gray  | Jumper,<br>red  | Jumper,<br>blue   |
| <b>Designation</b>  | PCO 17,5-L KMGY   | PCO 22,5-L KMGY | PBR 42A KMGY   | PBR 42A RD  | PBR 42A BU  |
| <b>Overall width</b>  | 17.5 mm   | 22 mm           | -  | -   | -   |
| <b>Number of positions</b>  | 2   | 2               | -  | -   | -   |
| <b>Order No.</b>  | 2201684   | 2201685         | 2201917  | 2201915   | 2201916   |

# DIN rail connectors for ME and ME-MAX housing systems

The new ME-TBUS 4P1S bus connector enables the transmission of serial and parallel signals between modules in the ME and ME-MAX housing.

With the corresponding ME-TBUS ADAPTER, the PCB surface can be utilized even more efficiently from an overall width of 35 mm.








## Your advantages

- ✓ Serial and parallel data transmission in the DIN rail
- ✓ Optimum utilization of the PCB surface, thanks to the use of the ME-TBUS ADAPTER
- ✓ Simplified wiring and efficient design of the device system

### Main features

- Bus connector
  - 8 A per position
  - 50 V
  - 1 position (serial), 4 positions (parallel)
- Bus adapter
  - 8 A per position
  - 125 V
  - 5 positions

|   |   |   |  |   |
|---|---|---|--|---|
| New product for 2014  |   |   |  |   |
|  Web code: #0198 |   |   |  |   |
|   |  |  |  |  |
| <b>Description</b>  | <b>Bus connector</b>  | <b>Bus connector</b>  | <b>Bus adapter</b>   | <b>Bus adapter</b>  |
| <b>Designation</b>  | ME 17,5 TBUS 1,5/4P1S KMGY  | ME 22,5 TBUS 1,5/4P1S KMGY  | ME 17,5 TBUS ADAPTER KMGY  | ME 22,5 TBUS ADAPTER KMGY   |
| <b>Overall width</b>  | 17.5 mm   | 22 mm   | 17.5 mm  | 22 mm   |
| <b>Number of positions</b>  | 4 x parallel, 1 x serial  | 4 x parallel, 1 x serial  | 5  | 5   |
| <b>Order No.</b>  | 2201731   | 2201732   | 2201757  | 2201756   |

# AC and DC charging connectors according to type 1 for electric vehicles and charging stations

Charge electric vehicles quickly, safely, and conveniently with the ergonomically designed AC and DC charging connectors which conform to the type 1 standard. Use the 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 connector
- ✓ Intelligent monitoring of the charging process via communication and control contacts

### Main features

- SAE J1772 and IEC 62196
- AC charging:
  - Currents up to 32 A
  - Voltages up to 250 V
- DC charging:
  - Currents up to 200 A
  - Voltages up to 600 V

| New product for 2014  |   |  |   |   |
|---|---|--|---|---|
|  Web code: #0203 |   |  |   |   |
|   |  |  |  |  |
| Description   | DC connector type 1   | AC connector type 1  | AC connector type 1   | AC connector type 1 and plug type 2   |
| Rated current   | 60 A, 125 A, 200 A  | 16 A, 30 A   | 20 A, 32 A  | 20 A, 32 A  |
| Rated voltage   | 600 V   | 250 V  | 250 V   | 250 V   |
| Cable length  | 5 m   | 4 m  | 4 m   | 4 m   |
| Cable color (standard)  | Black   | Black  | Black   | Black   |
| Cable type  | AWG   | AWG  | Metric<br>(spiraled on request)   | Metric<br>(spiraled on request)   |



# Charging interface according to type 1 for electric vehicles

In order to integrate a charging interface into electric vehicles, Phoenix Contact now also offers innovative components for type 1. As such, the universal pin connector pattern on the vehicle-side combined AC/DC vehicle inlet supports both AC and DC charging.



## Your advantages

- ✓ Only one vehicle inlet for charging with direct current and alternating current
- ✓ Safe charging process, thanks to special interlocking systems
- ✓ Low insertion and withdrawal forces
- ✓ Integrated signal contacts for the intelligent charging controller

### Main features

- SAE J1772 and IEC 62196-3
- AC charging:
  - Currents up to 32 A
  - Voltages up to 250 V
- DC charging:
  - Currents up to 200 A
  - Voltages up to 600 V

|  |   |
|--|---|
| New product for 2014   |  |
| <b>Description</b>   | <b>Combined AC/DC Vehicle Inlet Type 1*</b>   |
| <b>Rated current</b>   | Up to 200 A (DC)<br>Up to 32 A (AC)   |
| <b>Rated voltage</b>   | 600 V (DC)<br>250 (AC)  |
| <b>Cable type</b>  | Metric  |
| <b>* For further information, please contact Phoenix Contact E-Mobility GmbH at phoenixcontact-emobility.com</b> |   |

# Professional service

In addition to this year's new products, we also provide high flexibility in customer-specific adaptations. From color versions and printing to special packaging, we can provide you with almost anything – even brand new product developments.

## **Flexibility in different versions**

Whether individual colors, modern special printing, a specific number of contacts or complete cable assembly - our service centers will be happy to support you in quickly implementing your requirements.

## **Innovation expertise**

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

## **Professional service and support**

During the design-in process, we offer advice and support from the initial inquiry to the finished product, wherever you are in the world.



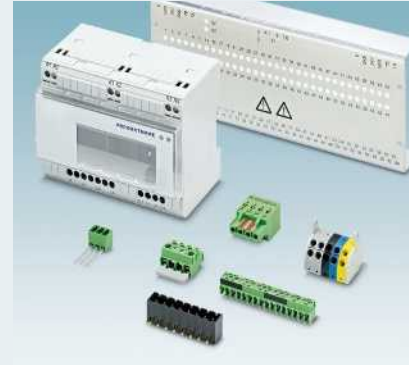
Wide range of color versions



Customer-specific cable assembly



Individual printing



Special punching, coding, and pin lengths



Connection block for temperature sensors



Hybrid connector for charging stations



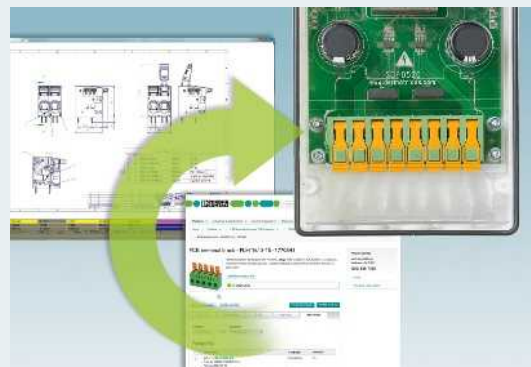
Connection system for LED street lighting



Controller housing with front connection technology



Fast product selection using web tools



Convenient 3D data download



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## Product range

- Cables and wires
- Connectors
- Controllers
- Electronics housings
- Electronic switchgear and motor control
- Fieldbus components and systems
- Functional safety
- HMIs and industrial PCs
- I/O systems
- Industrial communication technology
- Industrial Ethernet
- Installation and mounting material
- Lighting and signaling
- Marking and labeling
- Measurement and control technology
- Modular terminal blocks
- Monitoring
- PCB terminal blocks and PCB connectors
- Power supply units and UPS
- Protective devices
- Relay modules
- Sensor/actuator cabling
- Software
- Surge protection and interference filters
- System cabling for controllers
- Tools
- Wireless data communication

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