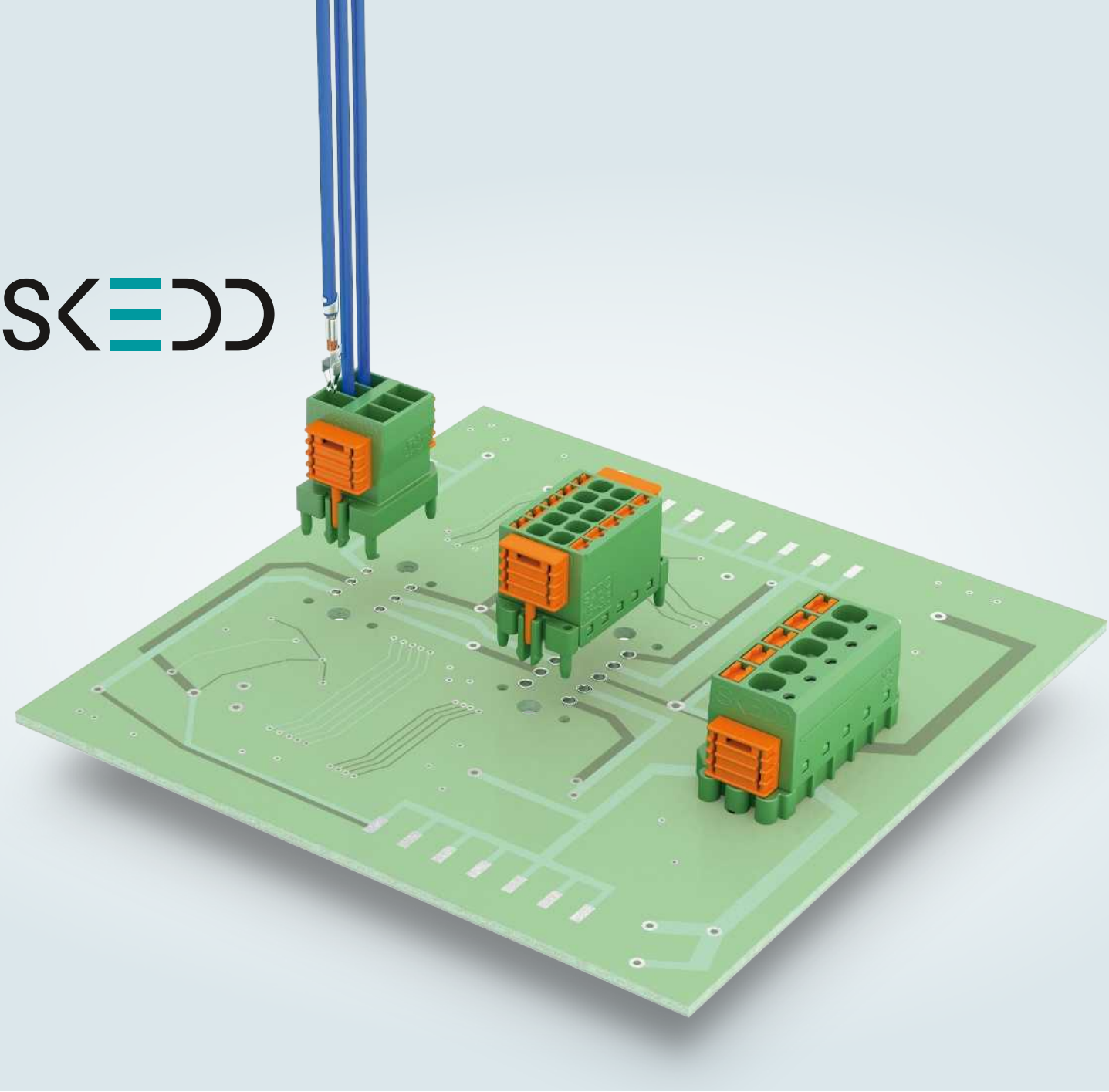
SKEDD



# The new way to make contact

## Direct connector with SKEDD technology

PHOENIX CONTACT

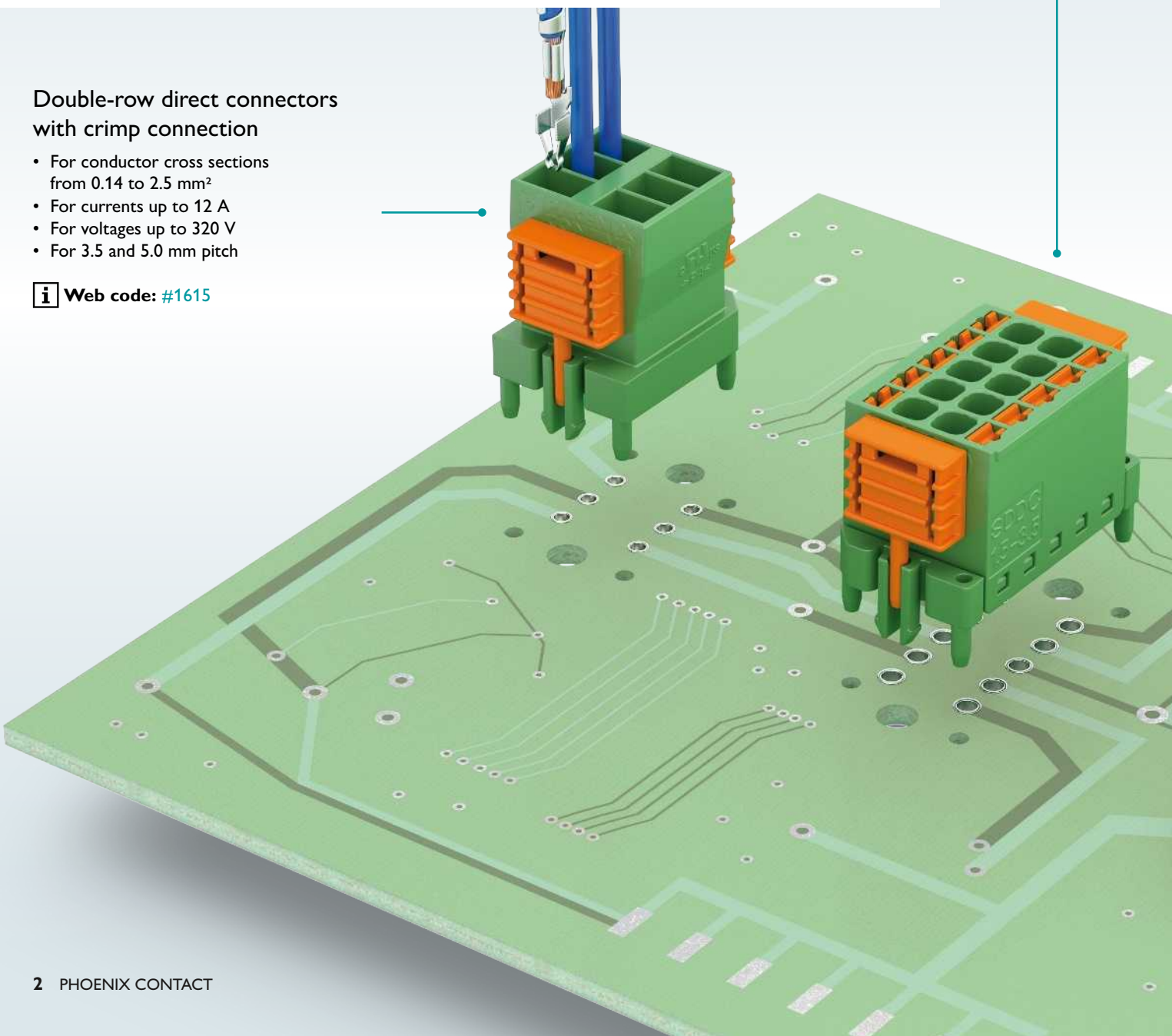
# The new method of contacting direct connectors with SKEDD technology

Innovation from a single source: Phoenix Contact presents direct connectors with crimp or Push-in spring connection. Thanks to SKEDD technology, you can significantly reduce your component and processing costs. Position, insert, and latch: it could not be easier to connect the SKEDD direct connectors to the PCB.

## Double-row direct connectors with crimp connection

- For conductor cross sections from 0.14 to 2.5 mm²
- For currents up to 12 A
- For voltages up to 320 V
- For 3.5 and 5.0 mm pitch

**Web code:** #1615



## Double-row direct connectors with Push-in spring connection

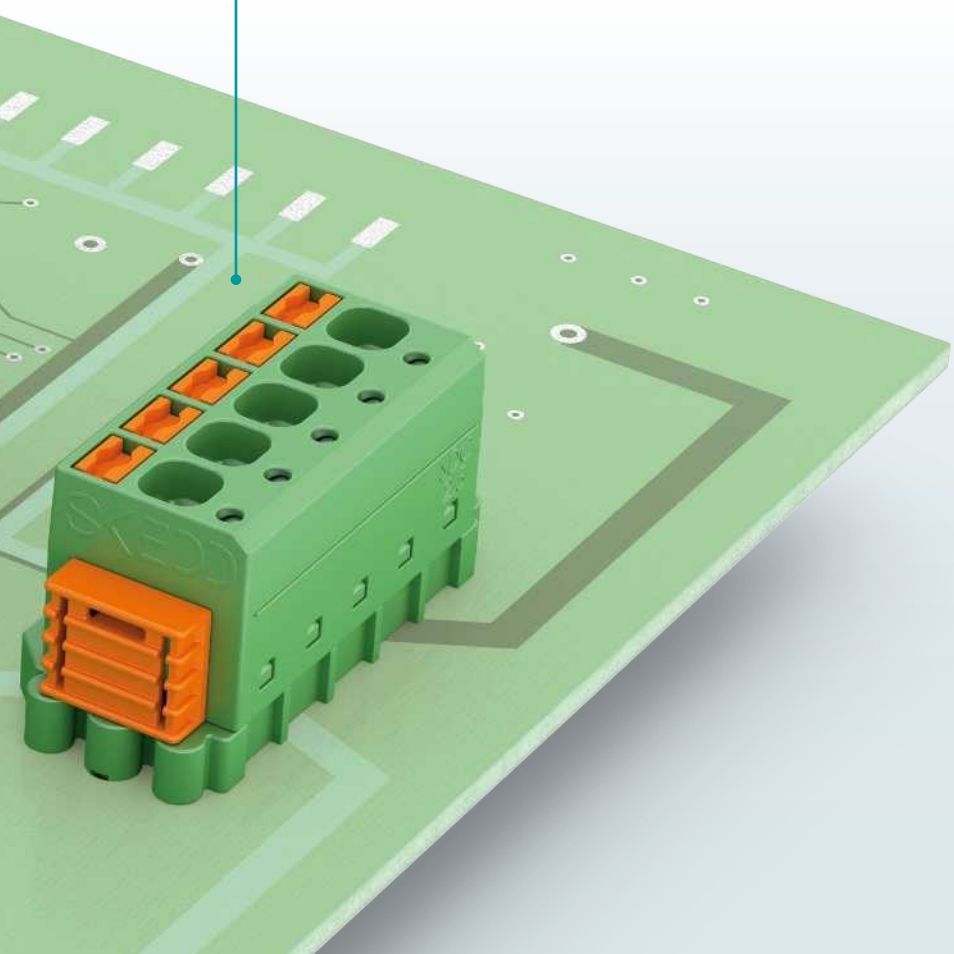
- For conductor cross sections from 0.2 to 1.5 mm²
- For currents up to 8 A
- For voltages up to 160 V
- For 3.5 mm pitch

**Web code:** #1206

## Single-row direct connectors with Push-in spring connection

- For conductor cross sections from 0.2 to 2.5 mm²
- For currents up to 12 A
- For voltages up to 320 V
- For 5.0 mm pitch

**Web code:** #0786



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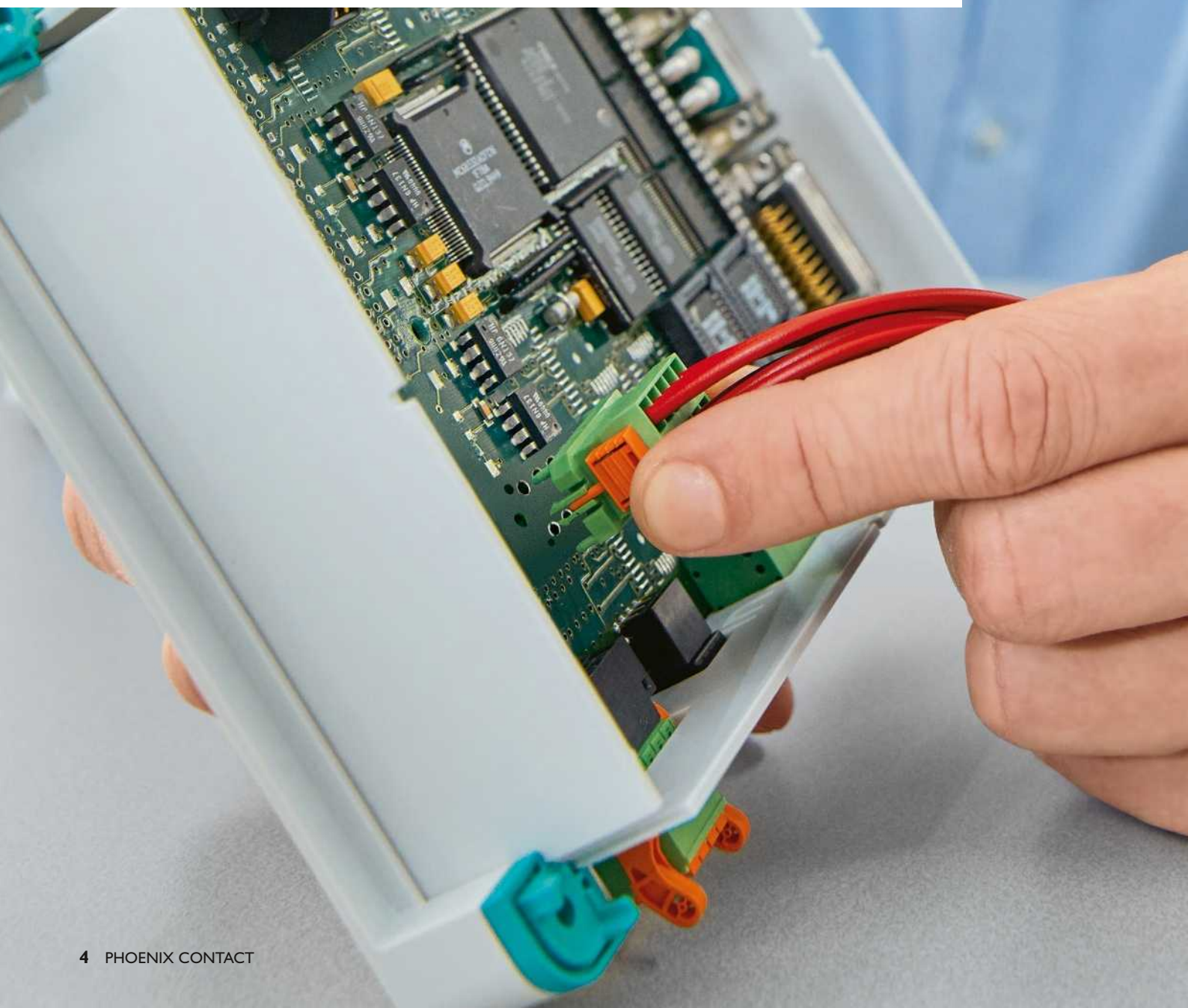
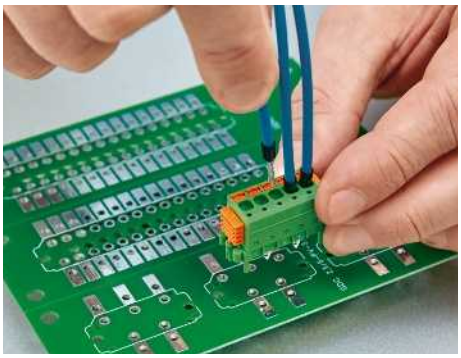
# Intuitive, tool-free, and reliable – direct connection technology for maximum convenience

SKEDD is an innovative mounting technology for connecting PCB connectors directly to the PCB via through-contacted drill holes. Mounting is tool-free and no additional header is required. Body-bound rivets on the side of the connector ensure a reliable and vibration-resistant connection.

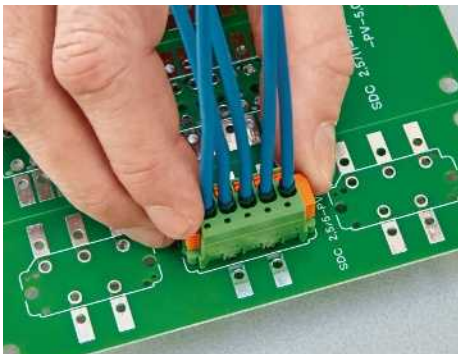


# Your advantages



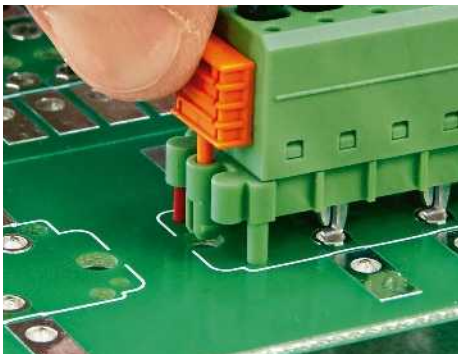
## Tool-free, time-saving Push-in spring connection

Connect solid and flexible conductors with ferrules directly by hand.



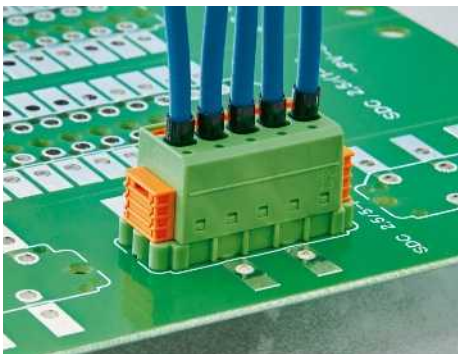
## Flexible positioning on the PCB

Integrate through-contacted drill holes anywhere on the PCB.



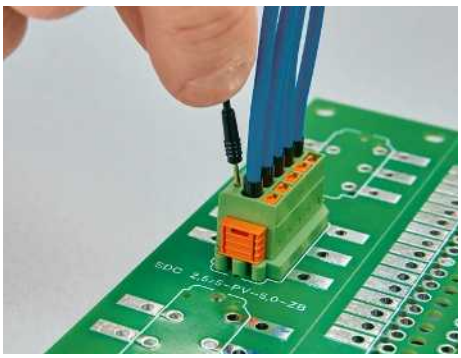
## Coding pins ensure no risk of mismatching

Take advantage of up to six codings that ensure no risk of mismatching.



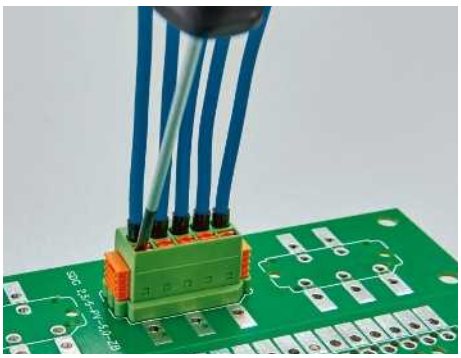
## Reduced component, process, and storage costs

Reduce your overall costs, as there is no need for a header.



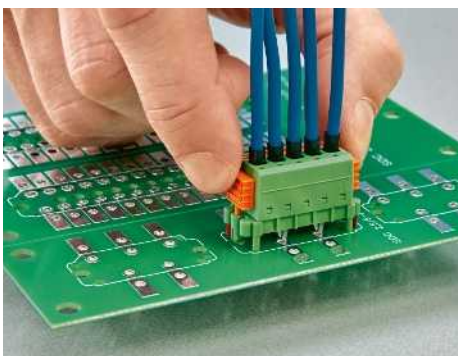
## Quick and convenient testing, thanks to the integrated testing option

Check the function of every connection terminal safely during operation.



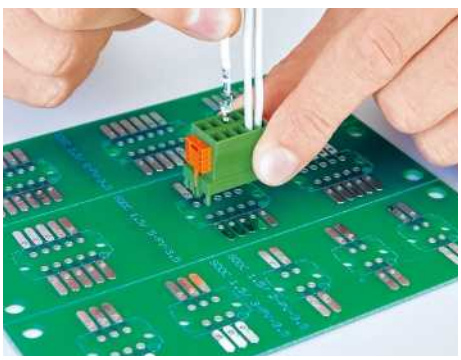
## Intuitive operation, thanks to color-coded push button

Open the terminal point via the integrated push button as required.



## Simply plug and unplug directly

Mount and remove the connectors easily without a tool.



## Inexpensive connection of pre-assembled conductors

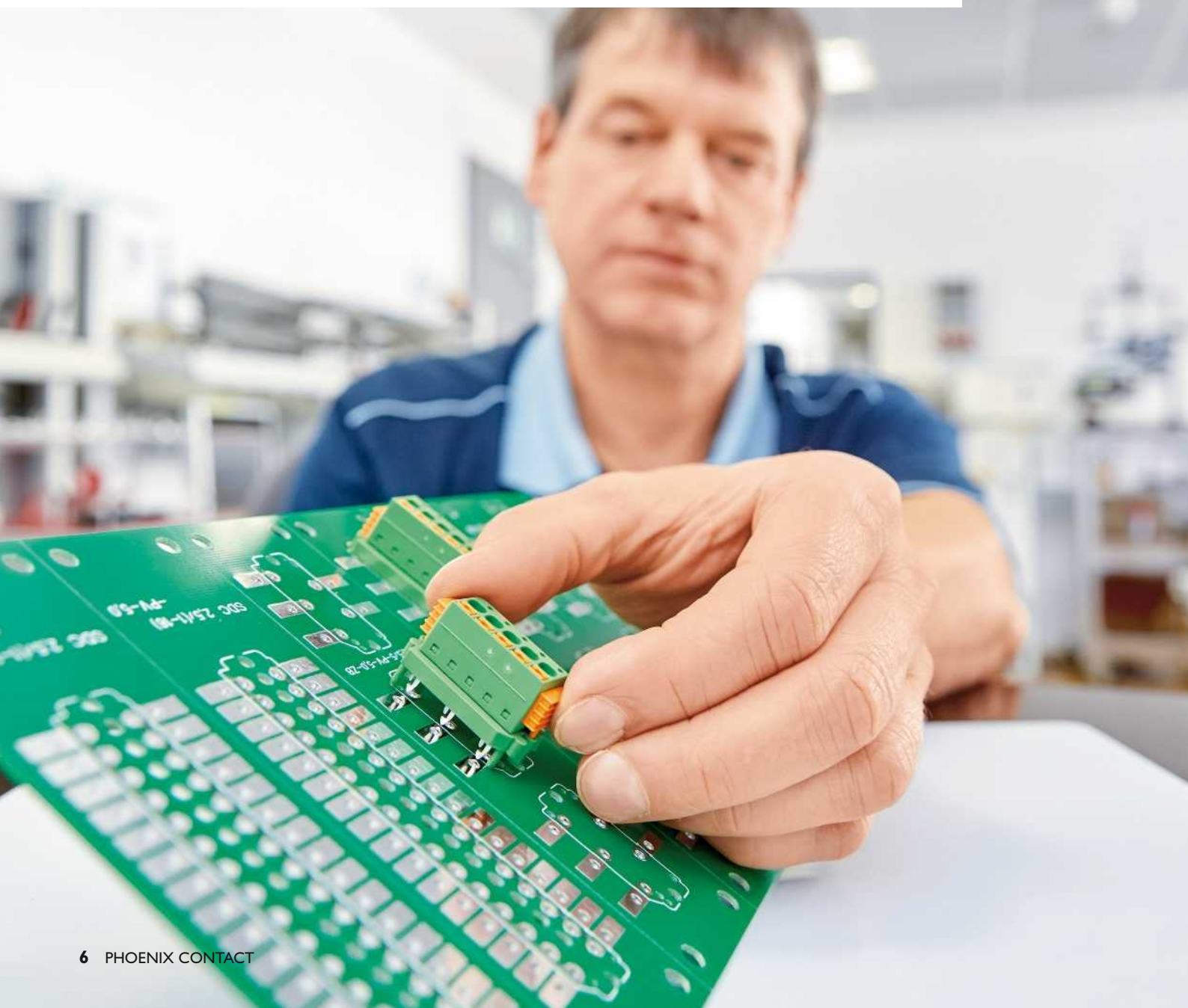
The crimp connection guarantees connection convenience for high volumes.

## Tools for manual and automated crimping

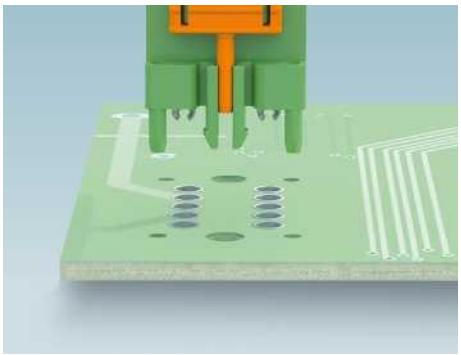
Use qualified tools for a high level of operating convenience.

# Innovative solutions for reversible connections to the PCB

The SKEDD direct connection technology enables pluggable and detachable connections between conductors and PCBs. No soldering required yet completely reliable. The tool-free and reversible mounting is ideal for test plugs, internal wiring, and connections on the rear of the PCB.

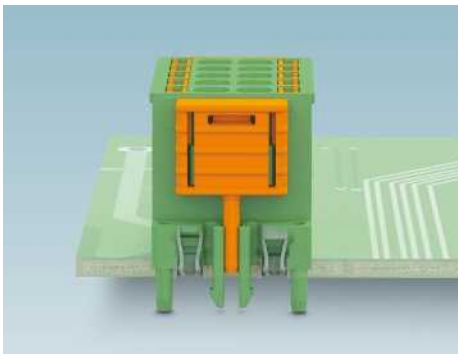


# Detailed overview of the technology and application examples



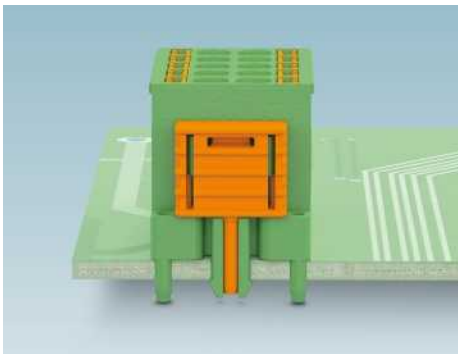
## Through-contacted drill holes

Press-in technology, wave soldering, THR soldering, and SMT soldering are established processes in PCB assembly. None of these are needed with the new SKEDD direct connection technology. Integrate through-contacted drill holes anywhere on the PCB. You will benefit from a whole new level of flexibility when it comes to your PCB layout.



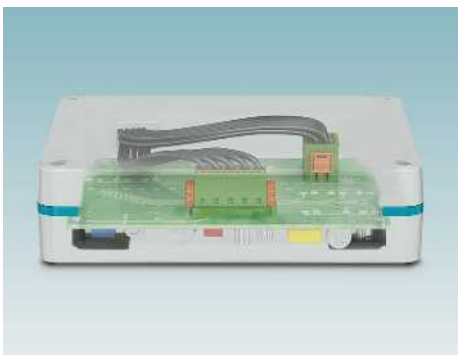
## Spring-loaded contact handles

For the first time, SKEDD direct connection technology enables directly pluggable and detachable connections at any position on the PCB. SKEDD contacts consist of two spring-loaded slightly curved contact handles that adapt to the diameter of the PCB drill holes and make reliable contact. Direct connectors therefore do not require a header and are connected directly by hand, without tools.



## Body-bound rivets on the side

Body-bound rivets on the side ensure a firm connection, even in case of mechanical loads such as vibrations. SKEDD direct connectors are qualified for 25 plugging and unplugging cycles and have passed vibration tests in accordance with DIN EN 60068-2-8 with an acceleration of approximately 50 m/s² in a frequency range of 60.1 Hz to 150 Hz.



## Connection on the rear of the PCB

The innovative direct connectors enable straightforward implementation of applications that require a conductor connection on the rear of the PCB. Thanks to SKEDD direct connection technology, there is no need for a manual soldering process for integration of additional PCB connection technology.

## Internal device wiring of two PCBs

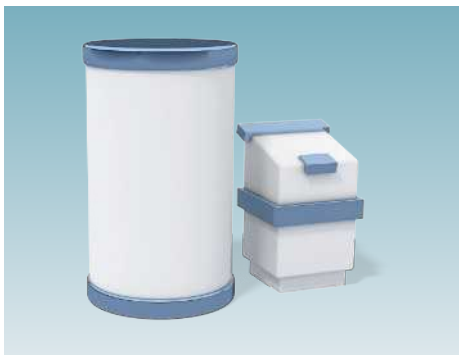
You can even connect the pre-assembled SKEDD direct connectors to the PCB during production and therefore wire several PCBs in the device. To integrate additional functions, all you need to do is provide through-contacted drill holes on the motherboard. You can then easily integrate further SKEDD direct connectors as required.

## Connect several devices via one distributor PCB

With SKEDD direct connectors, you can create simple distributor boards that do not require a higher degree of protection, e.g. to connecting I/O devices to a controller. Thanks to direct connection technology, the entire PCB can be assembled without a soldering process.

# One technology, many solutions – application areas for direct connectors

Direct connectors with SKEDD technology can be used in a wide range of industries and applications. Whether implemented in building technology, industrial automation or infrastructure, thanks to the range of pitch sizes, conductor cross sections, and number of positions, the SDC, SDDC, and CDDC series always provide impressive solutions for your requirements.



Heating and A/C control systems


Smart meters


Blind controllers

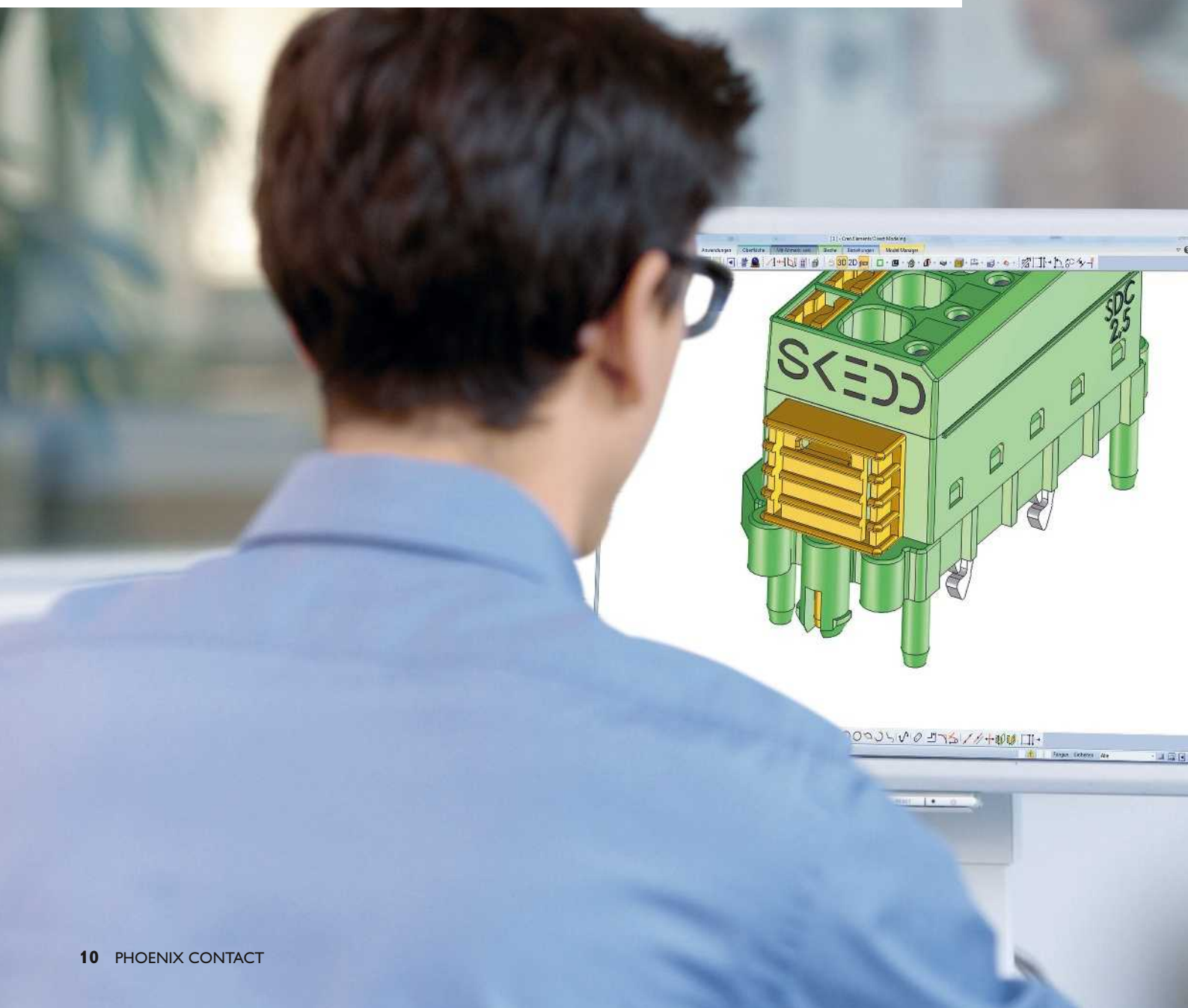
Industrial controllers

Frequency converters

Charging stations for electromobility

# Process reliability, easy assembly, and reliable connection

SKEDD direct connectors are suitable for all established production processes. The connectors are assembled manually after the soldering process which places no additional demands on the PCB used. Comprehensive testing and approvals guarantee that SKEDD direct connectors establish completely safe and reliable connections.

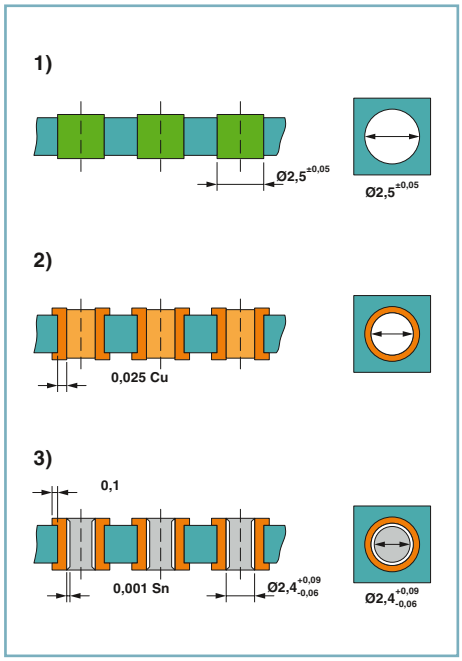


# Technical requirements and approvals

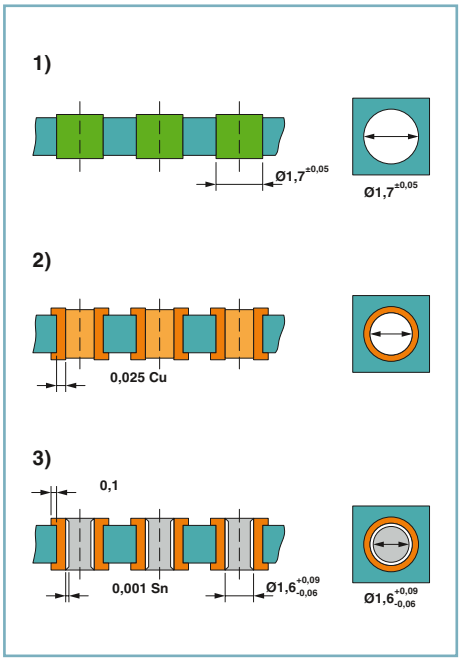
**1. PCB design**
SKEDD direct connectors from Phoenix Contact are qualified for standard PCBs that are 1.6 mm thick with a chemically tin-coated or HAL surface (Hot Air Leveling) and have no further material or surface requirements. During PCB production, it must simply be ensured that tin-coated and through-contacted drill holes are provided for the SKEDD contacts and untinned drill holes are provided for the interlocking and guide pins.

**2. Soldering process**
Unlike standard PCB terminal blocks and headers, or special components for surface assembly (SMD = Surface Mount Device), the SKEDD direct connectors are not soldered in place. The soldering process used therefore only depends on the other electromechanical and electric components on the PCB. If the wave soldering process is used on the PCB, the provided drill holes can be covered with the soldering frame, Kapton band or a blue mask to prevent any unwanted solder residue. If the THR or SMD process is used on the PCB, the drill holes can be protected by soldering templates.

**3. Manual assembly**
The SKEDD direct connectors are mounted manually following the soldering process and before final assembly of the device. The connectors are connected manually and secured using the body-bound rivets on the side. If the connectors are positioned closely beside one another and the body-bound rivets therefore cannot easily be operated by hand, they can also be locked using a screwdriver, thanks to their grooves and contact surfaces.




Internal diameter of the drill holes that receive SDC 2.5 contacts (all dimensions in mm)




Internal diameter of the drill holes that receive SDDC 1.5 / CDDC 1.5 / CDDC 2.5 contacts (all dimensions in mm)

## Standards and approvals

SKEDD direct connectors of the SDC and SDDC series are approved in accordance with UL 1059, CAN/CSA C22.2 No. 158-10, and DIN EN 61984 (connector standard). VDE and UL approvals have been commissioned for the CDDC range of products.

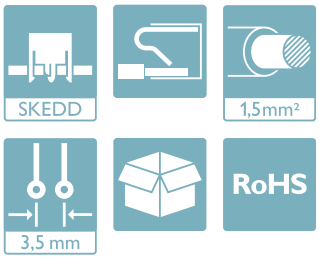
The direct connectors meet the requirements of the glow-wire test in accordance with DIN EN 60335-1 (household appliances standard). Information on the glow-wire ignition temperature (GWIT) and glow-wire flammability rating (GWFI) is detailed in the product data sheets.

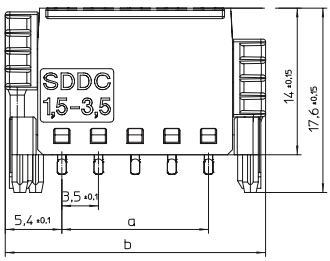
In addition, all three product ranges have passed the durability test in accordance with DIN EN 61373:2011-03 (Shock and vibration testing for railway applications) in category 1 and class B.

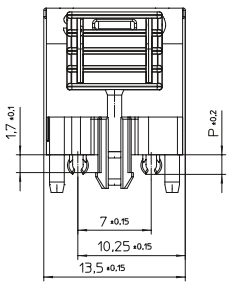
Vibration test in test laboratory

# Double-row direct connectors with Push-in spring connection

**Web code:** #1206



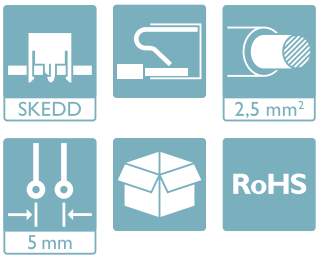



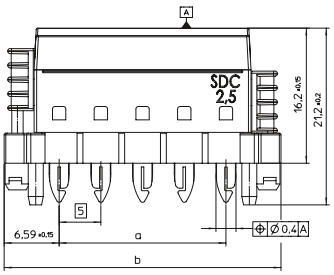

| Technical data | |
|---|---|
| Conductor cross section solid/stranded min. (AWG) | 0.2 mm² (24) |
| Max. conductor cross section, solid/stranded (AWG) | 1.5 mm² (16) |
| Rated voltage III/2 (UL) | 160 V (300 V) |
| Rated current | 8 A |
| Length x height | 13.5 mm x 17.6 mm |
| Pin length (p) | 1.7 mm |
| Color | Green |
| Contact surface | Tin |
| Plugging and unplugging cycles | 25 |

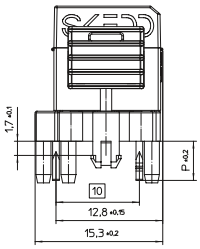
| Number of positions | Type | Order No. | Gauge of outer positions (a) | Width (b) |
|---|---|---|---|---|
| | | | | |
| 2 | SDDC 1,5/2-PV-3,5 | 1848642 | 3.5 mm | 14.3 mm |
| 3 | SDDC 1,5/3-PV-3,5 | 1848655 | 7.0 mm | 17.8 mm |
| 4 | SDDC 1,5/4-PV-3,5 | 1848668 | 10.5 mm | 21.3 mm |
| 5 | SDDC 1,5/5-PV-3,5 | 1848671 | 14 mm | 24.8 mm |
| 6 | SDDC 1,5/6-PV-3,5 | 1848684 | 17.5 mm | 28.3 mm |
| 7 | SDDC 1,5/7-PV-3,5 | 1848697 | 21.0 mm | 31.8 mm |
| 8 | SDDC 1,5/8-PV-3,5 | 1848707 | 24.5 mm | 35.3 mm |
| 9 | SDDC 1,5/9-PV-3,5 | 1848710 | 28.0 mm | 38.8 mm |
| 10 | SDDC 1,5/10-PV-3,5 | 1848723 | 31.5 mm | 42.3 mm |
| 11 | SDDC 1,5/11-PV-3,5 | 1848736 | 35.0 mm | 45.8 mm |
| 12 | SDDC 1,5/12-PV-3,5 | 1848749 | 38.5 mm | 49.3 mm |
| 13 | SDDC 1,5/13-PV-3,5 | 1848752 | 42.0 mm | 52.8 mm |
| 14 | SDDC 1,5/14-PV-3,5 | 1848765 | 45.5 mm | 56.3 mm |
| 15 | SDDC 1,5/15-PV-3,5 | 1848778 | 49.0 mm | 59.8 mm |
| 16 | SDDC 1,5/16-PV-3,5 | 1848781 | 52.5 mm | 63.3 mm |

# Single-row direct connectors with Push-in spring connection

**Web code:** #0786



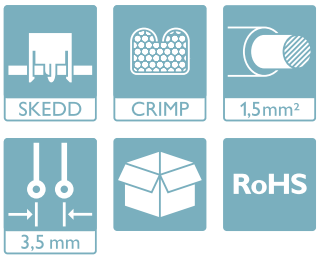



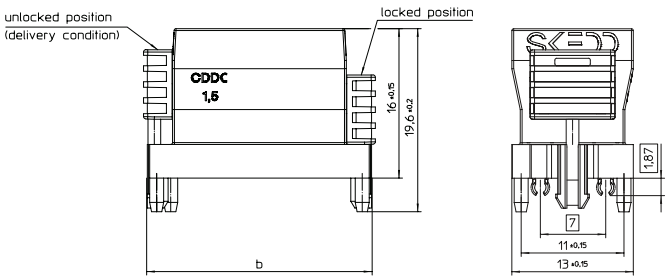

| Technical data | |
|---|---|
| Conductor cross section solid/stranded min. (AWG) | 0.2 mm² (24) |
| Max. conductor cross section, solid/stranded (AWG) | 2.5 mm² (12) |
| Rated voltage III/2 (UL) | 320 V (300 V) |
| Rated current | 12 A |
| Length x height | 15.3 mm x 21.2 mm |
| Pin length (p) | 4.7 mm |
| Color | Green |
| Contact surface | Tin |
| Plugging and unplugging cycles | 25 |

| Number of positions | Type | Order No. | Gauge of outer positions (a) | Width (b) |
|---|---|---|---|---|
| 1 | SDC 2,5/1-PV-5,0-ZB | 1864024 | – | 13.18 mm |
| 2 | SDC 2,5/2-PV-5,0-ZB | 1864037 | 5.0 mm | 18.18 mm |
| 3 | SDC 2,5/3-PV-5,0-ZB | 1864040 | 10.0 mm | 23.18 mm |
| 4 | SDC 2,5/4-PV-5,0-ZB | 1864053 | 15.0 mm | 28.18 mm |
| 5 | SDC 2,5/5-PV-5,0-ZB | 1864066 | 20.0 mm | 33.18 mm |
| 6 | SDC 2,5/6-PV-5,0-ZB | 1864079 | 25.0 mm | 38.18 mm |
| 7 | SDC 2,5/7-PV-5,0-ZB | 1864082 | 30.0 mm | 43.18 mm |
| 8 | SDC 2,5/8-PV-5,0-ZB | 1864095 | 35.0 mm | 48.18 mm |
| 9 | SDC 2,5/9-PV-5,0-ZB | 1864105 | 40.0 mm | 53.18 mm |
| 10 | SDC 2,5/10-PV-5,0-ZB | 1864118 | 45.0 mm | 58.18 mm |
| 11 | SDC 2,5/11-PV-5,0-ZB | 1864121 | 50.0 mm | 63.18 mm |
| 12 | SDC 2,5/12-PV-5,0-ZB | 1864134 | 55.0 mm | 68.18 mm |
| 13 | SDC 2,5/13-PV-5,0-ZB | 1864147 | 60.0 mm | 73.18 mm |
| 14 | SDC 2,5/14-PV-5,0-ZB | 1864150 | 65.0 mm | 78.18 mm |
| 15 | SDC 2,5/15-PV-5,0-ZB | 1864163 | 70.0 mm | 83.18 mm |
| 16 | SDC 2,5/16-PV-5,0-ZB | 1864176 | 75.0 mm | 88.18 mm |

# Double-row direct connectors with crimp connection in 3.5 mm pitch

**Web code:** #1614



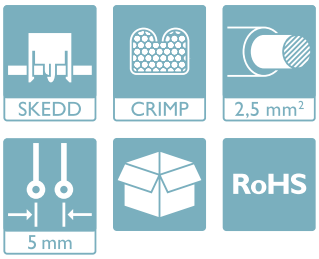

| Technical data | |
|---|---|
| Conductor cross section, stranded, min. (AWG) | 0.14 mm² (26) |
| Max. AWG conductor cross section, stranded | 1.5 mm² (16) |
| Rated voltage III/2 | 160 V |
| Rated current | 8 A |
| Length x height | 13 mm x 16 mm |
| Pin length (p) | 1.87 mm |
| Color | Green |
| Contact surface | Tin |
| Plugging and unplugging cycles | 25 |

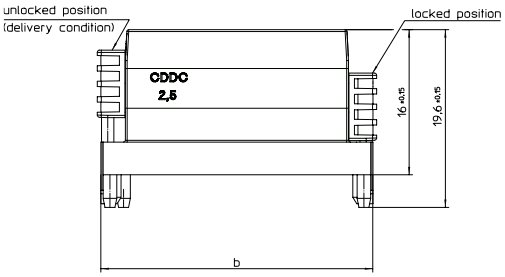
| Number of positions | Type | Order No. | Width (b) |
|---|---|---|---|
| 2 | CDDC 1,5/2-PV-3,5 | 1016515 | 14.3 mm |
| 3 | CDDC 1,5/3-PV-3,5 | 1016513 | 17.8 mm |
| 4 | CDDC 1,5/4-PV-3,5 | 1016512 | 21.3 mm |
| 5 | CDDC 1,5/5-PV-3,5 | 1016516 | 24.8 mm |
| 6 | CDDC 1,5/6-PV-3,5 | 1016517 | 28.3 mm |
| 7 | CDDC 1,5/7-PV-3,5 | 1016518 | 31.8 mm |
| 8 | CDDC 1,5/8-PV-3,5 | 1016519 | 35.3 mm |
| 9 | CDDC 1,5/9-PV-3,5 | 1016520 | 38.8 mm |
| 10 | CDDC 1,5/10-PV-3,5 | 1016521 | 42.3 mm |
| 11 | CDDC 1,5/11-PV-3,5 | 1016510 | 45.8 mm |
| 12 | CDDC 1,5/12-PV-3,5 | 1016522 | 49.3 mm |
| 13 | CDDC 1,5/13-PV-3,5 | 1016523 | 52.8 mm |
| 14 | CDDC 1,5/14-PV-3,5 | 1016524 | 56.3 mm |
| 15 | CDDC 1,5/15-PV-3,5 | 1016525 | 59.8 mm |
| 16 | CDDC 1,5/16-PV-3,5 | 1016526 | 63.3 mm |

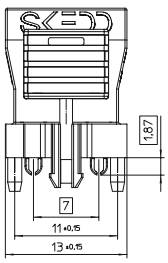
| Crimp contact | Order No. | Comment | Manual crimping pliers | Quick change tool | Supplier |
|---|---|---|---|---|---|
| CDC-MP 0,14-0,5 | 1016664 | Individual contacts available as bulk goods | 1142831 | | |
| CDC-MP 0,5-1,5 | 1016662 | | 1142832 | | |
| CDC-MP 0,14-0,5-R | 1016663 | Taped contacts | | 951-08730-001 | Hanke Crimp-Technik GmbH<br>Hirschfelder Ring 8<br>02763 Zittau, Germany<br>info@hankect.de<br>www.hankect.de |
| CDC-MP 0,5-1,5-R | 1016661 | | | 951-08731-001 | |

# Double-row direct connectors with crimp connection in 5 mm pitch

**Web code:** #1615




| Technical data | |
|---|---|
| Conductor cross section, stranded, min. (AWG) | 0.14 mm² (26) |
| Max. AWG conductor cross section, stranded | 2.5 mm² (14) |
| Rated voltage III/2 | 320 V |
| Rated current | 12 A |
| Length x height | 13 mm x 16 mm |
| Pin length (p) | 1.87 mm |
| Color | Green |
| Contact surface | Tin |
| Plugging and unplugging cycles | 25 |

| Number of positions | Type | Order No. | Width (b) |
|---|---|---|---|
| 2 | CDDC 2,5/2-PV-5,0 | 1016293 | 15.8 mm |
| 3 | CDDC 2,5/3-PV-5,0 | 1016292 | 20.8 mm |
| 4 | CDDC 2,5/4-PV-5,0 | 1016290 | 25.8 mm |
| 5 | CDDC 2,5/5-PV-5,0 | 1016289 | 30.8 mm |
| 6 | CDDC 2,5/6-PV-5,0 | 1016288 | 35.8 mm |
| 7 | CDDC 2,5/7-PV-5,0 | 1016286 | 40.8 mm |
| 8 | CDDC 2,5/8-PV-5,0 | 1016285 | 45.8 mm |
| 9 | CDDC 2,5/9-PV-5,0 | 1016280 | 50.8 mm |
| 10 | CDDC 2,5/10-PV-5,0 | 1016279 | 55.8 mm |
| 11 | CDDC 2,5/11-PV-5,0 | 1016278 | 60.8 mm |
| 12 | CDDC 2,5/12-PV-5,0 | 1016277 | 65.8 mm |
| 13 | CDDC 2,5/13-PV-5,0 | 1016276 | 70.8 mm |
| 14 | CDDC 2,5/14-PV-5,0 | 1016274 | 75.8 mm |
| 15 | CDDC 2,5/15-PV-5,0 | 1016273 | 80.8 mm |
| 16 | CDDC 2,5/16-PV-5,0 | 1016272 | 85.8 mm |

| Crimp contact | Order No. | Comment | Manual crimping pliers | Quick change tool | Supplier |
|---|---|---|---|---|---|
| CDC-MP 0,14-0,5 | 1016664 | Individual contacts available as bulk goods | 1142831 | | |
| CDC-MP 0,5-1,5 | 1016662 | | 1142832 | | |
| CDC-MP 1,5-2,5 | 1016660 | | 1142833 | | |
| CDC-MP 0,14-0,5-R | 1016663 | Taped contacts | | 951-08730-001 | Hanke Crimp-Technik GmbH<br>Hirschfelder Ring 8<br>02763 Zittau, Germany<br>info@hankect.de<br>www.hankect.de |
| CDC-MP 0,5-1,5-R | 1016661 | | | 951-08731-001 | |
| CDC-MP 1,5-2,5-R | 1016659 | | | 951-08732-001 | |

## Open communication with customers and partners worldwide

Phoenix Contact is a global market leader based in Germany. We are known for producing forward-thinking products and solutions for the comprehensive electrification, networking, and automation of all sectors of the economy and infrastructure. With a global network, we maintain close relationships with our customers, something we believe is essential for our common success.

You can find your local partner at

phoenixcontact.com

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