

SCZ 3.81/04/180FI SN BK BX

Weidmüller Interface GmbH & Co. KG

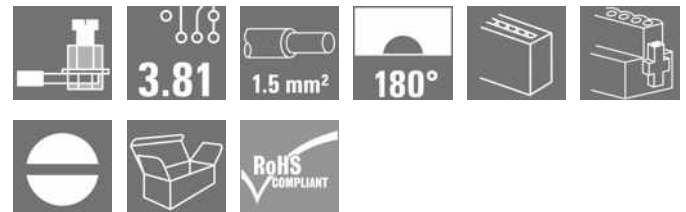
Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image



The inverted SCZ pin plug with clamping-yoke screw connection is designed for straight wire connections in 3.81-mm pitch. It can be used in two ways:

- for wire-to-wire connections together with the BCZ
- as a mating plug for the touch-safe BCL socket block on the PCB.

The SCZ is available in four different versions:

- Without flange ("G", closed)
- With standard flange ("F", with socket nut)
- With inverted flange ("FI", with screw)
- and with Weidmüller's patented release latch for a tool-free, no-strain disconnect

The SCZ provides space for labelling and can be coded.

General ordering data

| | |
|--------------|--|
| Version | PCB plug-in connector, male plug, 3.81 mm, Number of poles: 4, 180°, Clamping yoke connection, Clamping range, max.: 1.5 mm ² , Box |
| Order No. | 1970720000 |
| Type | SCZ 3.81/04/180FI SN BK BX |
| GTIN (EAN) | 4032248680405 |
| Qty. | 50 pc(s). |
| Product data | IEC: 320 V / 17.5 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 16 |
| Packaging | Box |

Creation date September 6, 2023 2:28:20 PM CEST

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Technical data

Dimensions and weights

| | | | |
|------------|---------|-----------------|------------|
| Depth | 18.4 mm | Depth (inches) | 0.724 inch |
| Height | 11.1 mm | Height (inches) | 0.437 inch |
| Net weight | 4.88 g | | |

Temperatures

| | | | |
|-----------------------------|--------|-----------------------------|--------|
| Operating temperature, min. | -50 °C | Operating temperature, max. | 120 °C |
|-----------------------------|--------|-----------------------------|--------|

System Parameters

| | | | |
|--|--|-------------------|-----------------------------|
| Product family | OMNIMATE Signal - series BC/SC 3.81 | | |
| Type of connection | Field connection | | |
| Wire connection method | Clamping yoke connection | | |
| Pitch in mm (P) | 3.81 mm | | |
| Pitch in inches (P) | 0.15 inch | | |
| Conductor outlet direction | 180° | | |
| Number of poles | 4 | | |
| L1 in mm | 11.43 mm | | |
| L1 in inches | 0.45 inch | | |
| Number of rows | 1 | | |
| Pin series quantity | 1 | | |
| Rated cross-section | 1 mm ² | | |
| Touch-safe protection acc. to DIN VDE 57 106 | finger-safe plugged/ back-of-hand-safe unplugged | | |
| Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged/ IP10 unplugged | | |
| Volume resistance | ≤5 mΩ | | |
| Can be coded | Yes | | |
| Stripping length | 7 mm | | |
| Clamping screw | M 2 | | |
| Screwdriver blade | 0.4 x 2.5 | | |
| Screwdriver blade standard | DIN 5264 | | |
| Plugging cycles | 25 | | |
| Plugging force/pole, max. | 8 N | | |
| Pulling force/pole, max. | 5 N | | |
| Tightening torque | Torque type | Wire connection | |
| | Usage information | Tightening torque | min. 0.2 Nm max. 0.25 Nm |

Material data

| | | | |
|---------------------------------------|--------------|---------------------------------------|--------|
| Insulating material | PA 66 GF 30 | Colour | black |
| Colour chart (similar) | RAL 9011 | Insulating material group | II |
| Comparative Tracking Index (CTI) | ≥ 550 | UL 94 flammability rating | V-0 |
| Contact material | Copper alloy | Contact surface | tinned |
| Layer structure of plug contact | 4...8 μm Sn | Storage temperature, min. | -40 °C |
| Storage temperature, max. | 70 °C | Operating temperature, min. | -50 °C |
| Operating temperature, max. | 120 °C | Temperature range, installation, min. | -25 °C |
| Temperature range, installation, max. | 120 °C | | |

Conductors suitable for connection

| | |
|----------------------|----------------------|
| Clamping range, min. | 0.08 mm ² |
| Clamping range, max. | 1.5 mm ² |

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Technical data

| | |
|---|--------------------------|
| Wire connection cross section AWG, min. | AWG 28 |
| Wire connection cross section AWG, max. | AWG 16 |
| Solid, min. H05(07) V-U | 0.2 mm ² |
| Solid, max. H05(07) V-U | 1.5 mm ² |
| Flexible, min. H05(07) V-K | 0.2 mm ² |
| Flexible, max. H05(07) V-K | 1.5 mm ² |
| w. plastic collar ferrule, DIN 46228 pt 4, min. | 0.2 mm ² |
| w. plastic collar ferrule, DIN 46228 pt 4, max. | 1.5 mm ² |
| w. wire end ferrule, DIN 46228 pt 1, min. | 0.2 mm ² |
| w. wire end ferrule, DIN 46228 pt 1, max. | 1.5 mm ² |
| Plug gauge in accordance with EN 60999 a x b; ø | 2.4 mm x 1.5 mm ; 2.4 mm |

| Clampable conductor | Cross-section for conductor connection | Type | fine-wired |
|--|--|------------------------------|-------------------------|
| | | nominal | 0.5 mm ² |
| wire end ferrule | | Stripping length | nominal 6 mm |
| | | Recommended wire-end ferrule | H0.5/6 |
| | | | |
| Cross-section for conductor connection | | Type | fine-wired |
| | | nominal | 0.75 mm ² |
| wire end ferrule | | Stripping length | nominal 6 mm |
| | | Recommended wire-end ferrule | H0.75/6 |
| | | | |
| Cross-section for conductor connection | | Type | fine-wired |
| | | nominal | 1 mm ² |
| wire end ferrule | | Stripping length | nominal 6 mm |
| | | Recommended wire-end ferrule | H1.0/6 |
| | | | |
| Cross-section for conductor connection | | Type | fine-wired |
| | | nominal | 1.5 mm ² |
| wire end ferrule | | Stripping length | nominal 7 mm |
| | | Recommended wire-end ferrule | H1.5/7 |
| | | | |

Reference text The outside diameter of the plastic collar should not be larger than the pitch (P), Length of ferrules is to be chosen depending on the product and the rated voltage.

Rated data acc. to IEC

| tested acc. to standard | | Rated current, min. number of poles (Tu=20°C) | |
|---|------------------------|---|------------------|
| | IEC 60664-1, IEC 61984 | | 17.5 A |
| Rated current, max. number of poles (Tu=20°C) | 17.1 A | Rated current, min. number of poles (Tu=40°C) | 17.5 A |
| Rated current, max. number of poles (Tu=40°C) | 15.2 A | Rated voltage for surge voltage class / pollution degree II/2 | 320 V |
| Rated voltage for surge voltage class / pollution degree III/2 | 160 V | Rated voltage for surge voltage class / pollution degree III/3 | 160 V |
| Rated impulse voltage for surge voltage class/ pollution degree II/2 | 2.5 kV | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 2.5 kV |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 2.5 kV | Short-time withstand current resistance | 3 x 1s with 76 A |

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Technical data

Rated data acc. to CSA

Institute (CSA)



Certificate No. (CSA)

200039-1121690

| | |
|-----------------------------------|--|
| Rated voltage (Use group B / CSA) | 300 V |
| Rated current (Use group B / CSA) | 11 A |
| Wire cross-section, AWG, min. | AWG 28 |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. |

| | |
|-----------------------------------|--------|
| Rated voltage (Use group C / CSA) | 50 V |
| Rated current (Use group C / CSA) | 11 A |
| Wire cross-section, AWG, max. | AWG 16 |

Rated data acc. to UL 1059

Institute (cURus)



Certificate No. (cURus)

E60693

| | |
|---------------------------------------|--|
| Rated voltage (Use group B / UL 1059) | 300 V |
| Rated current (Use group B / UL 1059) | 10 A |
| Wire cross-section, AWG, min. | AWG 28 |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. |

| | |
|---------------------------------------|--------|
| Rated voltage (Use group D / UL 1059) | 300 V |
| Rated current (Use group D / UL 1059) | 10 A |
| Wire cross-section, AWG, max. | AWG 16 |

Packing

| | | | |
|-----------|--------|------------|--------|
| Packaging | Box | VPE length | 20 mm |
| VPE width | 115 mm | VPE height | 140 mm |

Type tests

| | | |
|--|------------|---|
| Test: Durability of markings | Standard | DIN EN 61984 section 7.3.2 / 09.02 taking pattern from DIN EN 60068-2-70 / 07.96 |
| | Test | mark of origin, type identification, rated voltage, rated cross-section, pitch, type of material, approval marking UL, approval marking CSA |
| | Evaluation | available |
| | Test | durability |
| Test: Misengagement (Non-interchangeability) | Evaluation | passed |
| | Standard | DIN EN 61984 section 6.3 and 6.9.1 / 09.02, DIN EN 60512-13-5 / 11.06 |
| | Test | 180° turned without coding elements |
| | Evaluation | passed |
| | Test | visual examination |
| | Evaluation | passed |

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| | | | |
|---|---|--|-------------------------------|
| Test: Clampable cross section | Standard | DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.02 | |
| | Conductor type | Type of conductor and conductor cross-section | solid 0.08 mm ² |
| | | Type of conductor and conductor cross-section | stranded 0.08 mm ² |
| | | Type of conductor and conductor cross-section | solid 1.5 mm ² |
| | | Type of conductor and conductor cross-section | stranded 1.5 mm ² |
| | | Type of conductor and conductor cross-section | AWG 28/1 |
| | | Type of conductor and conductor cross-section | AWG 28/19 |
| | | Type of conductor and conductor cross-section | AWG 16/1 |
| | | Type of conductor and conductor cross-section | AWG 16/19 |
| Evaluation | passed | | |
| Test for damage to and accidental loosening of conductors | Standard | DIN EN 60999-1 section 9.4 / 12.00 | |
| | Requirement | 0.2 kg | |
| | Conductor type | Type of conductor and conductor cross-section | stranded 0.25 mm ² |
| | | Type of conductor and conductor cross-section | AWG 28/1 |
| | | Type of conductor and conductor cross-section | AWG 28/19 |
| | Evaluation | passed | |
| | Requirement | 0.3 kg | |
| | Conductor type | Type of conductor and conductor cross-section | solid 0.5 mm ² |
| | Evaluation | passed | |
| | Requirement | 0.4 kg | |
| Conductor type | Type of conductor and conductor cross-section | solid 1.5 mm ² | |
| | Type of conductor and conductor cross-section | stranded 1.5 mm ² | |
| | Type of conductor and conductor cross-section | AWG 16/1 | |
| | Type of conductor and conductor cross-section | AWG 16/19 | |
| Evaluation | passed | | |

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| | | | | |
|---------------|----------------|---|-------------------------------|--|
| Pull-out test | Standard | DIN EN 60999-1 section 9.5 / 12.00 | | |
| | Requirement | ≥10 N | | |
| | Conductor type | Type of conductor and conductor cross-section | stranded 0.25 mm ² | |
| | | Type of conductor and conductor cross-section | AWG 28/1 | |
| | | Type of conductor and conductor cross-section | AWG 28/19 | |
| | Evaluation | passed | | |
| | Requirement | ≥20 N | | |
| | Conductor type | Type of conductor and conductor cross-section | H05V-U0.5 | |
| | | Evaluation | passed | |
| | Requirement | ≥40 N | | |
| | Conductor type | Type of conductor and conductor cross-section | H07V-U1.5 | |
| | | Type of conductor and conductor cross-section | H07V-K1.5 | |
| | | Type of conductor and conductor cross-section | AWG 16/1 | |
| | | Type of conductor and conductor cross-section | AWG 16/19 | |
| | Evaluation | passed | | |

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 6.0 | EC002638 | ETIM 7.0 | EC002638 |
| ETIM 8.0 | EC002638 | ETIM 9.0 | EC002638 |
| ECLASS 9.0 | 27-44-03-09 | ECLASS 9.1 | 27-44-03-09 |
| ECLASS 10.0 | 27-44-03-09 | ECLASS 11.0 | 27-46-02-02 |
| ECLASS 12.0 | 27-46-02-02 | ECLASS 13.0 | 27460202 |

Environmental Product Compliance

| | |
|------------|--------------------------------------|
| REACH SVHC | Lead 7439-92-1 |
| SCIP | cec56c8c-fe86-40ec-b01a-efe288a878ac |

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Technical data
Important note

| | |
|----------------|---|
| IPC conformity | Conformity: The products are developed, manufactured and delivered according international recognized standards and norms and comply with the assured properties in the data sheet resp. fulfill decorative properties in accordance with IPC-A-610 "Class 2". Further claims on the products can be evaluated on request. |
| Notes | <ul style="list-style-type: none"> • Additional variants on request • Rated current related to rated cross-section & min. No. of poles. • Wire end ferrule with plastic collar to DIN 46228/4 • P on drawing = pitch • Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards. • Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months |

Approvals

Approvals



| | |
|-------------------------|------------|
| ROHS | Conform |
| UL File Number Search | UL Website |
| Certificate No. (cURus) | E60693 |

Downloads

| | |
|---|---|
| Approval/Certificate/Document of Conformity | Declaration of the Manufacturer |
| Engineering Data | CAD data – STEP |
| Catalogues | Catalogues in PDF-format |
| Brochures | FL DRIVES EN MB DEVICE MANUF. EN FL DRIVES DE FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FLIndustr.CONTROLS EN FL MACHINE SAFETY EN FL HEATING ELECTR EN FL APPL INVERTER EN FL_BASE_STATION_EN FL ELEVATOR EN FL POWER SUPPLY EN FL 72H SAMPLE SER EN PO OMNIMATE EN PO OMNIMATE EN |

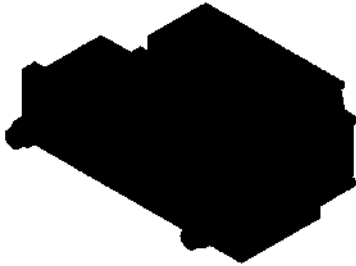
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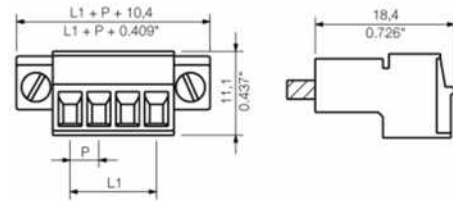
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Drawings

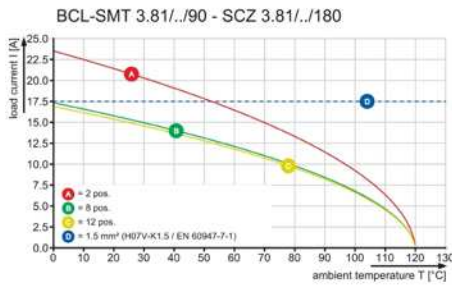
Product image



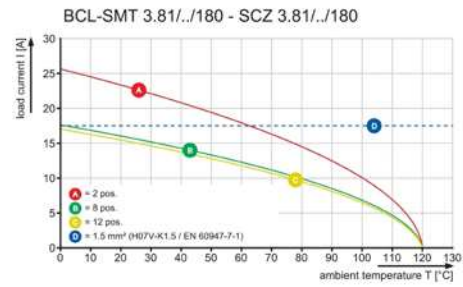
Dimensional drawing



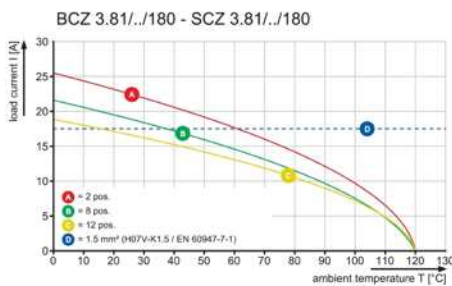
Graph



Graph



Graph



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Accessories

Cover hoods



Effective protection, optimised ergonomics and closed design:

From the strain relief on the connected conductors and the visual/contact protection and the disconnection aid: the optional retrofit hoods perform mechanical, visual and haptic functions.

The two half shells clip together securely, enclose the plug completely and offer the following functions:

- Cable ties or integrated cable clips provide strain relief.
- Marked with dekafix labels or adhesive strips
- Mounting side by side without losing poles or displacing the pitch
- Compatible: suitable for plugs with or without a flange or mounting bracket
- Flexible: 1-3 cable outlets leading in different directions available depending on the size

Weidmüller hoods offer added stability, better identification, complete compatibility and versatility. The result: maximum reliability and user-friendliness in any application.

General ordering data

| Type | BCZ 3.81 AH04 BK BX | Version | Product data | Packaging |
|------------|----------------------------|---|--------------|-----------|
| Order No. | 1005290000 | PCB plug-in connector, Accessories, Hood, black, Number of poles: 4 | | Box |
| GTIN (EAN) | 4032248752515 | | | |
| Qty. | 10 pc(s). | | | |

