

**SCZ 3.81/12/180G SN OR 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: 12, 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm², Box |
| Order No.    | <a href="#">1969670000</a>  |
| Type         | SCZ 3.81/12/180G SN OR BX   |
| GTIN (EAN)   | 4032248679232   |
| Qty.         | 50 pc(s).   |
| Product data | IEC: 320 V / 17.5 A / 0.2 - 1.5 mm²<br>UL: 300 V / 10 A / AWG 28 - AWG 16   |
| Packaging    | Box   |

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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 | 10.56 g |                 |            |

## 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 "   |                   |                             |
| Conductor outlet direction                   | 180°   |                   |                             |
| Number of poles                              | 12   |                   |                             |
| L1 in mm                                     | 41.91 mm   |                   |                             |
| L1 in inches                                 | 1.65 "   |                   |                             |
| Number of rows                               | 1  |                   |                             |
| Pin series quantity                          | 1  |                   |                             |
| Rated cross-section                          | 1 mm <sup>2</sup>                                |                   |                             |
| 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<br>max. 0.25 Nm |

## Material data

|                                       |             |                                       |        |
|---------------------------------------|-------------|---------------------------------------|--------|
| Insulating material                   | PA 66 GF 30 | Colour                                | orange |
| Colour chart (similar)                | RAL 2000    | Insulating material group             | II     |
| Comparative Tracking Index (CTI)      | ≥ 550       | UL 94 flammability rating             | V-0    |
| Contact material                      | Cu-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 <sup>2</sup> |
| Clamping range, max.                    | 1.5 mm <sup>2</sup>  |
| 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 <sup>2</sup>  |

Creation date November 6, 2024 12:33:08 PM CET

Catalogue status 26.10.2024 / We reserve the right to make technical changes.

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|   |  |                              |                         |
|---|--|------------------------------|-------------------------|
| Solid, max. H05(07) V-U   | 1.5 mm <sup>2</sup>  |                              |                         |
| Flexible, min. H05(07) V-K  | 0.2 mm <sup>2</sup>  |                              |                         |
| Flexible, max. H05(07) V-K  | 1.5 mm <sup>2</sup>  |                              |                         |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.2 mm <sup>2</sup> min. |  |                              |                         |
| w. plastic collar ferrule, DIN 46228 pt 4, 1.5 mm <sup>2</sup> max. |  |                              |                         |
| w. wire end ferrule, DIN 46228 pt 1, 0.2 mm <sup>2</sup> min.       |  |                              |                         |
| w. wire end ferrule, DIN 46228 pt 1, 1.5 mm <sup>2</sup> max.       |  |                              |                         |
| 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 <sup>2</sup>     |
|   | wire end ferrule   | Stripping length             | nominal 6 mm            |
|   |  | Recommended wire-end ferrule | <a href="#">H0.5/6</a>  |
|   | Cross-section for conductor connection   | Type                         | fine-wired              |
|   |  | nominal                      | 0.75 mm <sup>2</sup>    |
|   | wire end ferrule   | Stripping length             | nominal 6 mm            |
|   |  | Recommended wire-end ferrule | <a href="#">H0.75/6</a> |
|   | Cross-section for conductor connection   | Type                         | fine-wired              |
|   |  | nominal                      | 1 mm <sup>2</sup>       |
|   | wire end ferrule   | Stripping length             | nominal 6 mm            |
|   |  | Recommended wire-end ferrule | <a href="#">H1.0/6</a>  |
|   | Cross-section for conductor connection   | Type                         | fine-wired              |
|   |  | nominal                      | 1.5 mm <sup>2</sup>     |
|   | wire end ferrule   | Stripping length             | nominal 7 mm            |
|   |  | Recommended wire-end ferrule | <a href="#">H1.5/7</a>  |
| 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   | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C)                         | 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 | 245 mm |
| VPE width | 120 mm | VPE height | 25 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 solid 0.08 mm <sup>2</sup> conductor cross-section           |
|   |                | Type of conductor and stranded 0.08 mm <sup>2</sup> conductor cross-section        |
|   |                | Type of conductor and solid 1.5 mm <sup>2</sup> conductor cross-section            |
|   |                | Type of conductor and stranded 1.5 mm <sup>2</sup> conductor cross-section         |
|   |                | Type of conductor and AWG 28/1 conductor cross-section                             |
|   |                | Type of conductor and AWG 28/19 conductor cross-section                            |
|   |                | Type of conductor and AWG 16/1 conductor cross-section                             |
|   |                | Type of conductor and AWG 16/19 conductor cross-section                            |
|   | 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 stranded 0.25 mm <sup>2</sup> conductor cross-section        |
|   |                | Type of conductor and AWG 28/1 conductor cross-section                             |
|   |                | Type of conductor and AWG 28/19 conductor cross-section                            |
|   | Evaluation     | passed   |
|   | Requirement    | 0.3 kg   |
|   | Conductor type | Type of conductor and solid 0.5 mm <sup>2</sup> conductor cross-section            |
|   |                |  |
|   | Evaluation     | passed   |
|   | Requirement    | 0.4 kg   |
|   | Conductor type | Type of conductor and solid 1.5 mm <sup>2</sup> conductor cross-section            |
|   |                | Type of conductor and stranded 1.5 mm <sup>2</sup> conductor cross-section         |
|   |                | Type of conductor and AWG 16/1 conductor cross-section                             |
|   |                | Type of conductor and AWG 16/19 conductor cross-section                            |
|   | 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 stranded 0.25 mm <sup>2</sup> conductor cross-section |
|               |                | Type of conductor and AWG 28/1 conductor cross-section                      |
|               |                | Type of conductor and AWG 28/19 conductor cross-section                     |
|               | Evaluation     | passed  |
|               | Requirement    | ≥20 N   |
|               | Conductor type | Type of conductor and H05V-U0.5 conductor cross-section                     |
|               |                |   |
|               |                |   |
|               | Evaluation     | passed  |
|               | Requirement    | ≥40 N   |
|               | Conductor type | Type of conductor and H07V-U1.5 conductor cross-section                     |
|               |                | Type of conductor and H07V-K1.5 conductor cross-section                     |
|               |                | Type of conductor and AWG 16/1 conductor cross-section                      |
|               |                | Type of conductor and AWG 16/19 conductor cross-section                     |
|               | 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 | 27-46-02-02 |
| ECLASS 14.0 | 27-46-02-02 |             |             |

## Environmental Product Compliance

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| RoHS Compliance Status               | Compliant with exemption             |
| RoHS Exemption (if applicable/known) | 6c                                   |
| REACH SVHC                           | Lead 7439-92-1                       |
| SCIP                                 | cec56c8c-fe86-40ec-b01a-efe288a878ac |

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## 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"> <li>• Additional variants on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• Wire end ferrule with plastic collar to DIN 46228/4</li> <li>• P on drawing = pitch</li> <li>• 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.</li> <li>• In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load</li> <li>• Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li> </ul> |

## Approvals

Approvals



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

## Downloads

|   |  |
|---|--|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a>  |
| Engineering Data                            | <a href="#">CAD data – STEP</a>  |
| Catalogues                                  | <a href="#">Catalogues in PDF-format</a>   |
| Brochures                                   | <a href="#">FL DRIVES EN</a><br><a href="#">MB DEVICE MANUF. EN</a><br><a href="#">FL DRIVES DE</a><br><a href="#">FL BUILDING SAFETY EN</a><br><a href="#">FL APPL LED LIGHTING EN</a><br><a href="#">FL INDUSTR.CONTROLS EN</a><br><a href="#">FL MACHINE SAFETY EN</a><br><a href="#">FL HEATING ELECTR EN</a><br><a href="#">FL APPL INVERTER EN</a><br><a href="#">FL BASE STATION EN</a><br><a href="#">FL ELEVATOR EN</a><br><a href="#">FL POWER SUPPLY EN</a><br><a href="#">FL 72H SAMPLE SER EN</a><br><a href="#">PO OMNIMATE EN</a><br><a href="#">PO OMNIMATE EN</a> |

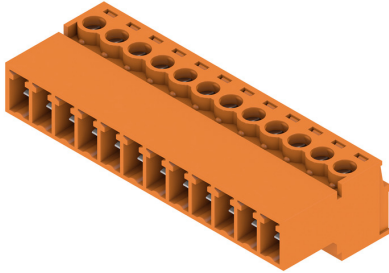
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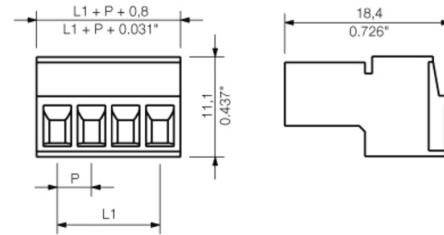
[www.weidmueller.com](http://www.weidmueller.com)

## Drawings

## Product image



## Dimensional drawing



## Graph



## Graph



## Graph





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[www.weidmueller.com](http://www.weidmueller.com)**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 AH12 BK BX        | Version | PCB plug-in connector, Accessories, Hood, black, Number of poles: 12 | Product data |  | Packaging | Box |
|------------|----------------------------|---------|--|--------------|--|-----------|-----|
| Order No.  | <a href="#">1005370000</a> |         |  |              |  |           |     |
| GTIN (EAN) | 4032248752591              |         |  |              |  |           |     |
| Qty.       | 10 pc(s).                  |         |  |              |  |           |     |

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SCZ 3.81/.../180G ...



SCZ 3.81/.../180FI ...



SCZ 3.81/.../180F ...



SCZ 3.81/.../180LR ...



### KUNDENZEICHNUNG CUSTOMER DRAWING

For the mounting of PCBs, it should be noted that the rated data stated here relates only to the PCB components alone.  
The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.  
The current- carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application.  
Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

|                |  |                          |            |   |                |  |
|----------------|--|--------------------------|------------|---|----------------|--|
|                |  | 55304/5<br>03.06.11 GE_G |            | 00  | CAT.NO.: . . . |  |
| MODIFICATION   |  | <b>Weidmüller</b>        |            | 2 40408 05  |                |  |
| DRAWN          |  | DATE                     | NAME       | DRAWING NO. SHEET . OF . SHEETS   |                |  |
| RESPONSIBLE    |  | 09.10.2008               | SHI_S      |   |                |  |
| SUPERSEDES:    |  | CHECKED                  | 03.06.2011 | ISSUE NO.   |                |  |
| SUPERSEDED BY: |  | APPROVED                 | XU_S       | SCZ 3.81/.../180...<br>ZUGBUEGELANSCHLUSS STIFTELEISTE<br>CLAMPING YOKE CONNECTION PIN HEADER |                |  |
|                |  | PRODUCT FILE: SCZ 3.81   |            | 7078  |                |  |