

**SCZ 3.81/09/180LRZE 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 outlet connections. 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-SMT socket block on the PCB.

The SCZ is available in four different versions:

- Without flange ("G", closed)
- With standard flange ("F", with nut) for wire-to-wire connections
- With inverted flange ("FI", with screw) for screw connection to the BCL-SMT LFI
- With Weidmüller's patented release latch (LR) for lock-and-release latching with the BCL-SMT LFI: no strain and no tools needed.

Weidmüller's 3.81-mm-pitch (0.15 inch) plug-in connectors are compatible with the layouts of standard connectors and offer space for labelling and coding.

**General ordering data**

|              |                                                                                                                                   |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Version      | PCB plug-in connector, male plug, 3.81 mm, Number of poles: 9, 180°, Clamping yoke connection, Clamping range, max.: 1.5 mm², Box |
| Order No.    | <a href="#">2444230000</a>                                                                                                        |
| Type         | SCZ 3.81/09/180LRZE SN OR BX                                                                                                      |
| GTIN (EAN)   | 4050118542578                                                                                                                     |
| 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      | 42.1 mm | Depth (inches)  | 1.657 inch |
| Height     | 16.6 mm | Height (inches) | 0.654 inch |
| Net weight | 10.31 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                              | 9                                                |                   |                             |
| L1 in mm                                     | 30.48 mm                                         |                   |                             |
| L1 in inches                                 | 1.2 "                                            |                   |                             |
| 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 July 4, 2024 2:59:04 PM CEST

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|                                                         |                                        |                              |                         |      |
|---------------------------------------------------------|----------------------------------------|------------------------------|-------------------------|------|
| Solid, max. H05(07) V-U                                 | 1.5 mm²                                |                              |                         |      |
| Flexible, min. H05(07) V-K                              | 0.2 mm²                                |                              |                         |      |
| Flexible, max. H05(07) V-K                              | 1.5 mm²                                |                              |                         |      |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.2 mm² min. |                                        |                              |                         |      |
| w. plastic collar ferrule, DIN 46228 pt 4, 1.5 mm² max. |                                        |                              |                         |      |
| w. wire end ferrule, DIN 46228 pt 1, 0.2 mm² min.       |                                        |                              |                         |      |
| w. wire end ferrule, DIN 46228 pt 1, 1.5 mm² 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 mm²                 |      |
|                                                         | 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 mm²                |      |
|                                                         | 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 mm²                   |      |
|                                                         | 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 mm²                 |      |
|                                                         | 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 |

## Rated data acc. to CSA

|                                   |        |                                   |        |
|-----------------------------------|--------|-----------------------------------|--------|
| Rated voltage (Use group B / CSA) | 300 V  | Rated voltage (Use group C / CSA) | 50 V   |
| Rated current (Use group B / CSA) | 11 A   | Rated current (Use group C / CSA) | 11 A   |
| Wire cross-section, AWG, min.     | AWG 28 | Wire cross-section, AWG, max.     | AWG 16 |

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## Technical data

## Rated data acc. to UL 1059

Institute (cURus)



Certificate No. (cURus)

E60693

Rated voltage (Use group B / UL 1059) 300 V

Rated voltage (Use group D / UL 1059) 300 V

Rated current (Use group B / UL 1059) 10 A

Rated current (Use group D / UL 1059) 10 A

Wire cross-section, AWG, min. AWG 28

Wire cross-section, AWG, max. AWG 16

Reference to approval values  
Specifications are maximum values, details - see approval certificate.

## Packing

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 170 mm |
| VPE width | 121 mm | VPE height | 54 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                                                                                                                                  |
|                                              | Evaluation | passed                                                                                                                                      |
| Test: Misengagement (Non-interchangeability) | 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 |

## Environmental Product Compliance

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

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[www.weidmueller.com](http://www.weidmueller.com)**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"><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**

|                             |                                                                                                                            |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Engineering Data            | <a href="#">CAD data – STEP</a>                                                                                            |
| Product Change Notification | <a href="#">PCN_2017_190_PL30X_BL_381_Lock_Release_lever_EN</a><br><a href="#">PCN_2017_190_PL30X_BL_381_Löseriegel_DE</a> |
| Catalogues                  | <a href="#">Catalogues in PDF-format</a>                                                                                   |

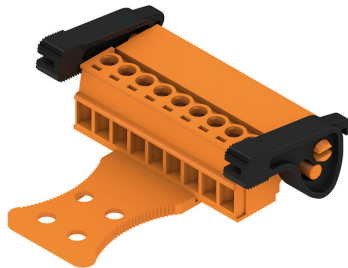
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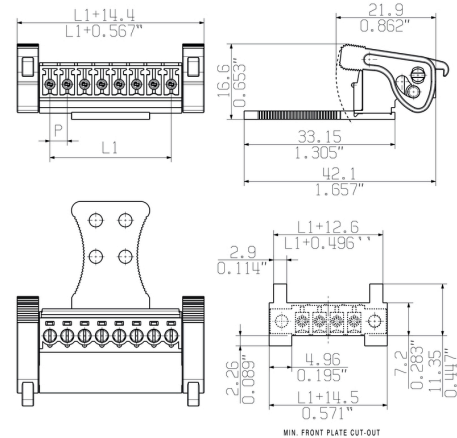
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## Drawings

## Product image



## Dimensional drawing



## Graph



## Graph

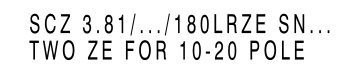
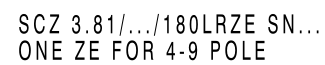


## Graph







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P = 3.81 RASTER  
0.15" PITCH

|    |         |           |
|----|---------|-----------|
| 12 | 41.91   | 1.651     |
| 11 | 38.10   | 1.501     |
| 10 | 34.29   | 1.351     |
| 9  | 30.48   | 1.201     |
| 8  | 26.67   | 1.051     |
| 7  | 22.86   | 0.901     |
| 6  | 19.05   | 0.751     |
| 5  | 15.24   | 0.600     |
| 4  | -       | -         |
| 3  | -       | -         |
| 2  | -       | -         |
| N  | L1 [mm] | L1 [inch] |

|                                                                                       |  |                             |  |                     |  |                                                                                                                                                                                                                    |  |
|---------------------------------------------------------------------------------------|--|-----------------------------|--|---------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>GENERAL TOLERANCE:</b><br><b>DIN ISO 2768-m</b>                                    |  | 86251/0<br>26.05.16 XIANG_K |  | 00                  |  | Cat.no.:                                                                                                                                                                                                           |  |
|  |  | Max. nos.                   |  | <b>Modification</b> |  | <div> <div> <b>C 63184</b> <div>00</div> </div> <div>           Drawing no.           <div>Issue no.</div> </div> </div>                                                                                           |  |
|  |  | Date                        |  | Name                |  | <div> <div> <b>SCZ 3.81...180LR...</b><br/>           ZUGBUEGELANSCHLUSS STIFTLEISTE<br/>           CLAMPING YOKE CONNECTION PIN HEADER         </div> <div>           Sheet 00 of 00 sheets         </div> </div> |  |
| Drawn                                                                                 |  | 17.02.2016                  |  | XIANG_K             |  |                                                                                                                                                                                                                    |  |
| Responsible                                                                           |  |                             |  | XIANG_K             |  |                                                                                                                                                                                                                    |  |
| Checked                                                                               |  | 26.05.2016                  |  | ZHOU_N              |  |                                                                                                                                                                                                                    |  |
| Supersedes:                                                                           |  | Approved                    |  | XU_S                |  | Product file: SCZ 3.81 7078                                                                                                                                                                                        |  |