

# BCZ 3.81/02/180 SN OR BX PRT

**Weidmüller Interface GmbH & Co. KG**

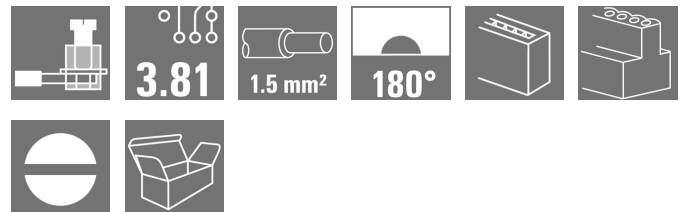
Klingenbergstraße 26

D-32758 Detmold

Germany

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

## Product image



Similar to illustration

Female socket connectors with clamping-yoke screw system for connecting wires.

Three wire-outlet directions are available and provide flexible connection-level design options:

- 180° wire parallel to plugging direction
- 90° wire perpendicular and above plugging direction
- 270° wire perpendicular and below plugging direction

There are three housing shapes, covering many different requirements, to choose from:

- Standard housing without flange
- Flange with screw (F)
- Flange featuring Weidmüller's patented release latch (LR) for lock-and-release latching with no strain and no tools needed.

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

## General ordering data

|              |                                                                                                                                     |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Version      | PCB plug-in connector, female plug, 3.81 mm, Number of poles: 2, 180°, Clamping yoke connection, Clamping range, max.: 1.5 mm², Box |
| Order No.    | <a href="#">2578330000</a>                                                                                                          |
| Type         | BCZ 3.81/02/180 SN OR BX PRT                                                                                                        |
| GTIN (EAN)   | 4050118604795                                                                                                                       |
| 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          | 16.1 mm    | Depth (inches)  | 0.634 inch |
| Height         | 11.1 mm    | Height (inches) | 0.437 inch |
| Net weight     | 1.7 g      | Width           | 7.71 mm    |
| Width (inches) | 0.304 inch |                 |            |

**Environmental Product Compliance**

|            |                |
|------------|----------------|
| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

**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                              | 2                                   |                   |                             |
| L1 in mm                                     | 3.81 mm                             |                   |                             |
| L1 in inches                                 | 0.15 inch                           |                   |                             |
| 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 | Safe from finger touch              |                   |                             |
| Touch-safe protection acc. to DIN VDE 0470   | IP 20                               |                   |                             |
| 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.                    | 7 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       | Insulation strength                   | ≥ 10 <sup>8</sup> Ω           |
| UL 94 flammability rating             | V-0         | Contact material                      | Copper alloy                  |
| Contact surface                       | tinned      | Layer structure of plug contact       | 0.5...1.5 µm Cu / 2...5 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> |
|----------------------|----------------------|

Creation date April 16, 2021 3:21:00 AM CEST

Catalogue status 09.04.2021 / We reserve the right to make technical changes.

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## Technical data

|                                                                     |                                                                                                                                                                        |                              |                         |      |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------|------|
| 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>                                                                                                                                                    |                              |                         |      |
| 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, min.                           | 0.2 mm <sup>2</sup>                                                                                                                                                    |                              |                         |      |
| w. wire end ferrule, DIN 46228 pt 1, max.                           | 1.5 mm <sup>2</sup>                                                                                                                                                    |                              |                         |      |
| Plug gauge in accordance with EN 60999 a x b; ø                     | 2.4 mm x 1.5 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)                             | 17.5 A                 | Rated current, min. number of poles (Tu=40°C)                         | 17 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**

|                                   |        |                                   |        |
|-----------------------------------|--------|-----------------------------------|--------|
| Rated voltage (Use group B / CSA) | 300 V  | Rated voltage (Use group C / CSA) | 50 V   |
| Rated current (Use group B / CSA) | 8 A    | Rated current (Use group C / CSA) | 8 A    |
| Wire cross-section, AWG, min.     | AWG 28 | Wire cross-section, AWG, max.     | AWG 16 |

**Rated data acc. to UL 1059**

|                                       |        |                                       |        |
|---------------------------------------|--------|---------------------------------------|--------|
| 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 |

**Packing**

|           |       |            |       |
|-----------|-------|------------|-------|
| Packaging | Box   | VPE length | 92 mm |
| VPE width | 59 mm | VPE height | 23 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                                                                                                                                      |                               |
| 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 <sup>2</sup>    |
|                                              |                | Type of conductor and conductor cross-section                                                                                               | stranded 0.08 mm <sup>2</sup> |
|                                              |                | Type of conductor and conductor cross-section                                                                                               | solid 1.5 mm <sup>2</sup>     |
|                                              |                | Type of conductor and conductor cross-section                                                                                               | stranded 1.5 mm <sup>2</sup>  |
|                                              |                | 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                                                                                                                                      |                               |

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|                                                           |                |                                               |                               |
|-----------------------------------------------------------|----------------|-----------------------------------------------|-------------------------------|
| 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 <sup>2</sup> |
|                                                           |                | 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 <sup>2</sup>     |
|                                                           |                | passed                                        |                               |
|                                                           | Requirement    | 0.4 kg                                        |                               |
|                                                           | Conductor type | Type of conductor and conductor cross-section | solid 1.5 mm <sup>2</sup>     |
|                                                           |                | Type of conductor and conductor cross-section | stranded 1.5 mm <sup>2</sup>  |
|                                                           |                | Type of conductor and conductor cross-section | AWG 16/1                      |
|                                                           |                | Type of conductor and conductor cross-section | AWG 16/19                     |
|                                                           | Evaluation     | passed                                        |                               |
| 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 <sup>2</sup> |
|                                                           |                | 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                     |
|                                                           |                | 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                                        |                               |

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|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002638    | ETIM 7.0    | 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 |

**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>• Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</li></ul>                                                                                                                                                                   |

**Downloads**

|                                             |                                                                 |
|---------------------------------------------|-----------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">CB Certificate</a><br><a href="#">CB Testreport</a> |
| Brochure/Catalogue                          | <a href="#">Catalogues in PDF-format</a>                        |

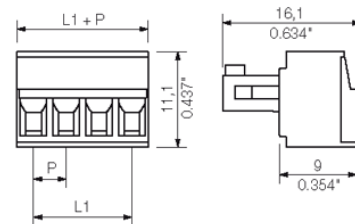
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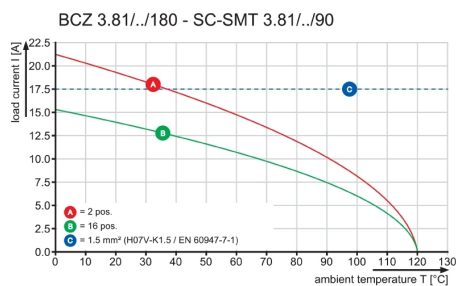
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## Drawings

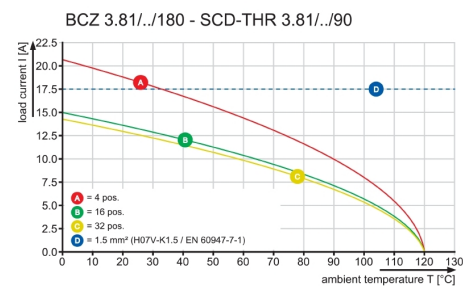
### Dimensional drawing



### Graph



### Graph



### Graph

