

**OMNIMATE Signal - series BC/SC 3.81  
BCF 3.81/10/180F SN OR BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 16

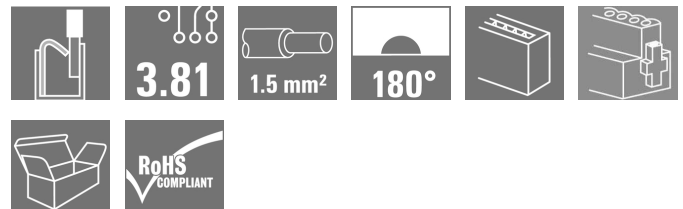
D-32758 Detmold

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PUSH IN - Weidmüller's innovative connection system simplifies the wire connection process.

The benefits for users and applications:

- High packaging density due to very low component height. Simply insert the prepared wire - finished
- High component density with the compact SCDN / SCDN-THR two-tier pin header
- Simplified processing due to integrated push buttons for opening the clamping unit
- Intuitive handling – since the wire-entry area and handling area are clearly separated
- tool-free locking and releasing when using Weidmüller's patented release latch (LR)

The Weidmüller plug-in connectors, pitch 3.81 mm (0.15 inch), are compatible with the layout of customary plug-in connectors, can be coded and provide space for printing.

**General ordering data**

|              |                                                                                                                  |
|--------------|------------------------------------------------------------------------------------------------------------------|
| Type         | BCF 3.81/10/180F SN OR BX                                                                                        |
| Order No.    | <a href="#">1970580000</a>                                                                                       |
| Version      | PCB plug-in connector, female plug, 3.81 mm, No. of poles: 10, 180°, PUSH IN, Clamping range, max.: 1.5 mm², Box |
| GTIN (EAN)   | 4032248679997                                                                                                    |
| Qty.         | 50 pc(s).                                                                                                        |
| Product data | IEC: 320 V / 17.5 A / 0.14 - 1.5 mm²<br>UL: 300 V / 10 A / AWG 26 - AWG 16                                       |
| Packaging    | Box                                                                                                              |

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## Technical data

### Dimensions and weights

|            |        |
|------------|--------|
| Net weight | 7.44 g |
|------------|--------|

### System parameters

|                                              |                                     |                                            |                   |
|----------------------------------------------|-------------------------------------|--------------------------------------------|-------------------|
| Product family                               | OMNIMATE Signal - series BC/SC 3.81 | Type of connection                         | Field connection  |
| Wire connection method                       | PUSH IN                             | Pitch in mm (P)                            | 3.81 mm           |
| Pitch in inches (P)                          | 0.15 inch                           | Conductor outlet direction                 | 180°              |
| No. of poles                                 | 10                                  | L1 in mm                                   | 34.29 mm          |
| L1 in inches                                 | 1.35 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                            | 6.00 mΩ                             | Can be coded                               | Yes               |
| Stripping length                             | 9 mm                                | Tightening torque for screw flange, min.   | 0.2 Nm            |
| Tightening torque for screw flange, max.     | 0.3 Nm                              | Actuating force actuating element, max.    | 40 N              |
| Screwdriver blade                            | 0.4 x 2.5                           | Screwdriver blade standard                 | DIN 5264          |
| Plugging cycles                              | 25                                  | push-in force/pole                         | 0 N               |
| Packaging                                    | Box                                 |                                            |                   |

### Material data

|                                       |          |                                       |                     |
|---------------------------------------|----------|---------------------------------------|---------------------|
| Insulating material                   | PA GF    | Colour                                | Orange              |
| Colour chart (similar)                | RAL 2000 | Insulating material group             | II                  |
| CTI                                   | ≥ 550    | Insulation resistance                 | ≥ 10 <sup>8</sup> Ω |
| UL 94 flammability rating             | V-0      | Layer structure of plug contact       | 4-8 μm Sn matt      |
| Storage temperature, min.             | -25 °C   | Storage temperature, max.             | 55 °C               |
| Max. relative humidity during storage | 80 %     | 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.                            | 0.14 mm <sup>2</sup>   | Clamping range, max.                            | 1.5 mm <sup>2</sup> |
| Wire connection cross section AWG, min.         | AWG 26                 | Wire connection cross section AWG, max.         | AWG 16              |
| Solid, min. H05(07) V-U                         | 0.14 mm <sup>2</sup>   | Solid, max. H05(07) V-U                         | 1.5 mm <sup>2</sup> |
| Flexible, min. H05(07) V-K                      | 0.14 mm <sup>2</sup>   | Flexible, max. H05(07) V-K                      | 1.5 mm <sup>2</sup> |
| w. plastic collar ferrule, DIN 46228 pt 4, min. | 0.25 mm <sup>2</sup>   | w. plastic collar ferrule, DIN 46228 pt 4, max. | 1 mm <sup>2</sup>   |
| w. wire end ferrule, DIN 46228 pt 1, min.       | 0.25 mm <sup>2</sup>   | w. wire end ferrule, DIN 46228 pt 1, max.       | 1.5 mm <sup>2</sup> |
| Plug gauge acc. to EN 60999 a x b; Ø            | 2.4 mm x 1.5 mm; 1.9mm |                                                 |                     |

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**Technical data**
**Rated data acc. to IEC**

|                                                                           |                        |                                                                       |                  |
|---------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------|------------------|
| tested acc. to standard                                                   | IEC 60664-1, IEC 61984 | Rated current, min. no. of poles (Tu=20°C)                            | 17.5 A           |
| Rated current, max. no. of poles (Tu=20°C)                                | 17.5 A                 | Rated current, min. no. of poles (Tu=40°C)                            | 17.5 A           |
| Rated current, max. no. of poles (Tu=40°C)                                | 16.3 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**

|                               |                                                                                   |                               |                |
|-------------------------------|-----------------------------------------------------------------------------------|-------------------------------|----------------|
| Institute (CSA)               |  | Certificate No. (CSA)         | 200039-1121690 |
| Rated voltage (Use group B)   | 300 V                                                                             | Rated voltage (Use group C)   | 50 V           |
| Rated voltage (use group D)   | 300 V                                                                             | Rated current (use group B)   | 11 A           |
| Rated current (use group C)   | 11 A                                                                              | Rated current (use group D)   | 11 A           |
| Wire cross-section, AWG, min. | AWG 26                                                                            | Wire cross-section, AWG, max. | AWG 16         |
| Reference to approval values  | Specifications are maximum values, details - see approval certificate.            |                               |                |

**Rated data acc. to UL 1059**

|                               |                                                                                     |                               |        |
|-------------------------------|-------------------------------------------------------------------------------------|-------------------------------|--------|
| Institute (cURus)             |  | Certificate No. (cURus)       | E60693 |
| Rated voltage (use group B)   | 300 V                                                                               | Rated voltage (use group D)   | 300 V  |
| Rated current (use group B)   | 10 A                                                                                | Rated current (use group D)   | 10 A   |
| Wire cross-section, AWG, min. | AWG 26                                                                              | Wire cross-section, AWG, max. | AWG 16 |
| Reference to approval values  | Specifications are maximum values, details - see approval certificate.              |                               |        |

**Classifications**

|            |             |            |             |
|------------|-------------|------------|-------------|
| ETIM 4.0   | EC002637    | ETIM 5.0   | EC002637    |
| ETIM 6.0   | EC002637    | UNSPSC     | 30-21-18-10 |
| eClass 5.1 | 27-26-07-04 | eClass 6.2 | 27-26-07-04 |
| eClass 7.1 | 27-44-04-02 | eClass 8.1 | 27-44-04-02 |
| eClass 9.0 | 27-44-04-02 | eClass 9.1 | 27-44-04-02 |

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### Notes

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes          | <ul style="list-style-type: none"> <li>• Additional colours on request</li> <li>• Crimp shape A for wire-end ferrules with crimping tools PZ 1,5 (order no. 9005990000) or PZ 6/5 (order no. 9011460000) for larger wire cross-sections recommended.</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• Wire end ferrule without plastic collar to DIN 46228/1</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>• Conductors suitable for connection: 1.5 mm<sup>2</sup> with wire-end ferrule with plastic collar, DIN 46 228/1, with a rated voltage of 125V/2.5 kV with III/3 or 250 V/2.5 kV with II/2</li> </ul> |
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

### Approvals

Approvals



ROHS Conform

### Downloads

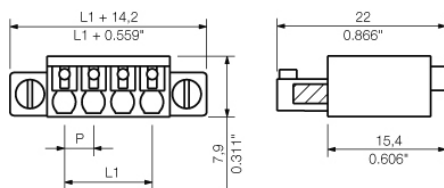
|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Brochure/Catalogue                          | <a href="#">FL DRIVES EN</a><br><a href="#">MB DEVICE MANUF. EN</a><br><a href="#">FL DRIVES DE</a><br><a href="#">CAT 2 PORTFOLIOGUIDE EN</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> |
| User Documentation                          | <a href="#">BPZL_PUSH_IN_Connectors_BCF_3_81_EN</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| White Paper wire connection                 | <a href="#">Download Whitepaper</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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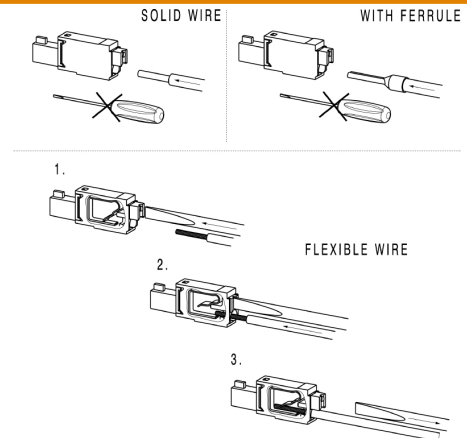
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## Drawings

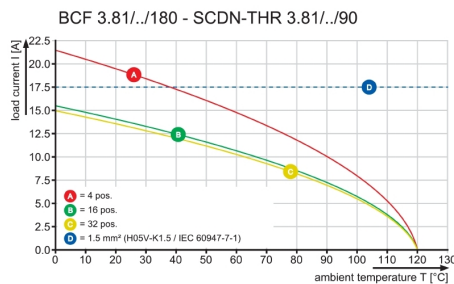
### Dimensional drawing



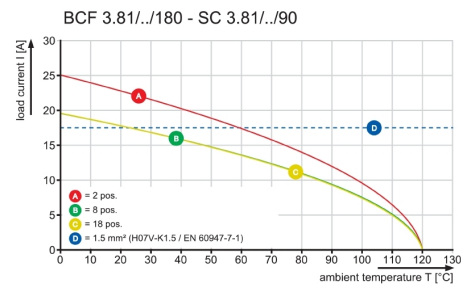
### Example of use



### Graph



### Graph



### Graph

