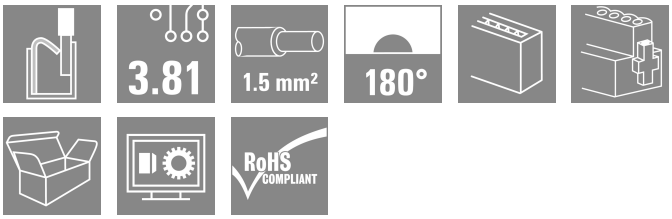
Data sheet

# BCF 3.81/03/180F SN BK BX

**Weidmüller Interface GmbH & Co. KG**
Klingenbergstraße 26
D-32758 Detmold
Germany

www.weidmueller.com

## Product image




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

| | |
|---|---|
| Version | PCB plug-in connector, female plug, 3.81 mm, Number of poles: 3, 180°, PUSH IN with push button, Clamping range, max. : 1.5 mm², Box |
| Order No. | 1971570000 |
| Type | BCF 3.81/03/180F SN BK BX |
| GTIN (EAN) | 4032248680504 |
| Qty. | 50 items |
| 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

### Approvals

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

### Dimensions and weights

| | | | |
|---|---|---|---|
| Depth | 22 mm | Depth (inches) | 0.8661 inch |
| Height | 7.9 mm | Height (inches) | 0.311 inch |
| Width | 21.82 mm | Width (inches) | 0.8591 inch |
| Net weight | 3.58 g | | |

### Environmental Product Compliance

| | |
|---|---|
| RoHS Compliance Status | Compliant without exemption |
| REACH SVHC | No SVHC above 0.1 wt% |

### System Parameters

| | | | | |
|---|---|---|---|---|
| Product family | OMNIMATE Signal - series BC/SC 3.81 | | | |
| Type of connection | Field connection | | | |
| Wire connection method | PUSH IN with push button | | | |
| Pitch in mm (P) | 3.81 mm | | | |
| Pitch in inches (P) | 0.150 " | | | |
| Conductor outlet direction | 180° | | | |
| Number of poles | 3 | | | |
| L1 in mm | 7.62 mm | | | |
| L1 in inches | 0.300 " | | | |
| Number of rows | 1 | | | |
| Pin series quantity | 1 | | | |
| Rated cross-section | 1 mm² | | | |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch | | | |
| Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged/ IP10 unplugged | | | |
| Protection degree | IP20 | | | |
| Volume resistance | ≤5 mΩ | | | |
| Can be coded | Yes | | | |
| Stripping length | 9 mm | | | |
| 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. | 7 N | | | |
| Tightening torque | Torque type | Screw flange | | |
| | Usage information | Tightening torque | min. | 0.15 Nm |
| | | | max. | 0.2 Nm |

### Material data

| | | | |
|---|---|---|---|
| Insulating material | PA 66 GF 30 | Colour | black |
| Colour of operational elements | white | Colour chart (similar) | RAL 9011 |

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| | | | |
|---|---|---|---|
| Insulating material group | II | Comparative Tracking Index (CTI) | ≥ 550 |
| Insulation resistance | ≥ 108 Ω | Moisture Level (MSL) | |
| UL 94 flammability rating | V-0 | Contact material | Copper alloy |
| Contact surface | tinned | Layer structure of plug contact | 4...8 µm Sn matt |
| 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. | 0.14 mm² | | | |
| Clamping range, max. | 1.5 mm² | | | |
| Wire connection cross section AWG, min. | AWG 26 | | | |
| Wire connection cross section AWG, max. | AWG 16 | | | |
| Solid, min. H05(07) V-U | 0.14 mm² | | | |
| Solid, max. H05(07) V-U | 1.5 mm² | | | |
| Flexible, min. H05(07) V-K | 0.14 mm² | | | |
| Flexible, max. H05(07) V-K | 1.5 mm² | | | |
| w. plastic collar ferrule, DIN 46228 pt 4, min. | 0.25 mm² | | | |
| w. plastic collar ferrule, DIN 46228 pt 4, max. | 1 mm² | | | |
| w. wire end ferrule, DIN 46228 pt 1, min. | 0.25 mm² | | | |
| w. wire end ferrule, DIN 46228 pt 1, max. | 1.5 mm² | | | |
| Plug gauge in accordance with EN 60999 a x b; ø | 2.4 mm x 1.5 mm; 1.9mm | | | |
| Clampable conductor | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 0.5 mm² | |
| | wire end ferrule | Stripping length | nominal | 12 mm |
| | | Recommended wire-end ferrule | H0,5/16 OR | |
| | | Stripping length | nominal | 10 mm |
| | | Recommended wire-end ferrule | H0,5/10 | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 0.75 mm² | |
| | wire end ferrule | Stripping length | nominal | 12 mm |
| | | Recommended wire-end ferrule | H0,75/16 W | |
| | | Stripping length | nominal | 10 mm |
| | | Recommended wire-end ferrule | H0,75/10 | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 1 mm² | |
| | wire end ferrule | Stripping length | nominal | 12 mm |
| | | Recommended wire-end ferrule | H1,0/16D R | |
| | | Stripping length | nominal | 10 mm |
| | | Recommended wire-end ferrule | H1,0/10 | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 0.34 mm² | |
| | wire end ferrule | Stripping length | nominal | 10 mm |
| | | Recommended wire-end ferrule | H0,34/12 TK | |

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| | |
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| 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) | 17.5 A |
| Rated current, max. number 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) | CSA | Certificate No. (CSA) | 200039-1121690 |
| Rated voltage (Use group B / CSA) | 300 V | Rated voltage (Use group C / CSA) | 50 V |
| Rated voltage (Use group D / CSA) | 300 V | Rated current (Use group B / CSA) | 10 A |
| Rated current (Use group D / CSA) | 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. |

### Rated data acc. to UL 1059

| | | | |
|---|---|---|---|
| Institute (cURus) | 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 26 | Wire cross-section, AWG, max. | AWG 16 |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. | | |

### Packing

| | | | |
|---|---|---|---|
| Packaging | Box | VPE length | 235.00 mm |
| VPE width | 118.00 mm | VPE height | 28.00 mm |

### Type tests

| | | |
|---|---|---|
| Test: Misengagement (Non-interchangeability) | Test | visual examination |
| | Evaluation | passed |

### 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 | • 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.<br>• Rated current related to rated cross-section & min. No. of poles.<br>• P on drawing = pitch<br>• Conductors suitable for connection: 1.5 mm² 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 |

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- 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.
- Wire end ferrule without plastic collar to DIN 46228/1
- Wire end ferrule with plastic collar to DIN 46228/4
- The test point can only be used as potential-pickup point.
- 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
- Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

### Classifications

| | | | |
|---|---|---|---|
| ETIM 8.0 | EC002638 | ETIM 9.0 | EC002638 |
| ETIM 10.0 | EC002638 | ECLASS 14.0 | 27-46-02-02 |
| ECLASS 15.0 | 27-46-02-02 | | |

# BCF 3.81/03/180F SN BK BX

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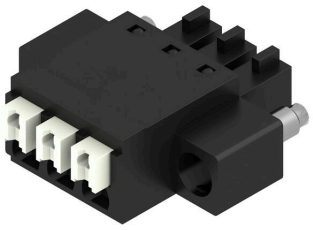
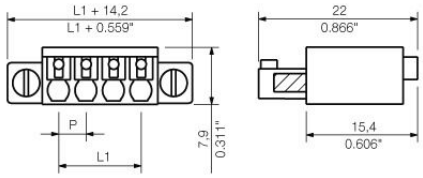
## Drawings

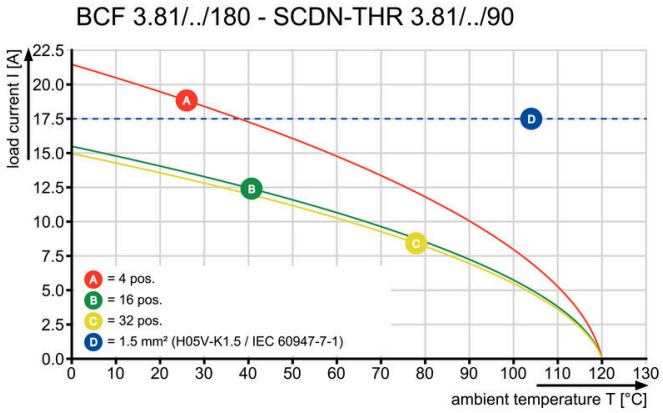
### Product image



### Dimensional drawing




### Graph

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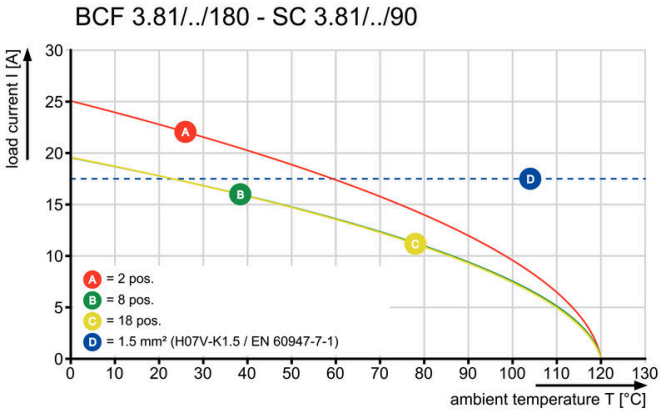


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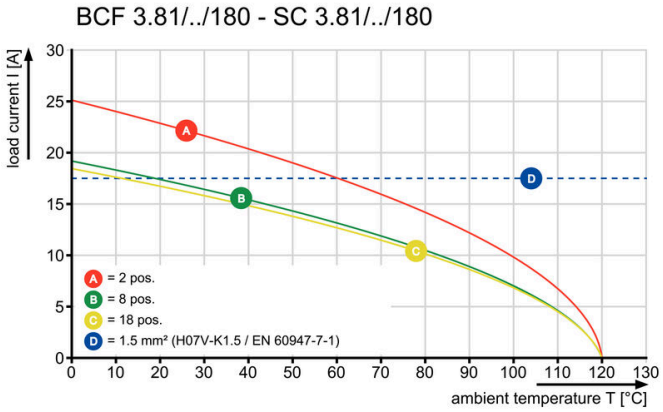
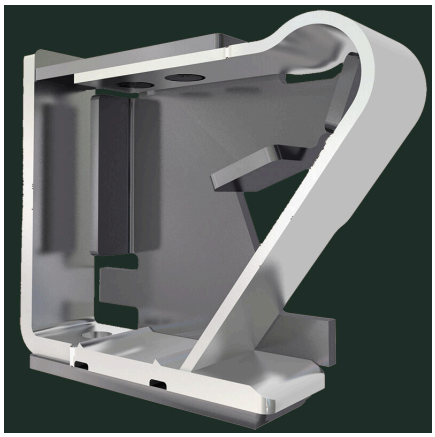



### Product benefits



Solid PUSH IN contactSafe and durable

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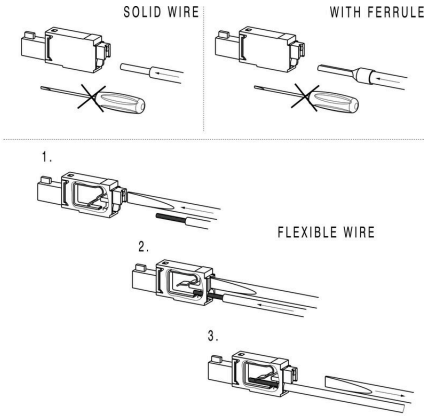
### Example of use