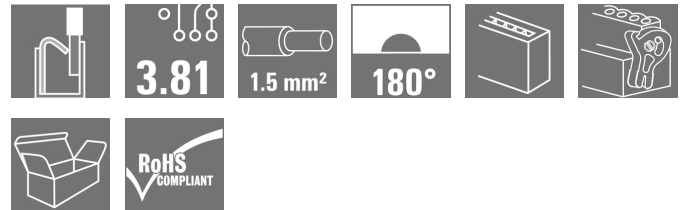


**OMNIMATE Signal - series BC/SC 3.81**  
**BCF 3.81/20/180LR SN BK BX**

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 16  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
[www.weidmueller.com](http://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**

|              |                                                                                                                                             |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | BCF 3.81/20/180LR SN BK BX                                                                                                                  |
| Order No.    | <a href="#">2442900000</a>                                                                                                                  |
| Version      | PCB plug-in connector, female plug, 3.81 mm, No. of poles: 20, 180°, PUSH IN, Tension-clamp connection, Clamping range, max. : 1.5 mm², Box |
| GTIN (EAN)   | 4050118543001                                                                                                                               |
| 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

|            |          |                 |            |
|------------|----------|-----------------|------------|
| Width      | 86.79 mm | Width (inches)  | 3.417 inch |
| Height     | 15.09 mm | Height (inches) | 0.594 inch |
| Depth      | 28.45 mm | Depth (inches)  | 1.12 inch  |
| Net weight | 14.28 g  |                 |            |

### system parameters

|                                              |                                     |                                            |                   |
|----------------------------------------------|-------------------------------------|--------------------------------------------|-------------------|
| Product family                               | OMNIMATE Signal - series BC/SC 3.81 | Type of connection                         | Field connection  |
| Wire connection method                       | PUSH IN, Tension-clamp connection   | Pitch in mm (P)                            | 3.81 mm           |
| Pitch in inches (P)                          | 0.15 inch                           | Conductor outlet direction                 | 180°              |
| No. of poles                                 | 20                                  | L1 in mm                                   | 72.39 mm          |
| L1 in inches                                 | 2.85 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                                | Actuating force actuating element, max.    | 40 N              |
| 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                                 |                                            |                   |

### Material data

|                                       |                |                                       |                     |
|---------------------------------------|----------------|---------------------------------------|---------------------|
| Insulating material                   | PA 66 GF 30    | Colour                                | black               |
| Colour of operational elements        | white          | Material of operational elements      | PPA GF              |
| Colour chart (similar)                | RAL 9011       | Insulating material group             | II                  |
| CTI                                   | ≥ 550          | Insulation strength                   | ≥ 10 <sup>8</sup> Ω |
| UL 94 flammability rating             | V-0            | GWFI                                  | 960 °C              |
| Contact material                      | Copper alloy   | Contact surface                       | tinned              |
| 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, 0.25 mm <sup>2</sup> min. |                      |
| w. plastic collar ferrule, DIN 46228 pt 4, 1 mm <sup>2</sup> max.    |                      |
| w. wire end ferrule, DIN 46228 pt 1, min 0.25 mm <sup>2</sup>        |                      |
| w. wire end ferrule, DIN 46228 pt 1, 1.5 mm <sup>2</sup> max.        |                      |

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**Technical data**

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 mm <sup>2</sup>  |       |
|                     | AEH                                    | Stripping length | nominal              | 12 mm |
|                     |                                        | Stripping length | nominal              | 10 mm |
|                     | Cross-section for conductor connection | Type             | fine-wired           |       |
|                     |                                        | nominal          | 0.75 mm <sup>2</sup> |       |
|                     | AEH                                    | Stripping length | nominal              | 12 mm |
|                     |                                        | Stripping length | nominal              | 10 mm |
|                     | Cross-section for conductor connection | Type             | fine-wired           |       |
|                     |                                        | nominal          | 1 mm <sup>2</sup>    |       |
|                     | AEH                                    | Stripping length | nominal              | 12 mm |
|                     |                                        | Stripping length | nominal              | 10 mm |
|                     | Cross-section for conductor connection | Type             | fine-wired           |       |
|                     |                                        | nominal          | 0.34 mm <sup>2</sup> |       |
|                     | AEH                                    | Stripping length | nominal              | 10 mm |

Reference text The outside diameter of the plastic collar should not be larger than the pitch (P).

Max. clamping range 1.5 mm<sup>2</sup>

**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**

|                                   |        |                                   |        |
|-----------------------------------|--------|-----------------------------------|--------|
| 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) | 11 A   |
| Rated current (Use group C / CSA) | 11 A   | Rated current (Use group D / CSA) | 11 A   |
| Wire cross-section, AWG, min.     | AWG 26 | Wire cross-section, AWG, max.     | AWG 16 |

**Rated data acc. to UL 1059**

Institute (cURus)



Certificate No. (cURus)

E60693

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

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**Technical data**
**Packing**

|           |     |            |     |
|-----------|-----|------------|-----|
| Packaging | Box | VPE length | 0 m |
| VPE width | 0 m | VPE height | 0 m |

**Classifications**

|            |             |            |             |
|------------|-------------|------------|-------------|
| ETIM 4.0   | EC002637    | ETIM 5.0   | EC002637    |
| ETIM 6.0   | EC002638    | eClass 6.2 | 27-26-07-04 |
| eClass 9.0 | 27-44-03-09 | eClass 9.1 | 27-44-03-09 |

**Notes**

## Notes

|                |                                                                                                                                                                                                                                                                                                                            |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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**

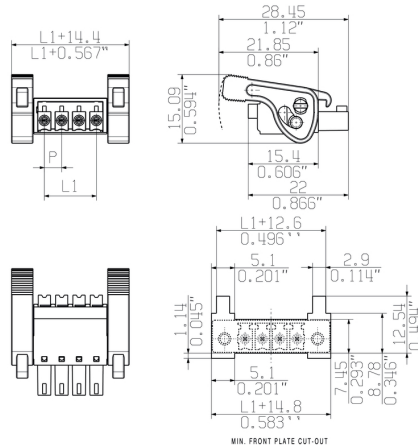
|                                             |                                                                 |
|---------------------------------------------|-----------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">CB Certificate</a><br><a href="#">CB Testreport</a> |
| Engineering Data                            | <a href="#">STEP</a>                                            |
| White Paper wire connection                 | <a href="#">Download Whitepaper</a>                             |

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## Drawings

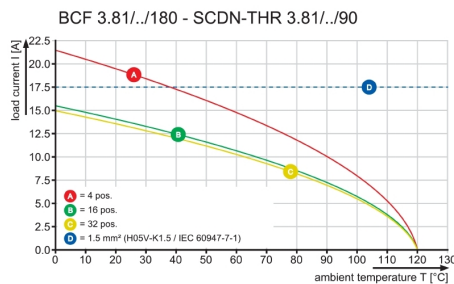
### Product benefits



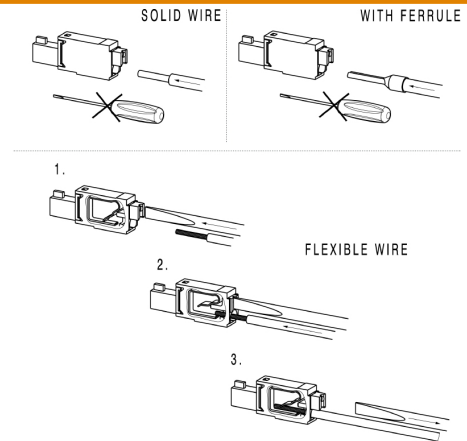
Self-locking

Immediately on plugging in

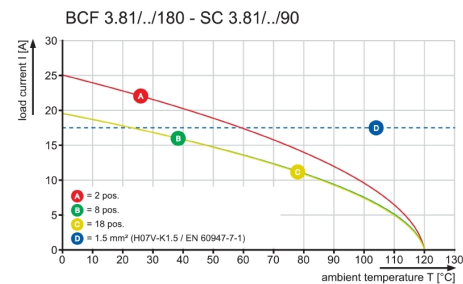
### Graph



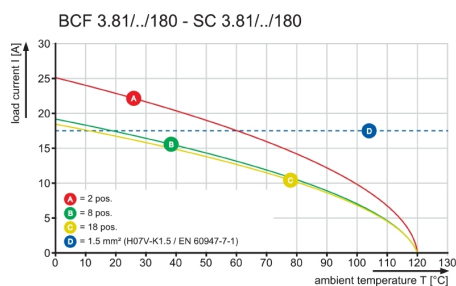
### Example of use



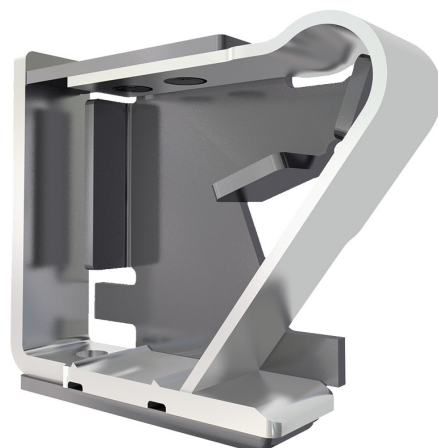
### Graph



### Graph

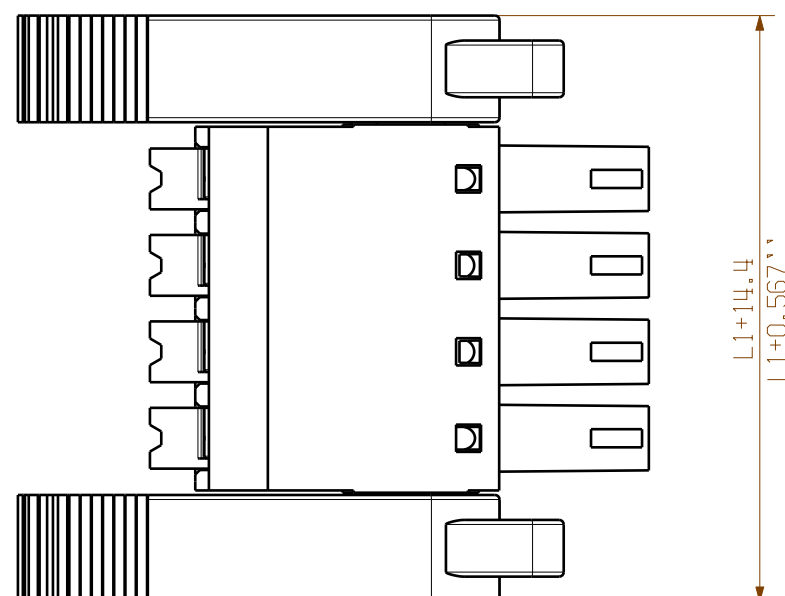
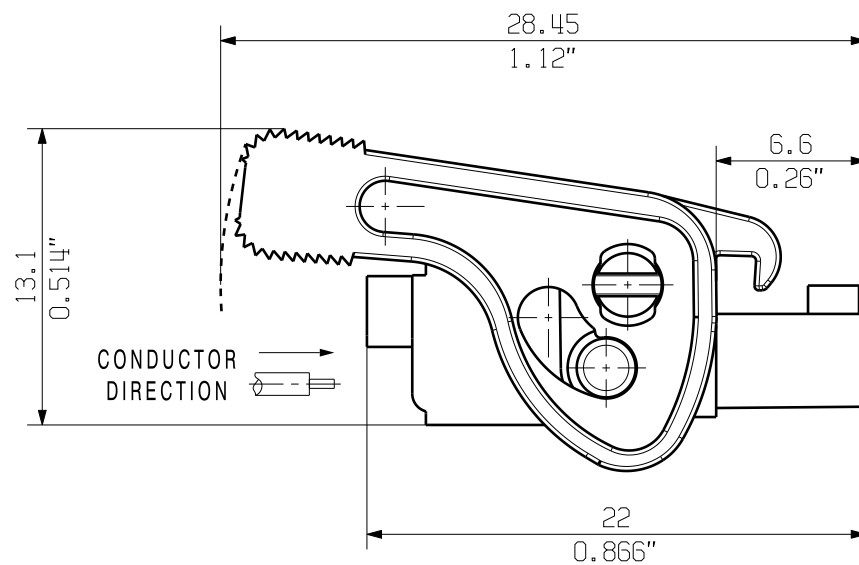


### Product benefits



Solid PUSH IN contact  
Safe and durable

© Weidmueller Interface GmbH & Co. KG



P = 3.81 RASTER  
0.15" PITCH

|    |         |           |
|----|---------|-----------|
| 20 | 72.39   | 2.850     |
| 19 | 68.58   | 2.700     |
| 18 | 64.77   | 2.550     |
| 17 | 60.96   | 2.400     |
| 16 | 57.15   | 2.250     |
| 15 | 53.34   | 2.100     |
| 14 | 49.53   | 1.950     |
| 13 | 45.72   | 1.800     |
| 12 | 41.91   | 1.650     |
| 11 | 38.10   | 1.500     |
| 10 | 34.29   | 1.350     |
| 9  | 30.48   | 1.200     |
| 8  | 26.67   | 1.050     |
| 7  | 22.86   | 0.900     |
| 6  | 19.05   | 0.750     |
| 5  | 15.24   | 0.600     |
| 4  | 11.43   | 0.450     |
| 3  | 7.62    | 0.300     |
| 2  | 3.81    | 0.150     |
| n  | L1 [mm] | L1 [inch] |

|                                                                                       |           |                             |  |                                                                                                      |                                                                                       |                        |            |  |
|---------------------------------------------------------------------------------------|-----------|-----------------------------|--|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------|------------|--|
| GENERAL TOLERANCE:<br>DIN ISO 2768-m                                                  |           | 86251/0<br>26.05.16 XIANG_K |  | 00                                                                                                   |  |                        | Cat.no.: . |  |
|  | Max. nos. | Modification                |  | <b>C 63182</b>  |                                                                                       |                        |            |  |
|  |           | Date                        |  | Name                                                                                                 | <b>BCF 3.81...180LR...</b><br>BUCHSENLEISTE<br>SOCKET BLOCK                           |                        |            |  |
|                                                                                       |           | Drawn                       |  | 17.02.2016                                                                                           |                                                                                       |                        |            |  |
| Scale: 3/1                                                                            |           | Responsible                 |  |                                                                                                      |                                                                                       |                        |            |  |
| Supersedes: .                                                                         |           | Checked                     |  | 26.05.2016                                                                                           | ZHOU_N                                                                                | Product file: BCF 3.81 |            |  |
|                                                                                       |           | Approved                    |  |                                                                                                      | XU_S                                                                                  |                        |            |  |