

# BLF 5.00HC/02/180 SN BK BX SO

**Weidmüller Interface GmbH & Co. KG**

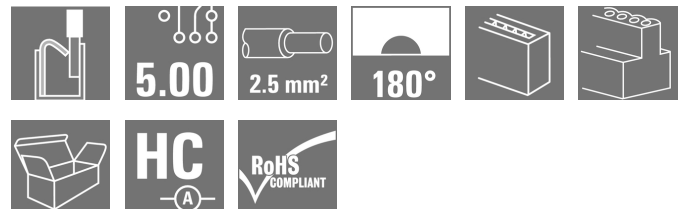
Klingenbergstraße 26

D-32758 Detmold

Germany

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

## Product image



Similar to illustration

Just as reliable as the millionfold proven original and featuring innovative details:

The BLF 5.00HC PUSH IN version of the BLZ 5.00HC female connector features a new connection system and a more compact design. Weidmüller's innovative PUSH IN spring connection system stands for the future of easy and tool-free wire connection. HC = High Current. In terms of versatility, the BLF 5.00HC offers just as much as the older versions:

- 3 tested-and-proven wire outlet directions provide the usual flexibility for application-specific design
- 4 flange variations and the patented release latch allow the locking concept to be based on the requirements of the user

## General ordering data

|              |                                                                                                                                        |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Version      | PCB plug-in connector, female plug, 5.00 mm, Number of poles: 2, 180°, PUSH IN, Spring connection, Clamping range, max.: 3.31 mm², Box |
| Order No.    | <a href="#">1994970000</a>                                                                                                             |
| Type         | BLF 5.00HC/02/180 SN BK BX SO                                                                                                          |
| GTIN (EAN)   | 4050118381474                                                                                                                          |
| Qty.         | 180 pc(s).                                                                                                                             |
| Product data | IEC: 400 V / 23 A / 0.2 - 2.5 mm²<br>UL: 300 V / 18.5 A / AWG 26 - AWG 12                                                              |
| Packaging    | Box                                                                                                                                    |

Creation date March 26, 2021 7:57:01 PM CET

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## Technical data

## Dimensions and weights

|                |            |                 |            |
|----------------|------------|-----------------|------------|
| Depth          | 27.6 mm    | Depth (inches)  | 1.087 inch |
| Height         | 14.2 mm    | Height (inches) | 0.559 inch |
| Net weight     | 3.59 g     | Width           | 10 mm      |
| Width (inches) | 0.394 inch |                 |            |

## System Parameters

|                                              |                                     |                                            |                     |
|----------------------------------------------|-------------------------------------|--------------------------------------------|---------------------|
| Product family                               | OMNIMATE Signal - series BL/SL 5.00 | Type of connection                         | Field connection    |
| Wire connection method                       | PUSH IN, Spring connection          | Pitch in mm (P)                            | 5 mm                |
| Pitch in inches (P)                          | 0.197 inch                          | Conductor outlet direction                 | 180°                |
| Number of poles                              | 2                                   | L1 in mm                                   | 5 mm                |
| L1 in inches                                 | 0.197 inch                          | Number of rows                             | 1                   |
| Pin series quantity                          | 1                                   | Rated cross-section                        | 2.5 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                             | 10 mm                               | Screwdriver blade                          | 0.6 x 3.5           |
| Screwdriver blade standard                   | DIN 5264                            | Plugging cycles                            | 25                  |
| Plugging force/pole, max.                    | 7 N                                 | Pulling force/pole, max.                   | 5.5 N               |

## Material data

|                                       |          |                                       |                            |
|---------------------------------------|----------|---------------------------------------|----------------------------|
| Insulating material                   | PBT      | Colour                                | black                      |
| Colour chart (similar)                | RAL 9011 | Insulating material group             | IIIa                       |
| Comparative Tracking Index (CTI)      | ≥ 200    | Insulation strength                   | ≥ 10 <sup>8</sup> Ω        |
| UL 94 flammability rating             | V-0      | Contact material                      | CuSn                       |
| Contact surface                       | tinned   | Layer structure of plug contact       | 4...8 µm Sn hot-dip tinned |
| Storage temperature, min.             | -40 °C   | Storage temperature, max.             | 70 °C                      |
| Operating temperature, min.           | -50 °C   | Operating temperature, max.           | 100 °C                     |
| Temperature range, installation, min. | -30 °C   | Temperature range, installation, max. | 100 °C                     |

## Conductors suitable for connection

|                                                                     |                      |
|---------------------------------------------------------------------|----------------------|
| Clamping range, min.                                                | 0.13 mm <sup>2</sup> |
| Clamping range, max.                                                | 3.31 mm <sup>2</sup> |
| Wire connection cross section AWG, min.                             | AWG 26               |
| Wire connection cross section AWG, max.                             | AWG 12               |
| Solid, min. H05(07) V-U                                             | 0.2 mm <sup>2</sup>  |
| Solid, max. H05(07) V-U                                             | 2.5 mm <sup>2</sup>  |
| Flexible, min. H05(07) V-K                                          | 0.2 mm <sup>2</sup>  |
| Flexible, max. H05(07) V-K                                          | 2.5 mm <sup>2</sup>  |
| w. plastic collar ferrule, DIN 46228 pt 4, 2.5 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, max.                           | 2.5 mm <sup>2</sup>  |
| Plug gauge in accordance with EN 60999 a x b; ø                     | 2.8 mm x 2.0 mm      |

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## Technical data

|                     |                                                                                                                                                                        |                              |                            |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------|
| Clampable conductor | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                 |
|                     |                                                                                                                                                                        | nominal                      | 0.5 mm <sup>2</sup>        |
|                     | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 12 mm              |
|                     |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.5/16 OR</a> |
|                     |                                                                                                                                                                        | Stripping length             | nominal 10 mm              |
|                     |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.5/10</a>    |
|                     | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                 |
|                     |                                                                                                                                                                        | nominal                      | 0.75 mm <sup>2</sup>       |
|                     | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 12 mm              |
|                     |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.75/16 W</a> |
|                     |                                                                                                                                                                        | Stripping length             | nominal 10 mm              |
|                     |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0.75/10</a>   |
|                     | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                 |
|                     |                                                                                                                                                                        | nominal                      | 1 mm <sup>2</sup>          |
|                     | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 12 mm              |
|                     |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H1.0/16D R</a> |
|                     |                                                                                                                                                                        | Stripping length             | nominal 10 mm              |
|                     |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H1.0/10</a>    |
|                     | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                 |
|                     |                                                                                                                                                                        | nominal                      | 1.5 mm <sup>2</sup>        |
|                     | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 10 mm              |
|                     |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H1.5/10</a>    |
|                     |                                                                                                                                                                        | Stripping length             | nominal 12 mm              |
|                     |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H1.5/16 R</a>  |
|                     | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                 |
|                     |                                                                                                                                                                        | nominal                      | 2.5 mm <sup>2</sup>        |
|                     | wire end ferrule                                                                                                                                                       | Stripping length             | nominal 10 mm              |
|                     |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H2.5/10</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)                         | 23 A              |
| Rated current, max. number of poles (Tu=20°C)                             | 18 A                   | Rated current, min. number of poles (Tu=40°C)                         | 21 A              |
| Rated current, max. number of poles (Tu=40°C)                             | 16 A                   | Rated voltage for surge voltage class / pollution degree II/2         | 400 V             |
| Rated voltage for surge voltage class / pollution degree III/2            | 320 V                  | Rated voltage for surge voltage class / pollution degree III/3        | 250 V             |
| Rated impulse voltage for surge voltage class/ pollution degree II/2      | 4 kV                   | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 4 kV              |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 4 kV                   | Short-time withstand current resistance                               | 3 x 1s with 120 A |

## Rated data acc. to CSA

|                                   |        |                                   |        |
|-----------------------------------|--------|-----------------------------------|--------|
| Rated voltage (Use group B / CSA) | 300 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 12 | Wire cross-section, AWG, max.     | AWG 26 |

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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) 18.5 A

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

Wire cross-section, AWG, min. AWG 26

Wire cross-section, AWG, max. AWG 12

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

## Packing

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 30 mm  |
| VPE width | 135 mm | VPE height | 350 mm |

## Type tests

|                                              |                |                                                                                    |                              |
|----------------------------------------------|----------------|------------------------------------------------------------------------------------|------------------------------|
| Test: Durability of markings                 | Standard       | IEC 61984 section 6.2 and 7.3.2 / 10.08 taking pattern from IEC 60068-2-70 / 12.95 |                              |
|                                              | Test           | mark of origin, type identification, pitch, type of material, date clock           |                              |
|                                              | Evaluation     | available                                                                          |                              |
|                                              | Test           | durability                                                                         |                              |
|                                              | Evaluation     | passed                                                                             |                              |
| Test: Misengagement (Non-interchangeability) | Standard       | IEC 61984 section 6.3 and 6.9.1 / 10.08, IEC 60512-13-5 / 02.06                    |                              |
|                                              | Test           | 180° turned with coding elements                                                   |                              |
|                                              | Evaluation     | passed                                                                             |                              |
|                                              | Test           | visual examination                                                                 |                              |
|                                              | Evaluation     | passed                                                                             |                              |
| Test: Clampable cross section                | Standard       | IEC 60999-1 section 7 and 9.1 / 11.99, IEC 60947-1 section 8.2.4.5.1 / 06.07       |                              |
|                                              | Conductor type | Type of conductor and conductor cross-section                                      | solid 0.2 mm <sup>2</sup>    |
|                                              |                | Type of conductor and conductor cross-section                                      | stranded 0.2 mm <sup>2</sup> |
|                                              |                | Type of conductor and conductor cross-section                                      | solid 2.5 mm <sup>2</sup>    |
|                                              |                | Type of conductor and conductor cross-section                                      | stranded 2.5 mm <sup>2</sup> |
|                                              |                | Type of conductor and conductor cross-section                                      | AWG 26/1                     |
|                                              |                | Type of conductor and conductor cross-section                                      | AWG 26/19                    |
|                                              |                | Type of conductor and conductor cross-section                                      | AWG 14/1                     |
|                                              |                | Type of conductor and conductor cross-section                                      | AWG 14/19                    |
|                                              | Evaluation     | passed                                                                             |                              |

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Catalogue status 12.03.2021 / We reserve the right to make technical changes.

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**Technical data**

|                                                           |                |                                               |           |
|-----------------------------------------------------------|----------------|-----------------------------------------------|-----------|
| Test for damage to and accidental loosening of conductors | Standard       | IEC 60999-1 section 9.4 / 11.99               |           |
|                                                           | Requirement    | 0.2 kg                                        |           |
|                                                           | Conductor type | Type of conductor and conductor cross-section | AWG 26/1  |
|                                                           |                | Type of conductor and conductor cross-section | AWG 26/19 |
|                                                           | Evaluation     | passed                                        |           |
|                                                           | Requirement    | 0.3 kg                                        |           |
|                                                           | Conductor type | Type of conductor and conductor cross-section | H05V-U0.5 |
|                                                           |                | Type of conductor and conductor cross-section | H05V-K0.5 |
|                                                           | Evaluation     | passed                                        |           |
|                                                           | Requirement    | 0.7 kg                                        |           |
|                                                           | Conductor type | Type of conductor and conductor cross-section | H07V-U2.5 |
|                                                           |                | Type of conductor and conductor cross-section | H07V-K2.5 |
|                                                           |                | Type of conductor and conductor cross-section | AWG 14/1  |
|                                                           |                | Type of conductor and conductor cross-section | AWG 14/19 |
|                                                           | Evaluation     | passed                                        |           |
| Pull-out test                                             | Standard       | IEC 60999-1 section 9.5 / 11.99               |           |
|                                                           | Requirement    | ≥10 N                                         |           |
|                                                           | Conductor type | Type of conductor and conductor cross-section | AWG 26/1  |
|                                                           |                | Type of conductor and conductor cross-section | AWG 26/19 |
|                                                           | Evaluation     | passed                                        |           |
|                                                           | Requirement    | ≥20 N                                         |           |
|                                                           | Conductor type | Type of conductor and conductor cross-section | H05V-U0.5 |
|                                                           |                | Type of conductor and conductor cross-section | H05V-K0.5 |
|                                                           | Evaluation     | passed                                        |           |
|                                                           | Requirement    | ≥50 N                                         |           |
|                                                           | Conductor type | Type of conductor and conductor cross-section | H07V-U2.5 |
|                                                           |                | Type of conductor and conductor cross-section | H07V-K2.5 |
|                                                           |                | Type of conductor and conductor cross-section | AWG 14/1  |
|                                                           |                | Type of conductor and conductor cross-section | AWG 14/19 |
|                                                           | Evaluation     | passed                                        |           |

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**Technical data****Classifications**

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| 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
- Additional colours on request
  - Gold-plated contact surfaces on request
  - Rated current related to rated cross-section & min. No. of poles.
  - Wire end ferrule without plastic collar to DIN 46228/1
  - Wire end ferrule with plastic collar to DIN 46228/4
  - P on drawing = pitch
  - Crimping shape "A" for wire end ferrules with PZ 6/5 crimping tool recommended.
  - The test point can only be used as potential-pickup point.
  - Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

**Approvals**

Approvals



|                       |         |
|-----------------------|---------|
| ROHS                  | Conform |
| UL File Number Search | E60693  |

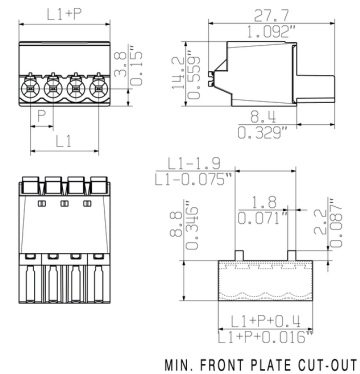
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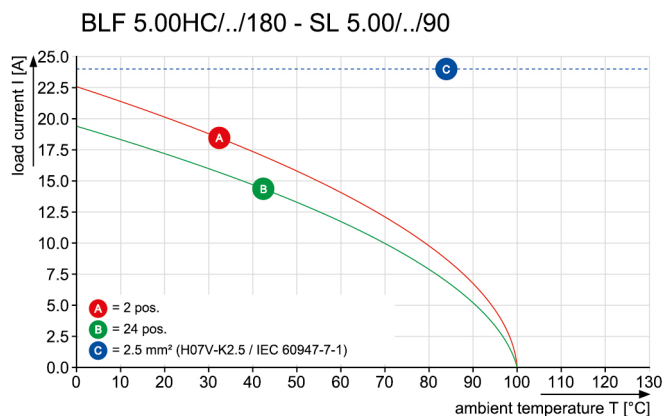
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## Drawings

### Dimensional drawing



### Graph

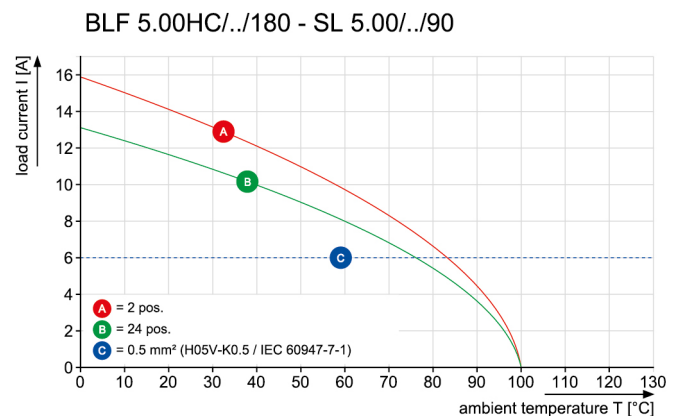


### Product benefits



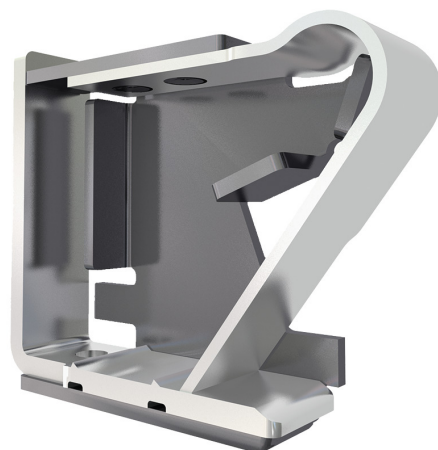
Uncompromising functionality  
High vibration resistance

### Graph



Uncompromising functionality  
High vibration resistance

### Product benefits



Solid PUSH IN contact  
Safe and durable

### BLF 5.00HC/02/180 SN BK BX SO

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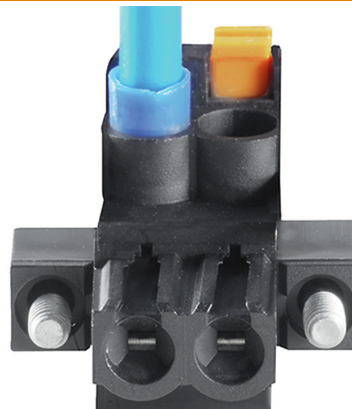
## Drawings

### Product benefits



Cost-effective wiring  
Quick and intuitive operation

### Product benefits



Wide clamping range  
Tool-free wire connection