

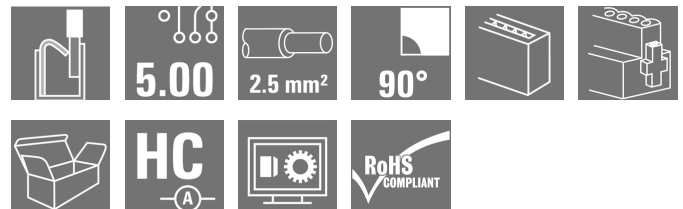
**BLF 5.00HC/20/90F SN BK BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

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: 20, 90°, PUSH IN, Spring connection, Clamping range, max.: 3.31 mm², Box |
| Order No.    | <a href="#">1979640000</a>                                                                                                             |
| Type         | BLF 5.00HC/20/90F SN BK BX                                                                                                             |
| GTIN (EAN)   | 4032248674848                                                                                                                          |
| Qty.         | 12 pc(s).                                                                                                                              |
| Product data | IEC: 400 V / 24 A / 0.2 - 2.5 mm²<br>UL: 300 V / 18.5 A / AWG 26 - AWG 12                                                              |
| Packaging    | Box                                                                                                                                    |

Creation date March 26, 2021 6:30:48 PM CET

## BLF 5.00HC/20/90F SN BK BX

Weidmüller Interface GmbH &amp; Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

## Technical data

## Dimensions and weights

|                |            |                 |            |
|----------------|------------|-----------------|------------|
| Depth          | 26.2 mm    | Depth (inches)  | 1.031 inch |
| Height         | 20.8 mm    | Height (inches) | 0.819 inch |
| Net weight     | 45.83 g    | Width           | 109.8 mm   |
| Width (inches) | 4.323 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                   | 90°                                 |                   |                             |
| Number of poles                              | 20                                  |                   |                             |
| L1 in mm                                     | 95 mm                               |                   |                             |
| L1 in inches                                 | 3.743 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                               |                   |                             |
| Tightening torque                            | Torque type                         | Screw flange      |                             |
|                                              | Usage information                   | Tightening torque | min. 0.2 Nm<br>max. 0.25 Nm |

## 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>  |

Creation date March 26, 2021 6:30:48 PM CET

## BLF 5.00HC/20/90F SN BK BX

Weidmüller Interface GmbH &amp; Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

## Technical data

|                                                          |                                                                                                                                                                        |                              |                            |       |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------|-------|
| Solid, max. H05(07) V-U                                  | 2.5 mm²                                                                                                                                                                |                              |                            |       |
| Flexible, min. H05(07) V-K                               | 0.2 mm²                                                                                                                                                                |                              |                            |       |
| Flexible, max. H05(07) V-K                               | 2.5 mm²                                                                                                                                                                |                              |                            |       |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.25 mm² min. |                                                                                                                                                                        |                              |                            |       |
| w. plastic collar ferrule, DIN 46228 pt 4, 2.5 mm² max.  |                                                                                                                                                                        |                              |                            |       |
| w. wire end ferrule, DIN 46228 pt 1, 0.25 mm² min.       |                                                                                                                                                                        |                              |                            |       |
| w. wire end ferrule, DIN 46228 pt 1, 2.5 mm² max.        |                                                                                                                                                                        |                              |                            |       |
| Plug gauge in accordance with EN 60999 a x b; ø          | 2.8 mm x 2.0 mm                                                                                                                                                        |                              |                            |       |
| 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 | <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 mm²                   |       |
|                                                          | 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 mm²                      |       |
|                                                          | 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 mm²                    |       |
|                                                          | 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 mm²                    |       |
|                                                          | 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. |                              |                            |       |

## BLF 5.00HC/20/90F SN BK BX

Weidmüller Interface GmbH &amp; Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

## Technical data

## Rated data acc. to IEC

tested acc. to standard

IEC 60664-1, IEC 61984

Rated current, max. number of poles  
(Tu=20°C)

19 A

Rated current, max. number of poles  
(Tu=40°C)

16.5 A

Rated voltage for surge voltage class /  
pollution degree III/2

320 V

Rated impulse voltage for surge voltage  
class/ pollution degree II/2

4 kV

Rated impulse voltage for surge voltage  
class/ contamination degree III/3

4 kV

Rated current, min. number of poles  
(Tu=20°C)

24 A

Rated current, min. number of poles  
(Tu=40°C)

21 A

Rated voltage for surge voltage class /  
pollution degree II/2

400 V

Rated voltage for surge voltage class /  
pollution degree III/3

250 V

Rated impulse voltage for surge voltage  
class/ pollution degree III/2

4 kV

Short-time withstand current resistance

3 x 1s with 120 A

## Rated data acc. to CSA

Institute (CSA)



Certificate No. (CSA)

200039-1121690

Rated voltage (Use group B / CSA)

300 V

Rated current (Use group B / CSA)

10 A

Wire cross-section, AWG, min.

AWG 12

Reference to approval values

Specifications are  
maximum values, details -  
see approval certificate.

Rated voltage (Use group D / CSA)

300 V

Rated current (Use group D / CSA)

10 A

Wire cross-section, AWG, max.

AWG 26

## Rated data acc. to UL 1059

Institute (cURus)



Certificate No. (cURus)

E60693

Rated voltage (Use group B / UL 1059)

300 V

Rated current (Use group B / UL 1059)

18.5 A

Wire cross-section, AWG, min.

AWG 26

Reference to approval values

Specifications are  
maximum values, details -  
see approval certificate.

Rated voltage (Use group D / UL 1059)

300 V

Rated current (Use group D / UL 1059)

10 A

Wire cross-section, AWG, max.

AWG 12

## 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

## BLF 5.00HC/20/90F SN BK BX

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

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

## Technical data

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

## BLF 5.00HC/20/90F SN BK BX

Weidmüller Interface GmbH &amp; Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

## 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                                        |           |

**BLF 5.00HC/20/90F SN BK BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**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  |

**Downloads**

|                                             |                                                 |
|---------------------------------------------|-------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a> |
| Engineering Data                            | <a href="#">STEP</a>                            |
| Engineering Data                            | <a href="#">EPLAN, WSCAD</a>                    |

## BLF 5.00HC/20/90F SN BK BX

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

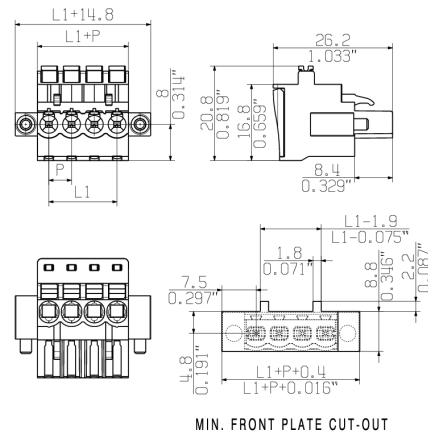
[www.weidmueller.com](http://www.weidmueller.com)

# Drawings

## Product image



## Dimensional drawing



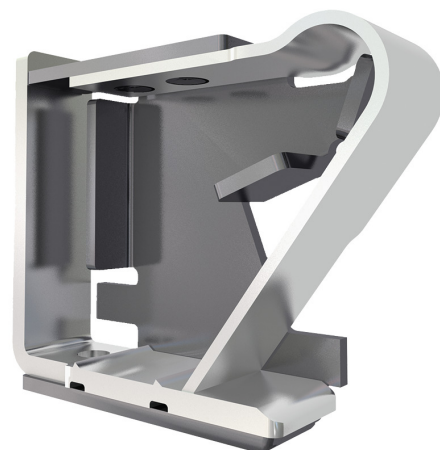
## Product benefits



Uncompromising functionality  
High vibration resistance

Uncompromising functionality  
High vibration resistance

## Product benefits



Solid PUSH IN contact  
Safe and durable

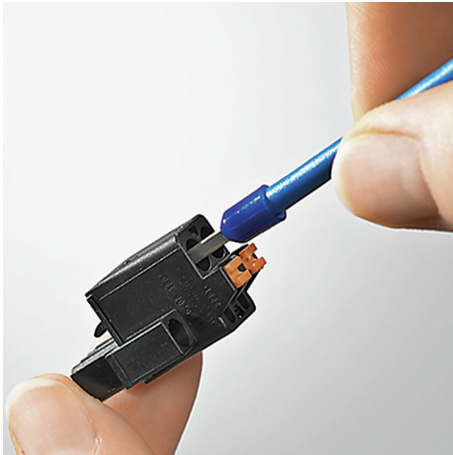
### BLF 5.00HC/20/90F SN BK BX

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

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

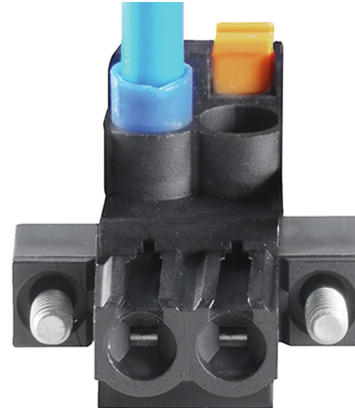
## Drawings

### Product benefits



Cost-effective wiring  
Quick and intuitive operation

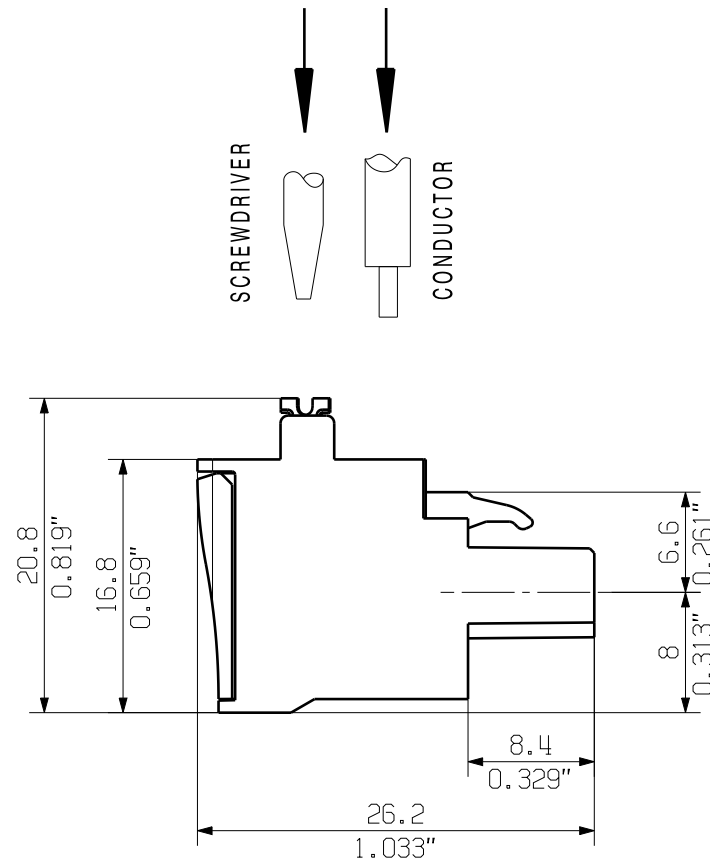
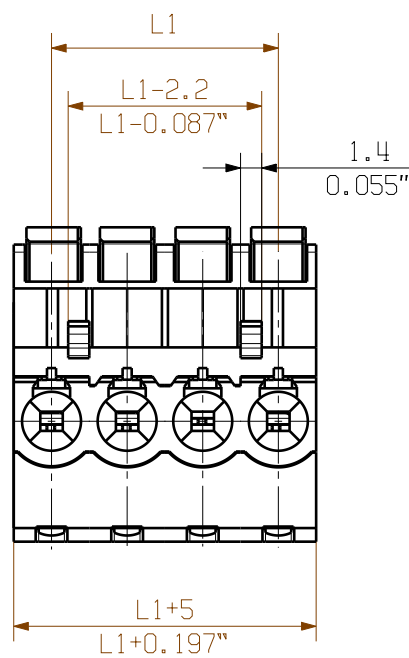
### Product benefits



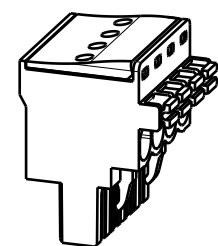
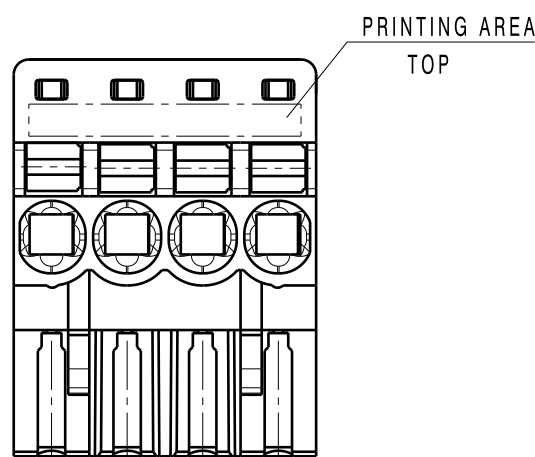
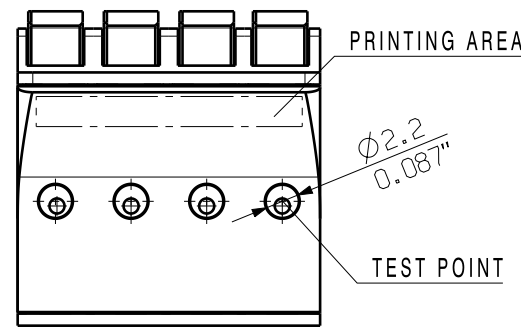
Wide clamping range  
Tool-free wire connection

MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE  
DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

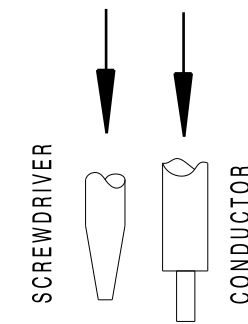
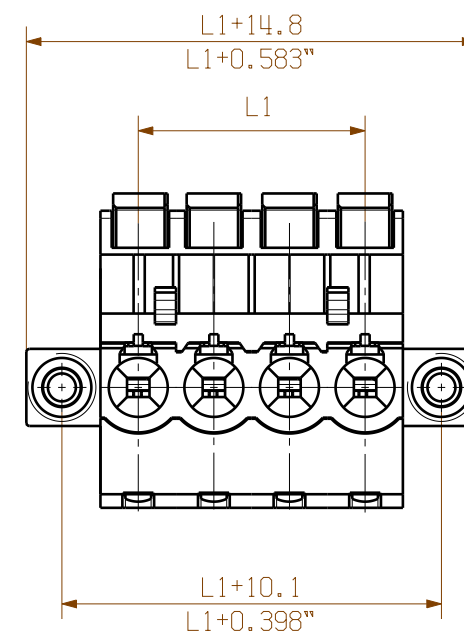
DIE DEUTSCHE VERSION IST VERBINDLICH  
THE GERMAN VERSION IS BINDING



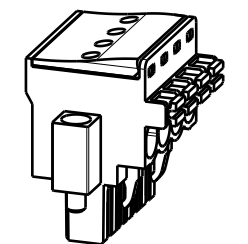
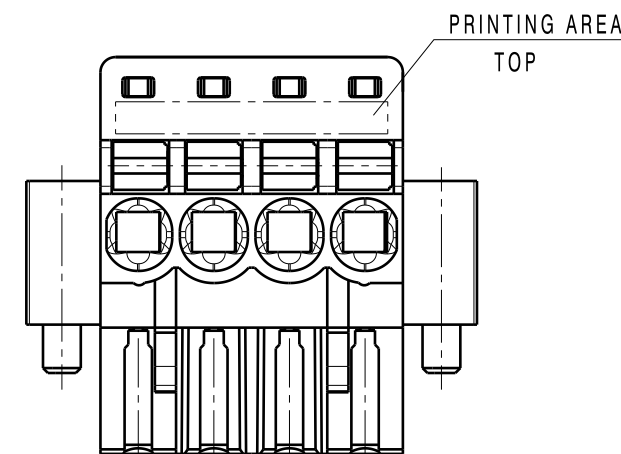
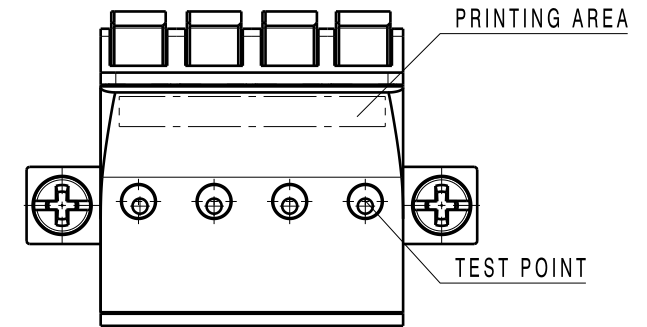
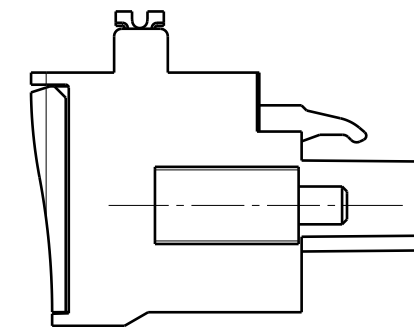
SHOWN: BLF 5.00HC/04/90G SN ...



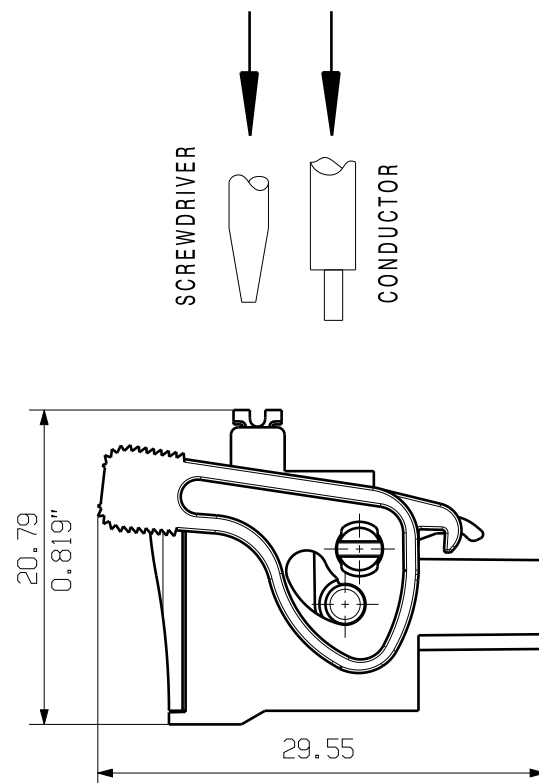
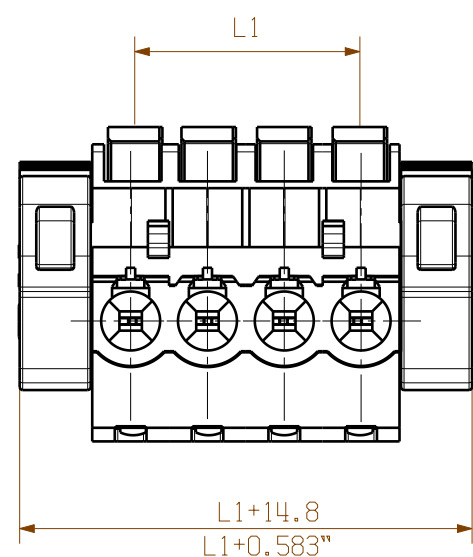
M 1:1



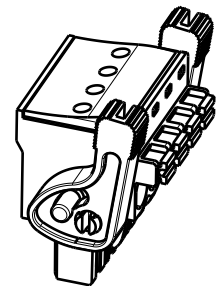
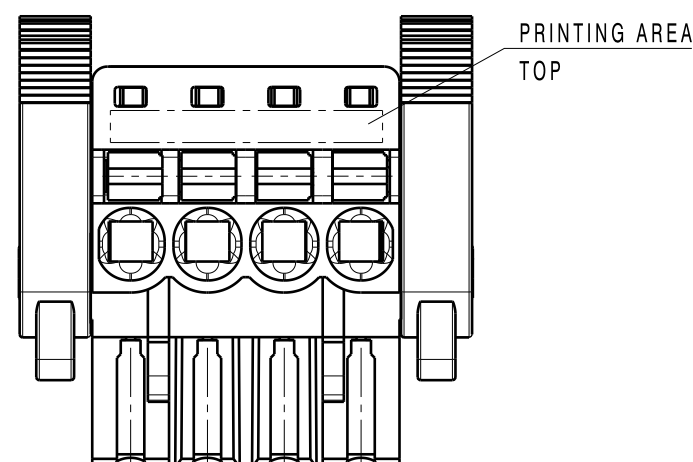
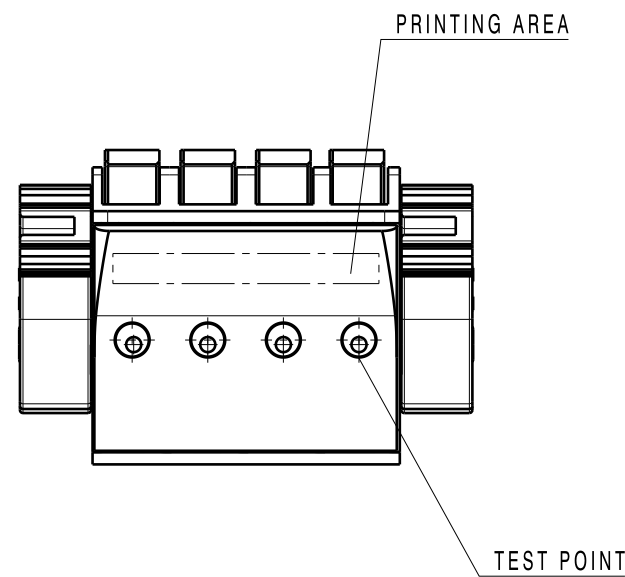
SHOWN: BLF 5.00HC/04/90F SN ...



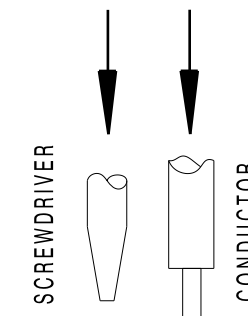
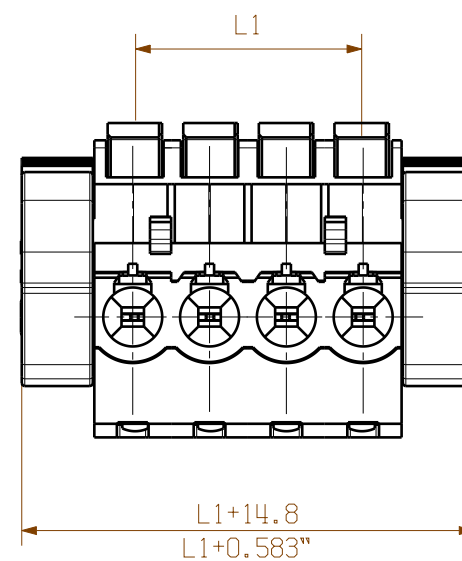
M 1:1



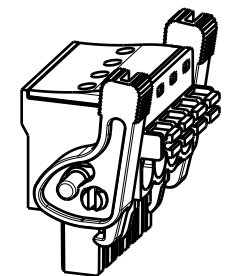
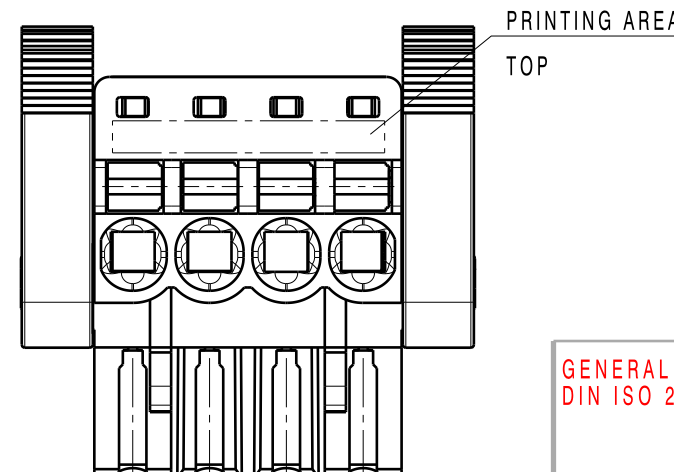
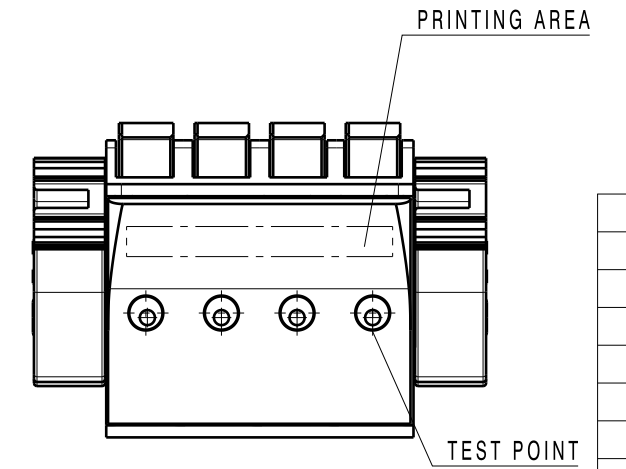
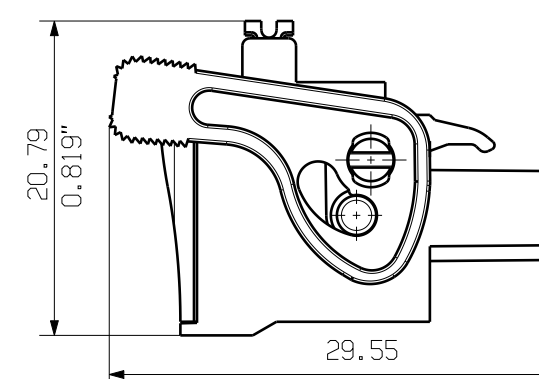
SHOWN: BLF 5.00HC/.../90LR SN ...



1:1



SHOWN: BLF 5.00HC/04/90LH SN ...



M 1:1

For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone.  
The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.  
The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application.  
Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

P = 5.08 RASTER/PITCH

n = POLZAHL/NO OF POLES

|    |        |          |
|----|--------|----------|
| 20 | 95     | 3.743    |
| 19 | 90     | 3.546    |
| 18 | 85     | 3.349    |
| 17 | 80     | 3.152    |
| 16 | 75     | 2.955    |
| 15 | 70     | 2.758    |
| 14 | 65     | 2.561    |
| 13 | 60     | 2.364    |
| 12 | 55     | 2.167    |
| 11 | 50     | 1.970    |
| 10 | 45     | 1.773    |
| 9  | 40     | 1.576    |
| 8  | 35     | 1.379    |
| 7  | 30     | 1.182    |
| 6  | 25     | 0.985    |
| 5  | 20     | 0.788    |
| 4  | 15     | 0.591    |
| 3  | 10     | 0.394    |
| 2  | 5      | 0.197    |
| n  | L1[mm] | L1[Inch] |

|                                                                                       |  |                                 |          |                                                                                                         |  |
|---------------------------------------------------------------------------------------|--|---------------------------------|----------|---------------------------------------------------------------------------------------------------------|--|
| GENERAL TOLERANCE:<br>DIN ISO 2768-m                                                  |  | 85270/5<br>03.12.15 HELIS_MA 01 |          | CAT.NO.:..                                                                                              |  |
|  |  | MODIFICATION                    |          | <b>Weidmüller</b>  |  |
|  |  | DATE                            | NAME     | C 44231 07                                                                                              |  |
| DRAWN                                                                                 |  | 29.11.2007                      | HUANG_PA | DRAWING NO.                                                                                             |  |
| RESPONSIBLE                                                                           |  |                                 | HERTEL_S | SHEET 01 OF 01 SHEETS                                                                                   |  |
| CHECKED                                                                               |  | 18.12.2015                      | HELIS_MA | <b>BLF 5.00HC../90...</b><br>BUCHSENLEISTE<br>SOCKET BLOCK                                              |  |
| APPROVED                                                                              |  |                                 | LANG_T   |                                                                                                         |  |
| SCALE: 2/1                                                                            |  |                                 |          |                                                                                                         |  |
| SUPERSEDES: .                                                                         |  |                                 |          |                                                                                                         |  |
|                                                                                       |  |                                 |          | PRODUCT FILE: BLF 5.00 7379                                                                             |  |

