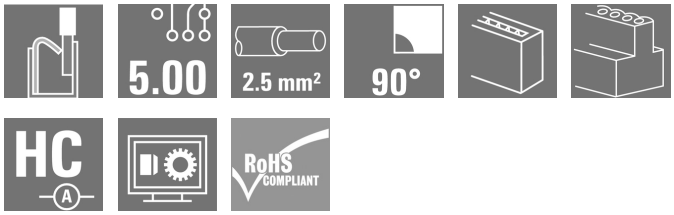
# BLF 5.00HC/12/90 SN OR BX

**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: 12, 90°, PUSH IN with actuator, Clamping range, max. : 3.31 mm², Box |
| Order No. | 1980270000 |
| Type | BLF 5.00HC/12/90 SN OR BX |
| GTIN (EAN) | 4032248675357 |
| Qty. | 30 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 December 1, 2023 1:18:59 PM CET

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## Technical data

### Dimensions and weights

| | | | |
|---|---|---|---|
| Depth | 26.2 mm | Depth (inches) | 1.031 inch |
| Height | 20.8 mm | Height (inches) | 0.819 inch |
| Width | 60 mm | Width (inches) | 2.362 inch |
| Net weight | 25.833 g | | |

### System Parameters

| | | | |
|---|---|---|---|
| Product family | OMNIMATE Signal - series BL/SL 5.00 | Type of connection | Field connection |
| Wire connection method | PUSH IN with actuator | Pitch in mm (P) | 5 mm |
| Pitch in inches (P) | 0.197 inch | Conductor outlet direction | 90° |
| Number of poles | 12 | L1 in mm | 55 mm |
| L1 in inches | 2.167 inch | Number of rows | 1 |
| Pin series quantity | 1 | Rated cross-section | 2.5 mm² |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from back-of-hand touch | Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged/ IP10 unplugged |
| Protection degree | IP20 | Volume resistance | ≤5 mΩ |
| Can be coded | Yes | Stripping length | 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 | orange |
| Colour chart (similar) | RAL 2000 | Insulating material group | IIIa |
| Comparative Tracking Index (CTI) | ≥ 200 | 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 mm² |
| Clamping range, max. | 3.31 mm² |
| Wire connection cross section AWG, min. | AWG 26 |
| Wire connection cross section AWG, max. | AWG 12 |
| Solid, min. H05(07) V-U | 0.2 mm² |
| 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, min. | 0.25 mm² |
| w. plastic collar ferrule, DIN 46228 pt 4, max. | 2.5 mm² |
| w. wire end ferrule, DIN 46228 pt 1, min. | 0.25 mm² |
| w. wire end ferrule, DIN 46228 pt 1, max. | 2.5 mm² |
| 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 mm² | |
| | wire end ferrule | Stripping length | nominal | 12 mm |
| | | Recommended wire-end ferrule | H0,5/16 OR | |
| | | Stripping length | nominal | 10 mm |
| | | Recommended wire-end ferrule | H0,5/10 | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 0.75 mm² | |
| | wire end ferrule | Stripping length | nominal | 12 mm |
| | | Recommended wire-end ferrule | H0,75/16 W | |
| | | Stripping length | nominal | 10 mm |
| | | Recommended wire-end ferrule | H0,75/10 | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 1 mm² | |
| | wire end ferrule | Stripping length | nominal | 12 mm |
| | | Recommended wire-end ferrule | H1,0/16D R | |
| | | Stripping length | nominal | 10 mm |
| | | Recommended wire-end ferrule | H1,0/10 | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 1.5 mm² | |
| | wire end ferrule | Stripping length | nominal | 10 mm |
| | | Recommended wire-end ferrule | H1,5/10 | |
| | | Stripping length | nominal | 12 mm |
| | | Recommended wire-end ferrule | H1,5/16 R | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 2.5 mm² | |
| | wire end ferrule | Stripping length | nominal | 10 mm |
| | | Recommended wire-end ferrule | H2,5/10 | |
| 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) | 24 A |
| Rated current, max. number of poles (Tu=20°C) | 19 A | Rated current, min. number of poles (Tu=40°C) | 21 A |
| Rated current, max. number of poles (Tu=40°C) | 16.5 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 |

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## Technical data

### Rated data acc. to CSA

| | | | |
|---|---|---|---|
| Institute (CSA) | | Certificate No. (CSA) | 200039-1121690 |
| 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 |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. | | |

### Rated data acc. to UL 1059

| | | | |
|---|---|---|---|
| Institute (cURus) | | Certificate No. (cURus) | E60693 |
| Rated voltage (Use group B / 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 | 349 mm |
| VPE width | 134 mm | VPE height | 32 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 |

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## Technical data

| | | | |
|---|---|---|---|
| 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 mm² |
| | | Type of conductor and conductor cross-section | stranded 0.2 mm² |
| | | Type of conductor and conductor cross-section | solid 2.5 mm² |
| | | Type of conductor and conductor cross-section | stranded 2.5 mm² |
| | | 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 | |
| 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 | |

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## Technical data

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

### Classifications

| | | | |
|---|---|---|---|
| ETIM 6.0 | EC002638 | ETIM 7.0 | EC002638 |
| ETIM 8.0 | EC002638 | ETIM 9.0 | 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 |
| ECLASS 12.0 | 27-46-02-02 | ECLASS 13.0 | 27460202 |

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## Technical data

### 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 variants on request<br>• Gold-plated contact surfaces on request<br>• Rated current related to rated cross-section & min. No. of poles.<br>• Wire end ferrule without plastic collar to DIN 46228/1<br>• Wire end ferrule with plastic collar to DIN 46228/4<br>• P on drawing = pitch<br>• Crimping shape "A" for wire end ferrules with PZ 6/5 crimping tool recommended.<br>• The test point can only be used as potential-pickup point.<br>• In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load<br>• Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months |

### Approvals

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

### Downloads

| | |
|---|---|
| Approval/Certificate/Document of Conformity | Declaration of the Manufacturer |
| Engineering Data | CAD data – STEP |
| Catalogues | Catalogues in PDF-format |
| Brochures | FL DRIVES EN<br>MB DEVICE MANUF. EN<br>FL DRIVES DE<br>FL BUILDING SAFETY EN<br>FL APPL LED LIGHTING EN<br>FL INDUSTR.CONTROLS EN<br>FL MACHINE SAFETY EN<br>FL HEATING ELECTR EN<br>FL APPL_INVERTER EN<br>FL_BASE_STATION_EN<br>FL ELEVATOR EN<br>FL POWER SUPPLY EN<br>FL 72H SAMPLE SER EN<br>PO OMNIMATE EN<br>PO OMNIMATE EN |

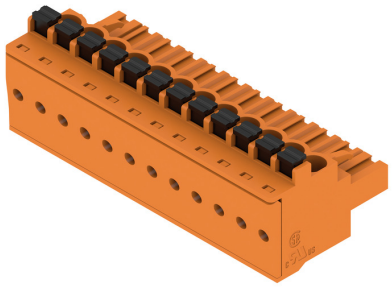
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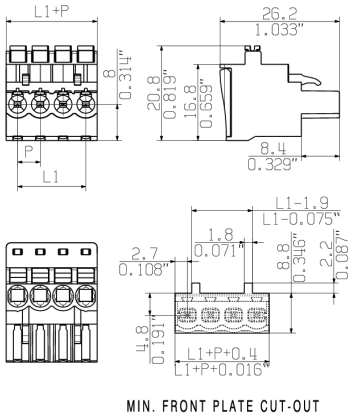
www.weidmueller.com

## Drawings

### Product image



### Dimensional drawing




MIN. FRONT PLATE CUT-OUT

### Product benefits



Uncompromising functionality
High vibration resistance

### Product benefits



Uncompromising functionality
High vibration resistance
Solid PUSH IN contact
Safe and durable

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## Accessories

### Coding elements



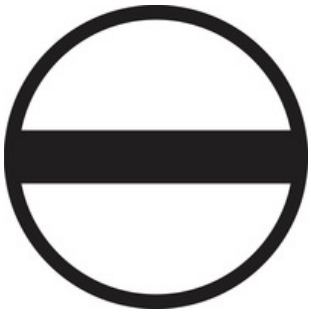
**Only connects what is supposed to be connected: the right connection at the right place.**
Coding elements and locking devices clearly assign connecting elements during the manufacturing process and operation
The coding elements and locking devices are inserted prior to assembly or during the cable assembly phase.
The Weidmüller alternative: configure online using the variant configurator to precode prior to delivery.
Incorrect assembly on the circuit board and incorrect plugging of connecting elements is no longer possible.
The advantage: no troubleshooting during manufacture and no operational errors by the user.

### General ordering data

| | | | | |
|---|---|---|---|---|
| Type | BLZ/SL KO BK BX | Version | Product data | Packaging |
| Order No. | 1545710000 | PCB plug-in connector, Accessories, Coding element, black, Number | | Box |
| GTIN (EAN) | 4008190087142 | of poles: 1 | | |
| Qty. | 50 pc(s). | | | |

| | | | | |
|---|---|---|---|---|
| Type | BLZ/SL KO OR BX | Version | Product data | Packaging |
| Order No. | 1573010000 | PCB plug-in connector, Accessories, Coding element, orange, Number | | Box |
| GTIN (EAN) | 4008190048396 | of poles: 1 | | |
| Qty. | 100 pc(s). | | | |

### Slotted screwdriver



Slotted screwdriver with rounded blade SD DIN 5265, ISO 2380/2, output to DIN 5264, ISO 2380/1. ChromTop tip, SoftFinish grip

### General ordering data

| | | |
|---|---|---|
| Type | SDS 0.6X3.5X200 | Version |
| Order No. | 9010110000 | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248300754 | |
| Qty. | 1 pc(s). | |

| | | |
|---|---|---|
| Type | SDS 0.6X3.5X100 | Version |
| Order No. | 2749340000 | Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade |
| GTIN (EAN) | 4050118895568 | thickness (A): 0.6 mm |
| Qty. | 10 pc(s). | |

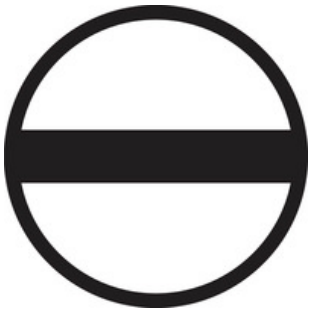
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## Accessories

### Slotted screwdriver



VDE insulated slot-head screwdriver, SDI DIN 7437, ISO 2380/2, drive output acc. to DIN 5264, ISO 2380/1. SoftFinish grip

### General ordering data

| | | |
|---|---|---|
| Type | SDIS 0.6X3.5X100 | Version |
| Order No. | 2749810000 | Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade |
| GTIN (EAN) | 4050118897012 | thickness (A): 0.6 mm |
| Qty. | 1 pc(s). | |

# BLF 5.00HC/12/90 SN OR BX

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## Drawings

### Product benefits



Cost-effective wiring
Quick and intuitive operation

### Product benefits

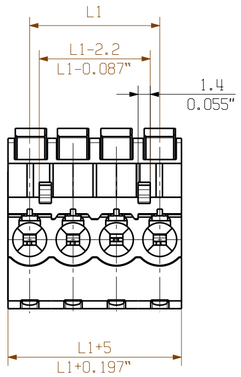


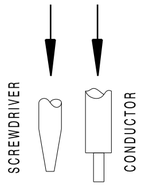
Wide clamping range
Tool-free wire connection

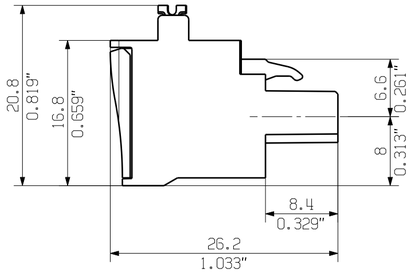
MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE
DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

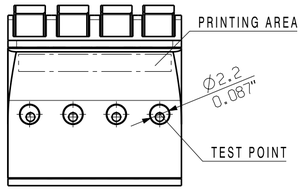
DIE DEUTSCHE VERSION IST VERBINDLICH
THE GERMAN VERSION IS BINDING

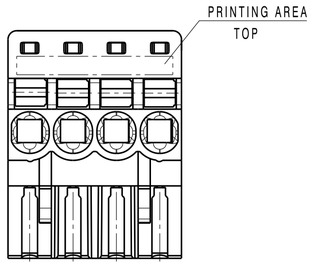
SHOWN: BLF 5.00HC/04/90G SN ...

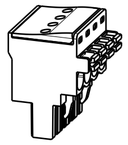


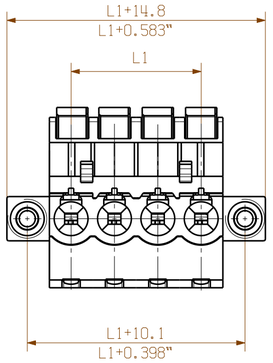



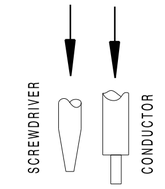



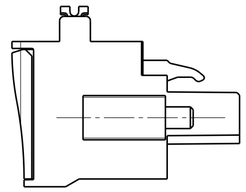



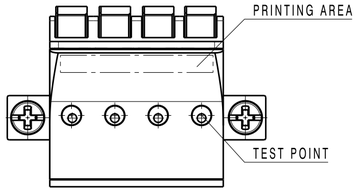
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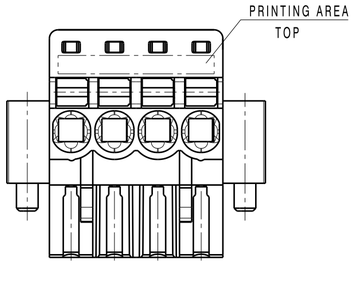


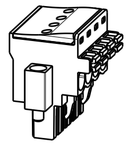




SHOWN: BLF 5.00HC/04/90F SN ...



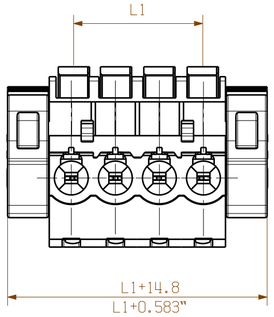


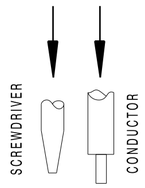



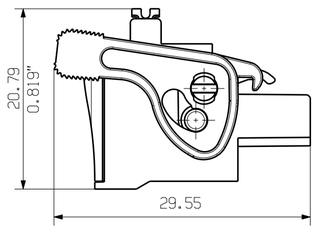



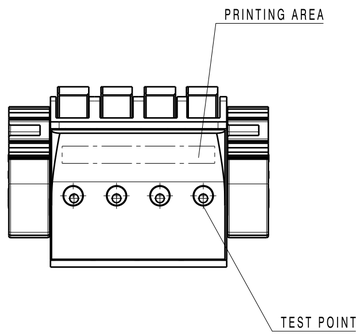
M 1:1

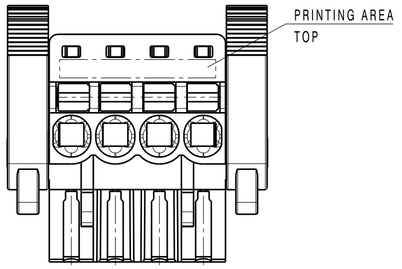
SHOWN: BLF 5.00HC/.../90LR SN ...

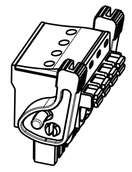


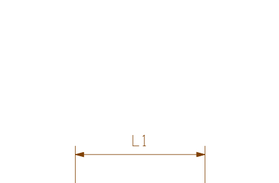



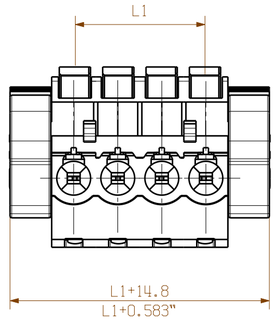



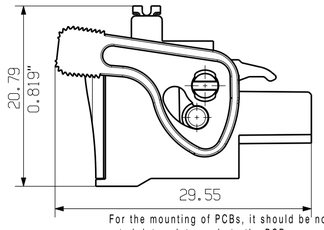



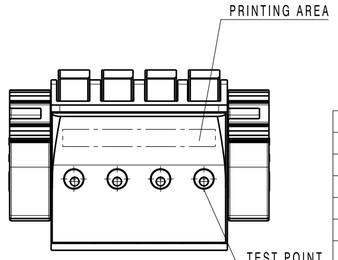
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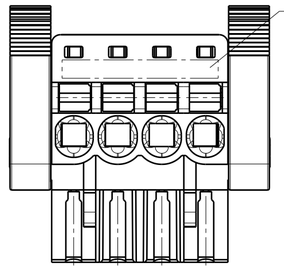
SHOWN: BLF 5.00HC/04/90LH SN ...



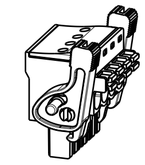




For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone.
The neccessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.
The current-carrying capacity and pitch tolerance is 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 occuring of electrical, mechanical, thermic and corrosive stress will be satisfied.

P = 5.08 RASTER/PITCH

n = POLZAHL/NO OF POLES



M 1:1

| | | |
|---|---|---|
| 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:
DIN ISO 2768-m

RoHS COMPLIANT

85270/5
03.12.15 HELIS_MA 01
MODIFICATION

CAT.NO.:.

Weidmüller

C 44231 07
DRAWING NO. ISSUE NO.
SHEET 01 OF 01 SHEETS

| | DATE | NAME |
|---|---|---|
| DRAWN | 29.11.2007 | HUANG_PA |
| RESPONSIBLE | | HERTEL_S |
| CHECKED | 18.12.2015 | HELIS_MA |
| APPROVED | | LANG_T |

SCALE: 2/1
SUPERSEDES: .

BLF 5.00HC/../90...
BUCHSENLEISTE
SOCKET BLOCK

PRODUCT FILE: BLF 5.00 7379

WEITERGABE SOWIE VERVIELFAELTIGUNG DIESES DOKUMENTS, VERWERTUNG UND MITTEILUNG SEINES INHALTS SIND VERBOTEN, SOWEIT NICHT AUSDRUECKLICH GESTATTET.
ZUWIDERHANDLUNGEN VERPFLICHTEN ZU SCHADENERSATZ. ALLE RECHTE FUER DEN FALL DER PATENT-, GEBRAUCHSMUSTER- ODER GESCHMACKSMUSTEREINTRAGUNG VORBEHALTEN.
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