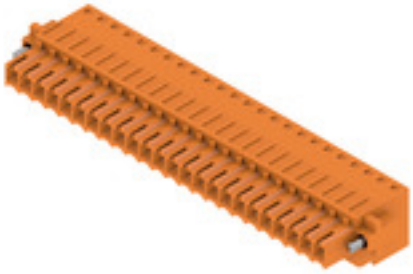
# BLZF 3.50/24/180F SN OR BX

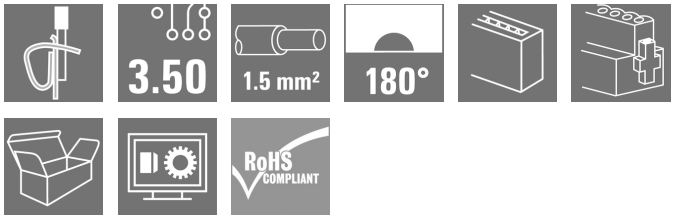
**Weidmüller Interface GmbH & Co. KG**
Klingenbergstraße 26
D-32758 Detmold
Germany

www.weidmueller.com

Do not use product for new developments

## Product image






Female connectors with tension clamp system for connecting cables in 3.50 pitch. They provide space for labelling and can be coded.

### General ordering data

| | |
|---|---|
| Version | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 24, 180°, Tension-clamp connection, Clamping range, max. : 1.5 mm², Box |
| Order No. | 1691100000 |
| Type | BLZF 3.50/24/180F SN OR BX |
| GTIN (EAN) | 4008190329617 |
| Qty. | 20 pc(s). |
| Product data | IEC: 320 V / 14.5 A / 0.2 - 1.5 mm²<br>UL: 300 V / 10 A / AWG 26 - AWG 14 |
| Packaging | Box |
| Delivery status | This article will no longer be available in the future. |
| Available until | 2024-09-30 |
| Alternative product | 2459560000 |

Creation date August 19, 2024 12:52:40 PM CEST

# BLZF 3.50/24/180F SN OR BX

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

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## Technical data

### Dimensions and weights

| | | | |
|---|---|---|---|
| Depth | 21.9 mm | Depth (inches) | 0.862 inch |
| Height | 13 mm | Height (inches) | 0.512 inch |
| Width | 91 mm | Width (inches) | 3.583 inch |
| Net weight | 23.19 g | | |

### System Parameters

| | |
|---|---|
| Product family | OMNIMATE Signal - series BL/SL 3.50 |
| Type of connection | Field connection |
| Wire connection method | Tension-clamp connection |
| Pitch in mm (P) | 3.5 mm |
| Pitch in inches (P) | 0.138 " |
| Conductor outlet direction | 180° |
| Number of poles | 24 |
| L1 in mm | 80.5 mm |
| L1 in inches | 3.169 " |
| Number of rows | 1 |
| Pin series quantity | 1 |
| Rated cross-section | 1.5 mm² |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch |
| Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged/ IP10 unplugged |
| Protection degree | IP20, when fully mounted |
| Volume resistance | ≤5 mΩ |
| Can be coded | Yes |
| Stripping length | 10 mm |
| Tightening torque for screw flange, min. | 0.15 Nm |
| Tightening torque for screw flange, max. | 0.2 Nm |
| Screwdriver blade | 0.4 x 2.5 |
| Screwdriver blade standard | DIN 5264-A |
| Plugging cycles | 25 |
| Plugging force/pole, max. | 7 N |
| Pulling force/pole, max. | 5 N |

| Tightening torque | | | | |
|---|---|---|---|---|
| | Torque type | Screw flange | | |
| | Usage information | Tightening torque | min. | 0.15 Nm |
| | | | max. | 0.2 Nm |

### 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 | Cu-alloy | 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. | 1.5 mm² |
| Wire connection cross section AWG, min. | AWG 28 |

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## Technical data

| | | | |
|---|---|---|---|
| Wire connection cross section AWG, max. | AWG 16 | | |
| Solid, min. H05(07) V-U | 0.2 mm² | | |
| Solid, max. H05(07) V-U | 1.5 mm² | | |
| Flexible, min. H05(07) V-K | 0.2 mm² | | |
| Flexible, max. H05(07) V-K | 1.5 mm² | | |
| w. plastic collar ferrule, DIN 46228 pt 4, min. | 0.2 mm² | | |
| w. plastic collar ferrule, DIN 46228 pt 4, max. | 1 mm² | | |
| w. wire end ferrule, DIN 46228 pt 1, min. | 0.2 mm² | | |
| w. wire end ferrule, DIN 46228 pt 1, max. | 1.5 mm² | | |
| Outer diameter of insulation, max. | 2.9 mm | | |
| Plug gauge in accordance with EN 60999 a x b; ø | 2.4 mm x 1.5 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 | 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 |
| 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. | | |

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## Technical data

### Rated data acc. to IEC

| | | | |
|---|---|---|---|
| tested acc. to standard | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C) | 14.5 A |
| Rated current, max. number of poles (Tu=20°C) | 10 A | Rated current, min. number of poles (Tu=40°C) | 12 A |
| Rated current, max. number of poles (Tu=40°C) | 8 A | Rated voltage for surge voltage class / pollution degree II/2 | 320 V |
| Rated voltage for surge voltage class / pollution degree III/2 | 160 V | Rated voltage for surge voltage class / pollution degree III/3 | 160 V |
| Rated impulse voltage for surge voltage class/ pollution degree II/2 | 2.5 kV | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 2.5 kV |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 2.5 kV | Short-time withstand current resistance | 3 x 1s with 100 A |

### Rated data acc. to CSA

| | | | |
|---|---|---|---|
| Institute (CSA) | | Certificate No. (CSA) | 200039-1461395 |
| 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 26 | Wire cross-section, AWG, max. | AWG 14 |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. | | |

### Rated data acc. to UL 1059

| | | | |
|---|---|---|---|
| Institute (UR) | | Certificate No. (UR) | E60693 |
| Rated voltage (Use group B / UL 1059) | 300 V | Rated voltage (Use group D / UL 1059) | 300 V |
| Rated current (Use group B / UL 1059) | 10 A | Rated current (Use group D / UL 1059) | 10 A |
| Wire cross-section, AWG, min. | AWG 26 | Wire cross-section, AWG, max. | AWG 14 |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. | | |

### Packing

| | | | |
|---|---|---|---|
| Packaging | Box | VPE length | 130 mm |
| VPE width | 105 mm | VPE height | 67 mm |

### Type tests

| | | |
|---|---|---|
| Test: Durability of markings | Standard | DIN EN 61984 section 7.3.2 / 09.02 taking pattern from DIN EN 60068-2-70 / 07.96 |
| | Test | mark of origin, type identification, rated voltage, rated cross-section, pitch, type of material, approval marking SEV, approval marking CSA |
| | Evaluation | available |
| | Test | approval marking UL |
| | Evaluation | on packaging label |
| | Test | durability |
| | Evaluation | passed |

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## Technical data

| | | | |
|---|---|---|---|
| Test: Clampable cross section | Standard | DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.99 | |
| | Conductor type | Type of conductor and conductor cross-section | solid 0.2 mm² |
| | | Type of conductor and conductor cross-section | stranded 0.5 mm² |
| | | Type of conductor and conductor cross-section | solid 1.5 mm² |
| | | Type of conductor and conductor cross-section | stranded 1.5 mm² |
| | | Type of conductor and conductor cross-section | AWG 28/1 |
| | | Type of conductor and conductor cross-section | AWG 28/19 |
| | | Type of conductor and conductor cross-section | AWG 16/1 |
| | | Type of conductor and conductor cross-section | AWG 16/19 |
| | Evaluation | passed | |
| Test for damage to and accidental loosening of conductors | Standard | DIN EN 60999-1 section 9.4 / 12.00 | |
| | Requirement | 0.2 kg | |
| | Conductor type | Type of conductor and conductor cross-section | solid 0.2 mm² |
| | | Type of conductor and conductor cross-section | AWG 28/1 |
| | | Type of conductor and conductor cross-section | AWG 28/19 |
| | Evaluation | passed | |
| | Requirement | 0.3 kg | |
| | Conductor type | Type of conductor and conductor cross-section | stranded 0.5 mm² |
| | Evaluation | passed | |
| | Requirement | 0.4 kg | |
| | Conductor type | Type of conductor and conductor cross-section | solid 1.5 mm² |
| | | Type of conductor and conductor cross-section | stranded 1.5 mm² |
| | | Type of conductor and conductor cross-section | AWG 16/1 |
| | | Type of conductor and conductor cross-section | AWG 16/19 |
| | Evaluation | passed | |

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## Technical data

| | | | |
|---|---|---|---|
| Pull-out test | Standard | DIN EN 60999-1 section 9.5 / 12.00 | |
| | Requirement | ≥5 N | |
| | Conductor type | Type of conductor and conductor cross-section | AWG 28/1 |
| | | Type of conductor and conductor cross-section | AWG 28/19 |
| | Evaluation | passed | |
| | Requirement | ≥10 N | |
| | Conductor type | Type of conductor and conductor cross-section | H05V-U0.2 |
| | Evaluation | passed | |
| | Requirement | ≥20 N | |
| | Conductor type | Type of conductor and conductor cross-section | H05V-U0.5 |
| | Evaluation | passed | |
| | Requirement | ≥40 N | |
| | Conductor type | Type of conductor and conductor cross-section | H05V-U1.5 |
| | | Type of conductor and conductor cross-section | H05V-K1.5 |
| | | Type of conductor and conductor cross-section | AWG 16/1 |
| | | Type of conductor and conductor cross-section | AWG 16/19 |
| | 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 | 27-46-02-02 |
| ECLASS 14.0 | 27-46-02-02 | | |

### Environmental Product Compliance

| | |
|---|---|
| REACH SVHC | / |
| RoHS Compliance Status | Compliant without exemption |

# BLZF 3.50/24/180F SN OR BX

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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 | • Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards.<br>• Gold-plated contact surfaces on request<br>• Rated current related to rated cross-section & min. No. of poles.<br>• Max. outer diameter of the conductor: 2.9 mm<br>• Wire end ferrule without plastic collar to DIN 46228/1<br>• Wire end ferrule with plastic collar to DIN 46228/4<br>• Crimp shape A for wire-end ferrules with crimping tools PZ 1,5 (order no. 9005990000) or PZ 6/5 (order no. 9011460000) for larger wire cross-sections recommended.<br>• P on drawing = pitch<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. (UR) | E60693 |

# BLZF 3.50/24/180F SN OR BX

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Germany

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## Technical data

### Downloads

| | |
|---|---|
| Approval/Certificate/Document of Conformity | Declaration of the Manufacturer |
| Engineering Data | CAD data – STEP |
| Product Change Notification | PCN_2016_324_PL30_Aenderung_Flanschkontur_BLZF3.5_DE<br>PCN_2016_324_PL30_change_flange_contour_BLZF3.5_EN<br>20211010 BLZF 3.50180 - Änderung Außenkontur<br>20211010 BLZF 3.50180 - Modification outer contour |
| 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 |

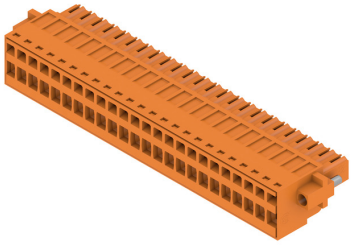
# BLZF 3.50/24/180F SN OR BX

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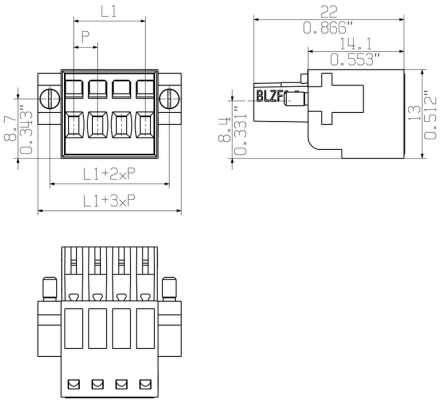
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## Drawings

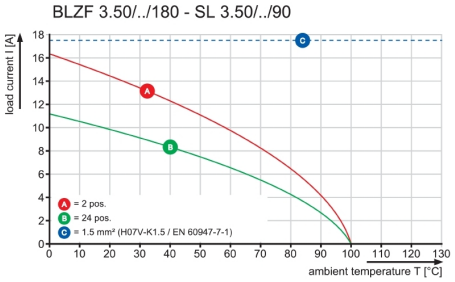
### Product image



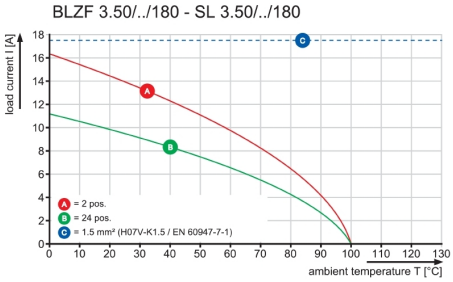
### Dimensional drawing



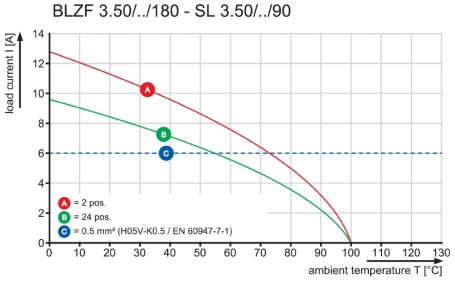

### Graph




### Graph




### Graph



# BLZF 3.50/24/180F SN OR BX

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## Accessories

### Strain reliefs



**For frequent load changes: the "trailer coupling" for plug-in connectors**.
The strain relief can do more than just relieve the strain on conductors:
Simply clip onto the plug and
- bundle conductors
- guide cables
- use as a connection and disconnection aid

No damage to the connecting points, clear, tidy wiring and easy to handle.
User advantages: permanent heavy-duty connections for harsh industrial environments and convenient operation ensure improved system availability.

### General ordering data

| | | | | |
|---|---|---|---|---|
| Type | BL 3.50 ZE03 BK BX | Version | Product data | Packaging |
| Order No. | 1627820000 | PCB plug-in connector, Accessories, Strain relief, black, Number of | | Box |
| GTIN (EAN) | 4008190202552 | poles: 3 | | |
| Qty. | 50 pc(s). | | | |
| Type | BL 3.50 ZE08 BK BX | Version | Product data | Packaging |
| Order No. | 1627830000 | PCB plug-in connector, Accessories, Strain relief, black, Number of | | Box |
| GTIN (EAN) | 4008190202576 | poles: 8 | | |
| Qty. | 50 pc(s). | | | |
| Type | BL 3.50 ZE03 OR BX | Version | Product data | Packaging |
| Order No. | 1629680000 | PCB plug-in connector, Accessories, Strain relief, orange, Number of | | Box |
| GTIN (EAN) | 4008190202569 | poles: 3 | | |
| Qty. | 50 pc(s). | | | |
| Type | BL 3.50 ZE08 OR BX | Version | Product data | Packaging |
| Order No. | 1629690000 | PCB plug-in connector, Accessories, Strain relief, orange, Number of | | Box |
| GTIN (EAN) | 4008190202583 | poles: 8 | | |
| Qty. | 50 pc(s). | | | |

# BLZF 3.50/24/180F SN OR BX

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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 | BL SL 3.5 KO OR | Version | Product data | Packaging |
| Order No. | 1693430000 | PCB plug-in connector, Accessories, Coding element, orange, Number | | Box |
| GTIN (EAN) | 4008190867447 | of poles: 1 | | |
| Qty. | 100 pc(s). | | | |

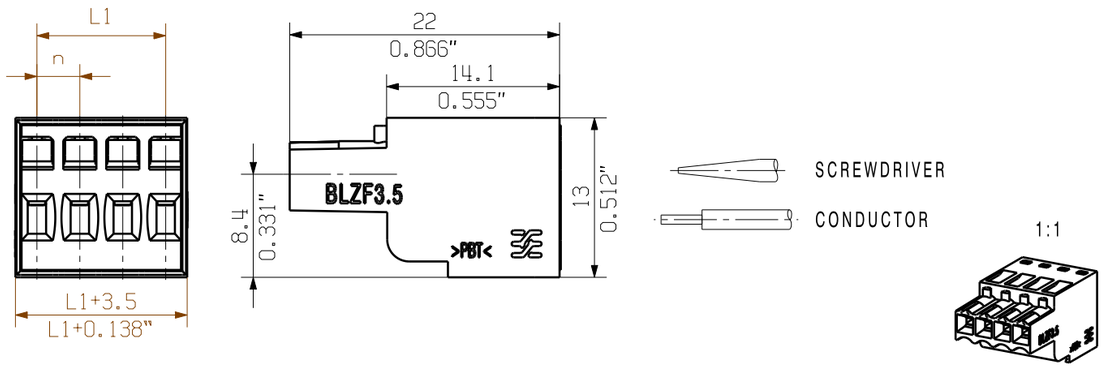
| | | | | |
|---|---|---|---|---|
| Type | BL SL 3.5 KO SW | Version | Product data | Packaging |
| Order No. | 1610100000 | PCB plug-in connector, Accessories, Coding element, black, Number | | Box |
| GTIN (EAN) | 4008190187637 | of poles: 1 | | |
| Qty. | 100 pc(s). | | | |

Dimensions without tolerances are no check dimensions

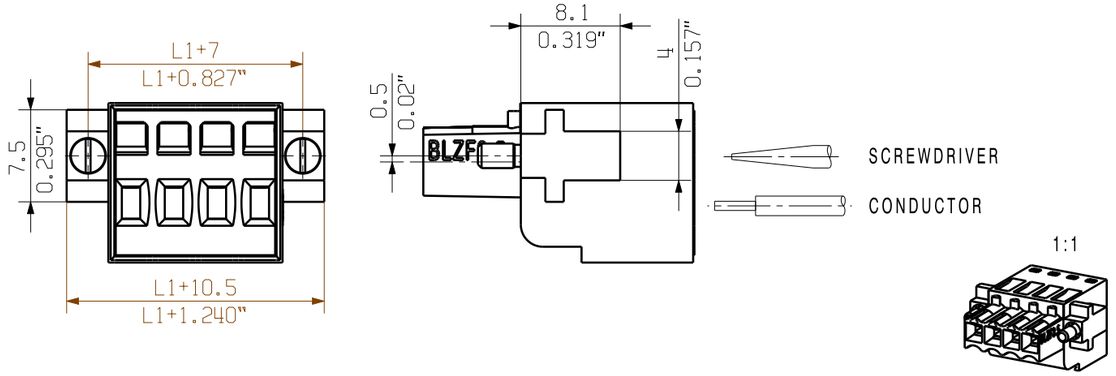
The English version is binding

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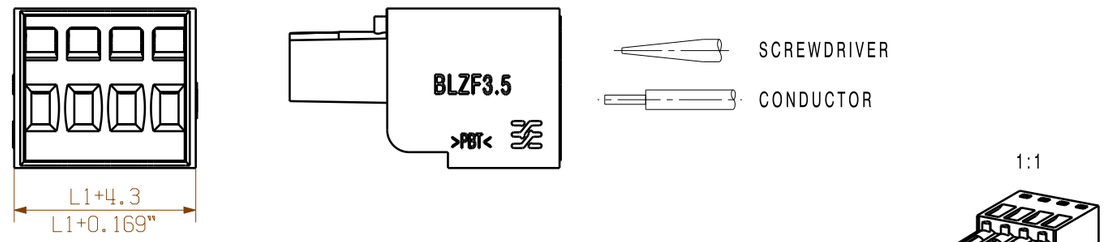
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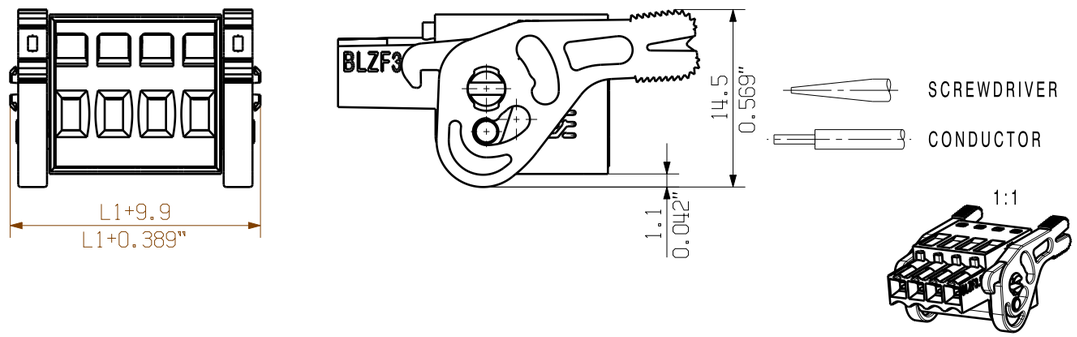

SHOWN:BLZF 3.50/04/180F



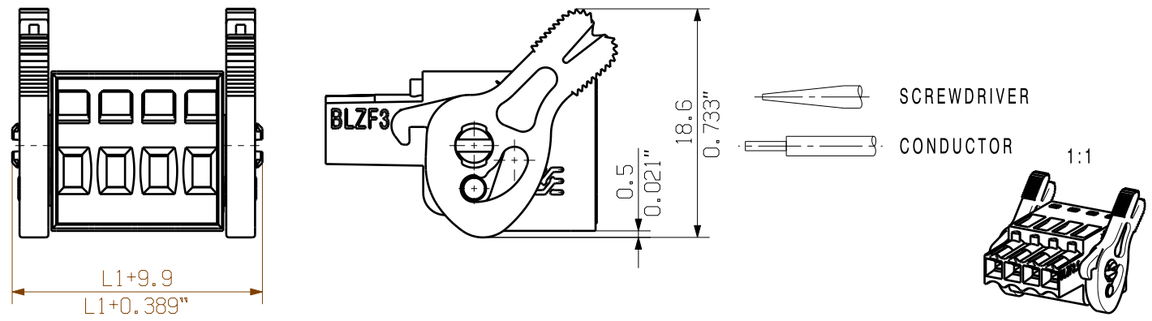

SHOWN:BLZF 3.50/04/180/SO



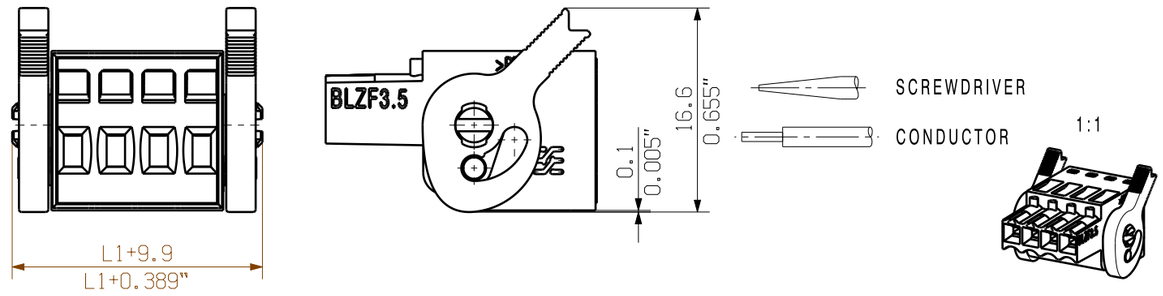

SHOWN:BLZF 3.50/04/180LR REDESIGN




SHOWN:BLZF 3.50/04/180LR




SHOWN:BLZF 3.50/04/180LH




## ALLGEMEINGUELTIGE KUNDENZEICHNUNG, AKTUELLER STAND NUR AUF ANFRAGE
## GENERAL CUSTOMER DRAWING, TOPICAL VERSION ONLY IF REQUIRED

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

Weidmüller connectors are tested to the DIN VDE 0627 standard, and are valid for its field of application. Provided that the connectors are used to the intended purpose, all requirements with respect to the occuring of electrical, mechanical, thermic and corrosive stress will be satisfied.

| n POLZAHL POLES | L1 [mm] | L1 [inch] |
|---|---|---|
| 24 | 80.5 | 3.169 |
| 23 | 77.0 | 3.032 |
| 22 | 73.5 | 2.894 |
| 21 | 70.0 | 2.756 |
| 20 | 66.5 | 2.618 |
| 19 | 63.0 | 2.480 |
| 18 | 59.5 | 2.343 |
| 17 | 56.0 | 2.205 |
| 16 | 52.5 | 2.067 |
| 15 | 49.0 | 1.929 |
| 14 | 45.5 | 1.791 |
| 13 | 42.0 | 1.654 |
| 12 | 38.5 | 1.516 |
| 11 | 35.0 | 1.378 |
| 10 | 31.5 | 1.240 |
| 9 | 28.0 | 1.102 |
| 8 | 24.5 | 0.965 |
| 7 | 21.0 | 0.827 |
| 6 | 17.5 | 0.689 |
| 5 | 14.0 | 0.551 |
| 4 | 10.5 | 0.413 |
| 3 | 7.0 | 0.276 |
| 2 | 3.5 | 0.138 |

DIN ISO 2768-m

RoHS COMPLIANT

93783/5
24.11.17 HELIS_MA 02
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Modification

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Cat.no.: .

Weidmüller

3 23142 20
Drawing no. Issue no.

Sheet 01 of 01 sheets

| | Date | Name |
|---|---|---|
| Drawn | 10.12.2007 | HELIS_MA |
| Responsible | | AMANN_A |
| Checked | 08.01.2018 | HELIS_MA |
| Approved | | LANG_T |

Scale: 2/1

Supersedes: .

# BLZF 3.50/../180..
BUCHSENSTECKER
FEMALE PLUG

Product file: BLZF 3.50 7357