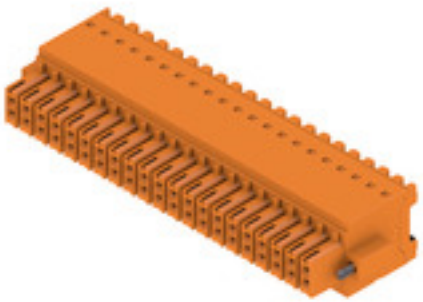
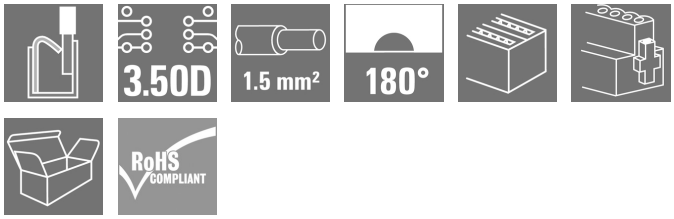
# B2CF 3.50/42/180F SN OR BX

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

www.weidmueller.com

## Product image






### Two-row female plug with PUSH IN spring connection

- Simply insert the prepared wire - and you're done
- Intuitive to use because
- the wire-entry area and handling area are clearly separated
- Integrated push-buttons for opening the terminal point
- High component density because of low heights
- Optional: locking and releasing require no tools when using Weidmüller's
  release latch (LR) or release lever (LH)

### General ordering data

| | |
|---|---|
| Version | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 42, 180°, PUSH IN with actuator, Clamping range, max. : 1.5 mm², Box |
| Order No. | 2558530000 |
| Type | B2CF 3.50/42/180F SN OR BX |
| GTIN (EAN) | 4050118669688 |
| Qty. | 18 pc(s). |
| Product data | IEC: 320 V / 13.4 A / 0.14 - 1.5 mm²<br>UL: 300 V / 9.5 A / AWG 30 - AWG 16 |
| Packaging | Box |

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## Technical data

### Dimensions and weights

| | | | |
|---|---|---|---|
| Depth | 26.25 mm | Depth (inches) | 1.033 inch |
| Height | 15.2 mm | Height (inches) | 0.598 inch |
| Width | 80.5 mm | Width (inches) | 3.169 inch |
| Net weight | 28.304 g | | |

### System Parameters

| | |
|---|---|
| Product family | OMNIMATE Signal - series B2C/S2C 3.50 - 2-row |
| Type of connection | Field connection |
| Wire connection method | PUSH IN with actuator |
| Pitch in mm (P) | 3.5 mm |
| Pitch in inches (P) | 0.138 " |
| Conductor outlet direction | 180° |
| Number of poles | 42 |
| L1 in mm | 70 mm |
| L1 in inches | 2.76 " |
| Number of rows | 1 |
| Pin series quantity | 2 |
| Rated cross-section | 15 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 |
| Can be coded | Yes |
| Stripping length | 10 mm |
| Screwdriver blade | 0.4 x 2.5 |
| Screwdriver blade standard | DIN 5264 |
| Plugging cycles | 25 |
| Plugging force/pole, max. | 3.5 N |
| Pulling force/pole, max. | 3.5 N |
| Tightening torque | Torque type: Screw flange<br>Usage information: Tightening torque — min. 0.15 Nm, max. 0.2 Nm |

### Material data

| | | | |
|---|---|---|---|
| Insulating material | PA 66 GF 30 | Colour | orange |
| Colour chart (similar) | RAL 2000 | Insulating material group | II |
| Comparative Tracking Index (CTI) | ≥ 600 | Insulation strength | ≥ $10^8$ Ω |
| UL 94 flammability rating | V-0 | Contact material | Copper alloy |
| Contact surface | tinned | Layer structure of plug contact | 2...5 µm Sn hot-dip tinned |
| Storage temperature, min. | -40 °C | Storage temperature, max. | 70 °C |
| Operating temperature, min. | -50 °C | Operating temperature, max. | 120 °C |
| Temperature range, installation, min. | -40 °C | Temperature range, installation, max. | 120 °C |

### Conductors suitable for connection

| | |
|---|---|
| Clamping range, min. | 0.14 mm² |
| Clamping range, max. | 1.5 mm² |
| Wire connection cross section AWG, min. | AWG 30 |
| Wire connection cross section AWG, max. | AWG 16 |
| Solid, min. H05(07) V-U | 0.14 mm² |

Creation date July 25, 2024 7:12:34 AM CEST

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## Technical data

| | | | |
|---|---|---|---|
| Solid, max. H05(07) V-U | 1.5 mm² | | |
| Flexible, min. H05(07) V-K | 0.14 mm² | | |
| Flexible, max. H05(07) V-K | 1.5 mm² | | |
| w. plastic collar ferrule, DIN 46228 pt 4, min. | 0.14 mm² | | |
| w. plastic collar ferrule, DIN 46228 pt 4, max. | 1 mm² | | |
| w. wire end ferrule, DIN 46228 pt 1, min. | 0.14 mm² | | |
| w. wire end ferrule, DIN 46228 pt 1, max. | 1.5 mm² | | |
| Clampable conductor | wire end ferrule | Stripping length | nominal 10 mm |
| | | Recommended wire-end ferrule | H0,14/12 GR SV |
| | wire end ferrule | Stripping length | nominal 10 mm |
| | | Recommended wire-end ferrule | H0,25/12 HBL SV |
| | wire end ferrule | Stripping length | nominal 10 mm |
| | | Recommended wire-end ferrule | H0,34/12 TK SV |
| | wire end ferrule | Stripping length | nominal 12 mm |
| | | Recommended wire-end ferrule | H0,5/16 OR SV |
| | | Stripping length | nominal 10 mm |
| | | Recommended wire-end ferrule | H0,5/10 |
| | wire end ferrule | Stripping length | nominal 12 mm |
| | | Recommended wire-end ferrule | H0,75/16 W SV |
| | | Stripping length | nominal 10 mm |
| | | Recommended wire-end ferrule | H0,75/10 |
| | wire end ferrule | Stripping length | nominal 12 mm |
| | | Recommended wire-end ferrule | H1,0/16 GE SV |
| | | Stripping length | nominal 10 mm |
| | | Recommended wire-end ferrule | H1,0/10 |
| | 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. | | |

### Rated data acc. to IEC

| | | | |
|---|---|---|---|
| tested acc. to standard | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C) | 13.4 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) | 9 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 80 A |

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## Technical data

### Rated data acc. to CSA

| | | | |
|---|---|---|---|
| Rated voltage (Use group B / CSA) | 300 V | Rated voltage (Use group C / CSA) | 50 V |
| Rated voltage (Use group D / CSA) | 300 V | Rated current (Use group B / CSA) | 9.5 A |
| Rated current (Use group C / CSA) | 9.5 A | Rated current (Use group D / CSA) | 9.5 A |
| Wire cross-section, AWG, min. | AWG 30 | Wire cross-section, AWG, max. | AWG 16 |

### Rated data acc. to UL 1059

| | | | |
|---|---|---|---|
| Rated voltage (Use group B / UL 1059) | 300 V | Rated voltage (Use group C / UL 1059) | 50 V |
| Rated voltage (Use group D / UL 1059) | 300 V | Rated current (Use group B / UL 1059) | 9.5 A |
| Rated current (Use group C / UL 1059) | 9.5 A | Rated current (Use group D / UL 1059) | 9.5 A |
| Wire cross-section, AWG, min. | AWG 30 | Wire cross-section, AWG, max. | AWG 16 |

### Packing

| | | | |
|---|---|---|---|
| Packaging | Box | VPE length | 338 mm |
| VPE width | 130 mm | VPE height | 33 mm |

### Type tests

| | | |
|---|---|---|
| Test: Durability of markings | Standard | IEC 61984 section 6.2 and 7.3.2 / 10.11 taking pattern from IEC 60068-2-70 / 12.95 |
| | Test | mark of origin, type identification, pitch, type of material, date clock, approval marking UL, approval marking cULus |
| | Evaluation | available |
| | Test | durability |
| | Evaluation | passed |
| Test: Misengagement (Non-interchangeability) | Standard | IEC 61984 section 6.3 and 6.9.1 / 10.11, IEC 60512-13-5 / 02.06 |
| | Test | 180° turned without coding elements |
| | Evaluation | passed |
| | Test | 180° turned with coding elements |
| | Evaluation | passed |
| | Test | visual examination |
| | Evaluation | passed |

Weidmüller

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| | | | |
|---|---|---|---|
| Test: Clampable cross section | Standard | IEC 60999-1 section 7 and 9.1 / 11.99, IEC 60947-1 section 8.2.4.5.1 / 03.11 | |
| | Conductor type | Type of conductor and conductor cross-section | solid 0.14 mm² |
| | | Type of conductor and conductor cross-section | stranded 0.14 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 26/1 |
| | | Type of conductor and conductor cross-section | AWG 26/19 |
| | | 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 | 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-U0.75 |
| | | Type of conductor and conductor cross-section | H05V-K0.75 |
| | Evaluation | passed | |
| | Requirement | 0.4 kg | |
| | Conductor type | Type of conductor and conductor cross-section | H07V-U1.5 |
| | | Type of conductor and conductor cross-section | H07V-K1.5 |
| | | 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 | 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-U0.75 |
| | | Type of conductor and conductor cross-section | H05V-K0.75 |
| | Evaluation | passed | |
| | Requirement | ≥40 N | |
| | Conductor type | Type of conductor and conductor cross-section | H07V-U1.5 |
| | | Type of conductor and conductor cross-section | H07V-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 |

### Environmental Product Compliance

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

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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>• 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>• 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>• Max. outer diameter of the conductor 2.6 mm<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

| | |
|---|---|
| ROHS | Conform |

### Downloads

| | |
|---|---|
| Engineering Data | CAD data – STEP |
| Product Change Notification | 20210721 Technical change Redesign B2CF 3.50<br>20210721 Technische Änderung Redesign zu B2CF 3.50<br>20220530 Change of packaging OMNIMATE® Signal B2CF 3.50<br>20220530 Verpackungsänderung OMNIMATE® Signal B2CF 3.50 |
| Catalogues | Catalogues in PDF-format |

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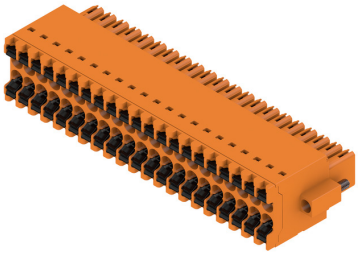
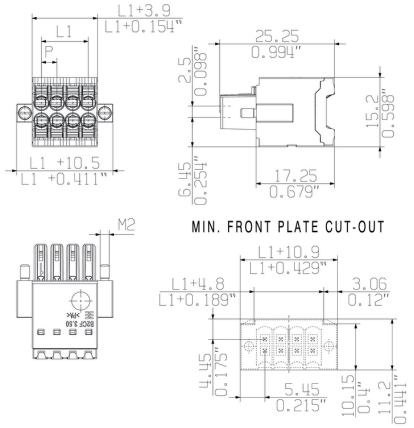
## Drawings

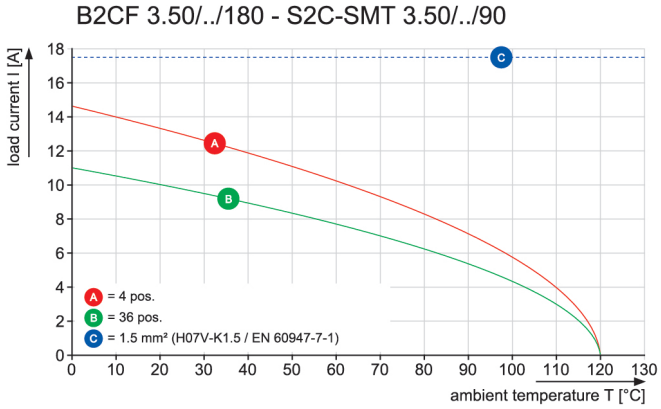
### Product image



### Dimensional drawing



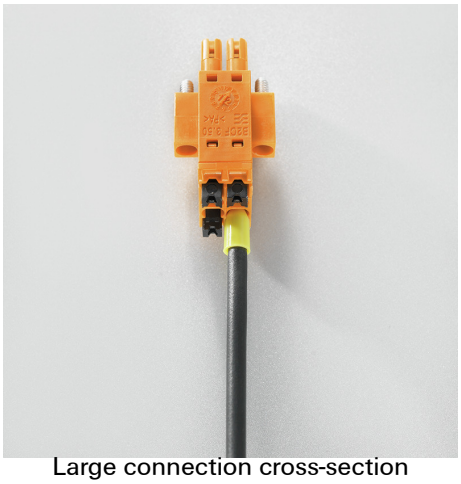

### Graph




### Product benefits

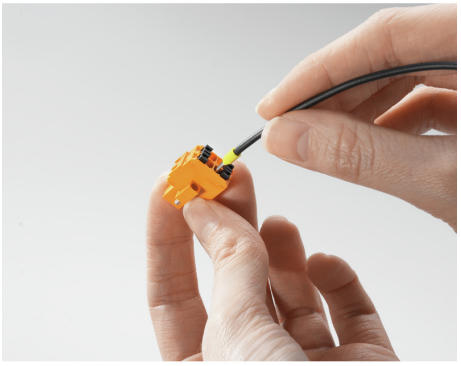
Solid PUSH IN contact
Safe and durable

### Product benefits



Large connection cross-section
Up to 1.5 mm possible with ease

### Product benefits



Fast PUSH IN connection
Tool-free and touch-safe

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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 | B2L/S2L 3.50 KO OR BX | Version | Product data | Packaging |
| Order No. | 1849730000 | PCB plug-in connector, Accessories, Coding element, orange, Number | | Box |
| GTIN (EAN) | 4032248378197 | of poles: 1 | | |
| Qty. | 100 pc(s). | | | |

| | | | | |
|---|---|---|---|---|
| Type | B2L/S2L 3.50 KO BK BX | Version | Product data | Packaging |
| Order No. | 1849740000 | PCB plug-in connector, Accessories, Coding element, black, Number | | Box |
| GTIN (EAN) | 4032248378203 | of poles: 1 | | |
| Qty. | 100 pc(s). | | | |

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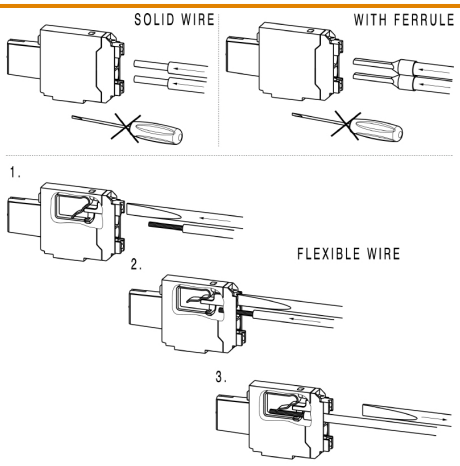
## Drawings

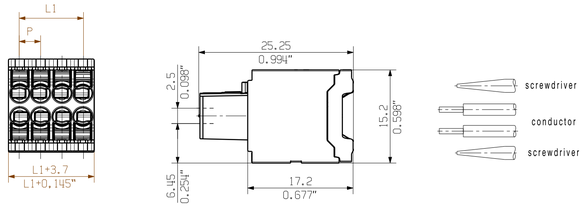
### Example of use



The English version is binding

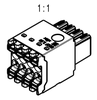
ALLGEMEINGUELTIGE KUNDENZEICHNUNG, AKTUELLER STAND NUR AUF ANFRAGE
GENERAL CUSTOMER DRAWING, TOPICAL VERSION ONLY IF REQUIRED

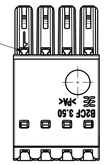
## B2CF 3.50/08/180



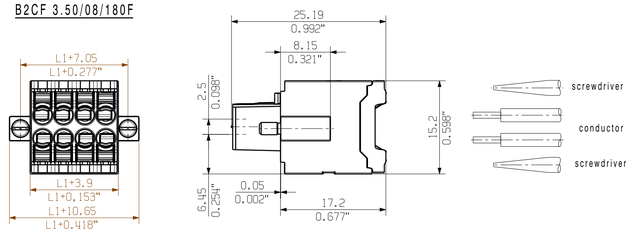

| n POLES | POLZAHL | RASTHAKEN / SNAP-FITS |
|---|---|---|
| 22 | | |
| 20 | X X | X X |
| 18 | X X | X X |
| 16 | X X | X X |
| 14 | X X | X X |
| 12 | X X | X X |
| 10 | X X | X X |
| 8 | X X | X X |
| 6 | X X | X |
| 4 | X X | |

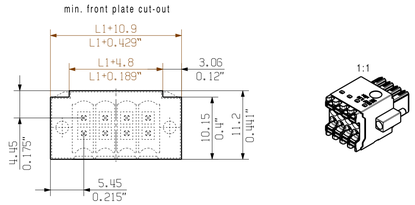
ACHTUNG: AB 22-polig ohne Rasthaken
ATTENTION: housing with 22-36 poles without snap-fits




## B2CF 3.50/08/180F

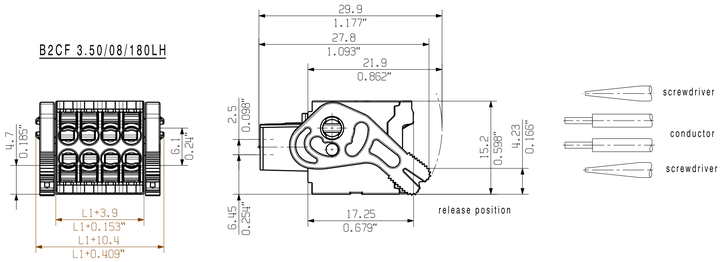


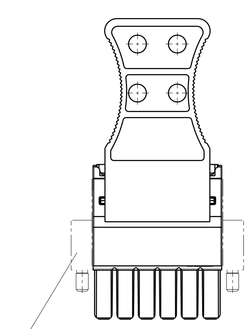





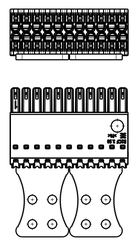


## B2CF 3.50/08/180LH

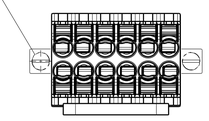


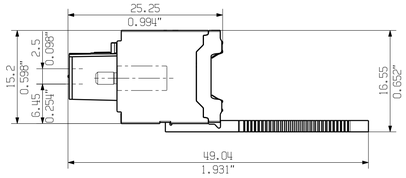



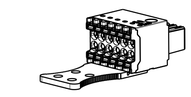
Schematische Darstellung/
schematic representation
AB 22-polig mit 2 Zugentlastungen
22-36 pole version with 2 strain reliefs

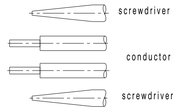


auch andere Flansche mit Zugentlastung möglich/
other flange types with strain relief possible (F/LH/LR)

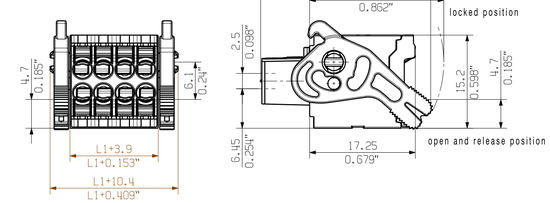


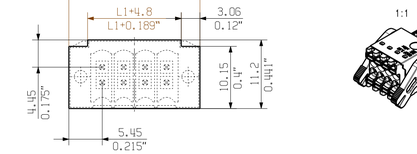


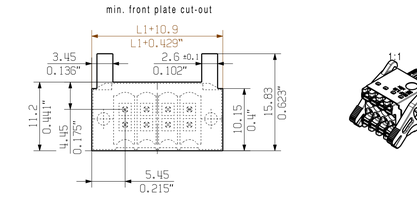

## B2CF 3.50/08/180LR













P = 3.50 Raster/ 0.138" pitch

n = Polzahl / no of poles

For the mounting of PCBs, it should be noted that the rated data given in the catalogue relates only to the connection elements. The necessary 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 | L1 [mm] | L1 [inch] |
|---|---|---|
| 46 | 76.8 | 3.033 |
| 44 | 73.3 | 2.895 |
| 42 | 69.8 | 2.757 |
| 40 | 66.3 | 2.619 |
| 38 | 62.8 | 2.481 |
| 36 | 59.5 | 2.343 |
| 34 | 56.0 | 2.205 |
| 32 | 52.5 | 2.067 |
| 30 | 49.0 | 1.929 |
| 28 | 45.5 | 1.791 |
| 26 | 42.0 | 1.654 |
| 24 | 38.5 | 1.516 |
| 22 | 35.0 | 1.378 |
| 20 | 31.5 | 1.240 |
| 18 | 28.0 | 1.102 |
| 16 | 24.5 | 0.965 |
| 14 | 21.0 | 0.827 |
| 12 | 17.5 | 0.689 |
| 10 | 14.0 | 0.551 |
| 8 | 10.5 | 0.413 |
| 6 | 7.00 | 0.276 |
| 4 | 3.50 | 0.138 |

RoHS COMPLIANT

General Tolerances: WN700144-W.. WN 212010 X ISO 2768-mK Tolerances ISO 8015
Changes: EC00009088
Mat. No. (SAP) 1277290000
Drawings Assembly

| | | |
|---|---|---|
| Drawn | Hellis, Maria | |
| Responsible | Aporius, Stefan | |
| Approved | Lang, Thomas | 16.03.2023 |

Weidmüller
Drawing no. 73450 Index 6
Scale: 2:1 Sheet 3 / 7

B2CF 3.50/../180
FEMALE PLUG
BUCHSENSTECKER