

B2L 3.50/30/180F SN OR BX

Weidmüller Interface GmbH & Co. KG

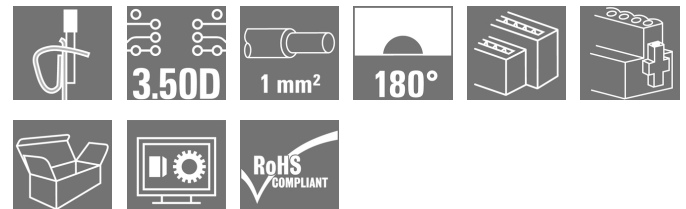
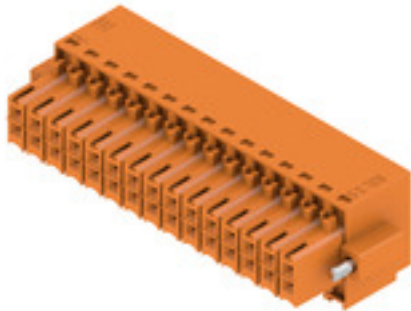
Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image



Component density redefined: the future standard for signal connection

A maximum number of connections requiring minimum space - the double-row B2L sets the bar for field connections of typical sensor cables up to 1 mm² very high and closes the gap between "less space" and "more functions".

The result is a connection solution for standard industrial cables in 1.75 pitch - 30% smaller than equivalent solutions in 2.5 pitch, and with the 140% robustness of the 3.5 pitch

Dimensions: double the connection density with a 3.5mm pitch size

Connection system: tried and tested maintenance-free Weidmüller tension clamp connection

The basic application advantages:

Efficient: maximum component density on the PCB

Suitable for industrial use - minimum dimensions, maximum robustness

Process-optimised - automatic assembly and reflow soldering, fast connection

User-friendly - patented release lever for the easy release of larger numbers of poles

Application-oriented: easy labelling and reliable coding despite compact dimensions

Miniaturisation is more than just a larger number of functions within a smaller space:

Each reduction in size decreases space requirements and so reduces overall system costs for the end customer. Thus, Weidmüller fulfils a growing demand in the engineering and industrial automation sectors.

General ordering data

| | |
|--------------|---|
| Version | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 30, 180°, Tension-clamp connection, Clamping range, max.: 1 mm ² , Box |
| Order No. | 1748130000 |
| Type | B2L 3.50/30/180F SN OR BX |
| GTIN (EAN) | 4032248198573 |
| Qty. | 30 pc(s). |
| Product data | IEC: 250 V / 10.3 A / 0.2 - 1 mm ² UL: 300 V / 10 A / AWG 28 - AWG 16 |
| Packaging | Box |

Creation date January 27, 2022 3:56:36 PM CET

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Technical data**Dimensions and weights**

| | | | |
|------------|---------|-----------------|------------|
| Depth | 20.6 mm | Depth (inches) | 0.811 inch |
| Height | 15.7 mm | Height (inches) | 0.618 inch |
| Width | 59.3 mm | Width (inches) | 2.335 inch |
| Net weight | 11.83 g | | |

System Parameters

| | | | |
|--|---|-------------------|-----------------------------|
| Product family | OMNIMATE Signal - series B2L/S2L 3.50 - 2-row | | |
| Type of connection | Field connection | | |
| Wire connection method | Tension-clamp connection | | |
| Pitch in mm (P) | 3.5 mm | | |
| Pitch in inches (P) | 0.138 inch | | |
| Conductor outlet direction | 180° | | |
| Number of poles | 30 | | |
| L1 in mm | 49 mm | | |
| L1 in inches | 1.929 inch | | |
| Number of rows | 1 | | |
| Pin series quantity | 2 | | |
| Rated cross-section | 1 mm ² | | |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch | | |
| Touch-safe protection acc. to DIN VDE 0470 | IP 20 | | |
| Can be coded | Yes | | |
| Stripping length | 7 mm | | |
| Screwdriver blade | 0.4 x 2.5 | | |
| Screwdriver blade standard | DIN 5264 | | |
| Plugging cycles | 25 | | |
| Plugging force/pole, max. | 5 N | | |
| Pulling force/pole, max. | 4 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 | UL 94 flammability rating | V-0 |
| Contact material | Copper alloy | Contact surface | 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. | 0.08 mm ² |
| Clamping range, max. | 1 mm ² |
| Wire connection cross section AWG, min. | AWG 28 |
| Wire connection cross section AWG, max. | AWG 18 |
| Solid, min. H05(07) V-U | 0.2 mm ² |
| Solid, max. H05(07) V-U | 1 mm ² |
| Flexible, min. H05(07) V-K | 0.2 mm ² |
| Flexible, max. H05(07) V-K | 1 mm ² |

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Technical data

w. plastic collar ferrule, DIN 46228 pt 4, 0.14 mm²
 min.

w. plastic collar ferrule, DIN 46228 pt 4, 0.34 mm²
 max.

w. wire end ferrule, DIN 46228 pt 1, 0.14 mm²
 min.

w. wire end ferrule, DIN 46228 pt 1, 0.34 mm²
 max.


| | | | |
|--|--|------------------------------|--------------------------------|
| Clampable conductor | Cross-section for conductor connection | Type | fine-wired |
| | | nominal | 0.14 mm ² |
| | wire end ferrule | Stripping length | nominal 10 mm |
| | | Recommended wire-end ferrule | HO.14/12 GR SV |
| Cross-section for conductor connection | Type | fine-wired | |
| | nominal | 0.25 mm ² | |
| wire end ferrule | Stripping length | nominal 10 mm | |
| | Recommended wire-end ferrule | HO.25/12 HBL | |

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) | 10.3 A |
| Rated current, max. number of poles (Tu=20°C) | 8.7 A | Rated current, min. number of poles (Tu=40°C) | 8.9 A |
| Rated current, max. number of poles (Tu=40°C) | 7.4 A | Rated voltage for surge voltage class / pollution degree II/2 | 250 V |
| Rated voltage for surge voltage class / pollution degree III/2 | 160 V | Rated voltage for surge voltage class / pollution degree III/3 | 80 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 77 A |

Rated data acc. to CSA

| | | | |
|-----------------------------------|---|-----------------------------------|----------------|
| Institute (CSA) |  | Certificate No. (CSA) | 200039-1488444 |
| Rated voltage (Use group B / CSA) | 300 V | Rated current (Use group B / CSA) | 5 A |
| Wire cross-section, AWG, min. | AWG 28 | Wire cross-section, AWG, max. | AWG 18 |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. | | |

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Technical data**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 C / UL 1059) 50 V

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

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

Wire cross-section, AWG, min. AWG 28

Wire cross-section, AWG, max. AWG 16

Reference to approval values

Specifications are maximum values, details - see approval certificate.

Packing

| | | | |
|-----------|--------|------------|--------|
| Packaging | Box | VPE length | 338 mm |
| VPE width | 130 mm | VPE height | 27 mm |

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 6.0 | EC002638 | ETIM 7.0 | EC002638 |
| ETIM 8.0 | 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 with plastic collar to DIN 46228/4
- Wire end ferrule without plastic collar to DIN 46228/1
- P on drawing = pitch
- 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.
- 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.

Approvals

Approvals



ROHS

Conform

UL File Number Search

E60693

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Catalogue status 14.01.2022 / We reserve the right to make technical changes.

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Technical data

Downloads

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

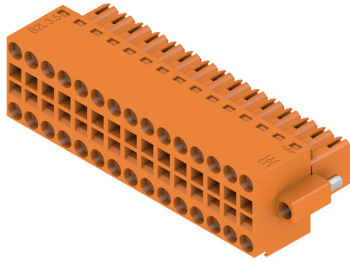
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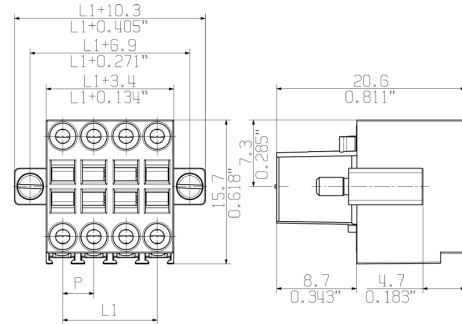
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Drawings

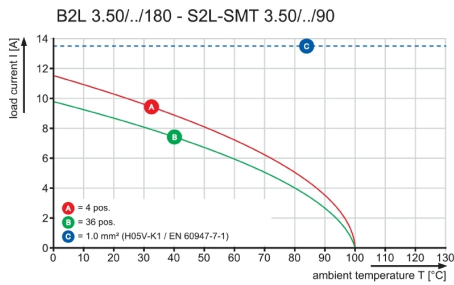
Product image



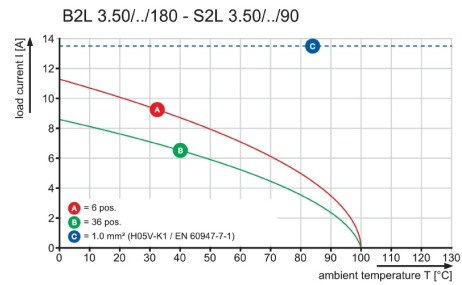
Dimensional drawing



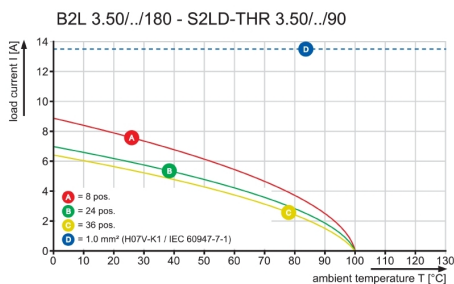
Graph



Graph



Graph



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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 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). | | | |
| 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). | | | |

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Accessories

Cover hoods



Effective protection, optimised ergonomics and closed design:

From the strain relief on the connected conductors and the visual/contact protection and the disconnection aid: the optional retrofit hoods perform mechanical, visual and haptic functions.

The two half shells clip together securely, enclose the plug completely and offer the following functions:

- Cable ties or integrated cable clips provide strain relief.
- Marked with dekafix labels or adhesive strips
- Mounting side by side without losing poles or displacing the pitch
- Compatible: suitable for plugs with or without a flange or mounting bracket
- Flexible: 1-3 cable outlets leading in different directions available depending on the size

Weidmüller hoods offer added stability, better identification, complete compatibility and versatility. The result: maximum reliability and user-friendliness in any application.

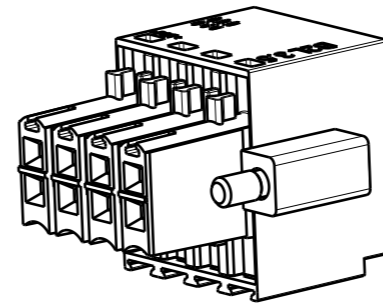
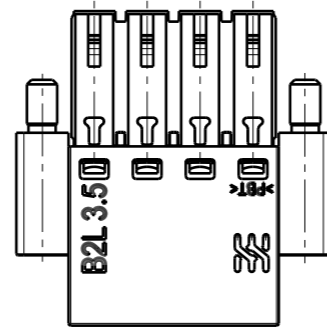
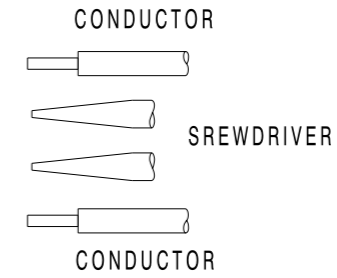
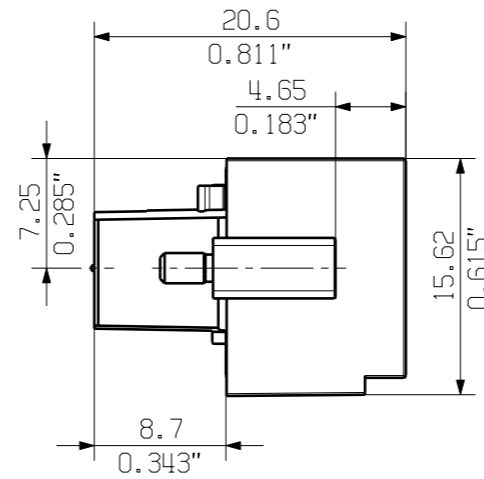
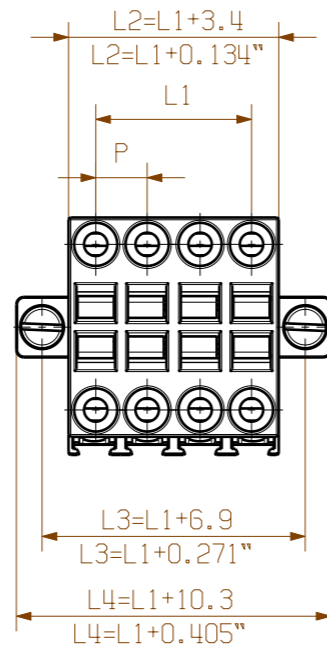
General ordering data

| Type | B2L 3.50 AH30 BK BX | Version | Product data | Packaging |
|------------|----------------------------|--|--------------|-----------|
| Order No. | 1781680000 | PCB plug-in connector, Accessories, Hood, black, Number of poles: 30 | | Box |
| GTIN (EAN) | 4032248172733 | | | |
| Qty. | 10 pc(s). | | | |

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

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| | | | | | | | | |
|----|------|----------|------|----------|------|----------|------|----------|
| 36 | 59,5 | 2,344 | 62,9 | 2,479 | 66,4 | 2,617 | 69,8 | 2,751 |
| 34 | 56,0 | 2,206 | 59,4 | 2,341 | 62,9 | 2,479 | 66,3 | 2,613 |
| 32 | 52,5 | 2,069 | 55,9 | 2,203 | 59,4 | 2,341 | 62,8 | 2,475 |
| 30 | 49,0 | 1,931 | 52,4 | 2,065 | 55,9 | 2,203 | 59,3 | 2,337 |
| 28 | 45,5 | 1,793 | 48,9 | 1,927 | 52,4 | 2,065 | 55,8 | 2,199 |
| 26 | 42,0 | 1,655 | 45,4 | 1,789 | 48,9 | 1,927 | 52,3 | 2,061 |
| 24 | 38,5 | 1,517 | 41,9 | 1,651 | 45,4 | 1,789 | 48,8 | 1,923 |
| 22 | 35,0 | 1,379 | 38,4 | 1,513 | 41,9 | 1,651 | 45,3 | 1,785 |
| 20 | 31,5 | 1,241 | 34,9 | 1,375 | 38,4 | 1,513 | 41,8 | 1,647 |
| 18 | 28,0 | 1,103 | 31,4 | 1,237 | 34,9 | 1,375 | 38,3 | 1,509 |
| 16 | 24,5 | 0,965 | 27,9 | 1,099 | 31,4 | 1,237 | 34,8 | 1,371 |
| 14 | 21,0 | 0,827 | 24,4 | 0,961 | 27,9 | 1,099 | 31,3 | 1,233 |
| 12 | 17,5 | 0,690 | 20,9 | 0,823 | 24,4 | 0,961 | 27,8 | 1,095 |
| 10 | 14,0 | 0,552 | 17,4 | 0,685 | 20,9 | 0,823 | 24,3 | 0,957 |
| 8 | 10,5 | 0,414 | 13,9 | 0,547 | 17,4 | 0,685 | 20,8 | 0,819 |
| 6 | 7,0 | 0,276 | 10,4 | 0,409 | 13,9 | 0,547 | 17,3 | 0,681 |
| 4 | 3,5 | 0,138 | 6,9 | 0,271 | 10,4 | 0,409 | 13,8 | 0,543 |
| n | L1 | L1[inch] | L2 | L2[inch] | L3 | L3[inch] | L4 | L4[inch] |

n = POLZAHL/NO OF POLES

P = RASTER/PITCH

SHOWN: B2L 3.50/08/180F

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 components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

| | | | | |
|------------------------------------|---------------------------------|-----------------|-----------------------------------|--|
| DIN ISO 2768-m | 69611/5 25.04.13 HELIS_MA 00 | | CAT.NO.: | |
| | MODIFICATION | | Weidmüller | |
| SCALE: 2:1 SUPERSEDES: 26643/31 | DRAWN 16.01.2012 HELIS_MA | DATE 22.05.2013 | NAME HECKERT_M | B2L 3.50/././180... BUCHSENLEISTE SOCKET BLOCK PRODUCT FILE: B2L 3.50 7110 |
| | RESPONSIBLE LANG_T | CHECKED | HECKERT_M | |
| | APPROVED | HECKERT_M | HECKERT_M | |
| C 55622 02 | | | DRAWING NO. SHEET 02 OF 03 SHEETS | ISSUE NO. |

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