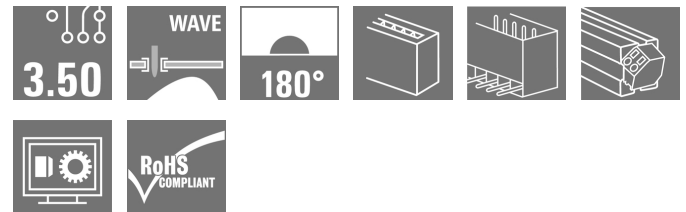


OMNIMATE Signal - series BL/SL 3.50 BLL 3.50/05/180 3.2SN OR TU

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Product image



Similar to illustration

Inverted female header for:

- finger-safety on the PCB
- Board-to-board component connection (with SL/SL-SMT 3.50)
- Wave soldering
- Outlet direction: 180° (standing, vertical to PCB)

General ordering data

| | |
|--------------|--|
| Type | BLL 3.50/05/180 3.2SN OR TU |
| Order No. | 1376340000 |
| Version | PCB plug-in connector, female header, closed side, THT solder connection, 3.50 mm, Number of poles: 5, 180°, Solder pin length (l): 3.2 mm, tinned, orange, Tube |
| GTIN (EAN) | 4050118177558 |
| Qty. | 30 pc(s). |
| Product data | IEC: 320 V / 15.1 A UL: 300 V / 9 A |
| Packaging | Tube |

Creation date May 3, 2020 8:09:24 AM CEST

**OMNIMATE Signal - series BL/SL 3.50
BLL 3.50/05/180 3.2SN OR TU**

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Technical data**Dimensions and weights**

| | | | |
|------------|----------|-----------------|------------|
| Height | 14.3 mm | Height (inches) | 0.563 inch |
| Depth | 11.85 mm | Depth (inches) | 0.467 inch |
| Net weight | 1.81 g | | |

System specifications

| | | | |
|--|-------------------------------------|--|------------------------|
| Product family | OMNIMATE Signal - series BL/SL 3.50 | Type of connection | Board connection |
| Mounting onto the PCB | THT solder connection | Pitch in mm (P) | 3.5 mm |
| Pitch in inches (P) | 0.138 inch | Outgoing elbow | 180° |
| Number of poles | 5 | Number of solder pins per pole | 1 |
| Solder pin length (l) | 3.2 mm | Solder pin length tolerance | +0.2 / -0.2 mm |
| Tolerance of solder pin position | ± 0.1 mm | Solder pin dimensions | d = 0.8 mm |
| Solder pin dimensions = d tolerance | 0 / -0,03 mm | Solder eyelet hole diameter (D) | 1.3 mm |
| Solder eyelet hole diameter tolerance (D)+ | 0,1 mm | L1 in mm | 14 mm |
| L1 in inches | 0.551 inch | Number of rows | 1 |
| Pin series quantity | 1 | 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 | ≤ 5mΩ |
| Can be coded | Yes | Plugging cycles | 25 |
| Plugging force/pole, max. | 8 N | Pulling force/pole, max. | 7 N |

Material data

| | | | |
|---------------------------------------|------------------|---------------------------------------|---------------------|
| Insulating material | PBT | Colour | orange |
| Colour chart (similar) | RAL 2000 | Insulating material group | IIIa |
| Comparative Tracking Index (CTI) | ≥ 200 | Insulation strength | ≥ 10 ⁸ Ω |
| UL 94 flammability rating | V-0 | GWFI | 960 °C |
| Contact material | CuSn | Contact surface | tinned |
| Layer structure of solder connection | 4-6 μm Sn glossy | Layer structure of plug contact | 4-6 μm Sn glossy |
| Storage temperature, min. | -25 °C | Storage temperature, max. | 50 °C |
| Max. relative humidity during storage | 70 % | Operating temperature, min. | -50 °C |
| Operating temperature, max. | 100 °C | Temperature range, installation, min. | -25 °C |
| Temperature range, installation, max. | 100 °C | | |


Rated data acc. to IEC

| | | | |
|---|------------------------|---|-------------------|
| tested acc. to standard | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C) | 15.1 A |
| Rated current, max. number of poles (Tu=20°C) | 7.7 A | Rated current, min. number of poles (Tu=40°C) | 13 A |
| Rated current, max. number of poles (Tu=40°C) | 6.6 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 |


**OMNIMATE Signal - series BL/SL 3.50
BLL 3.50/05/180 3.2SN OR TU**

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 26
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 www.weidmueller.com

Technical data**Rated data acc. to CSA**

| | | | |
|-----------------------------------|---|-----------------------------------|----------------|
| Institute (CSA) |  | Certificate No. (CSA) | 200039-1121690 |
| Rated voltage (Use group C / CSA) | 300 V | Rated current (Use group C / CSA) | 9 A |
| 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) | 9 A | Rated current (Use group D / UL 1059) | 9 A |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. | | |

Packing

| | | | |
|--------------------|-------------------------------|------------|--------|
| Packaging | Tube | VPE length | 16 mm |
| VPE width | 20 mm | VPE height | 555 mm |
| Surface resistance | $R_s = 10^9 - 10^{12} \Omega$ | | |

Classifications

| | | | |
|-------------|-------------|------------|-------------|
| ETIM 6.0 | EC002637 | ETIM 7.0 | EC002637 |
| eClass 9.0 | 27-44-04-02 | eClass 9.1 | 27-44-04-02 |
| eClass 10.0 | 27-44-04-02 | | |

Notes

| | |
|----------------|--|
| Notes | <ul style="list-style-type: none"> • Additional colours on request • Gold-plated contact surfaces on request • Rated current related to rated cross-section & min. No. of poles. • P on drawing = pitch • 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. |
| 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. |

Data sheet

**OMNIMATE Signal - series BL/SL 3.50
BLL 3.50/05/180 3.2SN OR TU**

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Technical data

Approvals

Approvals



ROHS

Conform

Downloads

Approval/Certificate/Document of Conformity

[Declaration of the Manufacturer](#)

Brochure/Catalogue

- [FL DRIVES EN](#)
- [MB DEVICE MANUF. EN](#)
- [FL DRIVES DE](#)
- [CAT 2 PORTFOLIOGUIDE EN](#)
- [FL BUILDING SAFETY EN](#)
- [FL APPL LED LIGHTING EN](#)
- [FLIndustr.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](#)

Engineering Data

[EPLAN_WSCAD](#)

Engineering Data

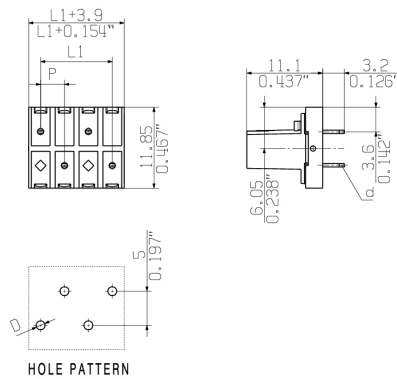
[STEP](#)

OMNIMATE Signal - series BL/SL 3.50
BLL 3.50/05/180 3.2SN OR TU

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Drawings

Dimensional drawing



Product benefits

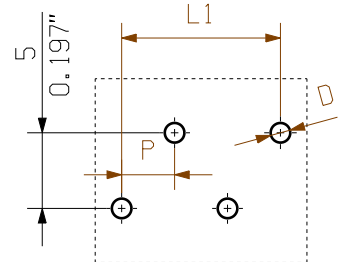
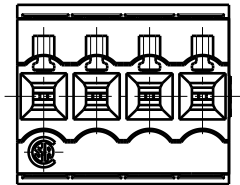
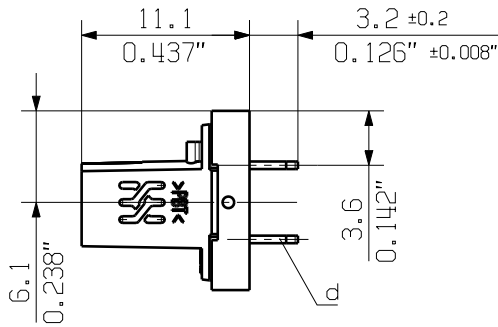
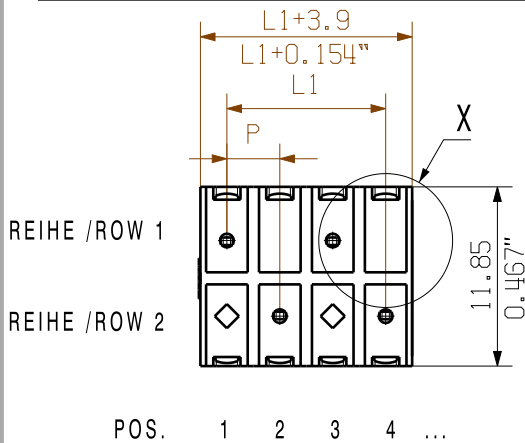


Connection made easy
Safe board-to-board connection

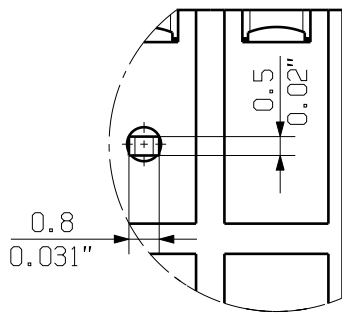
MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE
 DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

DIE DEUTSCHE VERSION IST VERBINDLICH
 THE GERMAN VERSION IS BINDING

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



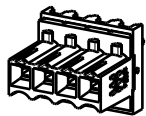
DETAIL A
 X 5/1



SHOWN : BLL 3.50/04/180

HOLE PATTERN

M 1/1



P=3.50 RASTER PITCH
 D=Ø1.3 +0.1
 d=0.5x0.8

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 occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

| n | POLZAHL POLES | L1 [mm] | L1 [inch] | REIHE/ ROW | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|----|------------------|------------|--------------|---------------|---|---|---|---|---|---|---|---|---|----|----|----|
| 12 | 38.5 | 1.516 | | 1 | X | 0 | X | 0 | X | 0 | X | 0 | X | 0 | X | 0 |
| | | | | 2 | 0 | X | 0 | X | 0 | X | 0 | X | 0 | X | 0 | X |
| 11 | 35.0 | 1.378 | | 1 | X | 0 | X | 0 | X | 0 | X | 0 | X | 0 | X | |
| | | | | 2 | 0 | X | 0 | X | 0 | X | 0 | X | 0 | X | 0 | |
| 10 | 31.5 | 1.240 | | 1 | X | 0 | X | 0 | X | 0 | X | 0 | X | 0 | | |
| | | | | 2 | 0 | X | 0 | X | 0 | X | 0 | X | 0 | X | | |
| 9 | 28.0 | 1.102 | | 1 | X | 0 | X | 0 | X | 0 | X | 0 | X | | | |
| | | | | 2 | 0 | X | 0 | X | 0 | X | 0 | X | 0 | | | |
| 8 | 24.5 | 0.965 | | 1 | X | 0 | X | 0 | X | 0 | X | 0 | | | | |
| | | | | 2 | 0 | X | 0 | X | 0 | X | 0 | X | | | | |
| 7 | 21.0 | 0.827 | | 1 | X | 0 | X | 0 | X | 0 | X | | | | | |
| | | | | 2 | 0 | X | 0 | X | 0 | X | 0 | | | | | |
| 6 | 17.5 | 0.689 | | 1 | X | 0 | X | 0 | X | 0 | | | | | | |
| | | | | 2 | 0 | X | 0 | X | 0 | X | | | | | | |
| 5 | 14.0 | 0.551 | | 1 | X | 0 | X | 0 | X | | | | | | | |
| | | | | 2 | 0 | X | 0 | X | 0 | | | | | | | |
| 4 | 10.5 | 0.413 | | 1 | X | 0 | X | 0 | | | | | | | | |
| | | | | 2 | 0 | X | 0 | X | | | | | | | | |
| 3 | 7.0 | 0.276 | | 1 | X | 0 | X | | | | | | | | | |
| | | | | 2 | 0 | X | 0 | | | | | | | | | |
| 2 | 3.5 | 0.138 | | 1 | X | 0 | | | | | | | | | | |
| | | | | 2 | 0 | X | | | | | | | | | | |

GENERAL TOLERANCE:

DIN ISO 2768-m



80439/5
 17.02.15 HELIS_MA 01

MODIFICATION

Weidmüller

CAT.NO.:
C 33133 14

DRAWING NO. ISSUE NO.
 SHEET 01 OF 01 SHEETS



DATE NAME
 DRAWN 22.04.2005 FROEHLKING_M

RESPONSIBLE LANG_T

CHECKED 17.02.2015 HELIS_MA

APPROVED LANG_T

BLL 3.50/.../180...
 BUCHSENLEISTE
 FEMALE HEADER

SCALE: 2/1

SUPERSEDES: .

PRODUCT FILE: BLL 3.50

7369

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.
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPLICIT AUTHORIZATION IS PROHIBITED.
 OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. WEIDMUELLER EXCLUSIVELY RESERVES THE RIGHT TO FILE FOR PATENTS, UTILITY MODELS OR DESIGNS.
 © WEIDMUELLER INTERFACE GmbH & Co.KG

Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 www.weidmueller.com

Single Wave:



Double Wave:



Wave soldering profiles

Wired connection elements should be processed in accordance with the DIN EN 61760-1 standard. We have included two recommendations for practical wave soldering profiles, with which Weidmüller PCB terminals and connectors are qualified.

When choosing a suitable profile for your application, the following factors also need to be considered:

- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.