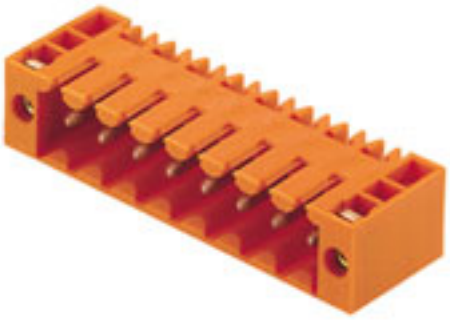
# SL 3.50/03/90F 3.2SN OR BX

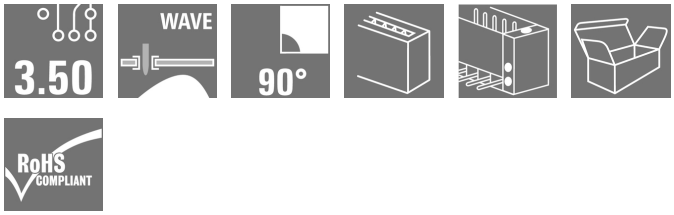
**Weidmüller Interface GmbH & Co. KG**
Klingenbergstraße 26
D-32758 Detmold
Germany

www.weidmueller.com

## Product image



Similar to illustration




Pin headers for wave soldering in 3.50 mm pitch

- Plugging direction is parallel (90°), straight 180° or angled (135°) to the PCB
- Housing variant: screw flange (F)
- Packed in a cardboard box (BX)
- Pin header can be coded

### General ordering data

| | |
|---|---|
| Version | PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, Number of poles: 3, 90°, Solder pin length (l): 3.2 mm, tinned, orange, Box |
| Order No. | 1607050000 |
| Type | SL 3.50/03/90F 3.2SN OR BX |
| GTIN (EAN) | 4008190055257 |
| Qty. | 100 pc(s). |
| Product data | IEC: / 17 A<br>UL: 300 V / 10 A |
| Packaging | Box |

Creation date March 24, 2021 10:25:25 AM CET

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## Technical data

### Dimensions and weights

| | | | |
|---|---|---|---|
| Depth | 11.1 mm | Depth (inches) | 0.437 inch |
| Height | 10.7 mm | Height (inches) | 0.421 inch |
| Height of lowest version | 7.5 mm | Net weight | 1.41 g |
| Width | 17.5 mm | Width (inches) | 0.689 inch |

### 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 | 90° |
| Number of poles | 3 |
| Number of solder pins per pole | 1 |
| Solder pin length (l) | 3.2 mm |
| Solder pin length tolerance | +0.1 / -0.3 mm |
| Solder pin dimensions | d = 1.2 mm, Octagonal |
| Solder pin dimensions = d tolerance | 0 / -0,03 mm |
| Solder eyelet hole diameter (D) | 1.4 mm |
| Solder eyelet hole diameter tolerance (D) | + 0,1 mm |
| L1 in mm | 7 mm |
| L1 in inches | 0.276 inch |
| Number of rows | 1 |
| Pin series quantity | 1 |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from back-of-hand touch |
| Touch-safe protection acc. to DIN VDE 0470 | IP 10 |
| Volume resistance | 6.00 mΩ |
| Can be coded | Yes |
| Plugging force/pole, max. | 10 N |
| Pulling force/pole, max. | 10 N |

| Tightening torque | | | | |
|---|---|---|---|---|
| | Torque type | Mounting screw, PCB | | |
| | Usage information | Tightening torque | min. | 0.1 Nm |
| | | | max. | 0.15 Nm |
| | | Recommended screw | Part number | PTSC KA 2.2X4.5 WN1412 |

### 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 base material | CuSn | Contact material | CuSn |
| Contact surface | tinned | Layer structure of solder connection | 2...4 µm Ni / 5...8 µm Sn glossy |
| Layer structure of plug contact | 2...4 undefined Ni / 5...8 undefined Sn glossy | 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 | | |

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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) | 17 A |
| Rated current, max. number of poles (Tu=20°C) | 12 A | Rated current, min. number of poles (Tu=40°C) | 14.5 A |
| Rated current, max. number of poles (Tu=40°C) | 10 A | | |

### Rated data acc. to CSA

| | | | |
|---|---|---|---|
| Institute (CSA) | | Certificate No. (CSA) | 154685-1318353 |
| 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 |
| 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 |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. | | |

### Packing

| | | | |
|---|---|---|---|
| Packaging | Box | VPE length | 39 mm |
| VPE width | 91 mm | VPE height | 128 mm |

### 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 | ECLASS 11.0 | 27-46-02-01 |

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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 colours on request<br>• Gold-plated contact surfaces on request<br>• Rated current related to rated cross-section & min. No. of poles.<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>• For additional mechanical support for male connectors with screw flange (...F), we recommend an additional cable gland with fastening screws (sheet metal screw ISO 1481-ST 2.2x4.5 C or ISO 7049-ST 2.2x4.5 C – see Accessories). Cable gland only permitted before soldering.<br>• Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months |

### Approvals

| | |
|---|---|
| Approvals | |
| ROHS | Conform |
| UL File Number Search | E60693 |

### Downloads

| | |
|---|---|
| Approval/Certificate/Document of Conformity | Declaration of the Manufacturer |
| Engineering Data | STEP |

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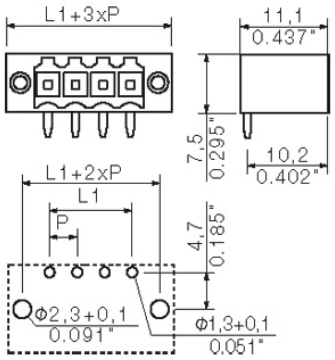
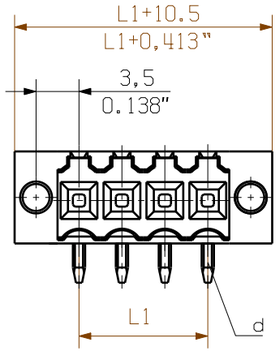
## Drawings

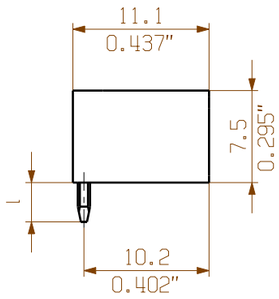
### Dimensional drawing

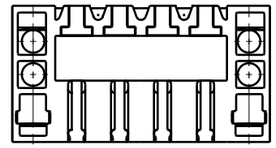


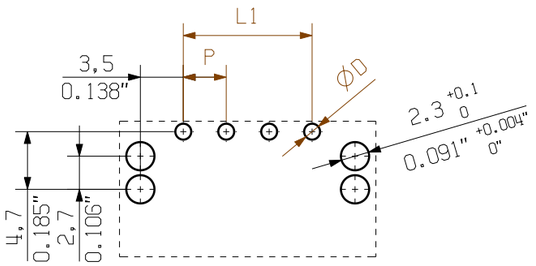
Dimensions without tolerances are no check dimensions

The English version is binding






hole pattern

P = 3.50 Raster Pitch

D = Ø1,3 +0.1 / ϕ0.051" +0.1

d = 1,2mm oktogonal / 0.047" octogonal

shown : SL 3.50/04/90F

| pin length l/ Stiftlänge l | tolerance/ Toleranz |
|---|---|
| 1,5 | 0,1 / -0,3 |
| 3,2 | 0,1 / -0,3 |
| 4,5 | 0,1 / -0,3 |

| n Polzahl/ no of poles | L1 | Toleranz/ tolerance L1 |
|---|---|---|
| 24 | 80.5 | |
| 23 | 77.0 | |
| 22 | 73.5 | |
| 21 | 70.0 | |
| 20 | 66.5 | |
| 19 | 63.0 | +/-0.2 |
| 18 | 59.5 | |
| 17 | 56.0 | |
| 16 | 52.5 | |
| 15 | 49.0 | |
| 14 | 45.5 | |
| 13 | 42.0 | |
| 12 | 38.5 | +/-0.15 |
| 11 | 35.0 | |
| 10 | 31.5 | |
| 9 | 28.0 | |
| 8 | 24.5 | |
| 7 | 21.0 | |
| 6 | 17.5 | +/-0.1 |
| 5 | 14.0 | |
| 4 | 10.5 | |
| 3 | 7.0 | |
| 2 | 3.5 | |

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.

Weidmueller 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.

General tolerance: DIN ISO 2768-mK

RoHS COMPLIANT

96310/5 06.07.17 HELIS_MA 00

Modification

Cat.no.: .

Weidmüller

3 19670 (48)

Drawing no. Issue no.

Sheet 03 of 03 sheets

| | Date | Name |
|---|---|---|
| Drawn | 21.08.2008 | HELIS_MA |
| Responsible | | AMANN_A |
| Checked | 20.09.2017 | HERTEL_S |
| Approved | | LANG_T |

Scale: 5/1

Supersedes: .

# SL 3.50/../90...

STIFTLEISTE

MALE HEADER

Product file: SL 3.50 7296

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# Wave Solder Profile

## Recommended wave solderding profiles

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Fon: +49 5231 14-0
Fax: +49 5231 14-292083
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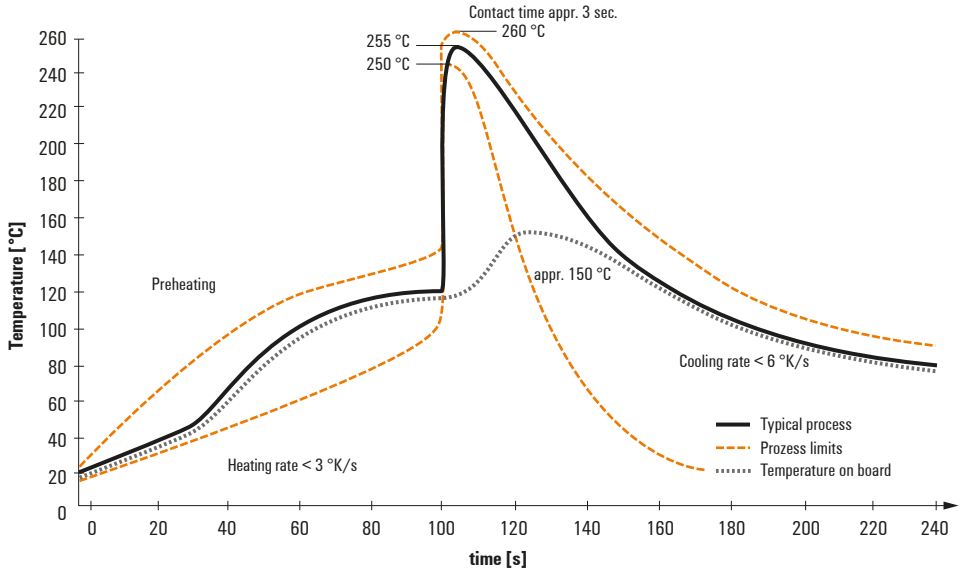
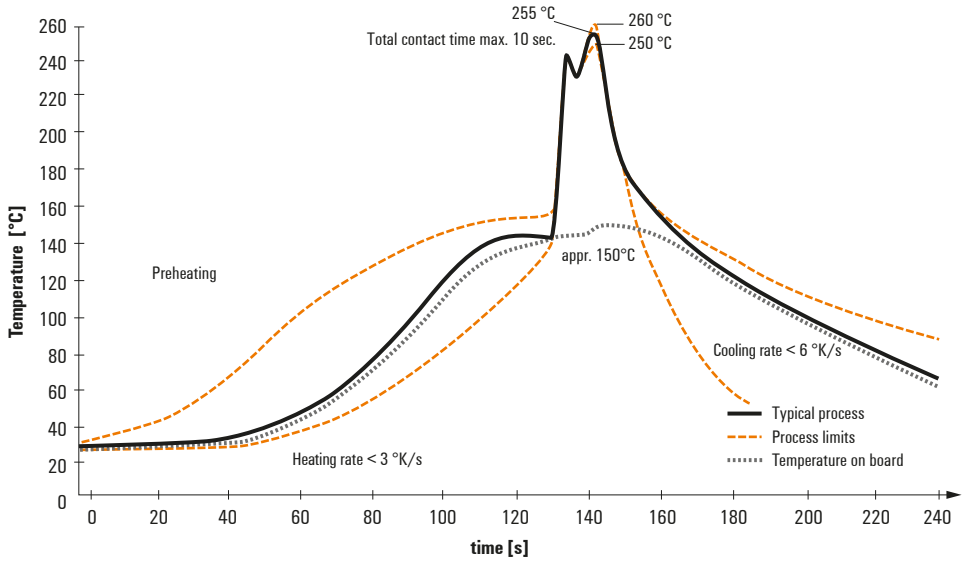
**Single Wave:**




**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.

We reserve the right to make technical changes.