

SL 3.50/20/90 3.2SN OR BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

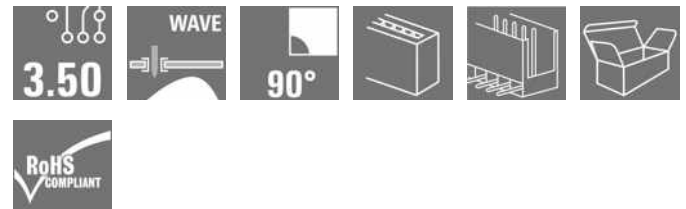
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Product image



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, open side, THT solder connection, 3.50 mm, Number of poles: 20, 90°, Solder pin length (l): 3.2 mm, tinned, orange, Box |
| Order No. | 1619020000 |
| Type | SL 3.50/20/90 3.2SN OR BX |
| GTIN (EAN) | 4008190132262 |
| Qty. | 20 pc(s). |
| Product data | IEC: 320 V / 17 A UL: 300 V / 10 A |
| Packaging | Box |

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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 | Width | 70 mm |
| Width (inches) | 2.756 inch | Net weight | 5.65 g |

Temperatures

| | | | |
|-----------------------------|--------|-----------------------------|--------|
| Operating temperature, min. | -50 °C | Operating temperature, max. | 100 °C |
|-----------------------------|--------|-----------------------------|--------|

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 | 20 | 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 | 66.5 mm | L1 in inches | 2.618 inch |
| Number of rows | 1 | Pin series quantity | 1 |
| Touch-safe protection acc. to DIN VDE 57 106 | finger-safe plugged/ back-of-hand-safe unplugged | Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged/ IP10 unplugged |
| Volume resistance | ≤5 mΩ | Can be coded | Yes |
| Plugging force/pole, max. | 10 N | Pulling force/pole, max. | 10 N |

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 | 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 μm Ni / 5...8 μm 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 |

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 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 |

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Technical data

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 | 46 mm |
| VPE width | 80 mm | VPE height | 90 mm |

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 6.0 | EC002637 | ETIM 7.0 | EC002637 |
| ETIM 8.0 | 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 | ECLASS 12.0 | 27-46-02-01 |

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 | <ul style="list-style-type: none"> • Additional variants 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. • Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months |

Data sheet

SL 3.50/20/90 3.2SN OR BX

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Technical data

Approvals

Approvals



| | |
|-----------------------|------------|
| ROHS | Conform |
| UL File Number Search | UL Website |
| Certificate No. (UR) | E60693 |

Downloads

| | |
|---|--|
| Approval/Certificate/Document of Conformity | Declaration of the Manufacturer |
| Engineering Data | CAD data – STEP |
| Catalogues | Catalogues in PDF-format |
| Brochures | FL DRIVES EN MB SMT EN FL DRIVES DE MB DEVICE MANUF. 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 PO OMNIMATE EN |

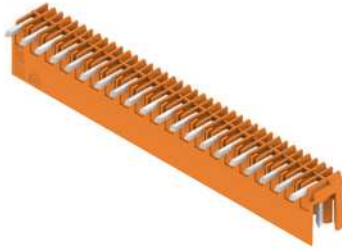
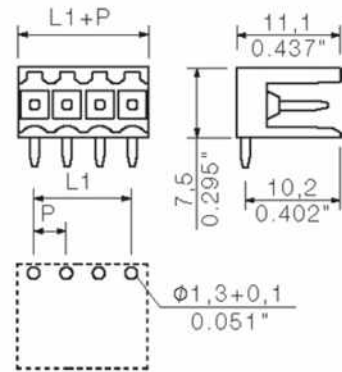
Data sheet**SL 3.50/20/90 3.2SN OR BX****Weidmüller Interfaces GmbH & Co. KG**

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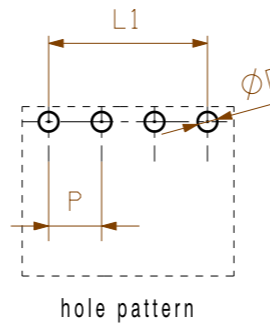
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Drawingsinfo@weidmueller.com**Product image****Dimensional drawing**

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hole pattern

P = 3.50 Raster Pitch

D = Ø1,3^{+0.1}
Ø0.051^{+0.1}

d = 1,2mm oktogonal
0.047^o octogonal

shown : SL 3.50/04/90

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

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

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.

| | | | | | |
|---------------------------------------|------------|---------------------------------|--|-----------------------|--|
| General tolerance: DIN ISO 2768-mK | | 96310/5 06.07.17 HELIS_MA 00 | | Cat.no.: . | |
| | | Modification | | | |
| | | Drawn | Date | Name | 3 19670 48 Drawing no. Issue no. Sheet 01 of 03 sheets |
| Responsible | 21.08.2008 | HELIS_MA | SL 3.50/.. /90... STIFTLAISTE MALE HEADER | | |
| Checked | 20.09.2017 | HERTEL_S | | Product file: SL 3.50 | |
| Supersedes: . | Approved | LANG_T | 7296 | | |

Recommended wave soldering profiles

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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.