

**SL 5.00/10/90B 4.5SN BK BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

Similar to illustration

Male connectors with 90° outlet direction. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

**General ordering data**

|              |                                                                                                                                                                              |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Version      | PCB plug-in connector, male header, Dovetails for fixing blocks, THT solder connection, 5.00 mm, Number of poles: 10, 90°, Solder pin length (l): 4.5 mm, tinned, black, Box |
| Order No.    | <a href="#">1596170000</a>                                                                                                                                                   |
| Type         | SL 5.00/10/90B 4.5SN BK BX                                                                                                                                                   |
| GTIN (EAN)   | 4008190159344                                                                                                                                                                |
| Qty.         | 50 pc(s).                                                                                                                                                                    |
| Product data | IEC: 400 V / 18 A<br>UL: 300 V / 15 A                                                                                                                                        |
| Packaging    | Box                                                                                                                                                                          |

Creation date March 24, 2021 8:23:09 AM CET

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## Technical data

## Dimensions and weights

|                          |         |                 |            |
|--------------------------|---------|-----------------|------------|
| Depth                    | 12 mm   | Depth (inches)  | 0.472 inch |
| Height                   | 12.9 mm | Height (inches) | 0.508 inch |
| Height of lowest version | 8.4 mm  | Net weight      | 3.88 g     |
| Width                    | 52 mm   | Width (inches)  | 2.047 inch |

## System specifications

|                                              |                                     |                                            |                  |
|----------------------------------------------|-------------------------------------|--------------------------------------------|------------------|
| Product family                               | OMNIMATE Signal - series BL/SL 5.00 | Type of connection                         | Board connection |
| Mounting onto the PCB                        | THT solder connection               | Pitch in mm (P)                            | 5 mm             |
| Pitch in inches (P)                          | 0.197 inch                          | Outgoing elbow                             | 90°              |
| Number of poles                              | 10                                  | Number of solder pins per pole             | 1                |
| Solder pin length (l)                        | 4.5 mm                              | Solder pin length tolerance                | +0.1 / -0.2 mm   |
| Solder pin dimensions                        | d = 1.2 mm, Octagonal               | 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                                     | 45 mm                               | L1 in inches                               | 1.772 inch       |
| Number of rows                               | 1                                   | Pin series quantity                        | 1                |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch, plugged     | Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged     |
| Volume resistance                            | ≤5 mΩ                               | Can be coded                               | Yes              |
| Plugging force/pole, max.                    | 10 N                                | Pulling force/pole, max.                   | 8 N              |

## Material data

|                                       |                                |                                       |                                |
|---------------------------------------|--------------------------------|---------------------------------------|--------------------------------|
| Insulating material                   | PBT                            | Colour                                | black                          |
| Colour chart (similar)                | RAL 9011                       | 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  | 1...3 µm Ni / 2...4 µm Sn matt | Layer structure of plug contact       | 1...3 µm Ni / 2...4 µm Sn matt |
| Storage temperature, min.             | -40 °C                         | Storage temperature, max.             | 70 °C                          |
| 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)                         | 18 A               |
| Rated current, max. number of poles (Tu=20°C)                             | 14.5 A                 | Rated current, min. number of poles (Tu=40°C)                         | 15 A               |
| Rated current, max. number of poles (Tu=40°C)                             | 12 A                   | Rated voltage for surge voltage class / pollution degree II/2         | 400 V              |
| Rated voltage for surge voltage class / pollution degree III/2            | 320 V                  | Rated voltage for surge voltage class / pollution degree III/3        | 250 V              |
| Rated impulse voltage for surge voltage class/ pollution degree II/2      | 4 kV                   | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 4 kV               |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 4 kV                   | Short-time withstand current resistance                               | 3 x 1 s with 120 A |

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## Technical data

## Rated data acc. to CSA

Institute (CSA)



Certificate No. (CSA)

200039-1121690

Rated voltage (Use group B / CSA) 300 V

Rated voltage (Use group D / CSA) 300 V

Rated current (Use group B / CSA) 15 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) 15 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 58 mm

VPE width 63 mm

VPE height 158 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

## 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.
- 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

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## Technical data

### Approvals

Approvals



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

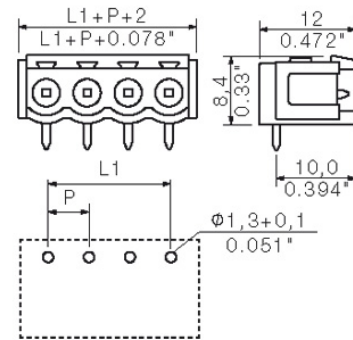
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# Drawings

## Dimensional drawing



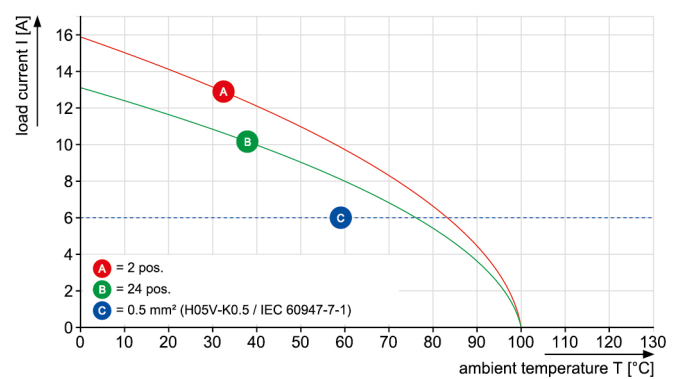
## Graph

BLF 5.00HC/./180 - SL 5.00/./90



## Graph

BLF 5.00HC/./180 - SL 5.00/./90



## 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.

We reserve the right to make technical changes.