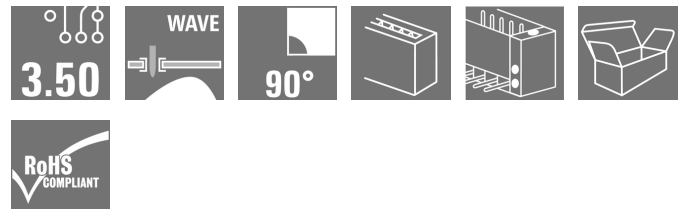
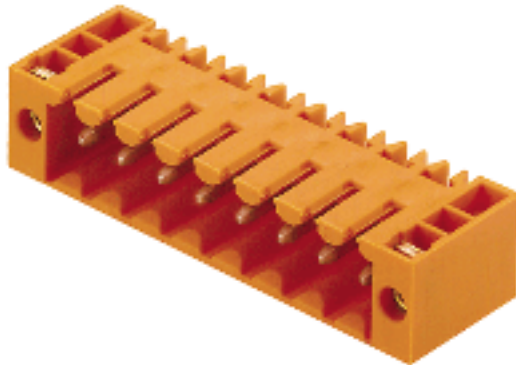


# OMNIMATE Signal - series BL/SL 3.50 SL 3.50/24/90F 3.2SN DKG N BX

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



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

|              |                                                                                                                                                             |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | SL 3.50/24/90F 3.2SN DKG N BX                                                                                                                               |
| Order No.    | <a href="#">1620280000</a>                                                                                                                                  |
| Version      | PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, No. of poles: 24, 90°, Solder pin length (l): 3.2 mm, tinned, Signal green, Box |
| GTIN (EAN)   | 4008190154004                                                                                                                                               |
| Qty.         | 20 pc(s).                                                                                                                                                   |
| Product data | IEC: / 17 A<br>UL: 300 V / 10 A                                                                                                                             |
| Packaging    | Box                                                                                                                                                         |

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## Technical data

### Dimensions and weights

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Width                    | 91 mm      | Width (inches)  | 3.583 inch |
| Height                   | 10.7 mm    | Height (inches) | 0.421 inch |
| Height of lowest version | 7.5 mm     | Depth           | 11.1 mm    |
| Depth (inches)           | 0.437 inch | Net weight      | 7.8 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                               | 90°                          |
| No. of poles                               | 24                                  | Number of solder pins per pole               | 1                            |
| Solder pin length (l)                      | 3.2 mm                              | Solder pin length tolerance                  | +0.1 / -0.3 mm               |
| Tolerance of solder pin position           | ± 0.20 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                                     | 80.5 mm                      |
| L1 in inches                               | 3.169 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 cycles                              | 25                           |
| Plugging force/pole, max.                  | 10 N                                | Pulling force/pole, max.                     | 10 N                         |

### Material data

|                                       |                                            |                                       |                              |
|---------------------------------------|--------------------------------------------|---------------------------------------|------------------------------|
| Insulating material                   | PBT                                        | Colour code                           | Signal green                 |
| Colour chart (similar)                | RAL 6032                                   | Insulating material group             | IIIa                         |
| CTI                                   | ≥ 200                                      | Insulation strength                   | ≥ 10 <sup>8</sup> Ω          |
| UL 94 flammability rating             | V-0                                        | GWFI                                  | 960 °C                       |
| 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.             | -25 °C                       |
| Storage temperature, max.             | 55 °C                                      | Max. relative humidity during storage | 80 %                         |
| 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. no. of poles (Tu=20°C) | 17 A   |
| Rated current, max. no. of poles (Tu=20°C) | 12 A                   | Rated current, min. no. of poles (Tu=40°C) | 14.5 A |
| Rated current, max. no. of poles (Tu=40°C) | 10 A                   |                                            |        |

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### 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 | 29 mm  |
| VPE width | 111 mm | VPE height | 129 mm |

### Classifications

|            |             |            |             |
|------------|-------------|------------|-------------|
| ETIM 3.0   | EC001284    | ETIM 4.0   | EC002637    |
| ETIM 5.0   | EC002637    | ETIM 6.0   | EC002637    |
| UNSPSC     | 30-21-18-10 | eClass 5.1 | 27-26-07-04 |
| eClass 6.2 | 27-26-07-04 | eClass 7.1 | 27-44-04-02 |
| eClass 8.1 | 27-44-04-02 | eClass 9.0 | 27-44-04-02 |
| eClass 9.1 | 27-44-04-02 |            |             |

### Notes

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

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## Technical data

### Approvals

Approvals



ROHS

Conform

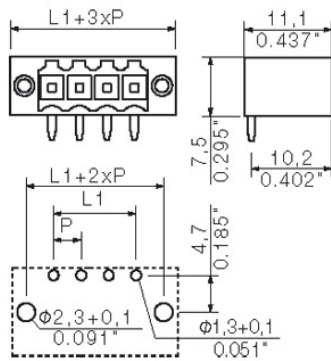
### Downloads

|                    |                                                              |
|--------------------|--------------------------------------------------------------|
| Brochure/Catalogue | <a href="#">FL DRIVES EN</a><br><a href="#">FL DRIVES DE</a> |
| Engineering Data   | <a href="#">STEP</a>                                         |

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# Drawings



## 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.