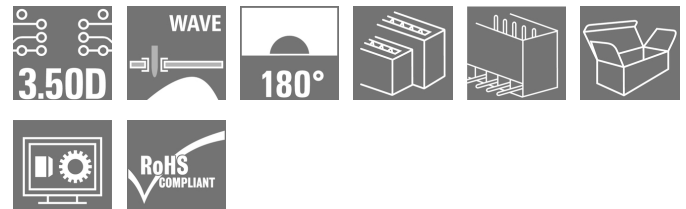


**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row  
S2L 3.50/28/180G 3.5SN BK BX**

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



Straight, double-row pin header available in closed-sided or flange version (open-sided pin headers on request). The male headers with a pin length of 3.5mm are designed for wave soldering and are packed in a box. They can be screwed on to the PCB. The male headers provide space for labelling and can be coded.

**General ordering data**

|              |  |
|--------------|--|
| Type         | S2L 3.50/28/180G 3.5SN BK BX   |
| Order No.    | <a href="#">1729060000</a>   |
| Version      | PCB plug-in connector, male header, closed side, THT solder connection, 3.50 mm, No. of poles: 28, 180°, Solder pin length (l): 3.5 mm, tinned, Black, Box |
| GTIN (EAN)   | 4032248040490  |
| Qty.         | 36 pc(s).  |
| Product data | IEC: 250 V / 10 A<br>UL: 150 V / 10 A  |
| Packaging    | Box  |

Creation date February 19, 2018 12:33:43 AM CET

Catalogue status 09.02.2018 / We reserve the right to make technical changes.

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**Technical data**
**Dimensions and weights**

Net weight 6.59 g

**System specifications**

| Product family                                |                       | Type of connection                           |                              |
|---|-----------------------|--|------------------------------|
| OMNIMATE Signal - series B2L/S2L 3.50 - 2-row |                       |  | 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°                         |
| No. of poles                                  | 28                    | Number of solder pins per pole               | 1                            |
| Solder pin length (l)                         | 3.5 mm                | Tolerance of solder pin position             | ± 0.20 mm                    |
| Solder pin dimensions                         | d = 1.0 mm, Octagonal | Solder eyelet hole diameter (D)              | 1.3 mm                       |
| Solder eyelet hole diameter tolerance (D)     | + 0,1 mm              | L1 in mm                                     | 45.5 mm                      |
| L1 in inches                                  | 1.791 inch            | Number of rows                               | 1                            |
| Pin series quantity                           | 2                     | 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                 | Can be coded                                 | Yes                          |
| Plugging cycles                               | 25                    | push-in force/pole                           | 3 N                          |
| Withdrawal force per pole                     | 6 N                   | Packaging                                    | Box                          |

**Material data**

|                                       |          |                                       |                              |
|---------------------------------------|----------|---------------------------------------|------------------------------|
| Insulating material                   | PBT      | Colour                                | Black                        |
| Colour chart (similar)                | RAL 9011 | Insulating material group             | IIIa                         |
| CTI                                   | ≥ 200    | Insulation resistance                 | ≥ 10 <sup>8</sup> Ω          |
| UL 94 flammability rating             | V-0      | Contact material                      | Copper alloy                 |
| Contact surface                       | tinned   | Layer structure of solder connection  | 2-3 μm Ni / 5-7 μm 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 (Ta = 20°C)                          | 10 A             |
| Rated current, max. no. of poles (Ta = 20°C)                              | 10 A                   | Rated current, min. no. of poles (Ta = 40°C)                          | 9 A              |
| Rated current, max. no. of poles (Ta = 40°C)                              | 8.5 A                  | Rated voltage for surge voltage class / pollution degree II/2         | 250 V            |
| Rated voltage for surge voltage class / pollution degree III/2            | 125 V                  | Rated voltage for surge voltage class / pollution degree III/3        | 80 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 77 A |


**Data sheet**

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**Technical data**

**Rated data acc. to CSA**

|   |  |                             |     |
|---|--|-----------------------------|-----|
| Institute (CSA)   |  | Certificate No. (CSA)       |     |
|  |  |                             |     |
| Rated voltage (Use group B)   | 150 V  | Rated current (use group B) | 5 A |
| Reference to approval values  | Specifications are maximum values, details - see approval certificate. |                             |     |
|   |  | 200039-1488444              |     |

**Rated data acc. to UL 1059**

|   |  |                             |      |
|---|--|-----------------------------|------|
| Institute (UR)  |  | Certificate No. (UR)        |      |
|  |  |                             |      |
| Rated voltage (use group B)   | 150 V  | Rated voltage (use group C) | 50 V |
| Rated current (use group B)   | 10 A   | Rated current (use group C) | 10 A |
| Reference to approval values  | Specifications are maximum values, details - see approval certificate. |                             |      |
|   |  | E60693                      |      |

**Classifications**

|            |             |            |             |
|------------|-------------|------------|-------------|
| ETIM 4.0   | EC002637    | ETIM 5.0   | EC002637    |
| ETIM 6.0   | EC002637    | UNSPSC     | 30-21-18-10 |
| eClass 5.1 | 27-26-07-01 | eClass 6.2 | 27-26-07-08 |
| eClass 7.1 | 27-44-04-01 | eClass 8.1 | 27-44-04-01 |
| eClass 9.0 | 27-44-04-01 | 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>• Spacing between rows: see hole layout</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> </ul> |
| IPC conformity | The products are developed, manufactured and delivered according to the internationally recognised IPC-A-610 standard, category "permissible". More extensive demands on the products can be evaluated on request.  |

**Approvals**

|           |   |
|-----------|---|
| Approvals |  |
| ROHS      | Conform   |

Creation date February 19, 2018 12:33:43 AM CET

**Data sheet**

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**Technical data**

**Downloads**

|   |   |
|---|---|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a>   |
| Brochure/Catalogue                          | <a href="#">FL DRIVES EN</a><br><a href="#">MB DEVICE MANUF. EN</a><br><a href="#">FL DRIVES DE</a><br><a href="#">CAT 2 PORTFOLIOGUIDE EN</a><br><a href="#">FL BUILDING SAFETY EN</a><br><a href="#">FL APPL LED LIGHTING EN</a><br><a href="#">FL INDUSTR.CONTROLS EN</a><br><a href="#">FL MACHINE SAFETY EN</a><br><a href="#">FL HEATING ELECTR EN</a><br><a href="#">FL APPL INVERTER EN</a><br><a href="#">FL BASE STATION EN</a><br><a href="#">FL ELEVATOR EN</a><br><a href="#">FL POWER SUPPLY EN</a><br><a href="#">FL 72H SAMPLE SER EN</a><br><a href="#">PO OMNIMATE EN</a> |
| Engineering Data                            | <a href="#">EPLAN_WSCAD</a>   |
| Engineering Data                            | <a href="#">S2L-SMT.zip</a>   |

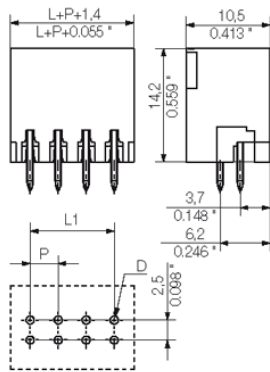
**Data sheet**

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**Drawings**

**Dimensional drawing**



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**Mating connector (conditionally pluggable)**
**B2L 3.50LH**


Female connectors with tension clamp connection system enable quick and simple wiring. These female header can be mounted side by side and therefore have a high connection density. The release lever simplifies the separation of the connection in confined spaces. The socket blocks provide space for labelling and can be coded.

**General ordering data**

| Type                             | Order No.                  | Version  | GTIN (EAN)    | Qty.      | Product data  | Packaging |
|----------------------------------|----------------------------|--|---------------|-----------|---|-----------|
| B2L<br>3.50/28/180LH<br>SN OR BX | <a href="#">1748440000</a> | PCB plug-in connector,<br>female plug, 3.50 mm,<br>No. of poles: 28, 180°,<br>Tension clamp connection,<br>Clamping range, max. : 1<br>mm <sup>2</sup> , Box | 4032248198504 | 30 pc(s). | IEC: 250 V / 10.3 A / 0.2 - 1 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 16 | Box       |
| B2L<br>3.50/28/180LH<br>SN BK BX | <a href="#">1748600000</a> | PCB plug-in connector,<br>female plug, 3.50 mm,<br>No. of poles: 28, 180°,<br>Tension clamp connection,<br>Clamping range, max. : 1<br>mm <sup>2</sup> , Box | 4032248198511 | 30 pc(s). | IEC: 250 V / 10.3 A / 0.2 - 1 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 16 | Box       |

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S2L 3.50/28/180G 3.5SN BK BX**

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**Mating connector (conditionally pluggable)**
**B2L 3.50F**

**Component density redefined: the future standard for signal connection**

A maximum number of connections requiring minimum space - the double-row B2L sets the bar for field connections of typical sensor cables up to 1mm<sup>2</sup> very high and closes the gap between "less space" and "more functions".

The result is a connection solution for standard industrial cables in 1.75 pitch - 30% smaller than equivalent solutions in 2.5 pitch, and with the 140% robustness of the 3.5 pitch

Dimensions: double the connection density with a 3.5mm pitch size

Connection system: tried and tested maintenance-free Weidmüller tension clamp connection

The basic application advantages:

Efficient: maximum component density on the PCB  
Suitable for industrial use - minimum dimensions, maximum robustness

Process-optimised - automatic assembly and reflow soldering, fast connection

User-friendly - patented release lever for the easy release of larger numbers of poles

Application-oriented: easy labelling and reliable coding despite compact dimensions

Miniaturisation is more than just a larger number of functions within a smaller space:

Each reduction in size decreases space requirements and so reduces overall system costs for the end customer.

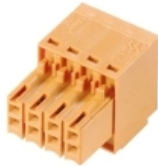
Thus, Weidmüller fulfils a growing demand in the engineering and industrial automation sectors.

**General ordering data**

| Type                            | Order No.                  | Version  | GTIN (EAN)    | Qty.      | Product data  | Packaging |
|---------------------------------|----------------------------|--|---------------|-----------|---|-----------|
| B2L<br>3.50/28/180F<br>SN BK BX | <a href="#">1748280000</a> | PCB plug-in connector,<br>female plug, 3.50 mm,<br>No. of poles: 28, 180°,<br>Tension clamp connection,<br>Clamping range, max. : 1<br>mm <sup>2</sup> , Box | 4032248156535 | 30 pc(s). | IEC: 250 V / 10.3 A / 0.2 - 1 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 16 | Box       |
| B2L<br>3.50/28/180F<br>SN OR BX | <a href="#">1748120000</a> | PCB plug-in connector,<br>female plug, 3.50 mm,<br>No. of poles: 28, 180°,<br>Tension clamp connection,<br>Clamping range, max. : 1<br>mm <sup>2</sup> , Box | 4032248198474 | 30 pc(s). | IEC: 250 V / 10.3 A / 0.2 - 1 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 16 | Box       |

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S2L 3.50/28/180G 3.5SN BK BX**

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D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
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www.weidmueller.com

**Mating connector (fully pluggable)**
**B2L 3.50**

**Component density redefined: the future standard for signal connection**

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**General ordering data**

| Type                           | Order No.                  | Version  | GTIN (EAN)    | Qty.      | Product data  | Packaging |
|--------------------------------|----------------------------|--|---------------|-----------|---|-----------|
| B2L<br>3.50/28/180<br>SN BK BX | <a href="#">1747960000</a> | PCB plug-in connector,<br>female plug, 3.50 mm,<br>No. of poles: 28, 180°,<br>Tension clamp connection,<br>Clamping range, max. : 1<br>mm <sup>2</sup> , Box | 4032248198443 | 36 pc(s). | IEC: 200 V / 10.3 A / 0.2 - 1 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 16 | Box       |
| B2L<br>3.50/28/180<br>SN OR BX | <a href="#">1747880000</a> | PCB plug-in connector,<br>female plug, 3.50 mm,<br>No. of poles: 28, 180°,<br>Tension clamp connection,<br>Clamping range, max. : 1<br>mm <sup>2</sup> , Box | 4032248198436 | 36 pc(s). | IEC: 200 V / 10.3 A / 0.2 - 1 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 16 | Box       |

**Data sheet**

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**Accessories**

**Coding elements**



**Only connects what is supposed to be connected: the right connection at the right place.**

Coding elements and locking devices clearly assign connecting elements during the manufacturing process and operation

The coding elements and locking devices are inserted prior to assembly or during the cable assembly phase. The Weidmüller alternative: configure online using the variant configurator to precode prior to delivery.

Incorrect assembly on the circuit board and incorrect plugging of connecting elements is no longer possible. The advantage: no troubleshooting during manufacture and no operational errors by the user.

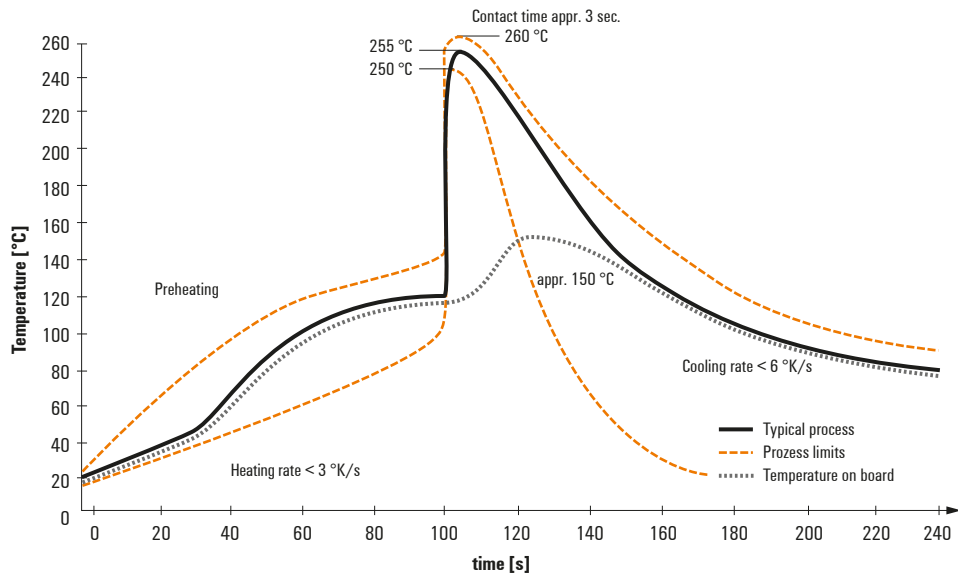
**General ordering data**

| Type                     | Order No.                  | Version  | GTIN (EAN)    | Qty.       | Product data | Packaging |
|--------------------------|----------------------------|--|---------------|------------|--------------|-----------|
| B2L/S2L 3.50<br>KO OR BX | <a href="#">1849730000</a> | PCB plug-in connector,<br>Accessories, Coding<br>element, Orange, No. of<br>poles: 1 | 4032248378197 | 100 pc(s). | UL:          | Box       |
| B2L/S2L 3.50<br>KO BK BX | <a href="#">1849740000</a> | PCB plug-in connector,<br>Accessories, Coding<br>element, Black, No. of<br>poles: 1  | 4032248378203 | 100 pc(s). | UL:          | Box       |

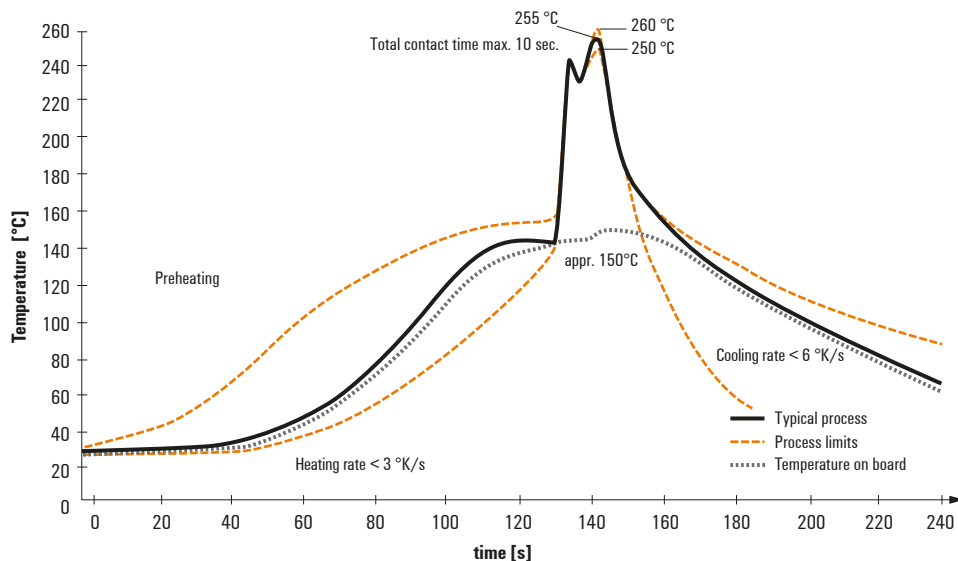
## Recommended wave soldering profiles

**Weidmüller Interface GmbH & Co. KG**  
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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.