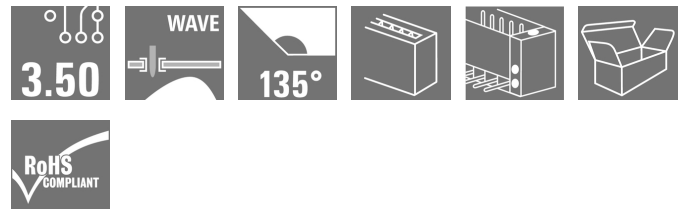


## OMNIMATE Signal - series BL/SL 3.50 SL 3.50/21/135F 3.2SN OR BX

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
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

|              |   |
|--------------|---|
| Type         | SL 3.50/21/135F 3.2SN OR BX   |
| Order No.    | <a href="#">1643520000</a>  |
| Version      | PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, Number of poles: 21, 135°, Solder pin length (l): 3.2 mm, tinned, orange, Box |
| GTIN (EAN)   | 4008 190282288  |
| Qty.         | 18 pc(s).   |
| Product data | IEC: 320 V / 15 A<br>UL: 300 V / 10 A   |
| Packaging    | Box   |

Creation date May 3, 2020 5:01:25 PM CEST

**OMNIMATE Signal - series BL/SL 3.50**  
**SL 3.50/21/135F 3.2SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
 www.weidmueller.com

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

|                          |           |                 |            |
|--------------------------|-----------|-----------------|------------|
| Width                    | 80.5 mm   | Width (inches)  | 3.169 inch |
| Height                   | 16.2 mm   | Height (inches) | 0.638 inch |
| Height of lowest version | 13 mm     | Depth           | 13.2 mm    |
| Depth (inches)           | 0.52 inch | Net weight      | 6.7 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                               | 135°                                |                   |  |
| Number of poles                              | 21                                  |                   |  |
| 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                                     | 70 mm                               |                   |  |
| L1 in inches                                 | 2.756 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                            | ≤ 5mΩ                               |                   |  |
| Can be coded                                 | Yes                                 |                   |  |
| Plugging cycles                              | 25                                  |                   |  |
| Plugging force/pole, max.                    | 10 N                                |                   |  |
| Pulling force/pole, max.                     | 10 N                                |                   |  |
| Tightening torque                            | Torque type                         | PCB, Screw flange |  |
|  | Usage information                   | Tightening torque | min. 0.1 Nm<br>max. 0.15 Nm                        |
|  |                                     | Recommended screw | Part number <a href="#">PTSC KA 2.2X4.5 WN1412</a> |

**Material data**

|                                       |                            |                                       |                            |
|---------------------------------------|----------------------------|---------------------------------------|----------------------------|
| Insulating material                   | PBT                        | Colour                                | orange                     |
| Colour chart (similar)                | RAL 2000                   | Insulating material group             | IIIa                       |
| Comparative Tracking Index (CTI)      | ≥ 200                      | Insulation strength                   | ≥ 10 <sup>8</sup> Ω        |
| UL 94 flammability rating             | V-0                        | GWFI                                  | 960 °C                     |
| 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.             | -25 °C                     | Storage temperature, max.             | 50 °C                      |
| Max. relative humidity during storage | 70 %                       | Operating temperature, min.           | -50 °C                     |
| Operating temperature, max.           | 100 °C                     | Temperature range, installation, min. | -30 °C                     |
| Temperature range, installation, max. | 100 °C                     |                                       |                            |

Creation date May 3, 2020 5:01:25 PM CEST


**OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/21/135F 3.2SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
 www.weidmueller.com


**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)                         | 15 A              |
| Rated current, max. number of poles (Tu=20°C)                             | 11 A                   | Rated current, min. number of poles (Tu=40°C)                         | 13 A              |
| Rated current, max. number of poles (Tu=40°C)                             | 9 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 |

**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 | 1 mm |
| VPE width | 1 mm | VPE height | 1 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 | UNSPSC     | 30-21-18-10 |

**Data sheet**

**OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/21/135F 3.2SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

**Technical data**

**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> </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.   |

**Approvals**

Approvals



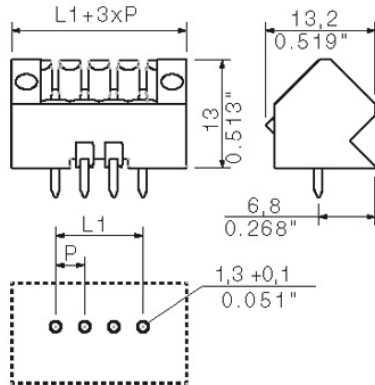
ROHS Conform

**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="#">FLIndustr.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="#">SL.zip</a>   |

**Data sheet****OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/21/135F 3.2SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

**Drawings****Dimensional drawing**

**OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/21/135F 3.2SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

**Mating connector (conditionally pluggable)**
**BL 3.50/180LH**


Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

**General ordering data**

| Type       | BL 3.50/21/180LH SN OR ... | Version   | Product data                                  | Packaging |
|------------|----------------------------|---|---|-----------|
| Order No.  | <a href="#">1687840000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,           | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190853396              | 180°, Clamping yoke connection, Clamping range, max.: 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 28 - AWG 14            |           |
| Qty.       | 18 pc(s).                  | Box   |   |           |
| Type       | BL 3.50/21/180LH SN BK ... | Version   | Product data                                  | Packaging |
| Order No.  | <a href="#">1688070000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,           | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190853624              | 180°, Clamping yoke connection, Clamping range, max.: 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 28 - AWG 14            |           |
| Qty.       | 20 pc(s).                  | Box   |   |           |

**BLZF 3.5/180LH**


Female connectors with tension clamp system for connecting cables in 3.50 pitch. They provide space for labelling and can be coded.

**General ordering data**

| Type       | BLZF 3.50/21/180LH SN B ... | Version   | Product data                                    | Packaging |
|------------|-----------------------------|---|---|-----------|
| Order No.  | <a href="#">1691990000</a>  | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,           | IEC: 320 V / 14.5 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190373962               | 180°, Tension-clamp connection, Clamping range, max.: 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 26 - AWG 14              |           |
| Qty.       | 20 pc(s).                   | Box   |   |           |
| Type       | BLZF 3.50/21/180LH SN O ... | Version   | Product data                                    | Packaging |
| Order No.  | <a href="#">1691760000</a>  | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,           | IEC: 320 V / 14.5 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190373733               | 180°, Tension-clamp connection, Clamping range, max.: 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 26 - AWG 14              |           |
| Qty.       | 20 pc(s).                   | Box   |   |           |

**OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/21/135F 3.2SN OR BX**

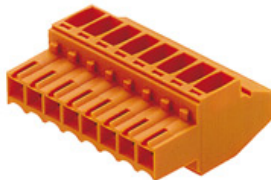
**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

**Mating connector (conditionally pluggable)**
**BLZF 3.5/180**


Female connectors with tension clamp system for connecting cables in 3.50 pitch. They provide space for labelling and can be coded.

**General ordering data**

| Type       | BLZF 3.50/21/180 SN OR ... | Version  | Product data                                    | Packaging |
|------------|----------------------------|--|---|-----------|
| Order No.  | <a href="#">1690380000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 14.5 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190328870              | 180°, Tension-clamp connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 26 - AWG 14              |           |
| Qty.       | 20 pc(s).                  | Box  |   |           |
| Type       | BLZF 3.50/21/180 SN BK ... | Version  | Product data                                    | Packaging |
| Order No.  | <a href="#">1690610000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 14.5 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190329129              | 180°, Tension-clamp connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 26 - AWG 14              |           |
| Qty.       | 20 pc(s).                  | Box  |   |           |

**BL 3.50/90**


Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

**General ordering data**

| Type       | BL 3.50/21/90 SN OR BX     | Version   | Product data                                  | Packaging |
|------------|----------------------------|---|---|-----------|
| Order No.  | <a href="#">1638740000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,               | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190276287              | 90°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , Box | UL: 300 V / 8 A / AWG 28 - AWG 14             |           |
| Qty.       | 24 pc(s).                  |   |   |           |
| Type       | BL 3.50/21/90 SN BK BX     | Version   | Product data                                  | Packaging |
| Order No.  | <a href="#">1638970000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,               | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190276515              | 90°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , Box | UL: 300 V / 8 A / AWG 28 - AWG 14             |           |
| Qty.       | 20 pc(s).                  |   |   |           |

**OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/21/135F 3.2SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

**Mating connector (conditionally pluggable)**
**BL 3.50/270**


Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

**General ordering data**

| Type       | BL 3.50/21/270 SN OR BX    | Version  | Product data                                  | Packaging |
|------------|----------------------------|--|---|-----------|
| Order No.  | <a href="#">1639660000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190277215              | 270°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 8 A / AWG 28 - AWG 14             |           |
| Qty.       | 24 pc(s).                  | Box  |   |           |
| Type       | BL 3.50/21/270 SN BK BX    | Version  | Product data                                  | Packaging |
| Order No.  | <a href="#">1639890000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190277444              | 270°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 8 A / AWG 28 - AWG 14             |           |
| Qty.       | 20 pc(s).                  | Box  |   |           |

**BL 3.50/180**


Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

**General ordering data**

| Type       | BL 3.50/21/180 SN OR BX    | Version  | Product data                                  | Packaging |
|------------|----------------------------|--|---|-----------|
| Order No.  | <a href="#">1620330000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190154752              | 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 28 - AWG 14            |           |
| Qty.       | 24 pc(s).                  | Box  |   |           |
| Type       | BL 3.50/21/180 SN BK BX    | Version  | Product data                                  | Packaging |
| Order No.  | <a href="#">1620410000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190155926              | 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 28 - AWG 14            |           |
| Qty.       | 24 pc(s).                  | Box  |   |           |



**OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/21/135F 3.2SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

**Mating connector (fully pluggable)**
**BL 3.50/180F**


Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

**General ordering data**

| Type       | BL 3.50/21/180F SN BK BX   | Version  | Product data                                  | Packaging |
|------------|----------------------------|--|---|-----------|
| Order No.  | <a href="#">1620880000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190164850              | 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 28 - AWG 14            |           |
| Qty.       | 18 pc(s).                  | Box  |   |           |
| Type       | BL 3.50/21/180F SN OR BX   | Version  | Product data                                  | Packaging |
| Order No.  | <a href="#">1620800000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190163785              | 180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 28 - AWG 14            |           |
| Qty.       | 18 pc(s).                  | Box  |   |           |

**BLZF 3.5/180F**


Female connectors with tension clamp system for connecting cables in 3.50 pitch. They provide space for labelling and can be coded.

**General ordering data**

| Type       | BLZF 3.50/21/180F SN BK ... | Version  | Product data                                    | Packaging |
|------------|-----------------------------|--|---|-----------|
| Order No.  | <a href="#">1691300000</a>  | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 14.5 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190329853               | 180°, Tension-clamp connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 26 - AWG 14              |           |
| Qty.       | 20 pc(s).                   | Box  |   |           |
| Type       | BLZF 3.50/21/180F SN OR ... | Version  | Product data                                    | Packaging |
| Order No.  | <a href="#">1691070000</a>  | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 14.5 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190329587               | 180°, Tension-clamp connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 26 - AWG 14              |           |
| Qty.       | 20 pc(s).                   | Box  |   |           |

**OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/21/135F 3.2SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

**Mating connector (fully pluggable)**
**BL 3.50/90F**


Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

**General ordering data**

| Type       | BL 3.50/21/90F SN OR BX    | Version   | Product data                                  | Packaging |
|------------|----------------------------|---|---|-----------|
| Order No.  | <a href="#">1639200000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,               | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190276744              | 90°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , Box | UL: 300 V / 8 A / AWG 28 - AWG 14             |           |
| Qty.       | 18 pc(s).                  |   |   |           |
| Type       | BL 3.50/21/90F SN BK BX    | Version   | Product data                                  | Packaging |
| Order No.  | <a href="#">1639430000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,               | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190276973              | 90°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , Box | UL: 300 V / 8 A / AWG 28 - AWG 14             |           |
| Qty.       | 20 pc(s).                  |   |   |           |

**BL 3.50/270F**


Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

**General ordering data**

| Type       | BL 3.50/21/270F SN OR BX   | Version  | Product data                                  | Packaging |
|------------|----------------------------|--|---|-----------|
| Order No.  | <a href="#">1640120000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190277673              | 270°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 8 A / AWG 28 - AWG 14             |           |
| Qty.       | 18 pc(s).                  | Box  |   |           |
| Type       | BL 3.50/21/270F SN BK BX   | Version  | Product data                                  | Packaging |
| Order No.  | <a href="#">1640350000</a> | PCB plug-in connector, female plug, 3.50 mm, Number of poles: 21,            | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190277932              | 270°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , | UL: 300 V / 8 A / AWG 28 - AWG 14             |           |
| Qty.       | 18 pc(s).                  | Box  |   |           |

## OMNIMATE Signal - series BL/SL 3.50 SL 3.50/21/135F 3.2SN OR BX

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
 www.weidmueller.com

# 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       | BL SL 3.5 KO SW            | Version  | Product data | Packaging |
|------------|----------------------------|--|--------------|-----------|
| Order No.  | <a href="#">1610100000</a> | PCB plug-in connector, Accessories, Coding element, black, Number  |              | Box       |
| GTIN (EAN) | 4008190187637              | of poles: 1  |              |           |
| Qty.       | 100 pc(s).                 |  |              |           |
| Type       | BL SL 3.5 KO OR            | Version  | Product data | Packaging |
| Order No.  | <a href="#">1693430000</a> | PCB plug-in connector, Accessories, Coding element, orange, Number |              | Box       |
| GTIN (EAN) | 4008190867447              | of poles: 1  |              |           |
| Qty.       | 100 pc(s).                 |  |              |           |

### Additional accessories



**No task is too small when creating the perfect solution.** br />

Connections form just one part of the overall process. Small details are often the key to the perfect solution in applications where potentials are tested, grouped or even isolated.

A system is not a system without small but useful details:

- Test plugs - ensure reliable pick-up from diagnostic sockets
- Cross-connectors - ensure a stable electrical distribution contact directly at the connection
- Compartment partition elements - divide a large number of male connectors into several separate socket connector channels
- Locks and clips - optional vibration-resistant clip-on connection or mounting for male and female connectors

In tandem with the manufacturing process and application - more accessories = smaller workload

### General ordering data

| Type       | BL/SL 3.50 VR BK BX        | Version  | Product data |
|------------|----------------------------|--|--------------|
| Order No.  | <a href="#">1669300000</a> | PCB plug-in connector, Accessories, Latches, black, Number of poles: |              |
| GTIN (EAN) | 4008190428471              | 1  |              |
| Qty.       | 100 pc(s).                 |  |              |

**Data sheet****OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/21/135F 3.2SN OR BX**

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

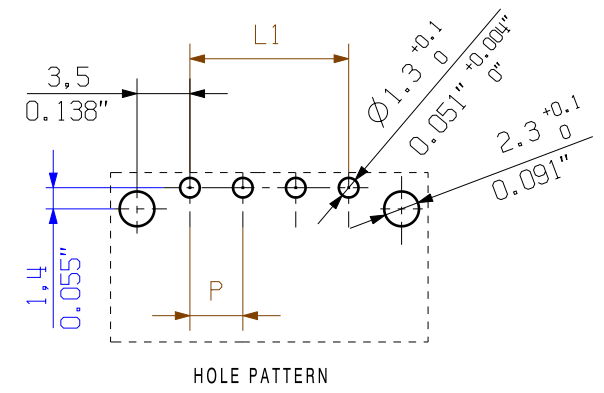
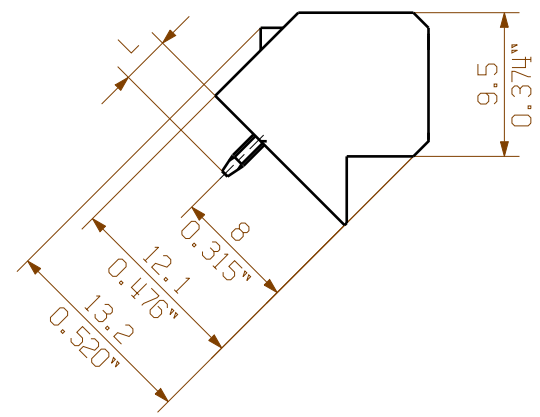
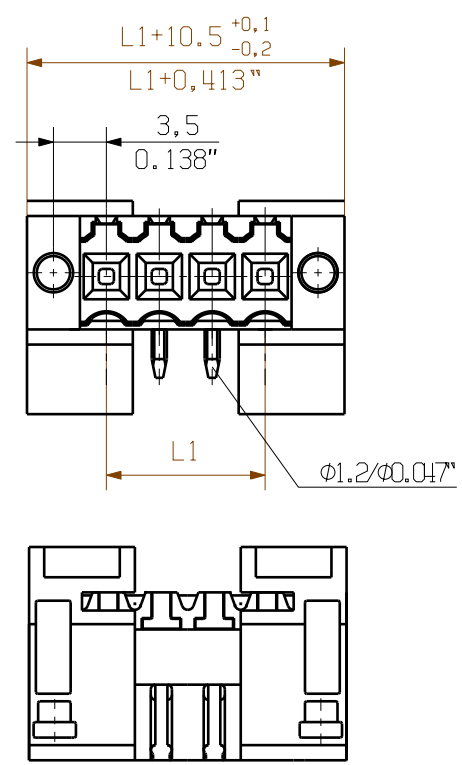
**Accessories**

| Type       | BL/SL 3.50 VR OR BX        | Version   | Product data |
|------------|----------------------------|---|--------------|
| Order No.  | <a href="#">1669310000</a> | PCB plug-in connector, Accessories, Latches, orange, Number of poles: |              |
| GTIN (EAN) | 4008190428488              | 1   |              |
| Qty.       | 100 pc(s).                 |   |              |

MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE  
 DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

DIE DEUTSCHE VERSION IST VERBINDLICH  
 THE GERMAN VERSION IS BINDING

WEITERGABE SOWIE VERVIELFAELTIGUNG DIESES DOKUMENTS, VERWERTUNG UND MITTEILUNG SEINES INHALTS SIND VERBOTEN, SOWEIT NICHT AUSDRUECKLICH GESTATTET.  
 ZUWIDERHANDLUNGEN VERPFLICHTEN ZU SCHADENERSATZ. ALLE RECHTE FUER DEN FALL DER PATENT-, GEBRAUCHSMUSTER- ODER GESCHMACKSMUSTEREINTRAGUNG VORBEHALTEN.  
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPLICIT AUTHORIZATION IS PROHIBITED.  
 OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. WEIDMUELLER EXCLUSIVELY RESERVES THE RIGHT TO FILE FOR PATENTS, UTILITY MODELS OR DESIGNS.  
 © WEIDMUELLER INTERFACE GmbH & Co.KG



P= RASTER / PITCH  
 SHOWN SL3.5/04/135F

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.

| STIFTLAENGE L | TOLERANZ    |
|---------------|-------------|
| 3,2           | 0,1<br>-0,3 |
| 4,5           | 0,1<br>-0,3 |

|    |         |           |
|----|---------|-----------|
| 24 | 80,50   | 3,169     |
| 23 | 77,00   | 3,031     |
| 22 | 73,50   | 2,894     |
| 21 | 70,00   | 2,756     |
| 20 | 66,50   | 2,618     |
| 19 | 63,00   | 2,480     |
| 18 | 59,50   | 2,343     |
| 17 | 56,00   | 2,205     |
| 16 | 52,50   | 2,067     |
| 15 | 49,00   | 1,929     |
| 14 | 45,50   | 1,791     |
| 13 | 42,00   | 1,654     |
| 12 | 38,50   | 1,516     |
| 11 | 35,00   | 1,378     |
| 10 | 31,50   | 1,240     |
| 9  | 28,00   | 1,102     |
| 8  | 24,50   | 0,965     |
| 7  | 21,00   | 0,827     |
| 6  | 17,50   | 0,689     |
| 5  | 14,00   | 0,551     |
| 4  | 10,50   | 0,413     |
| 3  | 7,00    | 0,276     |
| 2  | 3,50    | 0,138     |
| n  | L1 [mm] | L1 [Inch] |

|   |  |  |   |
|---|--|--|---|
| METRIC TOLERANCES:<br>X. = ±0.3<br>X.X = ±0.1<br>X.XX = ±0.05 | 49545/5<br>20.01.10 HELIS_MA 02        | CAT.NO.:   |   |
|   | MODIFICATION                           |  | <b>C 21377 05</b><br>DRAWING NO. ISSUE NO.<br>SHEET 02 OF 02 SHEETS |
|   | DATE: 02.11.2009<br>NAME: HELIS_MA     | SL 3.50/.../135(F)...<br>STIFTLAENGE<br>PIN HEADER |   |
| SCALE: 2:1<br>SUPERSEDES:                                     | CHECKED: 22.01.2010<br>NAME: HECKERT_M |  |   |
| APPROVED:   | NAME: HECKERT_M                        |  |   |
| PRODUCT FILE: SL 3.50   |  | 7296   |   |

## Recommended wave soldering profiles

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

### 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.