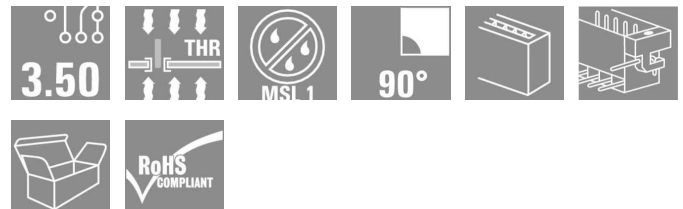


# OMNIMATE Signal - series BL/SL 3.50

## SL-SMT 3.50/04/90LF 1.5SN BK BX

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 16  
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 Germany  
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 Fax: +49 5231 14292083  
[www.weidmueller.com](http://www.weidmueller.com)



**High-temperature-resistant male header, 3.50 mm pitch.**

- **Plugging direction parallel (90°), straight 180° or angled (135°) to PCB**
- **Housing variants: closed side (G), screw flange (F), solder flange (LF) or snap-on solder flange (RF)**
- **Optimised for the SMT process**
- **Pin length 3.2 mm universal for all soldering methods**
- **Pin length 1.5 mm optimised for reflow soldering methods**
- **Packed either in a box (BX) or tape-on-reel (RL)**
- **Male header can be coded**

### General ordering data

|              |                                                                                                                                                                |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | SL-SMT 3.50/04/90LF 1.5SN BK BX                                                                                                                                |
| Order No.    | <a href="#">1804960000</a>                                                                                                                                     |
| Version      | PCB plug-in connector, male header, Solder flange, THT/THR solder connection, 3.50 mm, No. of poles: 4, 90°, Solder pin length (l): 1.5 mm, tinned, Black, Box |
| GTIN (EAN)   | 4032248268863                                                                                                                                                  |
| Qty.         | 84 pc(s).                                                                                                                                                      |
| Product data | IEC: 320 V / 15 A<br>UL: 300 V / 10 A                                                                                                                          |
| Packaging    | Box                                                                                                                                                            |

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## Technical data

### Dimensions and weights

|            |        |
|------------|--------|
| Net weight | 2.12 g |
|------------|--------|

### System specifications

|                                                   |                                     |                                              |                              |
|---------------------------------------------------|-------------------------------------|----------------------------------------------|------------------------------|
| Product family                                    | OMNIMATE Signal - series BL/SL 3.50 | Type of connection                           | Solder connection            |
| Mounting onto the PCB                             | THT/THR solder connection           | Pitch in mm (P)                              | 3.5 mm                       |
| Pitch in inches (P)                               | 0.138 inch                          | Outgoing elbow                               | 90°                          |
| No. of poles                                      | 4                                   | Number of solder pins per pole               | 1                            |
| Solder pin length (l)                             | 1.5 mm                              | Solder pin length tolerance                  | 0 / -0.3 mm                  |
| Tolerance of solder pin position                  | ± 0.1 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 |                                     | Outside diameter of solder pad               | 2.3 mm                       |
| Template aperture diameter                        | 2.1 mm                              | L1 in mm                                     | 10.5 mm                      |
| L1 in inches                                      | 0.413 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                            | 4.50 mΩ                      |
| Can be coded                                      | Yes                                 | Plugging cycles                              | 25                           |
| push-in force/pole                                | 4 N                                 | Withdrawal force per pole                    | 4 N                          |
| Packaging                                         | Box                                 |                                              |                              |

### Material data

|                                       |                       |                                       |                       |
|---------------------------------------|-----------------------|---------------------------------------|-----------------------|
| Insulating material                   | LCP GF                | Colour                                | Black                 |
| Colour chart (similar)                | RAL 9011              | Insulating material group             | IIIa                  |
| CTI                                   | ≥ 175                 | Insulation resistance                 | ≥ 10 <sup>8</sup> Ω   |
| Moisture Level (MSL)                  | 1                     | UL 94 flammability rating             | V-0                   |
| Contact material                      | CuSn                  | Contact surface                       | tinned                |
| Layer structure of solder connection  | 2-3 µm Ni / 5-7 µm Sn | Layer structure of plug contact       | 2-3 µm Ni / 5-7 µm Sn |
| 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)                          | 15 A              |
| Rated current, max. no. of poles (Ta = 20°C)                              | 12 A                   | Rated current, min. no. of poles (Ta = 40°C)                          | 13 A              |
| Rated current, max. no. of poles (Ta = 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)       |       |
|  |                                                                        | 200039-1176845              |       |
| Rated voltage (Use group B)                                                       | 300 V                                                                  | Rated voltage (use group D) | 300 V |
| Rated current (use group B)                                                       | 10 A                                                                   | Rated current (use group D) | 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)                                                       | 300 V                                                                  | Rated voltage (use group D) | 300 V |
| Rated current (use group B)                                                       | 10 A                                                                   | Rated current (use group D) | 10 A  |
| Reference to approval values                                                      | Specifications are maximum values, details - see approval certificate. |                             |       |

### 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          | • Gold-plated contact surfaces on request                                                                                                                                                                          |
|                | • Rated current related to rated cross-section & min. No. of poles.                                                                                                                                                |
|                | • Solder eyelet diameter D = 1.5 + 0.1 mm, from 9 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.                                    |
| 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 |

### OMNIMATE Signal - series BL/SL 3.50 SL-SMT 3.50/04/90LF 1.5SN BK BX

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## Technical data

### Downloads

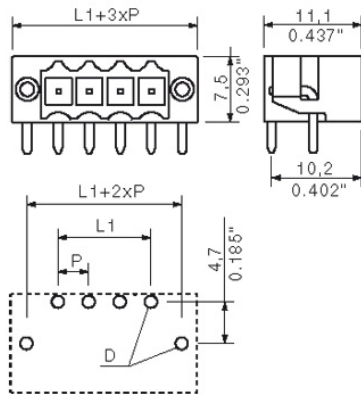
|                                             |                                                              |
|---------------------------------------------|--------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a>              |
| Brochure/Catalogue                          | <a href="#">FL DRIVES EN</a><br><a href="#">FL DRIVES DE</a> |
| Engineering Data                            | <a href="#">SL-SMT.zip</a>                                   |
| SMT white paper                             | <a href="#">Download Whitepaper</a>                          |

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# Drawings

## Dimensional drawing



## OMNIMATE Signal - series BL/SL 3.50 SL-SMT 3.50/04/90LF 1.5SN BK BX

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### Mating connector (fully pluggable)

#### BLIDCB 3.5F



Female connectors for fast processing with insulation displacement connectors (IDC) for connecting wires at 3.50 pitch. They provide space for labelling and can be coded.

#### General ordering data

| Type                                                    | Order No.                  | Version                                                                                                                                                   | GTIN (EAN)                 | Qty.                                                                                                                                       | Product data                                                           | Packaging |
|---------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------|
| BLIDCB<br>3.50/04/-F<br>SN BK BX                        | <a href="#">1770760000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 90°/270°, IDC<br>terminal, Clamping range,<br>rated connection, max.: 0.5<br>mm², Box | 4032248174546              | 10 pc(s).                                                                                                                                  | IEC: 250 V / 6 A / 0.35 - 0.5 mm²<br>UL: 300 V / 7 A / AWG 22 - AWG 20 | Box       |
| This article will no longer be available in the future. |                            | BLIDCB 3.50/04/-F SN OR BX                                                                                                                                | <a href="#">1751470000</a> | PCB plug-in connector, female plug, 3.50 mm, No. of poles: 4, 90°/270°, IDC terminal, Clamping range, rated connection, max.: 0.5 mm², Box | 4032248174409                                                          | 10 pc(s). |

#### 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                          | Order No.                  | Version                                                                                                                                                          | GTIN (EAN)    | Qty.      | Product data                                                           | Packaging |
|-------------------------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------|------------------------------------------------------------------------|-----------|
| BL<br>3.50/04/90F<br>SN OR BX | <a href="#">1639030000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 90°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm², Box | 4008190276577 | 90 pc(s). | IEC: 320 V / 12 A / 0.2 - 1.5 mm²<br>UL: 300 V / 8 A / AWG 28 - AWG 14 | Box       |

## OMNIMATE Signal - series BL/SL 3.50 SL-SMT 3.50/04/90LF 1.5SN BK BX

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### Mating connector (fully pluggable)

|                               |                            |                                                                                                                                                                               |                         |                                                                                    |     |
|-------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------------------------------------------------------------|-----|
| BL<br>3.50/04/90F<br>SN BK BX | <a href="#">1639260000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 90°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190276805 90 pc(s). | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 8 A / AWG 28 - AWG 14 | Box |
|-------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------------------------------------------------------------|-----|

### 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                               | Order No.                  | Version                                                                                                                                                                        | GTIN (EAN)              | Qty. | Product data                                                                        | Packaging |
|------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------|-------------------------------------------------------------------------------------|-----------|
| BL<br>3.50/04/180F<br>SN OR BX     | <a href="#">1606660000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 180°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190174620 84 pc(s). |      | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 14 | Box       |
| BL<br>3.50/04/180F<br>SN BK BX     | <a href="#">1615800000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 180°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190062279 84 pc(s). |      | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 14 | Box       |
| BL<br>3.50/04/180F<br>SN OR BX PRT | <a href="#">1740731001</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 180°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190961732 84 pc(s). |      | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 14 | Box       |

**OMNIMATE Signal - series BL/SL 3.50**  
**SL-SMT 3.50/04/90LF 1.5SN BK BX**

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**Mating connector (fully 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                            | Order No.                  | Version                                                                                                                                                                        | GTIN (EAN)              | Qty. | Product data                                                                        | Packaging |
|---------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------|-------------------------------------------------------------------------------------|-----------|
| BL<br>3.50/04/180LH<br>SN BK BX | <a href="#">1687900000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 180°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190853457 84 pc(s). |      | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 14 | Box       |
| BL<br>3.50/04/180LH<br>SN OR BX | <a href="#">1687670000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 180°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190853228 84 pc(s). |      | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 14 | Box       |

**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                           | Order No.                  | Version                                                                                                                                                                        | GTIN (EAN)              | Qty. | Product data                                                                       | Packaging |
|--------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------|------------------------------------------------------------------------------------|-----------|
| BL<br>3.50/04/270F<br>SN OR BX | <a href="#">1639950000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 270°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190277505 90 pc(s). |      | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 8 A / AWG 28 - AWG 14 | Box       |
| BL<br>3.50/04/270F<br>SN BK BX | <a href="#">1640180000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 270°, Clamping<br>yoke connection, Clamping                                                                | 4008190277741 90 pc(s). |      | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 8 A / AWG 28 - AWG 14 | Box       |

**OMNIMATE Signal - series BL/SL 3.50**  
**SL-SMT 3.50/04/90LF 1.5SN BK BX**

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**Mating connector (fully pluggable)**

range, rated connection,  
max.: 1.5 mm<sup>2</sup>, Box

**OMNIMATE Signal - series BL/SL 3.50**  
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**Mating connector (conditionally pluggable)**
**BLIDCB 3.5**


Female connectors for fast processing with insulation displacement connectors (IDC) for connecting wires at 3.50 pitch. They provide space for labelling and can be coded.

**General ordering data**

| Type                            | Order No.                  | Version                                                                                                                                                   | GTIN (EAN)                 | Qty.                                                                                                                                                                  | Product data                                                           | Packaging    |
|---------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------|
| BLIDCB<br>3.50/04/- SN<br>OR BX | <a href="#">1751400000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 90°/270°, IDC<br>terminal, Clamping range,<br>rated connection, max.: 0.5<br>mm², Box | 4032248174331              | 10 pc(s).                                                                                                                                                             | IEC: 250 V / 6 A / 0.35 - 0.5 mm²<br>UL: 300 V / 7 A / AWG 22 - AWG 20 | Box          |
| Discontinued                    | 2014-05-20T00:00:00+02:00  | BLIDCB 3.50/04/- SN BK<br>BX                                                                                                                              | <a href="#">1770690000</a> | PCB plug-in<br>connector, female<br>plug, 3.50 mm,<br>No. of poles:<br>4, 90°/270°,<br>IDC terminal,<br>Clamping range,<br>rated connection,<br>max.: 0.5 mm²,<br>Box | 4032248174478                                                          | 10<br>pc(s). |

**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                          | Order No.                  | Version                                                                                                                                                           | GTIN (EAN)    | Qty.       | Product data                                                           | Packaging |
|-------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|------------------------------------------------------------------------|-----------|
| BL<br>3.50/04/270<br>SN OR BX | <a href="#">1639490000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 270°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm², Box | 4008190277048 | 132 pc(s). | IEC: 320 V / 12 A / 0.2 - 1.5 mm²<br>UL: 300 V / 8 A / AWG 28 - AWG 14 | Box       |

## OMNIMATE Signal - series BL/SL 3.50 SL-SMT 3.50/04/90LF 1.5SN BK BX

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### Mating connector (conditionally pluggable)

|                               |                            |                                                                                                                                                                                |                          |                                                                                    |     |
|-------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------|-----|
| BL<br>3.50/04/270<br>SN BK BX | <a href="#">1639720000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 270°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190277277 132 pc(s). | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 8 A / AWG 28 - AWG 14 | 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                         | Order No.                  | Version                                                                                                                                                                       | GTIN (EAN)               | Qty. | Product data                                                                       | Packaging |
|------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------|------------------------------------------------------------------------------------|-----------|
| BL<br>3.50/04/90<br>SN BK BX | <a href="#">1638800000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 90°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190276348 132 pc(s). |      | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 8 A / AWG 28 - AWG 14 | Box       |
| BL<br>3.50/04/90<br>SN OR BX | <a href="#">1638570000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 90°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190276119 132 pc(s). |      | IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 8 A / AWG 28 - AWG 14 | 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                            | Order No.                  | Version                                                                                                         | GTIN (EAN)               | Qty. | Product data                                                                        | Packaging |
|---------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------|------|-------------------------------------------------------------------------------------|-----------|
| BL<br>3.50/04/180<br>SN DKGN BX | <a href="#">1606540000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 180°, Clamping<br>yoke connection, Clamping | 4008190000936 132 pc(s). |      | IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 14 | Box       |

# OMNIMATE Signal - series BL/SL 3.50

## SL-SMT 3.50/04/90LF 1.5SN BK BX

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### Mating connector (conditionally pluggable)

|              |                            |                                                                                                                                                                                |                                                                                                                                                                                            |                                                                                                                                                                    |
|--------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |                            | range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box                                                                                                                    |                                                                                                                                                                                            |                                                                                                                                                                    |
| BL           | <a href="#">1597380000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 180°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190111489 132 pc(s).<br>IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 14                                                                            | Box                                                                                                                                                                |
| 3.50/04/180  |                            |                                                                                                                                                                                |                                                                                                                                                                                            |                                                                                                                                                                    |
| SN OR BX     |                            |                                                                                                                                                                                |                                                                                                                                                                                            |                                                                                                                                                                    |
| BL           | <a href="#">1615690000</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 180°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190059033 100 pc(s).<br>IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 14                                                                            | Box                                                                                                                                                                |
| 3.50/04/180  |                            |                                                                                                                                                                                |                                                                                                                                                                                            |                                                                                                                                                                    |
| SN BK BX     |                            |                                                                                                                                                                                |                                                                                                                                                                                            |                                                                                                                                                                    |
| Discontinued | BL 3.50/04/180 SN GY BX    | <a href="#">1620470000</a>                                                                                                                                                     | PCB plug-in<br>connector, female<br>plug, 3.50 mm,<br>No. of poles: 4,<br>180°, Clamping<br>yoke connection,<br>Clamping range,<br>rated connection,<br>max.: 1.5 mm <sup>2</sup> ,<br>Box | 4008190157456 100 pc(s).<br>IEC:<br>320<br>V /<br>17<br>A /<br>0.2<br>-<br>1.5<br>mm <sup>2</sup><br>UL:<br>300<br>V /<br>10<br>A /<br>AWG<br>28<br>-<br>AWG<br>14 |
| BL           | <a href="#">1740641001</a> | PCB plug-in connector,<br>female plug, 3.50 mm, No.<br>of poles: 4, 180°, Clamping<br>yoke connection, Clamping<br>range, rated connection,<br>max.: 1.5 mm <sup>2</sup> , Box | 4008190961541 132 pc(s).<br>IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup><br>UL: 300 V / 10 A / AWG 28 - AWG 14                                                                            | Box                                                                                                                                                                |
| 3.50/04/180  |                            |                                                                                                                                                                                |                                                                                                                                                                                            |                                                                                                                                                                    |
| SN OR BX PRT |                            |                                                                                                                                                                                |                                                                                                                                                                                            |                                                                                                                                                                    |

## OMNIMATE Signal - series BL/SL 3.50 SL-SMT 3.50/04/90LF 1.5SN BK BX

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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 |
|--------------------|----------------------------|--------------------------------------------------------------------------------------|---------------|------------|--------------|-----------|
| BL SL 3.5 KO<br>OR | <a href="#">1693430000</a> | PCB plug-in connector,<br>Accessories, Coding<br>element, Orange, No. of<br>poles: 1 | 4008190867447 | 100 pc(s). |              | Box       |
| BL SL 3.5 KO<br>SW | <a href="#">1610100000</a> | PCB plug-in connector,<br>Accessories, Coding<br>element, Black, No. of<br>poles: 1  | 4008190187637 | 100 pc(s). |              | Box       |

## OMNIMATE Signal - series BL/SL 3.50 SL-SMT 3.50/04/90LF 1.5SN BK BX

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## Accessories

### LED Light guides



#### Effective: the link between LED and front panel.

Floodlight indicators allow users to monitor the switching states without requiring a special design: optical plastic directs the light from standard LEDs around a bend into the connectors or through the front plate.

The fibre-optic elements are simply clipped behind the relevant 90° bend male connectors (90° outlet direction). Versions with different incoming light beam heights achieve maximum light efficiency for LEDs with different designs or heights.

The advantages compared to conventional solutions:

- No additional LED circuit board required behind the front panel
- No "long-legged" LEDs with separate mounting required
- Bent fibre-optic cable line for maximum light efficiency
- Uncomplicated front plate bore holes due to circular shape of outgoing light beam
- Easy to maintain correct clearance and creepage distance
- Can be partitioned for smaller pole numbers

The result: simplified manufacturing process, reduced costs and simplified design

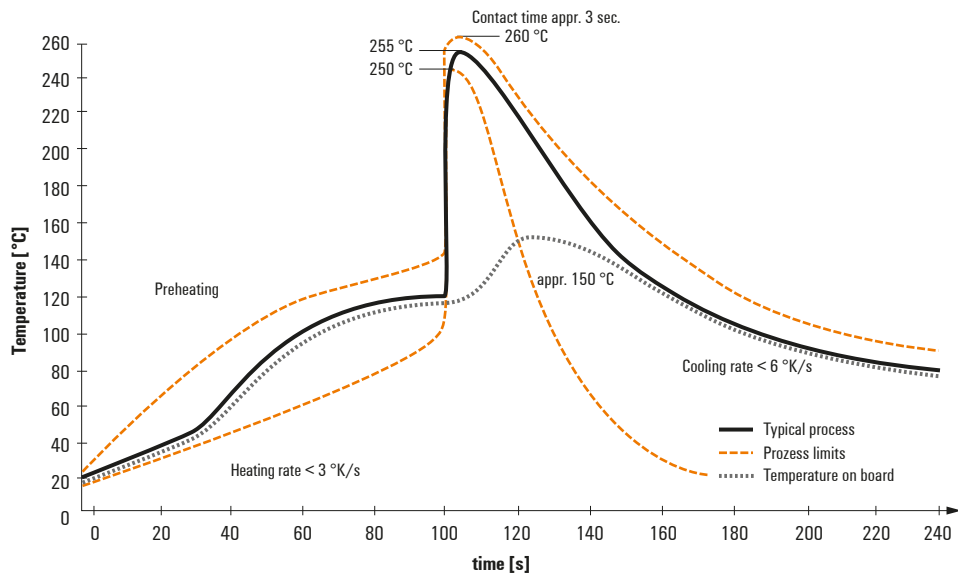
### General ordering data

| Type                     | Order No.                  | Version                                                                                        | GTIN (EAN)      | Qty.   | Product data | Packaging |
|--------------------------|----------------------------|------------------------------------------------------------------------------------------------|-----------------|--------|--------------|-----------|
| SL 3.5 FLA<br>2.3/1.75/8 | <a href="#">1597640000</a> | PCB plug-in connector,<br>Accessories, Flood-light<br>display, Transparent, No. of<br>poles: 1 | 400819001132125 | pc(s). |              | Box       |
| SL 3.5 FLA<br>1.5/1.75/8 | <a href="#">1597630000</a> | PCB plug-in connector,<br>Accessories, Flood-light<br>display, Transparent, No. of<br>poles: 1 | 400819014838650 | pc(s). |              | Box       |
| SL 3.5 FLA<br>4.0/1.75/8 | <a href="#">1597650000</a> | PCB plug-in connector,<br>Accessories, Flood-light<br>display, Transparent, No. of<br>poles: 1 | 400819002777350 | pc(s). |              | Box       |
| SL 3.5 FLA<br>2.3/8      | <a href="#">1597520000</a> | PCB plug-in connector,<br>Accessories, Flood-light<br>display, Transparent, No. of<br>poles: 1 | 400819012056650 | pc(s). |              | Box       |
| SL 3.5 FLA<br>4.0/8      | <a href="#">1597530000</a> | PCB plug-in connector,<br>Accessories, Flood-light<br>display, Transparent, No. of<br>poles: 1 | 400819007569950 | pc(s). |              | Box       |
| SL 3.5 FLA<br>1.5/8      | <a href="#">1597510000</a> | PCB plug-in connector,<br>Accessories, Flood-light<br>display, Transparent, No. of<br>poles: 1 | 400819012754150 | pc(s). |              | Box       |

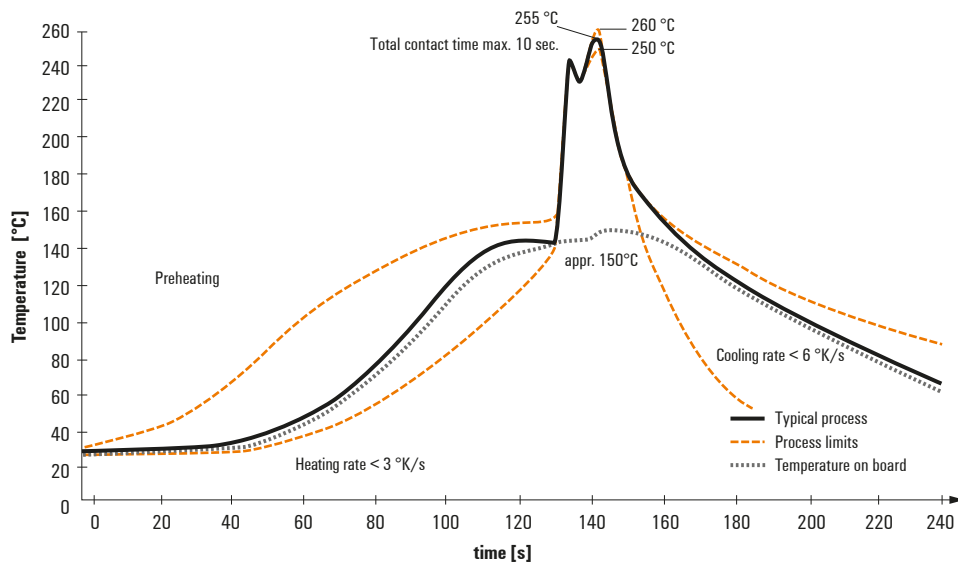
## Recommended wave soldering profiles

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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:

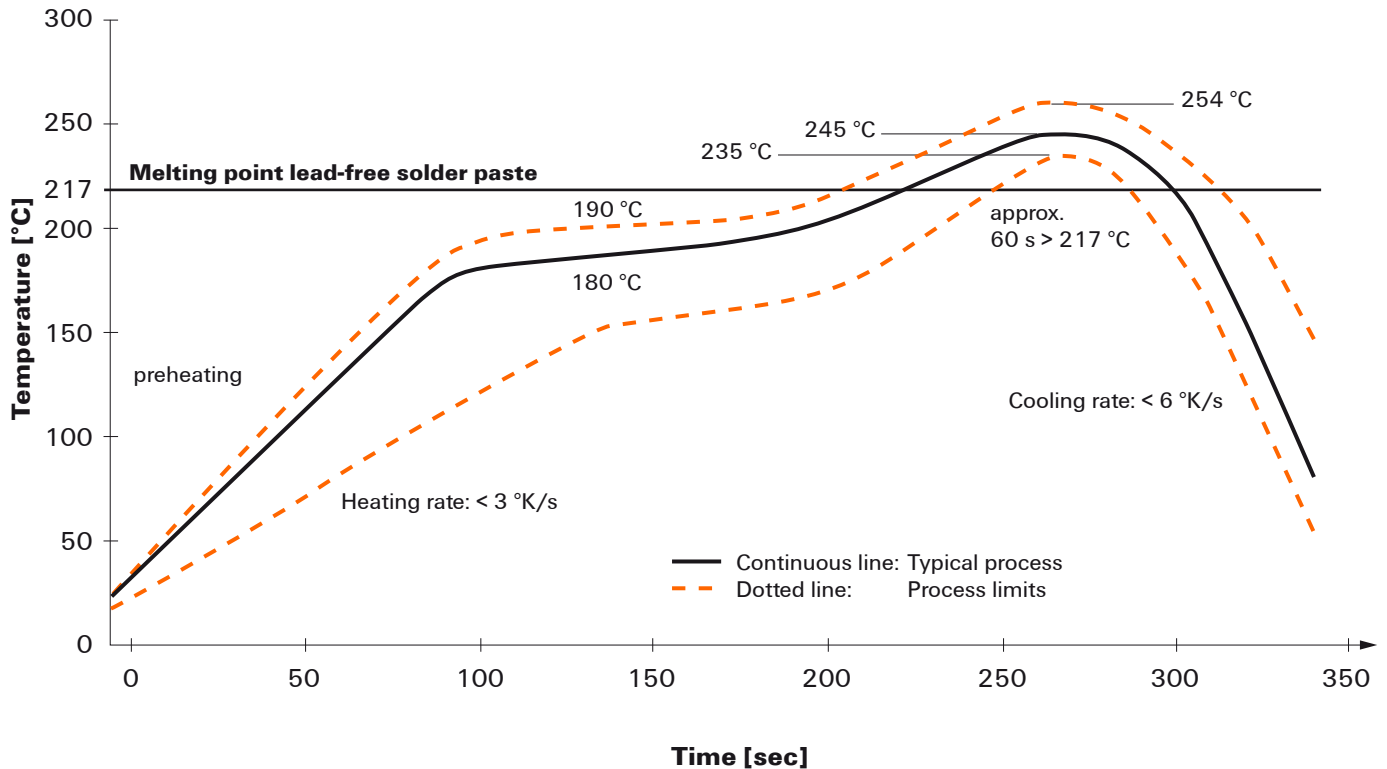
- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

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.

## Recommended reflow soldering profile

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### Reflow soldering profile

The perfect soldering profile for SMT Surface Mount Technology is one the most exiting question in SMT production. But there are more than one correct answer: The diagram of temperature-on-time is related to processing features of solder paste and to maximum load of components.

We have to consider the following parameters:

- Time for pre heating
- Maximum temperature
- Time above melting point
- Time for cooling
- Maximum heating rate
- Maximum cooling rate

We recommend a typical solder profile with associated process limits. With preheating components and board are prepared smoothly for the solder phase. Heating rate is typically  $\leq +3\text{K/s}$ . In parallel the solder paste is 'activated'. The time above melting point of 217°C the paste gets liquid and components and boards begin to connect. The maximum temperature of 245°C to 254°C should stay between 10 and 40 seconds. In the cooling phase at  $\geq -6\text{K/s}$  solder is cured. Board and components cool down while avoiding cold cracks.

