

**OMNIMATE Signal - series BL/SL 5.08  
SL-SMT 5.08HC/20/90LF 3.2SN BK BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

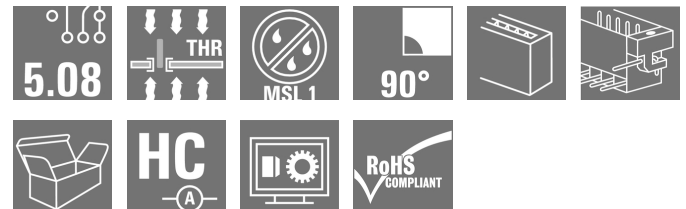
D-32758 Detmold

Germany

Fon: +49 5231 14-0

Fax: +49 5231 14-292083

www.weidmueller.com



Similar to illustration

High-temperature-resistant pin header, packed in box or tape. On tape, with 1.5 mm solder pin, optimised for automatic assembly. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded. HC = High Current.

**General ordering data**

|              |  |
|--------------|--|
| Type         | SL-SMT 5.08HC/20/90LF 3.2SN BK BX  |
| Order No.    | <a href="#">1780610000</a>   |
| Version      | PCB plug-in connector, male header, Solder flange, THT/THR solder connection, 5.08 mm, Number of poles: 20, 90°, Solder pin length (l): 3.2 mm, tinned, black, Box |
| GTIN (EAN)   | 4032248165919  |
| Qty.         | 12 pc(s).  |
| Product data | IEC: 400 V / 27.5 A<br>UL: 300 V / 18.5 A  |
| Packaging    | Box  |

Creation date May 3, 2020 1:39:05 PM CEST

# OMNIMATE Signal - series BL/SL 5.08

## SL-SMT 5.08HC/20/90LF 3.2SN BK BX

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
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## Technical data

### Dimensions and weights

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Width                    | 111.4 mm   | Width (inches)  | 4.386 inch |
| Height                   | 11.7 mm    | Height (inches) | 0.461 inch |
| Height of lowest version | 8.5 mm     | Depth           | 12 mm      |
| Depth (inches)           | 0.472 inch | Net weight      | 9.8 g      |

### System specifications

|                                  |                                     |   |                       |
|----------------------------------|-------------------------------------|---|-----------------------|
| Product family                   | OMNIMATE Signal - series BL/SL 5.08 | Type of connection                        | Board connection      |
| Mounting onto the PCB            | THT/THR solder connection           | Pitch in mm (P)                           | 5.08 mm               |
| Pitch in inches (P)              | 0.2 inch                            | Outgoing elbow                            | 90°                   |
| Number of poles                  | 20                                  | Number of solder pins per pole            | 1                     |
| Solder pin length (l)            | 3.2 mm                              | Solder pin length tolerance               | 0 / -0.3 mm           |
| Tolerance of solder pin position | ± 0.20 mm                           | Solder pin dimensions                     | d = 1.2 mm, Octagonal |
| Solder eyelet hole diameter (D)  | 1.5 mm                              | Solder eyelet hole diameter tolerance (D) | + 0,1 mm              |
| L1 in mm                         | 96.52 mm                            | L1 in inches                              | 3.8 inch              |
| Number of rows                   | 1                                   | Pin series quantity                       | 1                     |
| Volume resistance                | ≤ 5mΩ                               | Can be coded                              | Yes                   |
| Plugging cycles                  | 25                                  | Plugging force/pole, max.                 | 9 N                   |
| Pulling force/pole, max.         | 7 N                                 |   |                       |

### Material data

|                                       |                            |                                       |                            |
|---------------------------------------|----------------------------|---------------------------------------|----------------------------|
| Insulating material                   | LCP GF                     | Colour                                | black                      |
| Colour chart (similar)                | RAL 9011                   | Insulating material group             | IIla                       |
| Comparative Tracking Index (CTI)      | ≥ 175                      | Insulation strength                   | ≥ 10 <sup>8</sup> Ω        |
| Moisture Level (MSL)                  | 1                          | UL 94 flammability rating             | V-0                        |
| GWIT                                  | 930 °C                     | GWFI                                  | 960 °C                     |
| Contact material                      | CuMg                       | 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                     |                                       |                            |

### Rated data acc. to IEC

|   |                        |   |        |
|---|------------------------|---|--------|
| tested acc. to standard   | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C)                         | 27.5 A |
| Rated current, max. number of poles (Tu=20°C)                             | 19 A                   | Rated current, min. number of poles (Tu=40°C)                         | 24 A   |
| Rated current, max. number of poles (Tu=40°C)                             | 16.5 A                 | Rated voltage for surge voltage class / pollution degree II/2         | 400 V  |
| Rated voltage for surge voltage class / pollution degree III/2            | 320 V                  | Rated voltage for surge voltage class / pollution degree III/3        | 250 V  |
| Rated impulse voltage for surge voltage class/ pollution degree II/2      | 4 kV                   | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 4 kV   |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 4 kV                   |   |        |

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**Technical data****Rated data acc. to CSA**

Institute (CSA)



Certificate No. (CSA)

200039-1176845

Rated voltage (Use group B / CSA) 300 V

Rated voltage (Use group D / CSA) 300 V

Rated current (Use group B / CSA) 18.5 A

Rated current (Use group D / CSA) 18.5 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) 18.5 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 34 mm

VPE width 90 mm

VPE height 128 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

**Notes**

Notes

- Gold-plated contact surfaces on request
- Rated current related to rated cross-section & min. No. of poles.
- P on drawing = pitch
- Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards.

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

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## Technical data

### Downloads

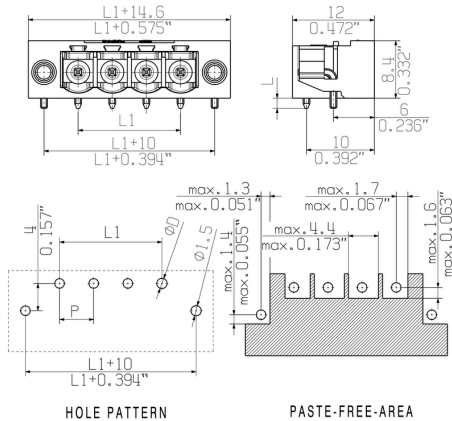
|   |  |
|---|--|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a>  |
| Brochure/Catalogue                          | <a href="#">FL DRIVES EN</a><br><a href="#">MB SMT EN</a><br><a href="#">FL DRIVES DE</a><br><a href="#">MB DEVICE MANUF. EN</a><br><a href="#">CAT 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="#">WSCAD</a>  |
| Engineering Data                            | <a href="#">STEP</a>   |
| White paper surface mount technology        | <a href="#">Download Whitepaper</a>  |

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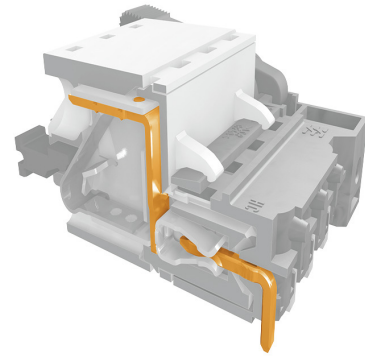
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## Drawings

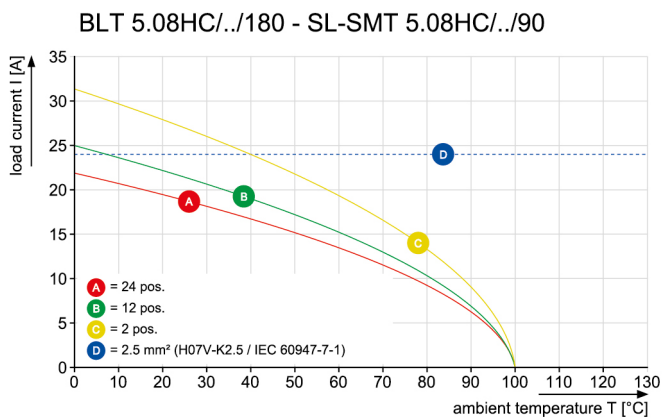
## Dimensional drawing



## Product benefits



## Graph



## Product benefits

Safe power transmission  
Proven properties



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**Mating connector (conditionally pluggable)**
**BLZ 5.00/270**


Female plugs with clamping-yoke screw for wire connection with 270° outlet direction. The female plugs provide space for labelling and can be coded.

**General ordering data**

| Type       | BLZ 5.00/20/270 SN DKGN ... | Version   | Product data                                  | Packaging |
|------------|-----------------------------|---|---|-----------|
| Order No.  | <a href="#">1650070000</a>  | PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,             | IEC: 400 V / 15 A / 0.5 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190296667               | 270°, Clamping yoke connection, Clamping range, max. : 3.31 mm <sup>2</sup> , | UL: 300 V / 10 A / AWG 26 - AWG 12            |           |
| Qty.       | 20 pc(s).                   | Box   |   |           |

**BLL 5.08/180**


Female header for PCB mounting. The solder pin length is optimised for wave flow soldering.

**General ordering data**

| Type       | BLL 5.08/20/180 4.5SN B ... | Version   | Product data      | Packaging |
|------------|-----------------------------|---|-------------------|-----------|
| Order No.  | <a href="#">1649210000</a>  | PCB plug-in connector, female header, closed side, THT solder     | IEC: 400 V / 23 A | Box       |
| GTIN (EAN) | 4008190293697               | connection, 5.08 mm, Number of poles: 20, 180°, Solder pin length | UL: 300 V / 15 A  |           |
| Qty.       | 20 pc(s).                   | (I): 4.5 mm, tinned, black, Box                                   |                   |           |

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**Mating connector (conditionally pluggable)****BLZ 5.00/180**

Female plugs with clamping-yoke screw for wire connection with straight (180°) outlet direction. The female plugs provide space for labelling and can be coded.

**General ordering data**

| Type       | BLZ 5.00/20/180 SN DKGN ... | Version   | Product data                                  | Packaging |
|------------|-----------------------------|---|---|-----------|
| Order No.  | <a href="#">1647000000</a>  | PCB plug-in connector, female plug, 5.00 mm, Number of poles: 20,             | IEC: 400 V / 19 A / 0.5 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4008190288372               | 180°, Clamping yoke connection, Clamping range, max. : 3.31 mm <sup>2</sup> , | UL: 300 V / 15 A / AWG 26 - AWG 12            |           |
| Qty.       | 20 pc(s).                   | Box   |   |           |

## OMNIMATE Signal - series BL/SL 5.08 SL-SMT 5.08HC/20/90LF 3.2SN BK BX

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### Mating connector (fully pluggable)

#### BLZP 5.08HC/180F SN



Female plug with clamping-yoke screw system for connecting wires with straight (180°) outlet direction. The female connectors provide space for labelling and can be coded. Fastened by means of a flange or release latch. They also provide an integrated plus/minus screw, protection against faulty insertion of the wire, and they are delivered with open clamping yokes. HC = High Current.

#### General ordering data

| Type       | BLZP 5.08HC/20/180F SN ... | Version   | Product data                       | Packaging |
|------------|----------------------------|---|------------------------------------|-----------|
| Order No.  | <a href="#">1944270000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20, | IEC: 400 V / 23 A / 0.2 - 4 mm²    | Box       |
| GTIN (EAN) | 4032248618859              | 180°, Clamping yoke connection, Clamping range, max.: 4 mm², Box  | UL: 300 V / 20 A / AWG 26 - AWG 12 |           |
| Qty.       | 12 pc(s).                  |   |                                    |           |
| Type       | BLZP 5.08HC/20/180F SN ... | Version   | Product data                       | Packaging |
| Order No.  | <a href="#">1944510000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20, | IEC: 400 V / 23 A / 0.2 - 4 mm²    | Box       |
| GTIN (EAN) | 4032248619085              | 180°, Clamping yoke connection, Clamping range, max.: 4 mm², Box  | UL: 300 V / 20 A / AWG 26 - AWG 12 |           |
| Qty.       | 12 pc(s).                  |   |                                    |           |

#### BLF 5.08HC/180LR SN



Just as reliable as the millionfold proven original and featuring innovative details:

The BLF 5.08HC PUSH IN version of the BLZP 5.08HC female connector is not only different in terms of connection system; it also has a more compact design. Weidmüller's innovative PUSH IN spring connection system stands for the future of easy and tool-free wire connection. HC = High Current.

In terms of versatility, the BLF 5.08HC offers just as much as the version which served as a model:

- 3 tested-and-proven wire outlet directions provide the usual flexibility for application-specific design
- 4 flange variations and the patented release latch allow the locking concept to be based on the requirements of the user
- Use the BLF 5.08HC and SL 5.08HC plug combination to reach the max. rated specifications

#### General ordering data

| Type       | BLF 5.08HC/20/180LR SN ... | Version   | Product data                         | Packaging |
|------------|----------------------------|---|--------------------------------------|-----------|
| Order No.  | <a href="#">1014320000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,     | IEC: 400 V / 24 A / 0.2 - 2.5 mm²    | Box       |
| GTIN (EAN) | 4032248723034              | 180°, PUSH IN, Spring connection, Clamping range, max.: 3.31 mm², Box | UL: 300 V / 18.5 A / AWG 26 - AWG 12 |           |
| Qty.       | 12 pc(s).                  |   |                                      |           |
| Type       | BLF 5.08HC/20/180LR SN ... | Version   | Product data                         | Packaging |
| Order No.  | <a href="#">1014570000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,     | IEC: 400 V / 24 A / 0.2 - 2.5 mm²    | Box       |
| GTIN (EAN) | 4032248722808              | 180°, PUSH IN, Spring connection, Clamping range, max.: 3.31 mm², Box | UL: 300 V / 18.5 A / AWG 26 - AWG 12 |           |
| Qty.       | 12 pc(s).                  |   |                                      |           |



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### Mating connector (fully pluggable)

#### BLF 5.08HC/270LR SN



Just as reliable as the millionfold proven original and featuring innovative details:

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In terms of versatility, the BLF 5.08HC offers just as much as the version which served as a model:

- 3 tested-and-proven wire outlet directions provide the usual flexibility for application-specific design
- 4 flange variations and the patented release latch allow the locking concept to be based on the requirements of the user
- Use the BLF 5.08HC and SL 5.08HC plug combination to reach the max. rated specifications

#### General ordering data

| Type       | BLF 5.08HC/20/270LR SN ... | Version   | Product data                                  | Packaging |
|------------|----------------------------|---|---|-----------|
| Order No.  | <a href="#">1982490000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,   | IEC: 400 V / 24 A / 0.2 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248686582              | 270°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm <sup>2</sup> , UL: 300 V / 18.5 A / AWG 26 - AWG |   |           |
| Qty.       | 12 pc(s).                  | Box   | 12  |           |
| Type       | BLF 5.08HC/20/270LR SN ... | Version   | Product data                                  | Packaging |
| Order No.  | <a href="#">1983260000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,   | IEC: 400 V / 24 A / 0.2 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248687350              | 270°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm <sup>2</sup> , UL: 300 V / 18.5 A / AWG 26 - AWG |   |           |
| Qty.       | 12 pc(s).                  | Box   | 12  |           |

#### BLZP 5.08HC/270F SN



Female plugs with clamping-yoke connection for connecting wires with a right-angle (90° or 270°) outlet direction. The female connectors provide space for labelling and can be coded. Fastened by means of a flange or release latch. They also provide an integrated plus/minus screw, protection against faulty insertion of the wire, and they are delivered with open clamping yokes. HC = High Current.

#### General ordering data

| Type       | BLZP 5.08HC/20/270F SN ... | Version  | Product data                                | Packaging |
|------------|----------------------------|--|---|-----------|
| Order No.  | <a href="#">1950770000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,              | IEC: 400 V / 23 A / 0.2 - 4 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248629176              | 270°, Clamping yoke connection, Clamping range, max. : 4 mm <sup>2</sup> , Box | UL: 300 V / 20 A / AWG 26 - AWG 12          |           |
| Qty.       | 12 pc(s).                  |  |   |           |
| Type       | BLZP 5.08HC/20/270F SN ... | Version  | Product data                                | Packaging |
| Order No.  | <a href="#">1950490000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,              | IEC: 400 V / 23 A / 0.2 - 4 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248628612              | 270°, Clamping yoke connection, Clamping range, max. : 4 mm <sup>2</sup> , Box | UL: 300 V / 20 A / AWG 26 - AWG 12          |           |
| Qty.       | 12 pc(s).                  |  |   |           |

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## Mating connector (fully pluggable)

### BLL 5.08/90FI



Female header for PCB mounting. The solder pin length is optimised for wave flow soldering.

#### General ordering data

| Type       | BLL 5.08/20/90FI 3.2SN ... | Version   | Product data      | Packaging |
|------------|----------------------------|---|-------------------|-----------|
| Order No.  | <a href="#">1843930000</a> | PCB plug-in connector, female header, Inverted flange, THT solder connection, 5.08 mm, Number of poles: 20, 90°, Solder pin length (l): 3.2 mm, tinned, orange, Box | IEC: 400 V / 23 A | Box       |
| GTIN (EAN) | 4032248355686              |   | UL: 300 V / 15 A  |           |
| Qty.       | 12 pc(s).                  |   |                   |           |

### BLT 5.08HC/180F



Female plugs with TOP screw connection system for connecting wires with straight outlet direction and screw flange. The female connectors provide space for labelling and can be coded. HC = High Current.

#### General ordering data

| Type       | BLT 5.08HC/20/180F SN B ... | Version   | Product data                       | Packaging |
|------------|-----------------------------|---|------------------------------------|-----------|
| Order No.  | <a href="#">1844400000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20, 180°, TOP connection, Clamping range, max. : 2.5 mm², Box | IEC: 400 V / 27 A / 0.2 - 2.5 mm²  | Box       |
| GTIN (EAN) | 4032248356331               |   | UL: 300 V / 17 A / AWG 26 - AWG 14 |           |
| Qty.       | 12 pc(s).                   |   |                                    |           |
| Type       | BLT 5.08HC/20/180F SN O ... | Version   | Product data                       | Packaging |
| Order No.  | <a href="#">1844170000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20, 180°, TOP connection, Clamping range, max. : 2.5 mm², Box | IEC: 400 V / 27 A / 0.2 - 2.5 mm²  | Box       |
| GTIN (EAN) | 4032248356096               |   | UL: 300 V / 17 A / AWG 26 - AWG 14 |           |
| Qty.       | 12 pc(s).                   |   |                                    |           |

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### Mating connector (fully pluggable)

#### BLF 5.08HC/90LR SN



Just as reliable as the millionfold proven original and featuring innovative details:

The BLF 5.08HC PUSH IN version of the BLZP 5.08HC female connector is not only different in terms of connection system; it also has a more compact design. Weidmüller's innovative PUSH IN spring connection system stands for the future of easy and tool-free wire connection. HC = High Current.

In terms of versatility, the BLF 5.08HC offers just as much as the version which served as a model:

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- 4 flange variations and the patented release latch allow the locking concept to be based on the requirements of the user
- Use the BLF 5.08HC and SL 5.08HC plug combination to reach the max. rated specifications

#### General ordering data

| Type       | BLF 5.08HC/20/90LR SN O ... | Version  | Product data                                  | Packaging |
|------------|-----------------------------|--|---|-----------|
| Order No.  | <a href="#">1002460000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,              | IEC: 400 V / 24 A / 0.2 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248694624               | 90°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm <sup>2</sup> , | UL: 300 V / 18.5 A / AWG 26 - AWG             |           |
| Qty.       | 12 pc(s).                   | Box  | 12  |           |
| Type       | BLF 5.08HC/20/90LR SN B ... | Version  | Product data                                  | Packaging |
| Order No.  | <a href="#">1000590001</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,              | IEC: 400 V / 24 A / 0.2 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248690558               | 90°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm <sup>2</sup> , | UL: 300 V / 18.5 A / AWG 26 - AWG             |           |
| Qty.       | 12 pc(s).                   | Box  | 12  |           |

#### BLF 5.08HC/180F SN



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In terms of versatility, the BLF 5.08HC offers just as much as the version which served as a model:

- 3 tested-and-proven wire outlet directions provide the usual flexibility for application-specific design
- 4 flange variations and the patented release latch allow the locking concept to be based on the requirements of the user
- Use the BLF 5.08HC and SL 5.08HC plug combination to reach the max. rated specifications

#### General ordering data

| Type       | BLF 5.08HC/20/180F SN B ... | Version   | Product data                                  | Packaging |
|------------|-----------------------------|---|---|-----------|
| Order No.  | <a href="#">1013020000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,               | IEC: 400 V / 24 A / 0.2 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248720781               | 180°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm <sup>2</sup> , | UL: 300 V / 18.5 A / AWG 26 - AWG             |           |
| Qty.       | 12 pc(s).                   | Box   | 12  |           |

## OMNIMATE Signal - series BL/SL 5.08 SL-SMT 5.08HC/20/90LF 3.2SN BK 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)

| Type       | BLF 5.08HC/20/180F SN O ... | Version   | Product data                                  | Packaging |
|------------|-----------------------------|---|---|-----------|
| Order No.  | <a href="#">1013280000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,               | IEC: 400 V / 24 A / 0.2 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248721023               | 180°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm <sup>2</sup> , | UL: 300 V / 18.5 A / AWG 26 - AWG             |           |
| Qty.       | 12 pc(s).                   | Box   | 12  |           |

### BLT 5.08HC/180LR



Female plugs with TOP screw connection system for connecting wires with straight wire outlet and release latch mechanism. The female connectors provide space for labelling and can be coded. HC = High Current.

#### General ordering data

| Type       | BLT 5.08HC/20/180LR SN ... | Version  | Product data                                  | Packaging |
|------------|----------------------------|--|---|-----------|
| Order No.  | <a href="#">1894330000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,      | IEC: 400 V / 27 A / 0.2 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248508655              | 180°, TOP connection, Clamping range, max. : 2.5 mm <sup>2</sup> , Box | UL: 300 V / 17 A / AWG 26 - AWG 14            |           |
| Qty.       | 12 pc(s).                  |  |   |           |

| Type       | BLT 5.08HC/20/180LR SN ... | Version  | Product data                                  | Packaging |
|------------|----------------------------|--|---|-----------|
| Order No.  | <a href="#">1890400000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,      | IEC: 400 V / 27 A / 0.2 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248498888              | 180°, TOP connection, Clamping range, max. : 2.5 mm <sup>2</sup> , Box | UL: 300 V / 17 A / AWG 26 - AWG 14            |           |
| Qty.       | 12 pc(s).                  |  |   |           |

### BLZP 5.08HC/90LR



Female plugs with clamping-yoke connection for connecting wires with a right-angle (90° or 270°) outlet direction. The female connectors provide space for labelling and can be coded. Fastened by means of a flange or release latch. They also provide an integrated plus/minus screw, protection against faulty insertion of the wire, and they are delivered with open clamping yokes. HC = High Current.

#### General ordering data

| Type       | BLZP 5.08HC/20/90LR SN ... | Version   | Product data                                | Packaging |
|------------|----------------------------|---|---|-----------|
| Order No.  | <a href="#">1087200000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,             | IEC: 400 V / 23 A / 0.2 - 4 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248854424              | 90°, Clamping yoke connection, Clamping range, max. : 4 mm <sup>2</sup> , Box | UL: 300 V / 20 A / AWG 26 - AWG 12          |           |
| Qty.       | 12 pc(s).                  |   |   |           |

| Type       | BLZP 5.08HC/20/90LR SN ... | Version   | Product data                                | Packaging |
|------------|----------------------------|---|---|-----------|
| Order No.  | <a href="#">1087430000</a> | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,             | IEC: 400 V / 23 A / 0.2 - 4 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248854394              | 90°, Clamping yoke connection, Clamping range, max. : 4 mm <sup>2</sup> , Box | UL: 300 V / 20 A / AWG 26 - AWG 12          |           |
| Qty.       | 12 pc(s).                  |   |   |           |

## OMNIMATE Signal - series BL/SL 5.08 SL-SMT 5.08HC/20/90LF 3.2SN BK BX

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Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

### Mating connector (fully pluggable)

#### BLZP 5.08HC/270LR SN



Female plugs with clamping-yoke connection for connecting wires with a right-angle (90° or 270°) outlet direction. The female connectors provide space for labelling and can be coded. Fastened by means of a flange or release latch. They also provide an integrated plus/minus screw, protection against faulty insertion of the wire, and they are delivered with open clamping yokes. HC = High Current.

#### General ordering data

| Type       | BLZP 5.08HC/20/270LR SN ... | Version  | Product data                                | Packaging |
|------------|-----------------------------|--|---|-----------|
| Order No.  | <a href="#">1947940000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,              | IEC: 400 V / 23 A / 0.2 - 4 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248624430               | 270°, Clamping yoke connection, Clamping range, max. : 4 mm <sup>2</sup> , Box | UL: 300 V / 20 A / AWG 26 - AWG 12          |           |
| Qty.       | 12 pc(s).                   |  |   |           |
| Type       | BLZP 5.08HC/20/270LR SN ... | Version  | Product data                                | Packaging |
| Order No.  | <a href="#">1947710000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,              | IEC: 400 V / 23 A / 0.2 - 4 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248624102               | 270°, Clamping yoke connection, Clamping range, max. : 4 mm <sup>2</sup> , Box | UL: 300 V / 20 A / AWG 26 - AWG 12          |           |
| Qty.       | 12 pc(s).                   |  |   |           |

#### BLZP 5.08HC/90F SN



Female plugs with clamping-yoke connection for connecting wires with a right-angle (90° or 270°) outlet direction. The female connectors provide space for labelling and can be coded. Fastened by means of a flange or release latch. They also provide an integrated plus/minus screw, protection against faulty insertion of the wire, and they are delivered with open clamping yokes. HC = High Current.

#### General ordering data

| Type       | BLZP 5.08HC/20/90F SN B ... | Version   | Product data                                | Packaging |
|------------|-----------------------------|---|---|-----------|
| Order No.  | <a href="#">1950220000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,             | IEC: 400 V / 23 A / 0.2 - 4 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248628155               | 90°, Clamping yoke connection, Clamping range, max. : 4 mm <sup>2</sup> , Box | UL: 300 V / 20 A / AWG 26 - AWG 12          |           |
| Qty.       | 12 pc(s).                   |   |   |           |
| Type       | BLZP 5.08HC/20/90F SN O ... | Version   | Product data                                | Packaging |
| Order No.  | <a href="#">1949980000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,             | IEC: 400 V / 23 A / 0.2 - 4 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248627912               | 90°, Clamping yoke connection, Clamping range, max. : 4 mm <sup>2</sup> , Box | UL: 300 V / 20 A / AWG 26 - AWG 12          |           |
| Qty.       | 12 pc(s).                   |   |   |           |

## OMNIMATE Signal - series BL/SL 5.08 SL-SMT 5.08HC/20/90LF 3.2SN BK BX

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D-32758 Detmold  
Germany  
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Fax: +49 5231 14-292083  
www.weidmueller.com

### Mating connector (fully pluggable)

#### BLZP 5.08HC/180LR SN



Female plug with clamping-yoke screw system for connecting wires with straight (180°) outlet direction. The female connectors provide space for labelling and can be coded. Fastened by means of a flange or release latch. They also provide an integrated plus/minus screw, protection against faulty insertion of the wire, and they are delivered with open clamping yokes. HC = High Current.

#### General ordering data

| Type       | BLZP 5.08HC/20/180LR SN ... | Version   | Product data                       | Packaging |
|------------|-----------------------------|---|------------------------------------|-----------|
| Order No.  | <a href="#">1945240000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20, | IEC: 400 V / 23 A / 0.2 - 4 mm²    | Box       |
| GTIN (EAN) | 4032248620388               | 180°, Clamping yoke connection, Clamping range, max.: 4 mm², Box  | UL: 300 V / 20 A / AWG 26 - AWG 12 |           |
| Qty.       | 12 pc(s).                   |   |                                    |           |
| Type       | BLZP 5.08HC/20/180LR SN ... | Version   | Product data                       | Packaging |
| Order No.  | <a href="#">1945010000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20, | IEC: 400 V / 23 A / 0.2 - 4 mm²    | Box       |
| GTIN (EAN) | 4032248620135               | 180°, Clamping yoke connection, Clamping range, max.: 4 mm², Box  | UL: 300 V / 20 A / AWG 26 - AWG 12 |           |
| Qty.       | 12 pc(s).                   |   |                                    |           |

#### BLF 5.08HC/270F SN



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In terms of versatility, the BLF 5.08HC offers just as much as the version which served as a model:

- 3 tested-and-proven wire outlet directions provide the usual flexibility for application-specific design
- 4 flange variations and the patented release latch allow the locking concept to be based on the requirements of the user
- Use the BLF 5.08HC and SL 5.08HC plug combination to reach the max. rated specifications

#### General ordering data

| Type       | BLF 5.08HC/20/270F SN B ... | Version   | Product data                         | Packaging |
|------------|-----------------------------|---|--------------------------------------|-----------|
| Order No.  | <a href="#">1982300000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,     | IEC: 400 V / 24 A / 0.2 - 2.5 mm²    | Box       |
| GTIN (EAN) | 4032248686391               | 270°, PUSH IN, Spring connection, Clamping range, max.: 3.31 mm², Box | UL: 300 V / 18.5 A / AWG 26 - AWG 12 |           |
| Qty.       | 12 pc(s).                   |   |                                      |           |
| Type       | BLF 5.08HC/20/270F SN O ... | Version   | Product data                         | Packaging |
| Order No.  | <a href="#">1983070000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,     | IEC: 400 V / 24 A / 0.2 - 2.5 mm²    | Box       |
| GTIN (EAN) | 4032248687169               | 270°, PUSH IN, Spring connection, Clamping range, max.: 3.31 mm², Box | UL: 300 V / 18.5 A / AWG 26 - AWG 12 |           |
| Qty.       | 12 pc(s).                   |   |                                      |           |



## OMNIMATE Signal - series BL/SL 5.08 SL-SMT 5.08HC/20/90LF 3.2SN BK BX

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Klingenbergstraße 26  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

### Mating connector (fully pluggable)

#### BLF 5.08HC/90F SN



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- Use the BLF 5.08HC and SL 5.08HC plug combination to reach the max. rated specifications

#### General ordering data

| Type       | BLF 5.08HC/20/90F SN BK ... | Version  | Product data                                  | Packaging |
|------------|-----------------------------|--|---|-----------|
| Order No.  | <a href="#">1000400001</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,              | IEC: 400 V / 24 A / 0.2 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248690367               | 90°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm <sup>2</sup> , | UL: 300 V / 18.5 A / AWG 26 - AWG             |           |
| Qty.       | 12 pc(s).                   | Box  | 12  |           |
| Type       | BLF 5.08HC/20/90F SN OR ... | Version  | Product data                                  | Packaging |
| Order No.  | <a href="#">1002270000</a>  | PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20,              | IEC: 400 V / 24 A / 0.2 - 2.5 mm <sup>2</sup> | Box       |
| GTIN (EAN) | 4032248694433               | 90°, PUSH IN, Spring connection, Clamping range, max. : 3.31 mm <sup>2</sup> , | UL: 300 V / 18.5 A / AWG 26 - AWG             |           |
| Qty.       | 12 pc(s).                   | Box  | 12  |           |

## OMNIMATE Signal - series BL/SL 5.08 SL-SMT 5.08HC/20/90LF 3.2SN BK BX

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Germany  
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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       | SL FLA 3.8/1               | Version   | Product data | Packaging |
|------------|----------------------------|---|--------------|-----------|
| Order No.  | <a href="#">1580110000</a> | PCB plug-in connector, Accessories, Flood-light display, Transparent, |              | Box       |
| GTIN (EAN) | 4008190050740              | Number of poles: 1  |              |           |
| Qty.       | 100 pc(s).                 |   |              |           |
| Type       | SL FLA 2,3/1               | Version   | Product data | Packaging |
| Order No.  | <a href="#">1636670000</a> | PCB plug-in connector, Accessories, Flood-light display, Transparent, |              | Box       |
| GTIN (EAN) | 4008190409975              | Number of poles: 1  |              |           |
| Qty.       | 100 pc(s).                 |   |              |           |
| Type       | SL FLA 2,3/24              | Version   | Product data | Packaging |
| Order No.  | <a href="#">1636680000</a> | PCB plug-in connector, Accessories, Flood-light display, Transparent, |              | Box       |
| GTIN (EAN) | 4008190409968              | Number of poles: 1  |              |           |
| Qty.       | 10 pc(s).                  |   |              |           |
| Type       | SL FLA 3.8/24              | Version   | Product data |           |
| Order No.  | <a href="#">1595860000</a> | PCB plug-in connector, Accessories, Flood-light display, Transparent, |              |           |
| GTIN (EAN) | 4008190140892              | Number of poles: 1  |              |           |
| Qty.       | 10 pc(s).                  |   |              |           |
| Type       | SL FLA 9.0/24              | Version   | Product data |           |
| Order No.  | <a href="#">1595870000</a> | PCB plug-in connector, Accessories, Flood-light display, Transparent, |              |           |
| GTIN (EAN) | 4008190079796              | Number of poles: 1  |              |           |
| Qty.       | 10 pc(s).                  |   |              |           |
| Type       | SL FLA 9.0/1               | Version   | Product data | Packaging |
| Order No.  | <a href="#">1580120000</a> | PCB plug-in connector, Accessories, Flood-light display, Transparent, |              | Box       |
| GTIN (EAN) | 4008190031909              | Number of poles: 1  |              |           |
| Qty.       | 100 pc(s).                 |   |              |           |



## OMNIMATE Signal - series BL/SL 5.08 SL-SMT 5.08HC/20/90LF 3.2SN BK BX

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Germany  
Fon: +49 5231 14-0  
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### Accessories

| Type       | SL FLA 1.5/1               | Version   | Product data | Packaging |
|------------|----------------------------|---|--------------|-----------|
| Order No.  | <a href="#">1580100000</a> | PCB plug-in connector, Accessories, Flood-light display, Transparent, |              | Box       |
| GTIN (EAN) | 4008190152475              | Number of poles: 1  |              |           |
| Qty.       | 100 pc(s).                 |   |              |           |
| Type       | SL FLA 1.5/24              | Version   | Product data |           |
| Order No.  | <a href="#">1595850000</a> | PCB plug-in connector, Accessories, Flood-light display, Transparent, |              |           |
| GTIN (EAN) | 4008190092573              | Number of poles: 1  |              |           |
| Qty.       | 10 pc(s).                  |   |              |           |

### 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       | BLZ/SL KO OR BX            | Version  | Product data | Packaging |
|------------|----------------------------|--|--------------|-----------|
| Order No.  | <a href="#">1573010000</a> | PCB plug-in connector, Accessories, Coding element, orange, Number |              | Box       |
| GTIN (EAN) | 4008190048396              | of poles: 1  |              |           |
| Qty.       | 100 pc(s).                 |  |              |           |
| Type       | BLZ/SL KO BK BX            | Version  | Product data | Packaging |
| Order No.  | <a href="#">1545710000</a> | PCB plug-in connector, Accessories, Coding element, black, Number  |              | Box       |
| GTIN (EAN) | 4008190087142              | of poles: 1  |              |           |
| Qty.       | 50 pc(s).                  |  |              |           |

## OMNIMATE Signal - series BL/SL 5.08 SL-SMT 5.08HC/20/90LF 3.2SN BK BX

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## Accessories

### 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

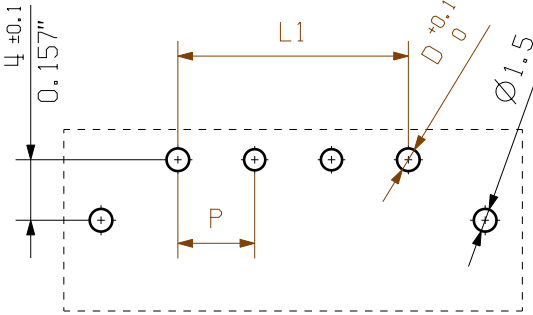
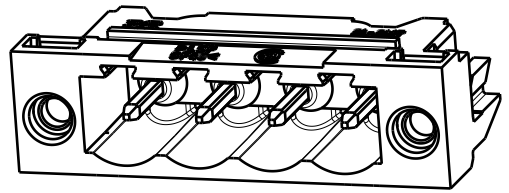
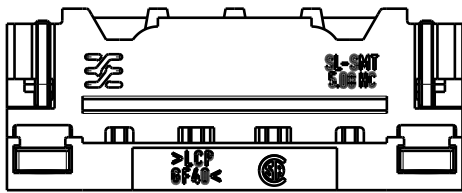
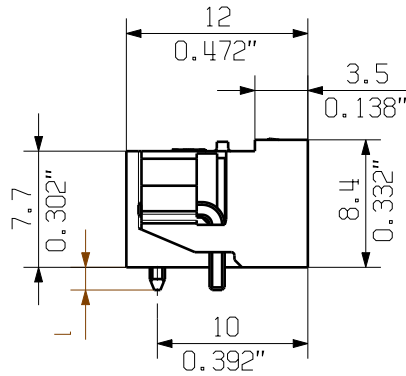
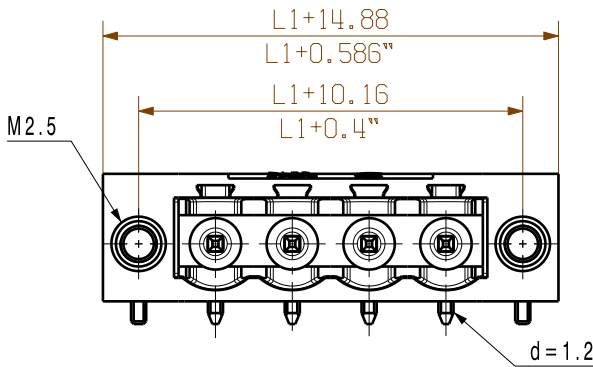
| Type       | SL AT SW                   | Version  | Product data | Packaging |
|------------|----------------------------|--|--------------|-----------|
| Order No.  | <a href="#">1770240000</a> | PCB plug-in connector, Accessories, Spacer, black, Number of poles: 1  |              | Box       |
| GTIN (EAN) | 4032248117710              |  |              |           |
| Qty.       | 100 pc(s).                 |  |              |           |
| Type       | SL AT OR                   | Version  | Product data | Packaging |
| Order No.  | <a href="#">1598300000</a> | PCB plug-in connector, Accessories, Spacer, orange, Number of poles: 1 |              | Box       |
| GTIN (EAN) | 4008190189266              |  |              |           |
| Qty.       | 100 pc(s).                 |  |              |           |

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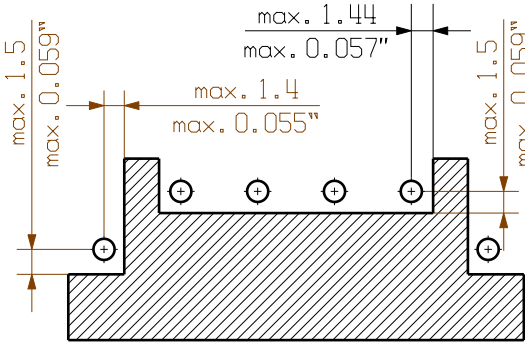
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Dimensions without tolerances are no check dimensions

The English version is binding



hole pattern



paste-free-area

D = 1.5/0.059" (REFLOW SOLDERING)  
RECOMMENDATION FOR AUTOMATIC ASSEMBLY

n = Polzahl / no of poles

P = Raster / pitch

For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone.

The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.

The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application. Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

shown: SL-SMT 5.08HC/04/90LF

|    |           |       |          |
|----|-----------|-------|----------|
| 24 | 116.84    | 4.600 | +/- 0.2  |
| 23 | 111.76    | 4.400 |          |
| 22 | 106.68    | 4.200 |          |
| 21 | 101.60    | 4.000 |          |
| 20 | 96.52     | 3.800 | +/- 0.15 |
| 19 | 91.44     | 3.600 |          |
| 18 | 86.36     | 3.400 |          |
| 17 | 81.28     | 3.200 |          |
| 16 | 76.20     | 3.000 |          |
| 15 | 71.12     | 2.800 |          |
| 14 | 66.04     | 2.600 |          |
| 13 | 60.96     | 2.400 |          |
| 12 | 55.88     | 2.200 | +/- 0.1  |
| 11 | 50.80     | 2.000 |          |
| 10 | 45.72     | 1.800 |          |
| 9  | 40.64     | 1.600 |          |
| 8  | 35.56     | 1.400 |          |
| 7  | 30.48     | 1.200 |          |
| 6  | 25.40     | 1.000 |          |
| 5  | 20.32     | 0.800 |          |
| 4  | 15.24     | 0.600 | +/- 0.1  |
| 3  | 10.16     | 0.400 |          |
| 2  | 5.08      | 0.200 |          |
| 1  | tolerance |       |          |

|     |           |
|-----|-----------|
| 4.5 | 0.1/-0.3  |
| 3.2 | 0.1/-0.3  |
| 2.1 | 0.1/-0.3  |
| 1.5 | -0.3      |
| 1   | tolerance |

| no of poles | L1 [mm] | L1 [inch] | tolerance L1 |
|-------------|---------|-----------|--------------|
|-------------|---------|-----------|--------------|

|               |                               |            |   |  |          |
|---------------|-------------------------------|------------|---|--|----------|
|               | DIN ISO 2768-m                |            | Cat.no.: .  |  |          |
|               | 106339/4<br>30.07.18 HERTEL_S | 01         |   |  |          |
| Modification  |                               |            |   |  |          |
|               | Date                          | Name       | <b>SL-SMT 5.08HC/.. /90...</b><br>STIFTELEISTE<br>MALE HEADER |  |          |
|               | Drawn                         | 29.11.2007 |   |  | HELIS_MA |
|               | Responsible                   |            |   |  | HERTEL_S |
|               | Checked                       | 01.08.2018 |   |  | KOCH_JG  |
| Supersedes: . | Approved                      | LANG_T     | Product file: SL-SMT 5.08                                     |  |          |

**Weidmüller**

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Sheet 03 of 04 sheets

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## Recommended wave soldering profiles

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

We reserve the right to make technical changes.

## Recommended reflow soldering profile

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



## 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.