

**BLL 5.08/20/180B 3.2SN OR BX****Weidmüller Interfaces GmbH & Co. KG**

Postfach 3030

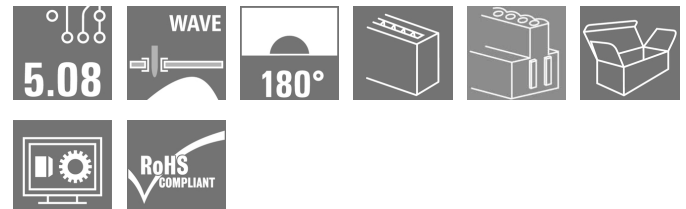
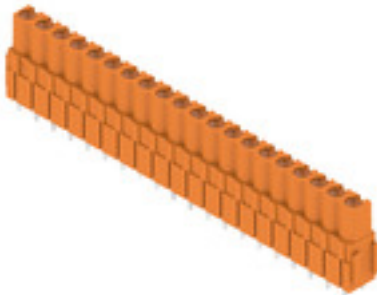
32760 Detmold

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**Product image**

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

**General ordering data**

|              |                                                                                                                                                                                  |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Version      | PCB plug-in connector, female header, Dovetails for fixing blocks, THT solder connection, 5.08 mm, Number of poles: 20, 180°, Solder pin length (l): 3.2 mm, tinned, orange, Box |
| Order No.    | <a href="#">1682910000</a>                                                                                                                                                       |
| Type         | BLL 5.08/20/180B 3.2SN OR BX                                                                                                                                                     |
| GTIN (EAN)   | 4008190474676                                                                                                                                                                    |
| Qty.         | 18 pc(s).                                                                                                                                                                        |
| Product data | IEC: 400 V / 23 A<br>UL: 300 V / 15 A                                                                                                                                            |
| Packaging    | Box                                                                                                                                                                              |

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

Net weight 19.8 g

**System specifications**

|                                           |                                     |                                              |                        |
|-------------------------------------------|-------------------------------------|----------------------------------------------|------------------------|
| Product family                            | OMNIMATE Signal - series BL/SL 5.08 | Type of connection                           | Board connection       |
| Mounting onto the PCB                     | THT solder connection               | Pitch in mm (P)                              | 5.08 mm                |
| Pitch in inches (P)                       | 0.2 inch                            | Outgoing elbow                               | 180°                   |
| Number of poles                           | 20                                  | Number of solder pins per pole               | 2                      |
| Solder pin length (l)                     | 3.2 mm                              | Solder pin length tolerance                  | +0.1 / -0.3 mm         |
| Solder pin dimensions                     | 0.4 x 1.00 mm                       | Solder eyelet hole diameter (D)              | 1.3 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                                   | Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch |
| Protection degree                         | IP20                                | Volume resistance                            | ≤5 mΩ                  |
| Can be coded                              | Yes                                 | Plugging force/pole, max.                    | 5 N                    |
| Pulling force/pole, max.                  | 5 N                                 |                                              |                        |

**Material data**

|                                       |                            |                                       |                            |
|---------------------------------------|----------------------------|---------------------------------------|----------------------------|
| Insulating material                   | PBT GF                     | Colour                                | orange                     |
| Colour chart (similar)                | RAL 2000                   | Insulating material group             | IIIa                       |
| Comparative Tracking Index (CTI)      | ≥ 200                      | UL 94 flammability rating             | V-0                        |
| Contact material                      | Copper alloy               | Contact surface                       | tinned                     |
| Layer structure of solder connection  | 4...6 µm Sn hot-dip tinned | Layer structure of plug contact       | 4...6 µm Sn hot-dip tinned |
| Storage temperature, min.             | -40 °C                     | Storage temperature, max.             | 70 °C                      |
| Operating temperature, min.           | -50 °C                     | Operating temperature, max.           | 100 °C                     |
| Temperature range, installation, min. | -25 °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)                         | 23 A              |
| Rated current, max. number of poles (Tu=20°C)                             | 16 A                   | Rated current, min. number of poles (Tu=40°C)                         | 20 A              |
| Rated current, max. number of poles (Tu=40°C)                             | 14 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                   | Short-time withstand current resistance                               | 3 x 1s with 120 A |

**Rated data acc. to CSA**

|                                   |                                                                                     |                                   |                |
|-----------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|----------------|
| Institute (CSA)                   |  | Certificate No. (CSA)             | 200039-1121690 |
| Rated voltage (Use group B / CSA) | 300 V                                                                               | Rated voltage (Use group D / CSA) | 300 V          |
| Rated current (Use group B / CSA) | 15 A                                                                                | Rated current (Use group D / CSA) | 10 A           |
| Reference to approval values      | Specifications are maximum values, details - see approval certificate.              |                                   |                |

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**Packing**

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 338 mm |
| VPE width | 130 mm | VPE height | 27 mm  |

**Classifications**

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002637    | ETIM 7.0    | EC002637    |
| ETIM 8.0    | EC002637    | ECLASS 9.0  | 27-44-04-02 |
| ECLASS 9.1  | 27-44-04-02 | ECLASS 10.0 | 27-44-04-02 |
| ECLASS 11.0 | 27-46-02-01 | ECLASS 12.0 | 27-46-02-01 |

**Important note**

|                |                                                                                                                                                                                                                                                                                                                            |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes | <ul style="list-style-type: none"> <li>• Additional variants on request</li> <li>• Gold-plated contact surfaces on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• P on drawing = pitch</li> <li>• Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards.</li> <li>• Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</li> </ul> |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Approvals**

Approvals



|                       |            |
|-----------------------|------------|
| ROHS                  | Conform    |
| UL File Number Search | UL Website |
| Certificate No. (UR)  | E60693     |

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|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Engineering Data                            | <a href="#">CAD data – STEP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Engineering Data                            | <a href="#">EPLAN, WSCAD</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Catalogues                                  | <a href="#">Catalogues in PDF-format</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Brochures                                   | <a href="#">FL DRIVES EN</a><br><a href="#">MB DEVICE MANUF. EN</a><br><a href="#">FL DRIVES DE</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><br><a href="#">PO OMNIMATE EN</a> |

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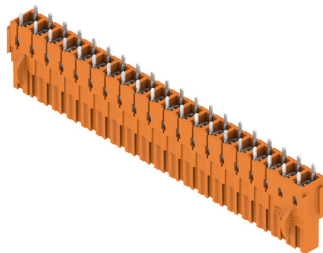
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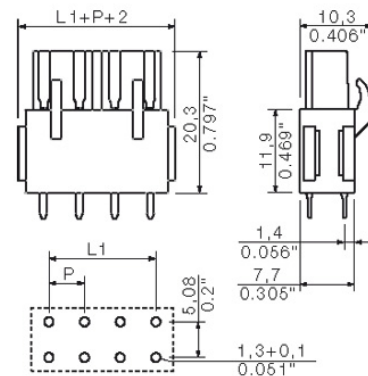
# Drawings

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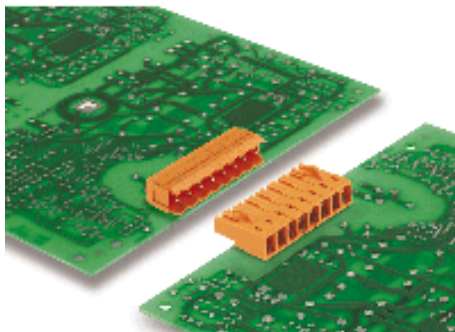
## Product image



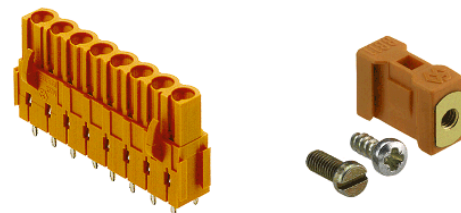
## Dimensional drawing



## Example of use



## Example of use

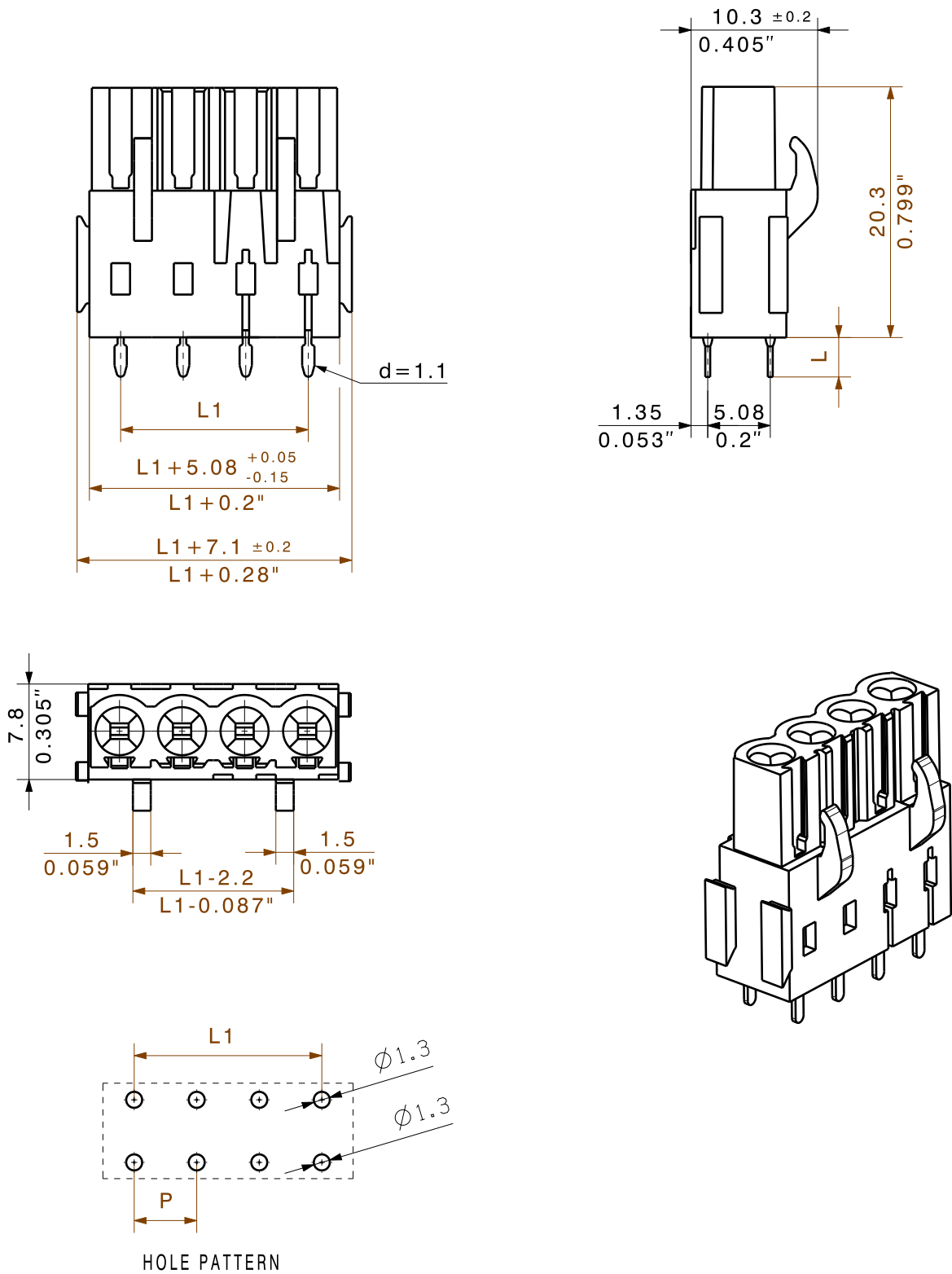


WEITERGABE SOWIE VERVIELFÄLTIGUNG DIESES DOKUMENTS, VERWERTUNG UND MITTEILUNG SEINES INHALTS SIND VERBOTEN, SOWEIT NICHT AUSDRUECKLICH GESTATTET.  
ZUWIDERHANDLUNGEN VERPFLICHTEN ZU SCHADENERSATZ. ALLE RECHTE FUER DEN FALL DER PATENT-, GEBRAUCHSMUSTER- ODER GESCHMACKSMUSTEREINTRAGUNG VORBEHALTEN.  
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MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE  
DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

DIE DEUTSCHE VERSION IST VERBINDLICH  
THE GERMAN VERSION IS BINDING



P=PITCH/RASTER  
SHOWN: BLL 5.08/04/90B

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.

|                            |                       |
|----------------------------|-----------------------|
| 3,2                        | 0,1<br>-0,3           |
| 4,5                        | 0,1<br>-0,3           |
| PINLÄNGE L<br>PIN LENGTH L | TOLERANZ<br>TOLERANCE |

|    |         |           |
|----|---------|-----------|
| 24 | 116,84  | 4,600     |
| 23 | 111,76  | 4,400     |
| 22 | 106,68  | 4,200     |
| 21 | 101,60  | 4,000     |
| 20 | 96,52   | 3,800     |
| 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     |
| 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     |
| 3  | 10,16   | 0,400     |
| 2  | 5,08    | 0,200     |
| n  | L1 [mm] | L1 [Inch] |

|                                                             |  |                                                               |  |                                                   |           |                                   |  |
|-------------------------------------------------------------|--|---------------------------------------------------------------|--|---------------------------------------------------|-----------|-----------------------------------|--|
| <b>RoHS COMPLIANT</b>                                       |  | METRIC TOLERANCES:<br>X. = ±0.3<br>X.X = ±0.1<br>X.XX = ±0.05 |  | 58473/0<br>13.05.11<br>HOHLBEIN_K<br>MODIFICATION | 01        | CAT.NO.: .                        |  |
|                                                             |  | DRAWN                                                         |  | DATE                                              | NAME      | DRAWING NO. SHEET 02 OF 02 SHEETS |  |
| SCALE: 2:1<br>SUPERSEDES: .                                 |  | RESPONSIBLE                                                   |  | CHECKED                                           | HECKERT_M | ISSUE NO. 10                      |  |
|                                                             |  | APPROVED                                                      |  |                                                   | HECKERT_M | PRODUCT FILE: BLL 5.08            |  |
| <b>BLL 5.08/./90B/180B</b><br>BUCHSENLEISTE<br>SOCKET BLOCK |  |                                                               |  |                                                   |           | 7138                              |  |

## 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.