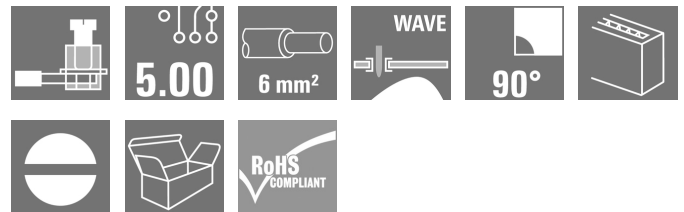


## LL 5.00/02/90 4.5SN GY BX

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
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 Germany

www.weidmueller.com

### Product image



This PCB terminal provides connections for 32 A and 6 mm<sup>2</sup> conductor cross-section with the proven clamping-yoke connection, in 5.00 and 5.08 mm pitch. 90° conductor outlet direction.

### General ordering data

|              |   |
|--------------|---|
| Version      | Printed circuit board terminals, 5.00 mm, Number of poles: 2, 90°, Solder pin length (l): 4.5 mm, tinned, Pebble grey, Clamping yoke connection, Clamping range, max. : 6 mm <sup>2</sup> , Box |
| Order No.    | <a href="#">1922920000</a>  |
| Type         | LL 5.00/02/90 4.5SN GY BX   |
| GTIN (EAN)   | 4032248670673   |
| Qty.         | 174 Stück   |
| Product data | IEC: 500 V / 32.5 A / 0.5 - 6 mm <sup>2</sup><br>UL: 300 V / 20 A / AWG 26 - AWG 12   |
| Packaging    | Box   |

Erstellungs-Datum May 25, 2023 1:07:33 PM CEST

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## Technische Daten

### Dimensions and weights

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Depth                    | 11 mm      | Depth (inches)  | 0.433 inch |
| Height                   | 15.5 mm    | Height (inches) | 0.61 inch  |
| Height of lowest version | 17.1 mm    | Width           | 22.75 mm   |
| Width (inches)           | 0.896 inch | Net weight      | 1.868 g    |

### Temperatures

|                             |        |                             |        |
|-----------------------------|--------|-----------------------------|--------|
| Operating temperature, min. | -50 °C | Operating temperature, max. | 120 °C |
|-----------------------------|--------|-----------------------------|--------|

### System parameters

|  |                             |  |                          |
|--|-----------------------------|--|--------------------------|
| Product family                               | OMNIMATE Signal - series LL | Wire connection method                     | Clamping yoke connection |
| Property, clamping point                     | WireReady                   | Mounting onto the PCB                      | THT solder connection    |
| Conductor outlet direction                   | 90°                         | Pitch in mm (P)                            | 5 mm                     |
| Pitch in inches (P)                          | 0.197 inch                  | Number of poles                            | 2                        |
| Pin series quantity                          | 1                           | Fitted by customer                         | Yes                      |
| Number of rows                               | 1                           | Max. adjacent poles per row                | 24                       |
| Solder pin length (l)                        | 4.5 mm                      | Solder pin dimensions                      | 0.75 x 0.9 mm            |
| Solder eyelet hole diameter (D)              | 1.3 mm                      | Solder eyelet hole diameter tolerance (D)+ | 0, 1 mm                  |
| Number of solder pins per pole               | 1                           | Screwdriver blade                          | 0.6 x 3.5                |
| Screwdriver blade standard                   | DIN 5264                    | Tightening torque, min.                    | 0.5 Nm                   |
| Tightening torque, max.                      | 0.6 Nm                      | Clamping screw                             | M 3                      |
| Stripping length                             | 6 mm                        | L1 in mm                                   | 5 mm                     |
| L1 in inches                                 | 0.197 mm                    | Touch-safe protection acc. to DIN VDE 0470 | IP 20                    |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch      | Protection degree                          | IP20                     |
| Volume resistance                            | 1.20 mΩ                     |  |                          |

### Material data

|                                       |                  |                                       |             |
|---------------------------------------|------------------|---------------------------------------|-------------|
| Insulating material                   | Wemid (PA)       | Colour                                | Pebble grey |
| Colour chart (similar)                | RAL 7032         | Insulating material group             | I           |
| Comparative Tracking Index (CTI)      | ≥ 600            | UL 94 flammability rating             | V-0         |
| Contact material                      | Copper alloy     | Contact surface                       | tinned      |
| Coating                               | 4-6 µm SN        | Tinning type                          | matt        |
| Layer structure of solder connection  | 4...6 µm Sn matt | Storage temperature, min.             | -40 °C      |
| Storage temperature, max.             | 70 °C            | Operating temperature, min.           | -50 °C      |
| Operating temperature, max.           | 120 °C           | Temperature range, installation, min. | -25 °C      |
| Temperature range, installation, max. | 120 °C           |                                       |             |

### Conductors suitable for connection

|  |                          |
|--|--------------------------|
| Clamping range, min.                       | 0.13 mm <sup>2</sup>     |
| Clamping range, max.                       | 6 mm <sup>2</sup>        |
| Wire connection cross section AWG, min.    | AWG 26                   |
| Wire connection cross section AWG, max.    | AWG 12                   |
| Solid, min. H05(07) V-U                    | 0.5 mm <sup>2</sup>      |
| Solid, max. H05(07) V-U                    | 6 mm <sup>2</sup>        |
| Flexible, min. H05(07) V-K                 | 0.5 mm <sup>2</sup>      |
| Flexible, max. H05(07) V-K                 | 4 mm <sup>2</sup>        |
| w. plastic collar ferrule, DIN 46228 pt 4, | 0.5 mm <sup>2</sup> min. |

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## Technische Daten

w. plastic collar ferrule, DIN 46228 pt 4, 2.5 mm<sup>2</sup>  
 max.

w. wire end ferrule, DIN 46228 pt 1, 0.5 mm<sup>2</sup>  
 min.

w. wire end ferrule, DIN 46228 pt 1, 2.5 mm<sup>2</sup>  
 max.

Plug gauge in accordance with EN 60999 a x b; ø 2.8 mm x 2.4 mm; 3.0 mm

| Clampable conductor                    | Cross-section for conductor connection | Type                         | fine-wired                 |
|--|--|------------------------------|----------------------------|
|  |  | nominal                      | 0.5 mm <sup>2</sup>        |
| wire end ferrule                       | wire end ferrule                       | Stripping length             | nominal 8 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H0.5/12 OR</a> |
|  |  | Stripping length             | nominal 6 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H0.5/6</a>     |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                            |
|  | nominal                                | 0.75 mm <sup>2</sup>         |                            |
| wire end ferrule                       | wire end ferrule                       | Stripping length             | nominal 8 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H0.75/12 W</a> |
|  |  | Stripping length             | nominal 6 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H0.75/6</a>    |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                            |
|  | nominal                                | 1 mm <sup>2</sup>            |                            |
| wire end ferrule                       | wire end ferrule                       | Stripping length             | nominal 8 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H1.0/12 GE</a> |
|  |  | Stripping length             | nominal 6 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H1.0/6</a>     |

Reference text Length of ferrules is to be chosen depending on the product and the rated voltage., The outside diameter of the plastic collar should not be larger than the pitch (P)

### Rated data acc. to IEC

| tested acc. to standard   | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C)                         | 32.5 A            |
|---|------------------------|---|-------------------|
| Rated current, max. number of poles (Tu=20°C)                             | 26 A                   | Rated current, min. number of poles (Tu=40°C)                         | 27.5 A            |
| Rated current, max. number of poles (Tu=40°C)                             | 22 A                   | Rated voltage for surge voltage class / pollution degree II/2         | 500 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 |


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## Technische Daten

### Rated data acc. to CSA

|                                   |  |   |        |                       |  |
|-----------------------------------|--|---|--------|-----------------------|--|
| Institute (CSA)                   |  |  |        | Certificate No. (CSA) |  |
|                                   |  |   |        | 200039-1202191        |  |
| Rated voltage (Use group B / CSA) | 300 V  | Rated voltage (Use group D / CSA)   | 300 V  |                       |  |
| Rated current (Use group B / CSA) | 20 A   | Rated current (Use group D / CSA)   | 10 A   |                       |  |
| Wire cross-section, AWG, min.     | AWG 26   | Wire cross-section, AWG, max.   | AWG 12 |                       |  |
| 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) | 20 A   | Rated current (Use group D / UL 1059)   | 10 A   |                      |  |
| Wire cross-section, AWG, min.         | AWG 26   | Wire cross-section, AWG, max.   | AWG 12 |                      |  |
| Reference to approval values          | Specifications are maximum values, details - see approval certificate. |   |        |                      |  |

### Packing

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 117 mm |
| VPE width | 116 mm | VPE height | 48 mm  |

### Type tests

|                               |            |  |
|-------------------------------|------------|--|
| Test: Durability of markings  | Test       | mark of origin, type identification, type of material, approval marking UL, approval marking CSA, durability |
|                               | Evaluation | available  |
| Test: Clampable cross section | Standard   | IEC 60999-1 section 7 and 9.1 / 11.99, IEC 60947-1 section 8.2.4.5.1 / 03.11                                 |

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|   |                |   |           |
|---|----------------|---|-----------|
| Test for damage to and accidental loosening of conductors | Standard       | IEC 60999-1 section 9.4 / 11.99               |           |
|   | Requirement    | 0.2 kg  |           |
|   | Conductor type | Type of conductor and conductor cross-section | AWG 26/1  |
|   |                | Type of conductor and conductor cross-section | AWG 26/19 |
|   | Evaluation     | passed  |           |
|   | Requirement    | 0.3 kg  |           |
|   | Conductor type | Type of conductor and conductor cross-section | H05V-U0.5 |
|   |                | Type of conductor and conductor cross-section | H05V-K0.5 |
|   | Evaluation     | passed  |           |
|   | Requirement    | 0.9 kg  |           |
|   | Conductor type | Type of conductor and conductor cross-section | H07V-U4.0 |
|   |                | Type of conductor and conductor cross-section | H07V-K4.0 |
|   |                | Type of conductor and conductor cross-section | AWG 12/1  |
| Type of conductor and conductor cross-section             |                | AWG 12/19                                     |           |
| Evaluation  | passed         |   |           |
| Pull-out test   | Standard       | IEC 60999-1 section 9.5 / 11.99               |           |
|   | Requirement    | ≥10 N   |           |
|   | Conductor type | Type of conductor and conductor cross-section | AWG 26/1  |
|   |                | Type of conductor and conductor cross-section | AWG 26/19 |
|   | Evaluation     | passed  |           |
|   | Requirement    | ≥20 N   |           |
|   | Conductor type | Type of conductor and conductor cross-section | H05V-U0.5 |
|   |                | Type of conductor and conductor cross-section | H05V-K0.5 |
|   | Evaluation     | passed  |           |
|   | Requirement    | ≥60 N   |           |
|   | Conductor type | Type of conductor and conductor cross-section | H07V-U4.0 |
|   |                | Type of conductor and conductor cross-section | H07V-K4.0 |
|   |                | Type of conductor and conductor cross-section | AWG 12/1  |
| Type of conductor and conductor cross-section             |                | AWG 12/19                                     |           |
| Evaluation  | passed         |   |           |

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### Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002643    | ETIM 7.0    | EC002643    |
| ETIM 8.0    | EC002643    | ECLASS 9.0  | 27-44-04-01 |
| ECLASS 9.1  | 27-44-04-01 | ECLASS 10.0 | 27-44-04-01 |
| ECLASS 11.0 | 27-46-01-01 | ECLASS 12.0 | 27-46-01-01 |

### 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>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• Wire end ferrule without plastic collar to DIN 46228/1</li> <li>• Wire end ferrule with plastic collar to DIN 46228/4</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     |

### Downloads

|                             |   |
|-----------------------------|---|
| Engineering Data            | <a href="#">CAD data – STEP</a>   |
| Product Change Notification | <a href="#">PCN_2017_236_PL32_Optimierung_LL_5.0x_DE</a><br><a href="#">PCN_2017_236_PL32_Optimization_of_LL_5.0x_EN</a><br><a href="#">20211116 Änderung der Verpackung LL 5.0x and LM 5.0x</a><br><a href="#">20211116 Change of packaging to LL 5.0x and LM 5.0x</a> |
| Catalogues                  | <a href="#">Catalogues in PDF-format</a>  |
| Brochures                   | <a href="#">FL DRIVES EN</a><br><a href="#">FL DRIVES DE</a>  |

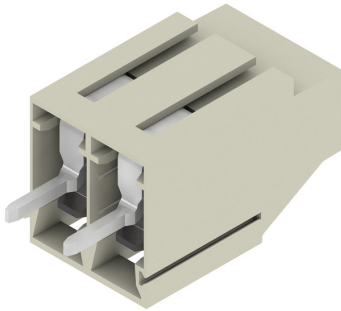
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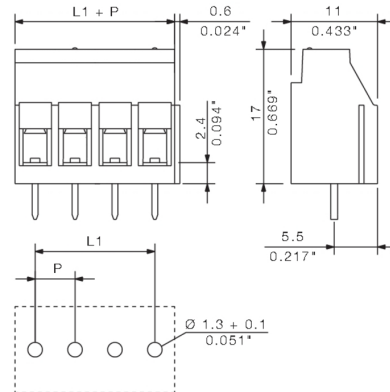
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# Zeichnungen

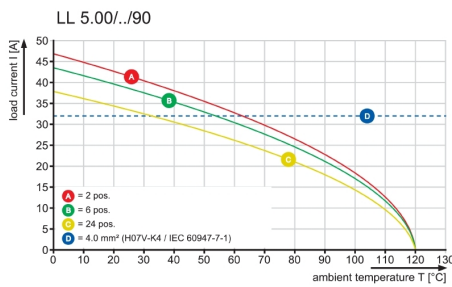
### Product image



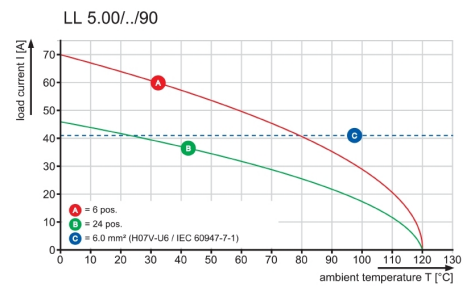
### Dimensional drawing



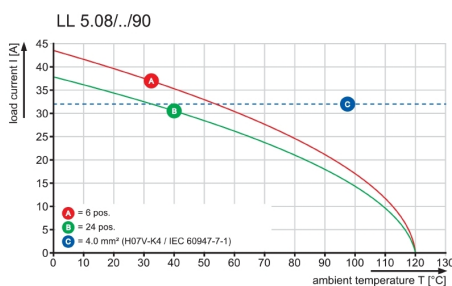
### Graph



### Graph



### Graph



## 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.