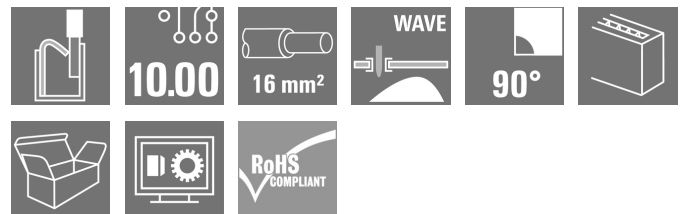


**LUF 10.00/05/90 5.0SN BK BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**Product image**

**The sturdy, direct connection for extreme current and voltage requirements in all power electronics applications such as solar inverters, frequency converters, servo-controllers and power supplies.**

**General ordering data**

|              |  |
|--------------|--|
| Version      | Printed circuit board terminals, 10.00 mm, Number of poles: 5, 90°, Solder pin length (l): 5 mm, black, PUSH IN with actuator, Clamping range, max.: 16 mm², Box |
| Order No.    | <a href="#">1988630000</a>   |
| Type         | LUF 10.00/05/90 5.0SN BK BX  |
| GTIN (EAN)   | 4050118373059  |
| Qty.         | 25 pc(s).  |
| Product data | IEC: 1000 V / 101 A / 0.5 - 25 mm²<br>UL: 300 V / 61 A / AWG 18 - AWG 6  |
| Packaging    | Box  |

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Catalogue status 13.07.2024 / We reserve the right to make technical changes.

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## Technical data

## Dimensions and weights

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Depth                    | 26.45 mm   | Depth (inches)  | 1.041 inch |
| Height                   | 47.03 mm   | Height (inches) | 1.852 inch |
| Height of lowest version | 42.03 mm   | Width           | 51.58 mm   |
| Width (inches)           | 2.031 inch | Net weight      | 53.56 g    |

## System parameters

|  |   |  |                              |
|--|---|--|------------------------------|
| Product family                               | OMNIMATE Power - series LU                                  | Wire connection method                     | PUSH IN with actuator        |
| Mounting onto the PCB                        | THT solder connection                                       | Conductor outlet direction                 | 90°                          |
| Pitch in mm (P)                              | 10 mm   | Pitch in inches (P)                        | 0.394 "                      |
| Number of poles                              | 5   | Pin series quantity                        | 1                            |
| Fitted by customer                           | No  | Number of rows                             | 1                            |
| Solder pin length (l)                        | 5 mm  | Solder pin dimensions                      | d = 1.2 mm, Octagonal        |
| Solder eyelet hole diameter (D)              | 1.6 mm  | Solder eyelet hole diameter tolerance (D)+ | 0, 1 mm                      |
| Number of solder pins per pole               | 4   | Screwdriver blade                          | 0.8 x 4.0                    |
| Stripping length                             | 18 mm   | L1 in mm                                   | 40 mm                        |
| L1 in inches                                 | 1.575 "   | Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged/ IP10 unplugged |
| Touch-safe protection acc. to DIN VDE 57 106 | touch-safe with connected connectors from 6 mm <sup>2</sup> | Protection degree                          | IP20                         |

## Material data

|                                      |                  |                             |          |
|--------------------------------------|------------------|-----------------------------|----------|
| Insulating material                  | Wemid (PA)       | Colour                      | black    |
| Colour chart (similar)               | RAL 9011         | Insulating material group   | I        |
| Comparative Tracking Index (CTI)     | ≥ 600            | UL 94 flammability rating   | V-0      |
| Contact base material                | E-Cu             | Contact material            | Cu-alloy |
| Layer structure of solder connection | 4...6 µm Sn matt | Storage temperature, min.   | -40 °C   |
| Storage temperature, max.            | 70 °C            | Operating temperature, min. | -40 °C   |
| Operating temperature, max.          | 120 °C           |                             |          |

## Conductors suitable for connection

|   |                     |
|---|---------------------|
| Clamping range, min.  | 0.5 mm <sup>2</sup> |
| Clamping range, max.  | 16 mm <sup>2</sup>  |
| Wire connection cross section AWG, min.                             | AWG 20              |
| Wire connection cross section AWG, max.                             | AWG 4               |
| Solid, min. H05(07) V-U   | 0.5 mm <sup>2</sup> |
| Solid, max. H05(07) V-U   | 16 mm <sup>2</sup>  |
| Stranded, min. H07V-R   | 6 mm <sup>2</sup>   |
| Stranded, max. H07V-R   | 25 mm <sup>2</sup>  |
| Flexible, min. H05(07) V-K  | 0.5 mm <sup>2</sup> |
| Flexible, max. H05(07) V-K  | 25 mm <sup>2</sup>  |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.5 mm <sup>2</sup> min. |                     |
| w. plastic collar ferrule, DIN 46228 pt 4, 16 mm <sup>2</sup> max.  |                     |
| w. wire end ferrule, DIN 46228 pt 1, min.                           | 0.5 mm <sup>2</sup> |
| w. wire end ferrule, DIN 46228 pt 1, max.                           | 16 mm <sup>2</sup>  |
| Plug gauge in accordance with EN 60999 a x b; ø                     | 5.3mm (B6)          |

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## Technical data

|                     |   |                              |                             |
|---------------------|---|------------------------------|-----------------------------|
| Clampable conductor | Cross-section for conductor connection  | Type                         | fine-wired                  |
|                     |   | nominal                      | 2.5 mm <sup>2</sup>         |
|                     | wire end ferrule  | Stripping length             | nominal 20 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H2.5/25D BL</a> |
|                     |   | Stripping length             | nominal 18 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H2.5/18</a>     |
|                     | Cross-section for conductor connection  | Type                         | fine-wired                  |
|                     |   | nominal                      | 4 mm <sup>2</sup>           |
|                     | wire end ferrule  | Stripping length             | nominal 20 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H4.0/26D GR</a> |
|                     |   | Stripping length             | nominal 18 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H4.0/18</a>     |
|                     | Cross-section for conductor connection  | Type                         | fine-wired                  |
|                     |   | nominal                      | 6 mm <sup>2</sup>           |
|                     | wire end ferrule  | Stripping length             | nominal 20 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H6.0/26 SW</a>  |
|                     |   | Stripping length             | nominal 18 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H6.0/18</a>     |
|                     | Cross-section for conductor connection  | Type                         | fine-wired                  |
|                     |   | nominal                      | 10 mm <sup>2</sup>          |
|                     | wire end ferrule  | Stripping length             | nominal 21 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H10.0/28 EB</a> |
|                     |   | Stripping length             | nominal 18 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H10.0/18</a>    |
|                     | Cross-section for conductor connection  | Type                         | fine-wired                  |
|                     |   | nominal                      | 16 mm <sup>2</sup>          |
|                     | wire end ferrule  | Stripping length             | nominal 21 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H16.0/28 GN</a> |
|                     |   | Stripping length             | nominal 18 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H16.0/18</a>    |
|                     | Cross-section for conductor connection  | Type                         | fine-wired                  |
|                     |   | nominal                      | 1.5 mm <sup>2</sup>         |
|                     | wire end ferrule  | Stripping length             | nominal 20 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H1.5/24 R</a>   |
|                     |   | Stripping length             | nominal 18 mm               |
|                     |   | Recommended wire-end ferrule | <a href="#">H1.5/18</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) |                              |                             |

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## Technical data


## Rated data acc. to IEC

|   |               |   |         |
|---|---------------|---|---------|
| tested acc. to standard   | IEC 60947-7-4 | Rated current, min. number of poles (Tu=20°C)                         | 101 A   |
| Rated current, max. number of poles (Tu=20°C)                             | 101 A         | Rated current, min. number of poles (Tu=40°C)                         | 101 A   |
| Rated current, max. number of poles (Tu=40°C)                             | 95 A          | Rated voltage for surge voltage class / pollution degree II/2         | 1,000 V |
| Rated voltage for surge voltage class / pollution degree III/2            | 690 V         | Rated voltage for surge voltage class / pollution degree III/3        | 630 V   |
| Rated impulse voltage for surge voltage class/ pollution degree II/2      | 6 kV          | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 6 kV    |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 6 kV          |   |         |

## Rated data acc. to CSA

|                                   |        |                                   |       |
|-----------------------------------|--------|-----------------------------------|-------|
| Rated voltage (Use group B / CSA) | 300 V  | Rated voltage (Use group C / CSA) | 150 V |
| Rated voltage (Use group D / CSA) | 600 V  | Rated current (Use group B / CSA) | 61 A  |
| Rated current (Use group C / CSA) | 61 A   | Rated current (Use group D / CSA) | 5 A   |
| Wire cross-section, AWG, min.     | AWG 18 | Wire cross-section, AWG, max.     | AWG 6 |

## Rated data acc. to UL 1059

|                                       |   |                                       |        |
|---------------------------------------|---|---------------------------------------|--------|
| Institute (cURus)                     |  | Certificate No. (cURus)               | E60693 |
| Rated voltage (Use group B / UL 1059) | 300 V   | Rated voltage (Use group C / UL 1059) | 150 V  |
| Rated voltage (Use group D / UL 1059) | 600 V   | Rated current (Use group B / UL 1059) | 61 A   |
| Rated current (Use group C / UL 1059) | 61 A  | Rated current (Use group D / UL 1059) | 5 A    |
| Wire cross-section, AWG, min.         | AWG 18  | Wire cross-section, AWG, max.         | AWG 6  |
| Reference to approval values          | Specifications are maximum values, details - see approval certificate.              |                                       |        |

## Packing

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 278 mm |
| VPE width | 169 mm | VPE height | 52 mm  |

## Type tests

|                              |            |  |
|------------------------------|------------|--|
| Test: Durability of markings | Standard   | IEC 60947-1 section 8.2.4.5.1 / 06.07, IEC 60512-1-1:2002-02 |
|                              | Test       | mark of origin, type identification, pitch, durability       |
|                              | Evaluation | available  |

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**Technical data**

|   |                |  |
|---|----------------|--|
| 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 |
|   | Conductor type | Type of conductor and solid 0.5 mm <sup>2</sup> conductor cross-section      |
|   |                | Type of conductor and stranded 0.5 mm <sup>2</sup> conductor cross-section   |
|   |                | Type of conductor and solid 16 mm <sup>2</sup> conductor cross-section       |
|   |                | Type of conductor and stranded 16 mm <sup>2</sup> conductor cross-section    |
|   |                | Type of conductor and H07V-U16 conductor cross-section                       |
|   |                | Type of conductor and H07V-U6 conductor cross-section                        |
|   |                | Type of conductor and H07V-K16 conductor cross-section                       |
|   | Evaluation     | passed   |
| Test for damage to and accidental loosening of conductors | Standard       | IEC 60999-1 section 9.4 / 11.99  |
|   | Requirement    | 0.3 kg   |
|   | Conductor type | Type of conductor and AWG 20/1 conductor cross-section                       |
|   |                | Type of conductor and AWG 20/19 conductor cross-section                      |
|   |                | Type of conductor and H05V-U0.5 conductor cross-section                      |
|   |                | Type of conductor and H05V-K0.5 conductor cross-section                      |
|   | Evaluation     | passed   |
|   | Requirement    | 2.9 kg   |
|   | Conductor type | Type of conductor and H07V-U16 conductor cross-section                       |
|   |                | Type of conductor and H07V-K16 conductor cross-section                       |
|   | Evaluation     | passed   |

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**Technical data**

|               |                |   |
|---------------|----------------|---|
| Pull-out test | Standard       | IEC 60999-1 section 9.5 / 11.99                         |
|               | Requirement    | ≥20 N   |
|               | Conductor type | Type of conductor and AWG 20/1 conductor cross-section  |
|               |                | Type of conductor and AWG 20/19 conductor cross-section |
|               |                | Type of conductor and H05V-U0.5 conductor cross-section |
|               |                | Type of conductor and H05V-K0.5 conductor cross-section |
|               | Evaluation     | passed  |
|               | Requirement    | ≥100 N  |
|               | Conductor type | Type of conductor and H07V-U16 conductor cross-section  |
|               |                | Type of conductor and H07V-K16 conductor cross-section  |
|               | Evaluation     | passed  |

**Classifications**

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002643    | ETIM 7.0    | EC002643    |
| ETIM 8.0    | EC002643    | ETIM 9.0    | 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 | ECLASS 13.0 | 27-46-01-01 |

**Environmental Product Compliance**

|                        |                             |
|------------------------|-----------------------------|
| REACH SVHC             | /                           |
| RoHS Compliance Status | Compliant without exemption |

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## Technical data

## 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>• 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>• The test point can only be used as potential-pickup point.</li> <li>• The single-position PCB terminal block can be used for voltages up to 1500 V (DC) and 1000 V (AC). The relevant device standard and the appropriate required clearances and creepage distances should be observed in the application</li> <li>• Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li> </ul> |

## Approvals

Approvals



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

## Downloads

|   |   |
|---|---|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a>   |
| Engineering Data                            | <a href="#">CAD data – STEP</a>   |
| Product Change Notification                 | <a href="#">20210909 Color Change of Actuator to LLF(S) and LUF(S) Family</a><br><a href="#">20210909 LLF(S) und LUF(S) Familie - Farbänderung des Betätigungselementes</a>   |
| User Documentation                          | <a href="#">QR-Code product handling video</a><br><a href="#">Assembly instruction_Montageanleitung_LLUF_LUF_EN_DE</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 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> |

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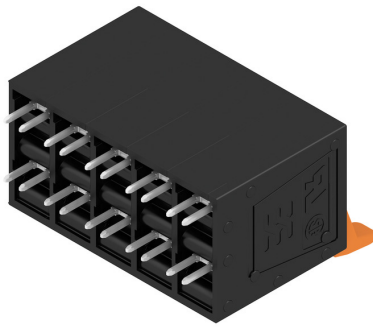
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 Klingenbergstraße 26  
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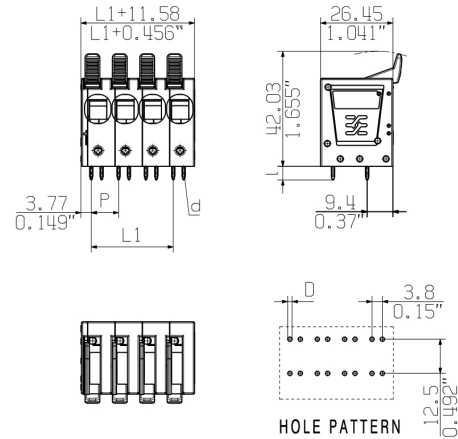
[www.weidmueller.com](http://www.weidmueller.com)

## Drawings

## Product image

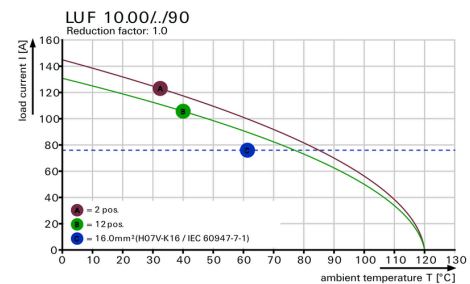


## Dimensional drawing

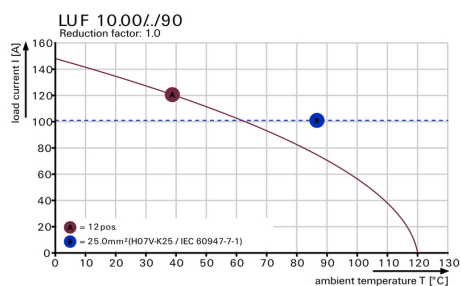


## Derating curve

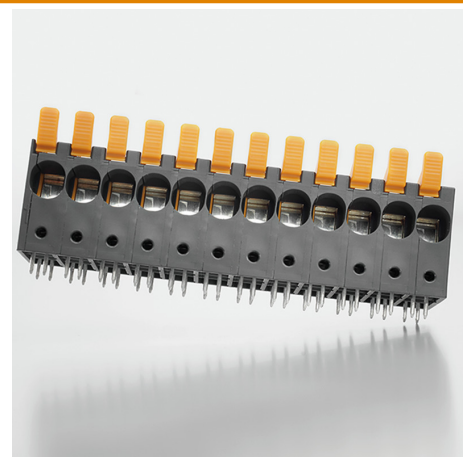
## Derating curve



## Derating curve



## Product benefits



High stability through pin design

## LUF 10.00/05/90 5.0SN BK BX

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## Accessories

## Additional accessories

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

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 essential details:

- Test plugs ensure reliable pick-up from diagnostic sockets

In tandem with the manufacturing process and application.

## General ordering data

| Type       | PS 2.0 MC                  | Version  | Product data | Packaging |
|------------|----------------------------|--|--------------|-----------|
| Order No.  | <a href="#">0310000000</a> | PCB plug-in connector, Accessories, Test plug, red, Number of poles: 1 |              | Box       |
| GTIN (EAN) | 4008190000059              |  |              |           |
| Qty.       | 20 pc(s).                  |  |              |           |

## Slotted screwdriver



Slotted screwdriver with rounded blade SD DIN 5265, ISO 2380/2, output to DIN 5264, ISO 2380/1. ChromTop tip, SoftFinish grip

## General ordering data

| Type       | SDS 0.8X4.0X100            | Version                  |
|------------|----------------------------|--------------------------|
| Order No.  | <a href="#">9008340000</a> | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056293              |                          |
| Qty.       | 1 pc(s).                   |                          |

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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Slotted screwdriver**

VDE insulated slot-head screwdriver, SDI DIN 7437, ISO 2380/2, drive output acc. to DIN 5264, ISO 2380/1.  
SoftFinish grip

**General ordering data**

|            |                            |                          |
|------------|----------------------------|--------------------------|
| Type       | SDIS 0.8X4.0X100           | Version                  |
| Order No.  | <a href="#">9008400000</a> | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056361              |                          |
| Qty.       | 1 pc(s).                   |                          |

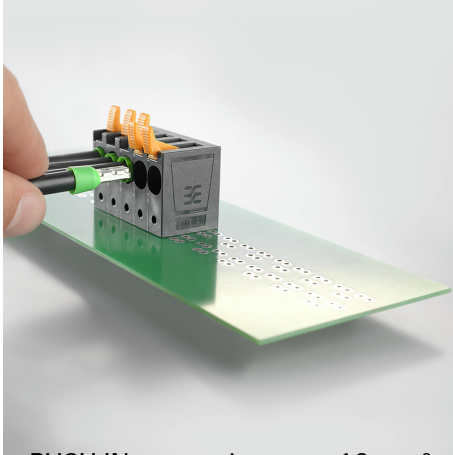
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## Drawings

### Product benefits



PUSH IN connection up to 16 mm<sup>2</sup>

## Recommended wave soldering profiles

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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.