

**OMNIMATE Power - series LU**  
**LUF 15.00/04/90 5.0SN BK BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 16

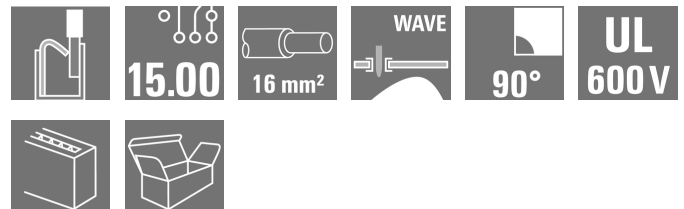
D-32758 Detmold

Germany

Fon: +49 5231 14-0

Fax: +49 5231 14-292083

www.weidmueller.com



**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**

|              |                                                                                                                                                                |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | LUF 15.00/04/90 5.0SN BK BX                                                                                                                                    |
| Order No.    | <a href="#">2491910000</a>                                                                                                                                     |
| Version      | Printed circuit board terminals, 15.00 mm, No. of poles: 4, 90°, Solder pin length (l): 5 mm, black, PUSH IN with actuator, Clamping range, max. : 16 mm², Box |
| GTIN (EAN)   | 4050118604405                                                                                                                                                  |
| Qty.         | 25 pc(s).                                                                                                                                                      |
| Product data | IEC: 1000 V / 76 A / 0.5 - 16 mm²<br>UL: 600 V / 61 A / AWG 18 - AWG 6                                                                                         |
| Packaging    | Box                                                                                                                                                            |

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## Technical data

### Dimensions and weights

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Width                    | 56.58 mm   | Width (inches)  | 2.228 inch |
| Height                   | 47.03 mm   | Height (inches) | 1.852 inch |
| Height of lowest version | 42.03 mm   | Depth           | 26.45 mm   |
| Depth (inches)           | 1.041 inch | Net weight      | 50.15 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)                              | 15 mm                                                       | Pitch in inches (P)                        | 0.591 inch                   |
| No. of poles                                 | 4                                                           | Fitted by customer                         | No                           |
| Solder pin length (l)                        | 5 mm                                                        | Solder pin dimensions                      | d = 1.2 mm, Octagonal        |
| Solder eyelet hole diameter (D)              | 1.7 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                                   | 45 mm                        |
| L1 in inches                                 | 1.772 inch                                                  | 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> |                                            |                              |

### Material data

|                                       |            |                                  |                     |
|---------------------------------------|------------|----------------------------------|---------------------|
| Insulating material                   | Wemid (PA) | Colour                           | black               |
| Colour of operational elements        | orange     | Material of operational elements | PA4T GF             |
| Colour chart (similar)                | RAL 9011   | Insulating material group        | I                   |
| CTI                                   | ≥ 600      | Insulation strength              | ≥ 10 <sup>8</sup> Ω |
| UL 94 flammability rating             | V-0        | Contact material                 | E-Cu                |
| Storage temperature, min.             | -25 °C     | Storage temperature, max.        | 55 °C               |
| Max. relative humidity during storage | 80 %       | 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 18              |
| 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                                               | 10 mm <sup>2</sup>  |
| Stranded, max. H07V-R                                               | 16 mm <sup>2</sup>  |
| Flexible, min. H05(07) V-K                                          | 0.5 mm <sup>2</sup> |
| Flexible, max. H05(07) V-K                                          | 16 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, 16 mm <sup>2</sup> max.        |                     |

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**Technical data**

|                     |                                        |                  |                     |       |
|---------------------|----------------------------------------|------------------|---------------------|-------|
| Clampable conductor | Cross-section for conductor connection | Type             | fine-wired          |       |
|                     |                                        | nominal          | 2.5 mm <sup>2</sup> |       |
|                     | AEH                                    | Stripping length | nominal             | 20 mm |
|                     |                                        | Stripping length | nominal             | 18 mm |
|                     | Cross-section for conductor connection | Type             | fine-wired          |       |
|                     |                                        | nominal          | 4 mm <sup>2</sup>   |       |
|                     | AEH                                    | Stripping length | nominal             | 20 mm |
|                     |                                        | Stripping length | nominal             | 18 mm |
|                     | Cross-section for conductor connection | Type             | fine-wired          |       |
|                     |                                        | nominal          | 6 mm <sup>2</sup>   |       |
|                     | AEH                                    | Stripping length | nominal             | 20 mm |
|                     |                                        | Stripping length | nominal             | 18 mm |
|                     | Cross-section for conductor connection | Type             | fine-wired          |       |
|                     |                                        | nominal          | 10 mm <sup>2</sup>  |       |
|                     | AEH                                    | Stripping length | nominal             | 21 mm |
|                     |                                        | Stripping length | nominal             | 18 mm |

Max. clamping range 16 mm<sup>2</sup>
**Rated data acc. to IEC**

|                                                                          |         |                                                                              |         |
|--------------------------------------------------------------------------|---------|------------------------------------------------------------------------------|---------|
| Rated current, min. no. of poles<br>(Tu=20°C)                            | 76 A    | Rated current, max. no. of poles<br>(Tu=20°C)                                | 73 A    |
| Rated current, min. no. of poles<br>(Tu=40°C)                            | 71 A    | Rated current, max. no. of poles<br>(Tu=40°C)                                | 65 A    |
| Rated voltage for surge voltage class /<br>pollution degree II/2         | 1,000 V | Rated voltage for surge voltage class /<br>pollution degree III/2            | 1,000 V |
| Rated voltage for surge voltage class /<br>pollution degree III/3        | 1,000 V | Rated impulse voltage for surge voltage<br>class/ pollution degree II/2      | 8 kV    |
| Rated impulse voltage for surge voltage<br>class/ pollution degree III/2 | 8 kV    | Rated impulse voltage for surge voltage<br>class/ contamination degree III/3 | 8 kV    |

**Rated data acc. to CSA**

|                                   |        |                                   |       |
|-----------------------------------|--------|-----------------------------------|-------|
| Rated voltage (Use group B / CSA) | 600 V  | Rated voltage (Use group C / CSA) | 600 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 |

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**Technical data**
**Rated data acc. to UL 1059**

Institute (cURus)



Certificate No. (cURus)

E60693

Rated voltage (Use group B / UL 1059) 600 V

Rated voltage (Use group D / UL 1059) 600 V

Rated current (Use group B / UL 1059) 61 A

Rated current (Use group D / UL 1059) 5 A

Wire cross-section, AWG, min. AWG 18

Reference to approval values  
 Specifications are maximum values, details - see approval certificate.

Rated voltage (Use group C / UL 1059) 600 V

Rated voltage (Use group F / UL 1059) 1,000 V

Rated current (Use group C / UL 1059) 61 A

Rated current (Use group F / UL 1059) 61 A

Wire cross-section, AWG, max. AWG 6

**Packing**

|           |     |            |     |
|-----------|-----|------------|-----|
| Packaging | Box | VPE length | 0 m |
| VPE width | 0 m | VPE height | 0 m |

**Classifications**

|            |             |            |             |
|------------|-------------|------------|-------------|
| ETIM 3.0   | EC001284    | ETIM 4.0   | EC002643    |
| ETIM 5.0   | EC002643    | ETIM 6.0   | EC002643    |
| eClass 6.2 | 27-26-11-01 | eClass 9.0 | 27-44-04-01 |
| eClass 9.1 | 27-44-04-01 |            |             |

**Notes**

Notes

- Additional colours on request
- Rated current related to rated cross-section & min. No. of poles.
- Wire end ferrule without plastic collar to DIN 46228/1
- Wire end ferrule with plastic collar to DIN 46228/4
- 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.
- The test point can only be used as potential-pickup point.

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



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## Technical data

### Downloads

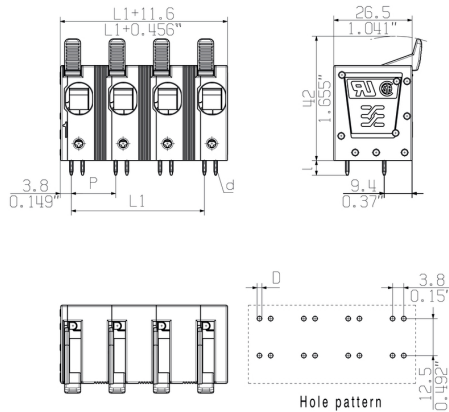
|                                             |                                                 |
|---------------------------------------------|-------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a> |
| Engineering Data                            | <a href="#">STEP</a>                            |
| Motion controllers white paper              | <a href="#">Download Whitepaper</a>             |
| User Documentation                          | <a href="#">QR-Code product handling video</a>  |
| White Paper UL 600 V                        | <a href="#">Download Whitepaper</a>             |

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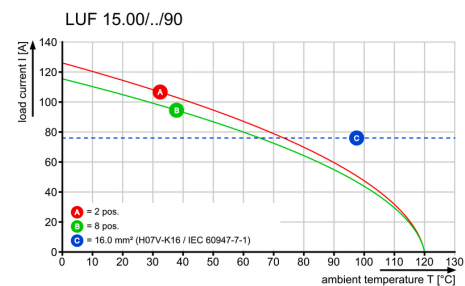
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# Drawings

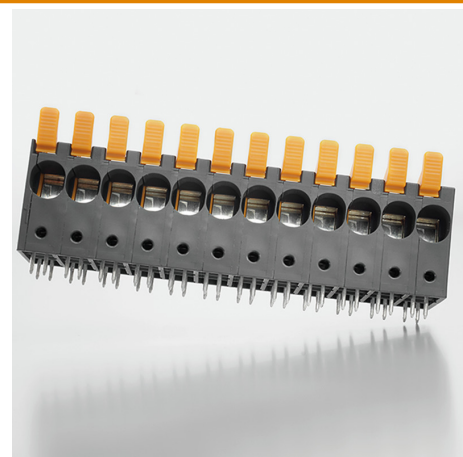
## Dimensional drawing



## Derating curve



## Product benefits



High stability through pin design

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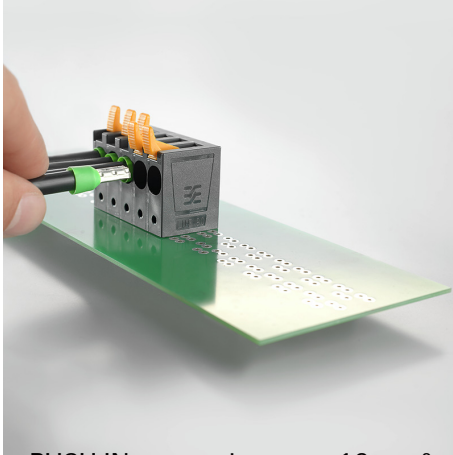
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## Drawings

### Product image



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

## 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.