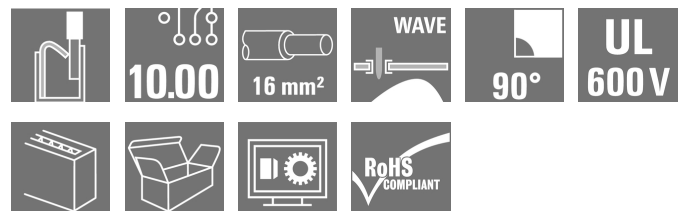


# OMNIMATE Power - series LU

## LUF 10.00/05/90V 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](http://www.weidmueller.com)



High-performance PCB terminal with a PUSH IN connection system for conductor cross-sections up to 16 mm<sup>2</sup>.

- Fast connection without tools thanks to pushers to open the contact point, or direct plug-in method
- Securely closed contact point, with the "Connection Safety Concept" the conductor is always clamped securely
- Integrated test point for PS 2.0 test plug
- Central tip test point for test probes on the upper side of the terminal
- Increased derating reserves because WEMID insulating material is used.
- Conductor outlet direction of 180°

### General ordering data

|              |                                                                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | LUF 10.00/05/90V 5.0SN BK BX                                                                                                                            |
| Order No.    | <a href="#">2453720000</a>                                                                                                                              |
| Version      | PCB terminal, 10.00 mm, No. of poles: 5, 90°, Solder pin length (l): 5 mm, Black, PUSH IN with actuator, Clamping range, max.: 16 mm <sup>2</sup> , Box |
| GTIN (EAN)   | 4050118493603                                                                                                                                           |
| Qty.         | 30 pc(s).                                                                                                                                               |
| Product data | IEC: 1000 V / 76 A / 0.5 - 16 mm <sup>2</sup><br>UL: 600 V / 58 A / AWG 18 - AWG 6                                                                      |
| Packaging    | Box                                                                                                                                                     |

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## Technical data

### Dimensions and weights

|            |        |
|------------|--------|
| Net weight | 50.5 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 inch                   |
| No. of poles                                 | 5                                                           | Fitted by customer                         | No                           |
| 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               | 3                                                           | Screwdriver blade                          | 0.8 x 4.0                    |
| Stripping length                             | 18 mm                                                       | L1 in mm                                   | 40 mm                        |
| L1 in inches                                 | 1.575 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 chart (similar)                | RAL 9011   | Insulating material group   | I                   |
| CTI                                   | ≥ 600      | Insulation resistance       | ≥ 10 <sup>8</sup> Ω |
| UL 94 flammability rating             | V-0        | Contact base 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> |
| 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                           | 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, min. | 0.5 mm <sup>2</sup> | w. plastic collar ferrule, DIN 46228 pt 4, max. | 16 mm <sup>2</sup> |
| 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 acc. to EN 60999 a x b; Ø            | 5.3mm (B6)          |                                                 |                    |

### Rated data acc. to IEC

|                                                                           |               |                                                                       |         |
|---------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------|---------|
| tested acc. to standard                                                   | IEC 60947-7-4 | Rated current, min. no. of poles (Tu=20°C)                            | 76 A    |
| Rated current, max. no. of poles (Tu=20°C)                                | 76 A          | Rated current, min. no. of poles (Tu=40°C)                            | 76 A    |
| Rated current, max. no. of poles (Tu=40°C)                                | 76 A          | Rated voltage for surge voltage class / pollution degree II/2         | 1,000 V |
| Rated voltage for surge voltage class / pollution degree III/2            | 1,000 V       | Rated voltage for surge voltage class / pollution degree III/3        | 1,000 V |
| Rated impulse voltage for surge voltage class/ pollution degree II/2      | 8 kV          | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 8 kV    |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 8 kV          |                                                                       |         |

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## Technical data

### Rated data acc. to CSA

|                               |        |                               |       |
|-------------------------------|--------|-------------------------------|-------|
| Rated voltage (Use group B)   | 600 V  | Rated voltage (Use group C)   | 600 V |
| Rated voltage (use group D)   | 600 V  | Rated current (use group B)   | 58 A  |
| Rated current (use group C)   | 58 A   | Rated current (use group D)   | 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)   | 600 V                                                                  | Rated voltage (use group C)   | 600 V |
| Rated voltage (use group D)   | 600 V                                                                  | Rated current (use group B)   | 58 A  |
| Rated current (use group C)   | 58 A                                                                   | Rated current (use group D)   | 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. |                               |       |

### 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 9.1 | 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



ROHS

Conform

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### Downloads

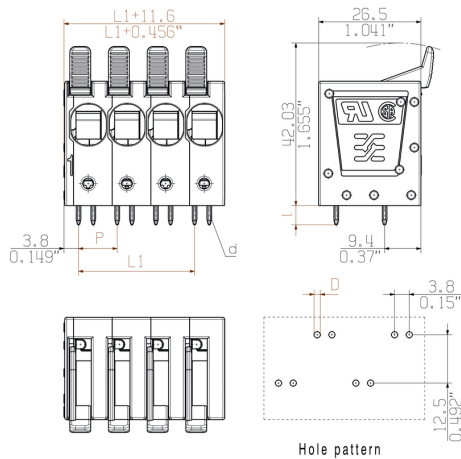
|                                             |                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a>                                                                                                                                                                                                                                                                                     |
| Brochure/Catalogue                          | <a href="#">FL DRIVES EN</a><br><a href="#">MB 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> |
| Engineering Data                            | <a href="#">EPLAN, WSCAD</a>                                                                                                                                                                                                                                                                                                        |
| Engineering Data                            | <a href="#">STEP</a>                                                                                                                                                                                                                                                                                                                |
| Motion controllers white paper              | <a href="#">Download Whitepaper</a>                                                                                                                                                                                                                                                                                                 |
| White Paper UL 600 V                        | <a href="#">Download Whitepaper</a>                                                                                                                                                                                                                                                                                                 |

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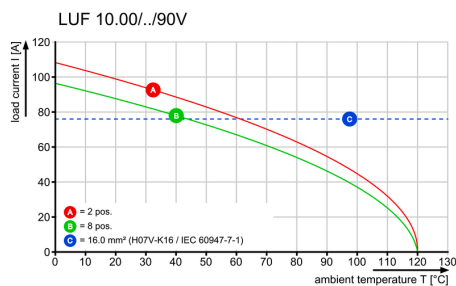
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# Drawings

## Dimensional drawing



## 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.

We reserve the right to make technical changes.