

**OMNIMATE Power - series LU**  
**LU 10.16/02/90 4.5SN BK BX**
**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 16

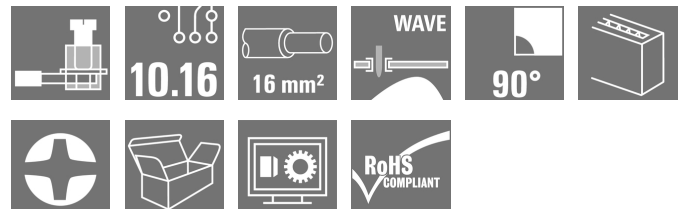
D-32758 Detmold

Germany

Fon: +49 5231 14-0

Fax: +49 5231 14-292083

www.weidmueller.com



This PCB terminal provides connections for 76 A and 16 mm<sup>2</sup> conductor cross-section with proven clamping yoke connection at 10.16 mm pitch, conductor outlet direction in 90° design.

- 0.50 - 16.0mm<sup>2</sup> (IEC) / 26 - 6 AWG (UL)
- 1000 V (IEC) / 300 V (UL)
- 76A (IEC) / 60 A (UL)

**General ordering data**

|              |                                                                                                                                                                      |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | LU 10.16/02/90 4.5SN BK BX                                                                                                                                           |
| Order No.    | <a href="#">1934140000</a>                                                                                                                                           |
| Version      | PCB terminal, 10.16 mm, No. of poles: 2, 90°, Solder pin length (l): 4.5 mm, tinned, Black, Clamping yoke connection, Clamping range, max.: 16 mm <sup>2</sup> , Box |
| GTIN (EAN)   | 4032248589494                                                                                                                                                        |
| Qty.         | 20 pc(s).                                                                                                                                                            |
| Product data | IEC: 1000 V / 76 A / 0.5 - 16 mm <sup>2</sup><br>UL: 300 V / 65 A / AWG 26 - AWG 6                                                                                   |
| Packaging    | Box                                                                                                                                                                  |

## OMNIMATE Power - series LU

### LU 10.16/02/90 4.5SN 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

## Technical data

### Dimensions and weights

|            |         |
|------------|---------|
| Net weight | 19.19 g |
|------------|---------|

### System parameters

|                                              |                            |                                            |                              |
|----------------------------------------------|----------------------------|--------------------------------------------|------------------------------|
| Product family                               | OMNIMATE Power - series LU | Wire connection method                     | Clamping yoke connection     |
| Mounting onto the PCB                        | THT solder connection      | Conductor outlet direction                 | 90°                          |
| Pitch in mm (P)                              | 10.16 mm                   | Pitch in inches (P)                        | 0.4 inch                     |
| No. of poles                                 | 2                          | Fitted by customer                         | Yes                          |
| Max. adjacent poles per row                  | 10                         | Solder pin length (l)                      | 4.5 mm                       |
| Solder pin dimensions                        | 1.2 x 1.2 mm               | Solder pin dimensions = d tolerance        | 0 / -0,15 mm                 |
| Solder eyelet hole diameter (D)              | 1.6 mm                     | Solder eyelet hole diameter tolerance (D)+ | 0,1 mm                       |
| Number of solder pins per pole               | 2                          | Screwdriver blade                          | 1.0 x 5.5                    |
| Screwdriver blade standard                   | DIN 5264                   | Tightening torque, min.                    | 1.2 Nm                       |
| Tightening torque, max.                      | 1.5 Nm                     | Clamping screw                             | M 4                          |
| Stripping length                             | 12 mm                      | L1 in mm                                   | 10.16 mm                     |
| L1 in inches                                 | 0.4 inch                   | Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged/ IP10 unplugged |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch     | Volume resistance                          | 0.50 mΩ                      |

### 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 material                      | E-Cu                         |
| Contact surface                       | tinned     | Layer structure of solder connection  | 1.5-3 µm Ni / 4-6 µm Sn matt |
| Storage temperature, min.             | -25 °C     | Storage temperature, max.             | 55 °C                        |
| Max. relative humidity during storage | 80 %       | 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.                            | 0.14 mm <sup>2</sup>    | Clamping range, max.                            | 16 mm <sup>2</sup> |
| Wire connection cross section AWG, min.         | AWG 22                  | Wire connection cross section AWG, max.         | AWG 8              |
| 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. | 2.5 mm <sup>2</sup>     | w. plastic collar ferrule, DIN 46228 pt 4, max. | 10 mm <sup>2</sup> |
| w. wire end ferrule, DIN 46228 pt 1, min.       | 2.5 mm <sup>2</sup>     | w. wire end ferrule, DIN 46228 pt 1, max.       | 10 mm <sup>2</sup> |
| Plug gauge acc. to EN 60999 a x b; Ø            | 5.4 mm x 5.1 mm; 5.3 mm |                                                 |                    |

**OMNIMATE Power - series LU**  
**LU 10.16/02/90 4.5SN 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

**Technical data**
**Rated data acc. to IEC**

tested acc. to standard

IEC 60664-1, IEC 61984

 Rated current, max. no. of poles  
 (Tu=20°C)

72 A

 Rated current, max. no. of poles  
 (Tu=40°C)

62 A

 Rated voltage for surge voltage class /  
 pollution degree III/2

690 V

 Rated impulse voltage for surge voltage  
 class/ pollution degree II/2

4 kV

 Rated impulse voltage for surge voltage  
 class/ contamination degree III/3

6 kV

 Rated current, min. no. of poles  
 (Tu=20°C)

76 A

 Rated current, min. 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/3

690 V

 Rated impulse voltage for surge voltage  
 class/ pollution degree III/2

6 kV

Short-time withstand current resistance

2 x 1s with 700 A

**Rated data acc. to CSA**

Institute (CSA)



Certificate No. (CSA)

200039-1198743

Rated voltage (Use group B)

300 V

Rated voltage (use group D)

300 V

Rated current (use group C)

65 A

Wire cross-section, AWG, min.

AWG 22

Reference to approval values

 Specifications are  
 maximum values, details -  
 see approval certificate.

Rated voltage (Use group C)

150 V

Rated current (use group B)

65 A

Rated current (use group D)

10 A

Wire cross-section, AWG, max.

AWG 6

**Rated data acc. to UL 1059**

Institute (UR)



Certificate No. (UR)

E60693

Rated voltage (use group B)

300 V

Rated voltage (use group D)

600 V

Rated current (use group C)

65 A

Wire cross-section, AWG, min.

AWG 26

Reference to approval values

 Specifications are  
 maximum values, details -  
 see approval certificate.

Rated voltage (use group C)

150 V

Rated current (use group B)

65 A

Rated current (use group D)

5 A

Wire cross-section, AWG, max.

AWG 6

**Classifications**

ETIM 3.0

EC001284

ETIM 5.0

EC002643

eClass 6.2

27-26-11-01

eClass 8.1

27-44-04-01

eClass 9.1

27-44-04-01

ETIM 4.0

EC002643

ETIM 6.0

EC002643

eClass 7.1

27-44-04-01

eClass 9.0

27-44-04-01

## OMNIMATE Power - series LU LU 10.16/02/90 4.5SN BK BX

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 16  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmuller.com

## Technical data

### 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.

#### 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

### Downloads

#### Approval/Certificate/Document of Conformity

[Declaration of the Manufacturer](#)

#### Brochure/Catalogue

[FL DRIVES EN](#)  
[MB DEVICE MANUF. EN](#)  
[FL DRIVES DE](#)  
[CAT 2 PORTFOLIOGUIDE EN](#)  
[FL APPL. INVERTER EN](#)  
[FL BASE STATION EN](#)  
[FL ELEVATOR EN](#)  
[FL POWER SUPPLY EN](#)  
[FL 72H SAMPLE SER EN](#)  
[PO OMNIMATE EN](#)

#### Engineering Data

[EPLAN, WSCAD](#)

#### Engineering Data

[STEP](#)

#### Motion controllers white paper

[Download Whitepaper](#)

#### White Paper UL 600 V

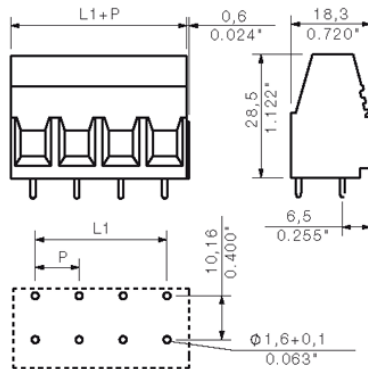
[Download Whitepaper](#)

## OMNIMATE Power - series LU LU 10.16/02/90 4.5SN BK BX

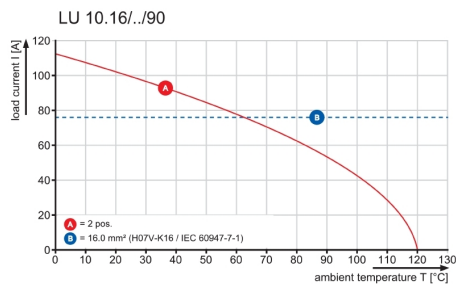
**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 16  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
[www.weidmueller.com](http://www.weidmueller.com)

# Drawings

## Dimensional drawing



## Graph



## Recommended wave soldering profiles

**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)

### 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.