

## OMNIMATE Power - series LU LU 10.16/03/90 4.5SN GY BX

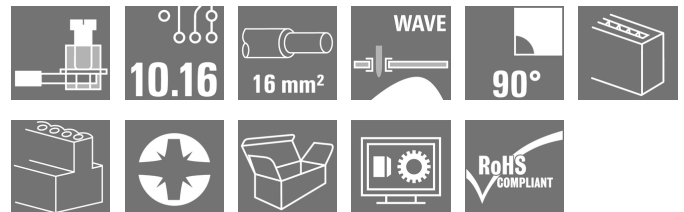
**Weidmüller Interface GmbH & Co. KG**  
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### Product image



Similar to illustration

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.



### General ordering data

Type	LU 10.16/03/90 4.5SN GY BX
Order No.	<a href="#">1648300000</a>
Version	PCB terminal, 10.16 mm, No. of poles: 3, 90°, Solder pin length (l): 4.5 mm, tinned, Pebble grey, Clamping yoke connection, Clamping range, max.: 16 mm <sup>2</sup> , Box
GTIN (EAN)	4008190291167
Qty.	20 pc(s).
Product data	IEC: 1000 V / 76 A / 0.5 - 16 mm <sup>2</sup> UL: 300 V / 65 A / AWG 26 - AWG 6
Packaging	Box

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**Technical data****Dimensions and weights**

Width	30.48 mm	Width (inches)	1.2 inch
Height	33 mm	Height (inches)	1.299 inch
Height of lowest version	28.5 mm	Depth	18.3 mm
Depth (inches)	0.72 inch	Net weight	28.3 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	3	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	20.32 mm
L1 in inches	0.8 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	Pebble grey
Colour chart (similar)	RAL 7032	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 in accordance with EN 60999 a x b; ø	5.4 mm x 5.1 mm; 5.3 mm		


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

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. no. of poles (Tu=20°C)	76 A
Rated current, max. no. of poles (Tu=20°C)	72 A	Rated current, min. no. of poles (Tu=40°C)	76 A
Rated current, max. no. of poles (Tu=40°C)	62 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	690 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	6 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	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 / CSA)	300 V	Rated voltage (Use group C / CSA)	150 V
Rated voltage (Use group D / CSA)	300 V	Rated current (Use group B / CSA)	65 A
Rated current (Use group C / CSA)	65 A	Rated current (Use group D / CSA)	10 A
Wire cross-section, AWG, min.	AWG 22	Wire cross-section, AWG, max.	AWG 6
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 C / UL 1059)	150 V
Rated voltage (Use group D / UL 1059)	600 V	Rated current (Use group B / UL 1059)	65 A
Rated current (Use group C / UL 1059)	65 A	Rated current (Use group D / UL 1059)	5 A
Wire cross-section, AWG, min.	AWG 26	Wire cross-section, AWG, max.	AWG 6
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

**Packaging**

Packaging	Box	VPE length	35 mm
VPE width	105 mm	VPE height	140 mm

**Classifications**

ETIM 3.0	EC001284	ETIM 4.0	EC002643
ETIM 5.0	EC002643	ETIM 6.0	EC002643
UNSPSC	30-21-18-01	eClass 6.2	27-26-11-01
eClass 7.1	27-44-04-01	eClass 8.1	27-44-04-01
eClass 9.0	27-44-04-01	eClass 9.1	27-44-04-01

**Data sheet**

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**Technical data**

**Notes**

- |       |  |
|-------|--|
| Notes | <ul style="list-style-type: none"> <li>• Additional colours on request</li> <br/> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <br/> <li>• Wire end ferrule without plastic collar to DIN 46228/1</li> <br/> <li>• Wire end ferrule with plastic collar to DIN 46228/4</li> <br/> <li>• P on drawing = pitch</li> <br/> <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> </ul> |
|-------|--|

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.
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**Approvals**

Approvals



ROHS	Conform
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**Downloads**

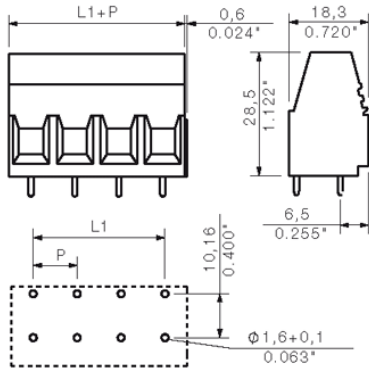
Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Brochure/Catalogue	<a href="#">FL DRIVES EN</a> <a href="#">MB DEVICE MANUF. EN</a> <a href="#">FL DRIVES DE</a> <a href="#">FL APPL INVERTER EN</a> <a href="#">FL_BASE_STATION_EN</a> <a href="#">FL ELEVATOR EN</a> <a href="#">FL POWER SUPPLY EN</a> <a href="#">FL 72H SAMPLE SER EN</a> <a href="#">PO OMNIMATE EN</a>
Engineering Data	<a href="#">EPLAN, WSCAD, Zuken E3.S</a>
Engineering Data	<a href="#">LU.zip</a> <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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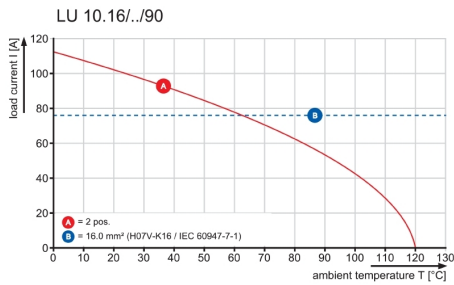
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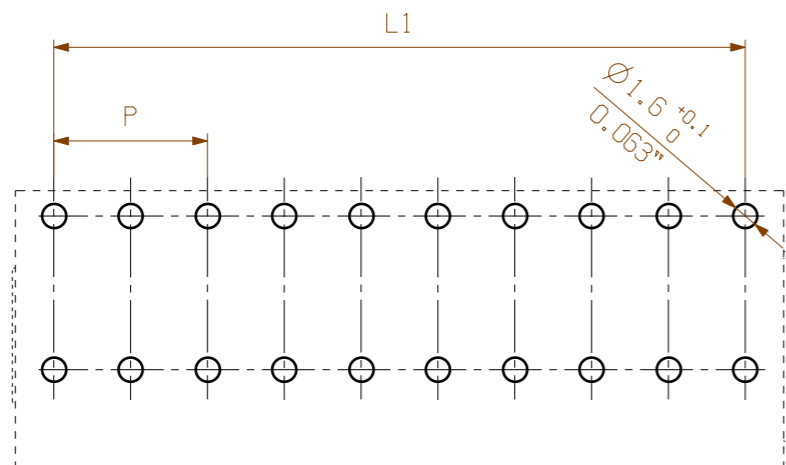
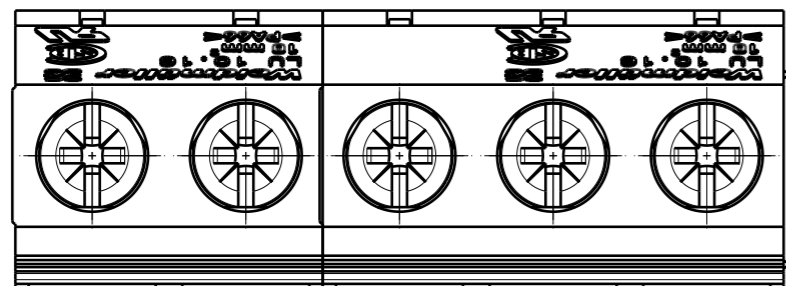
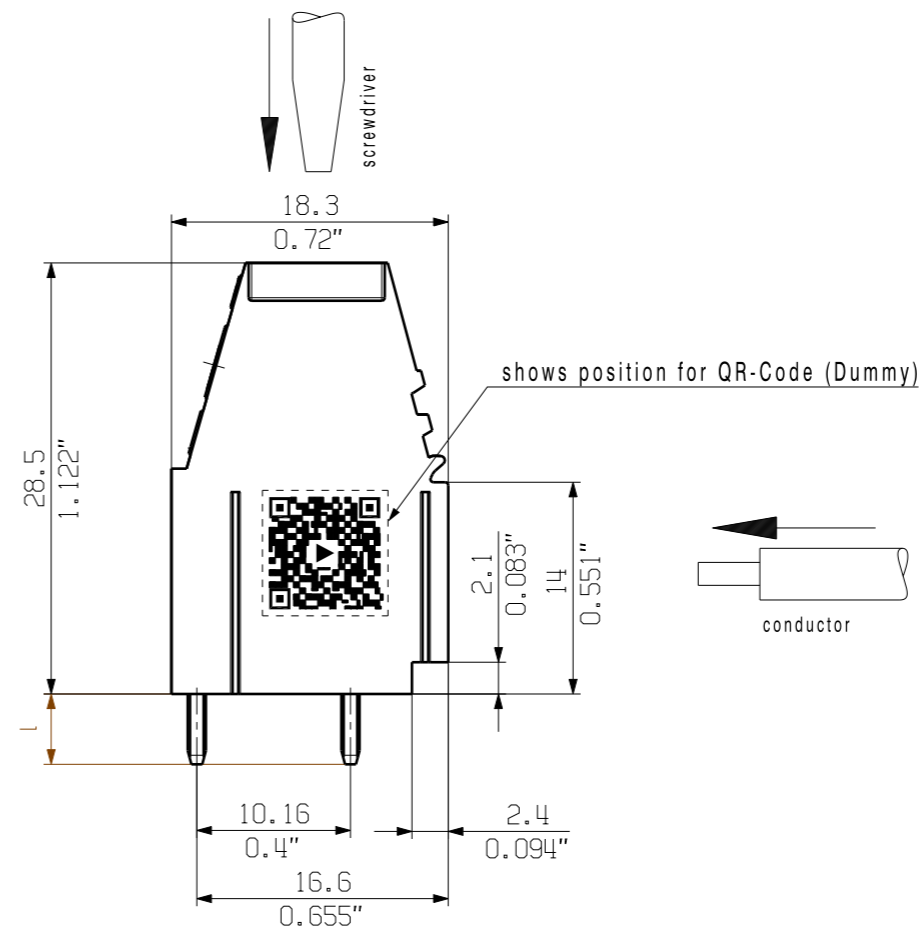
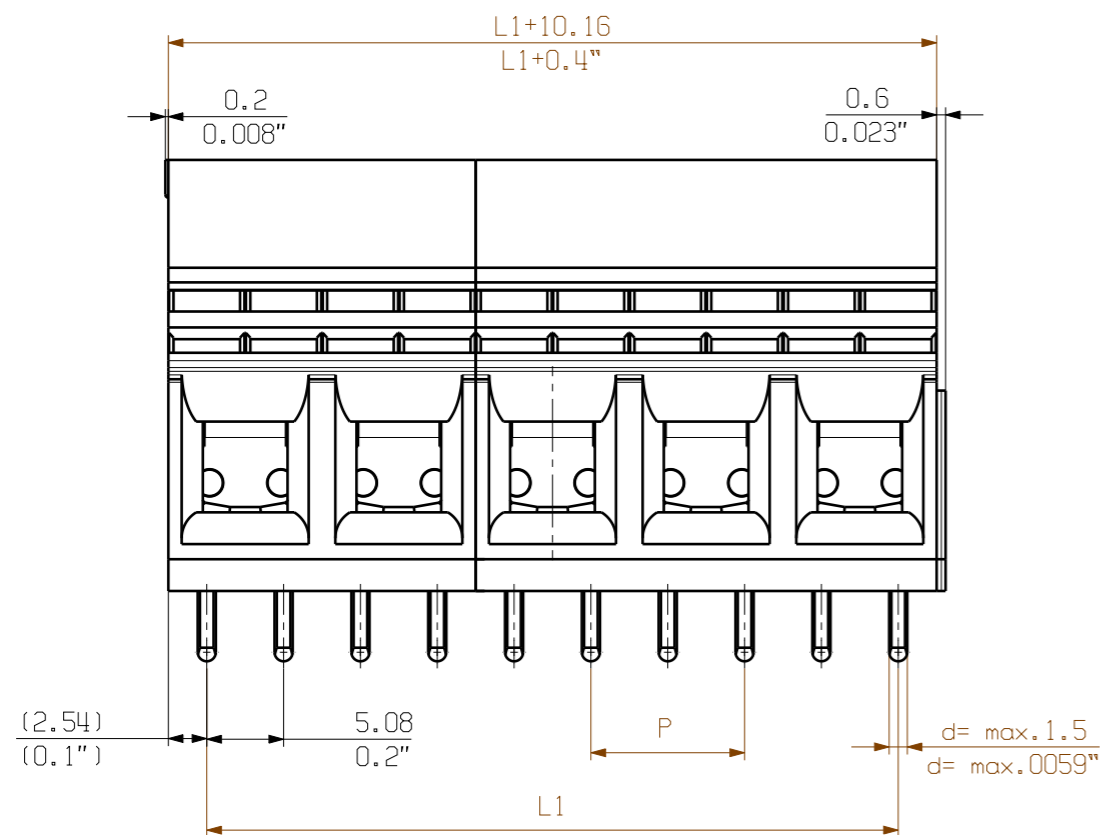
**Drawings**

**Dimensional drawing**



**Graph**



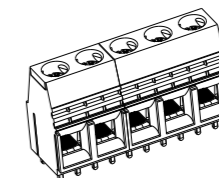


For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone.  
 The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.  
 The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application. Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

shown : LU 10.16/05/90

l = solder pin length (4.5/3.2)  
 P = pitch (10.16)  
 n = no of poles



12	116,84	4,600
11	106,68	4,200
10	96,52	3,800
9	86,36	3,400
8	76,20	3,000
7	66,04	2,600
6	55,88	2,200
5	45,72	1,800
4	35,56	1,400
3	25,40	1,000
2	15,24	0,600
<b>n</b>	<b>L1[mm]</b>	<b>L1 [Inch]</b>

<b>GENERAL TOLERANCE:</b> DIN ISO 2768-mK		Prim PLM Part No.: 017733		Prim ERP Part No.: 1635920000	
102098		04			
First Issue Date 16.02.2018		Modification			
		Date		Name	
Scale: 2:1		Drawn		16.02.2018 Administrator	
Size: A3		Responsible		Amann, Alexand	
Drawings Assembly		Approved		12.11.2018 Lang, Thomas	
				Drawing no. <b>21310</b> Issue no. <b>10</b> Sheet 01 of 01 sheets	
				LU 10.16/././90 LEITERPLATTENKLEMME PCB TERMINAL	
				Product file: 7232 LU 10.16	

## 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.