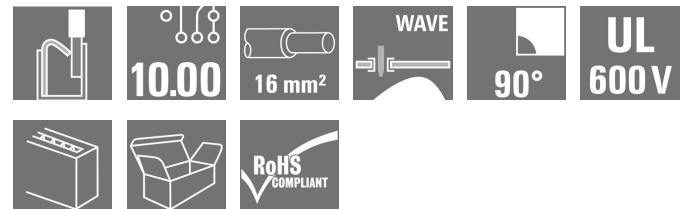


## OMNIMATE Power - series LU LUFS 10.00/05/90V 5.0SN BK BX

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



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	LUFS 10.00/05/90V 5.0SN BK BX
Order No.	<a href="#">2500480000</a>
Version	Printed circuit board terminals, 10.00 mm, Number of poles: 5, 90°, Solder pin length (l): 5 mm, black, PUSH IN without actuator, Clamping range, max.: 16 mm <sup>2</sup> , Box
GTIN (EAN)	4050118604580
Qty.	25 pc(s).
Product data	IEC: 1000 V / 76 A / 0.5 - 16 mm <sup>2</sup> UL: 600 V / 53 A / AWG 18 - AWG 4
Packaging	Box

Creation date September 9, 2020 11:27:50 AM CEST

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

Width	51.8 mm	Width (inches)	2.039 inch
Height	35 mm	Height (inches)	1.378 inch
Height of lowest version	30 mm	Depth	28.55 mm
Depth (inches)	1.124 inch	Net weight	48 g

**System parameters**

Product family	OMNIMATE Power - series LU	Wire connection method	PUSH IN without 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
Number 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	2	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 of operational elements	orange	Material of operational elements	PA4T GF
Colour chart (similar)	RAL 9011	Insulating material group	I
Comparative Tracking Index (CTI)	≥ 600	Insulation strength	≥ 10 <sup>8</sup> Ω
UL 94 flammability rating	V-0	Contact base material	E-Cu
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 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	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, 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, 0.5 mm <sup>2</sup> min.	
w. wire end ferrule, DIN 46228 pt 1, 16 mm <sup>2</sup> max.	
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)		
Max. clamping range	16 mm <sup>2</sup>		

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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)	76 A
Rated current, max. number of poles (Tu=20°C)	76 A	Rated current, min. number of poles (Tu=40°C)	76 A
Rated current, max. number 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		

**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)	53 A
Rated current (Use group C / CSA)	53 A	Rated current (Use group D / CSA)	5 A
Wire cross-section, AWG, min.	AWG 18	Wire cross-section, AWG, max.	AWG 4

**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 C / UL 1059)	600 V
Rated voltage (Use group D / UL 1059)	600 V	Rated voltage (Use group F / UL 1059)	1,000 V
Rated current (Use group B / UL 1059)	53 A	Rated current (Use group C / UL 1059)	53 A
Rated current (Use group D / UL 1059)	5 A	Rated current (Use group F / UL 1059)	53 A
Wire cross-section, AWG, min.	AWG 18	Wire cross-section, AWG, max.	AWG 4
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

**Packing**

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

**Classifications**

ETIM 6.0	EC002643	ETIM 7.0	EC002643
eClass 9.0	27-44-04-01	eClass 9.1	27-44-04-01
eClass 10.0	27-44-04-01		

## Data sheet

### OMNIMATE Power - series LU LUFS 10.00/05/90V 5.0SN BK BX

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## Technical data

### Notes

Notes	<ul style="list-style-type: none"> <li>• Additional colours 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>• Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</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.

### Approvals

Approvals



ROHS Conform

### Downloads

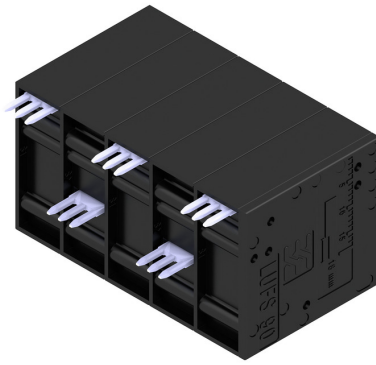
Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">STEP</a>
White paper power electronics connected correctly	<a href="#">Download Whitepaper</a>
User Documentation	<a href="#">QR-Code product handling video</a>
White paper UL 600 V	<a href="#">Download Whitepaper</a>

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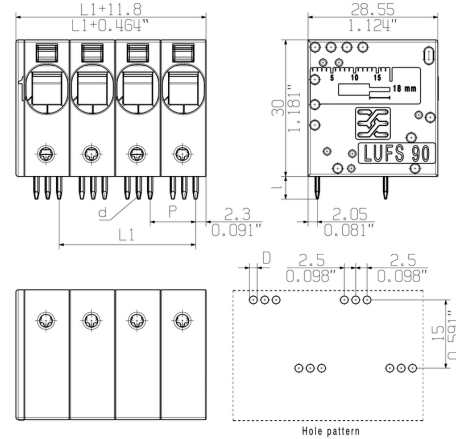
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**Drawings**

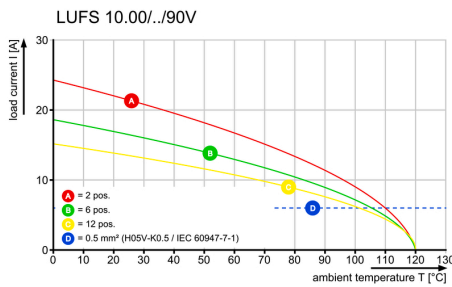
**Product image**



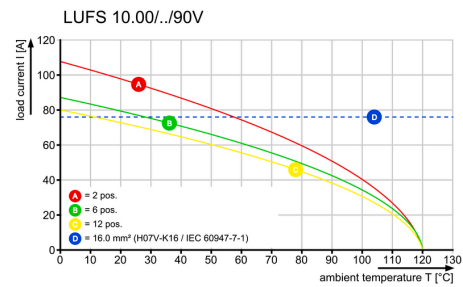
**Dimensional drawing**



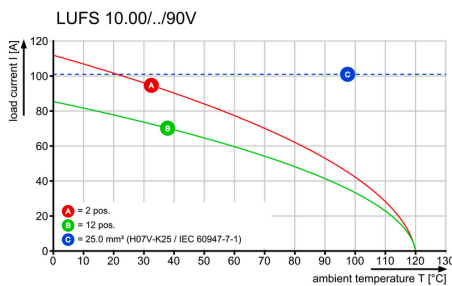
**Derating curve**



**Derating curve**



**Derating curve**



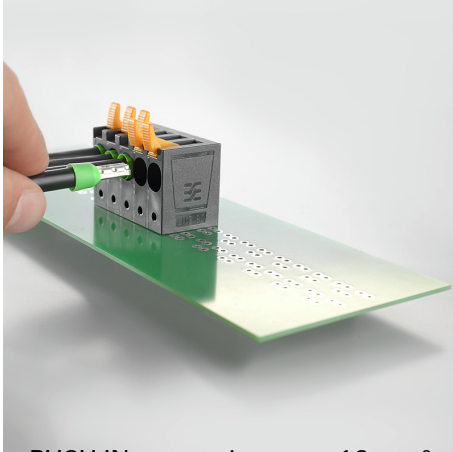
**Product benefits**



Power up to UL 600 V  
 Offset solder pins

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**Product benefits**

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.