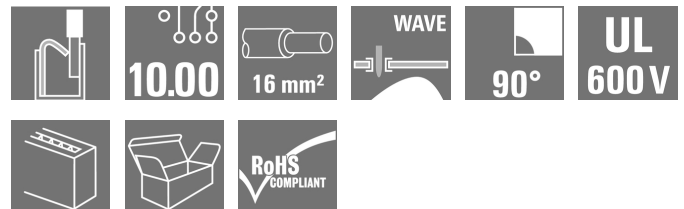


OMNIMATE Power - series LU LUFS 10.00/09/90V 5.0SN BK BX

Weidmüller Interface GmbH & Co. KG
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D-32758 Detmold
Germany
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Product image



High-performance PCB terminal with a PUSH IN connection system for conductor cross-sections up to 16 mm².

- 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 10.00/09/90V 5.0SN BK BX
Order No.	2500520000
Version	Printed circuit board terminals, 10.00 mm, Number of poles: 9, 90°, Solder pin length (l): 5 mm, black, PUSH IN without actuator, Clamping range, max.: 16 mm ² , Box
GTIN (EAN)	4050118604559
Qty.	10 pc(s).
Product data	IEC: 1000 V / 76 A / 0.5 - 16 mm ² UL: 600 V / 53 A / AWG 18 - AWG 4
Packaging	Box

Creation date September 9, 2020 11:29:54 AM CEST

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Technical data
Dimensions and weights

Width	91.8 mm	Width (inches)	3.614 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	86.4 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	9	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	80 mm
L1 in inches	3.15 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 ²		

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 ⁸ 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 ²
Clamping range, max.	16 mm ²
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 ²
Solid, max. H05(07) V-U	16 mm ²
Stranded, min. H07V-R	6 mm ²
Stranded, max. H07V-R	16 mm ²
Flexible, min. H05(07) V-K	0.5 mm ²
Flexible, max. H05(07) V-K	16 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, 0.5 mm ² min.	
w. plastic collar ferrule, DIN 46228 pt 4, 16 mm ² max.	
w. wire end ferrule, DIN 46228 pt 1, 0.5 mm ² min.	
w. wire end ferrule, DIN 46228 pt 1, 16 mm ² 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 ²
wire end ferrule	Stripping length	nominal	20 mm
		Recommended wire-end ferrule	H2.5/25D BL
		Stripping length	nominal 18 mm
		Recommended wire-end ferrule	H2.5/18
Cross-section for conductor connection	Type	fine-wired	
	nominal	4 mm ²	
wire end ferrule	Stripping length	nominal	20 mm
		Recommended wire-end ferrule	H4.0/26D GR
		Stripping length	nominal 18 mm
		Recommended wire-end ferrule	H4.0/18
Cross-section for conductor connection	Type	fine-wired	
	nominal	6 mm ²	
wire end ferrule	Stripping length	nominal	20 mm
		Recommended wire-end ferrule	H6.0/26 SW
		Stripping length	nominal 18 mm
		Recommended wire-end ferrule	H6.0/18
Cross-section for conductor connection	Type	fine-wired	
	nominal	10 mm ²	
wire end ferrule	Stripping length	nominal	21 mm
		Recommended wire-end ferrule	H10.0/28 EB
		Stripping length	nominal 18 mm
		Recommended wire-end ferrule	H10.0/18
Cross-section for conductor connection	Type	fine-wired	
	nominal	16 mm ²	
wire end ferrule	Stripping length	nominal	21 mm
		Recommended wire-end ferrule	H16.0/28 GN
		Stripping length	nominal 18 mm
		Recommended wire-end ferrule	H16.0/18
Cross-section for conductor connection	Type	fine-wired	
	nominal	1.5 mm ²	
wire end ferrule	Stripping length	nominal	20 mm
		Recommended wire-end ferrule	H1.5/24 R
		Stripping length	nominal 18 mm
		Recommended wire-end ferrule	H1.5/18
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 ²		

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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

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Technical data

Notes

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

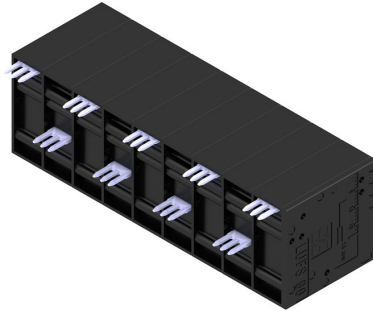
Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	STEP
White paper power electronics connected correctly	Download Whitepaper
User Documentation	QR-Code product handling video
White paper UL 600 V	Download Whitepaper

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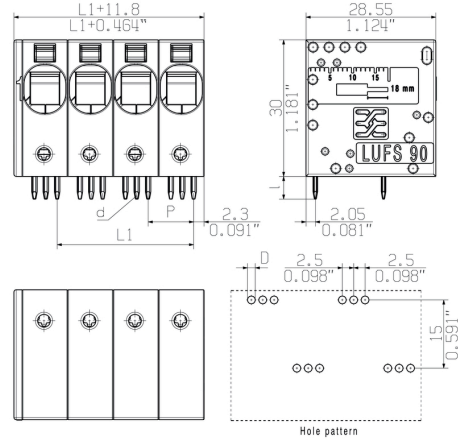
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Drawings

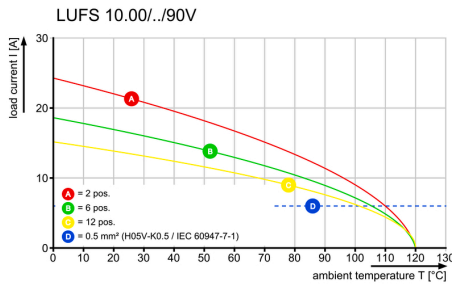
Product image



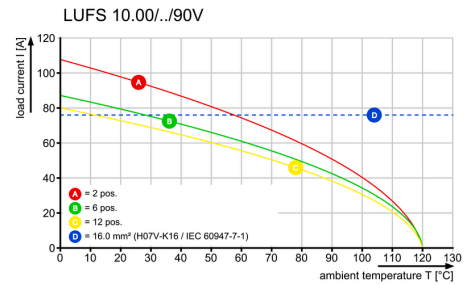
Dimensional drawing



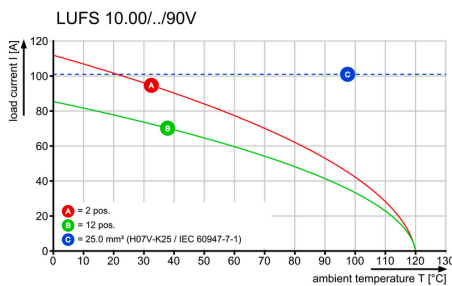
Derating curve



Derating curve



Derating curve



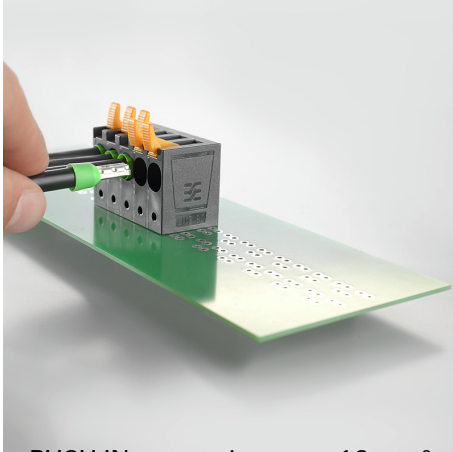
Product benefits



Power up to UL 600 V
Offset solder pins

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Product benefits

PUSH IN connection up to 16 mm²

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.