

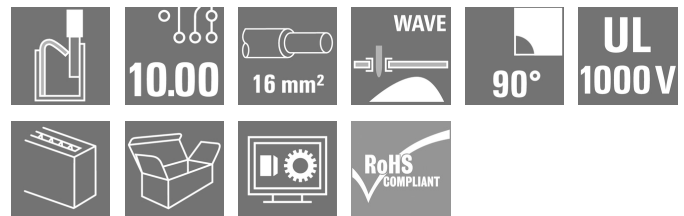
LUF 10.00/01/90 5.0SN BK BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

The sturdy, direct connection for extreme current and voltage requirements in all power electronics applications such as solar inverters, frequency converters, servo-controllers and power supplies.

General ordering data

Version	Printed circuit board terminals, 10.00 mm, Number of poles: 1, 90°, Solder pin length (l): 5 mm, black, PUSH IN with actuator, Clamping range, max.: 16 mm², Box
Order No.	1988590000
Type	LUF 10.00/01/90 5.0SN BK BX
GTIN (EAN)	4050118373134
Qty.	50 pc(s).
Product data	IEC: 1000 V / 101 A / 0.5 - 25 mm² UL: 600 V / 61 A / AWG 18 - AWG 6
Packaging	Box

Creation date April 30, 2025 12:10:25 PM CEST

Catalogue status 26.04.2025 / We reserve the right to make technical changes.

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Technical data

Dimensions and weights

Depth	26.45 mm	Depth (inches)	1.041 inch
Height	47.03 mm	Height (inches)	1.852 inch
Height of lowest version	42.03 mm	Width	11.58 mm
Width (inches)	0.456 inch	Net weight	12.02 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 "
Number of poles	1	Pin series quantity	1
Fitted by customer	No	Number of rows	1
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	4	Screwdriver blade	0.8 x 4.0
Stripping length	18 mm	L1 in mm	0 mm
L1 in inches	0 "	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	Protection degree	IP20

Material data

Insulating material	Wemid (PA)	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	I
Comparative Tracking Index (CTI)	≥ 600	UL 94 flammability rating	V-0
Contact base material	E-Cu	Contact material	Cu-alloy
Layer structure of solder connection	4...6 µm Sn matt	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 20
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	25 mm ²
Flexible, min. H05(07) V-K	0.5 mm ²
Flexible, max. H05(07) V-K	25 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, min.	0.5 mm ²
w. wire end ferrule, DIN 46228 pt 1, max.	16 mm ²
Plug gauge in accordance with EN 60999 a x b; ø	5.3mm (B6)

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Clampable conductor	Cross-section for conductor connection	Type	fine-wired		
		nominal	2.5 mm²		
	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 mm²		
	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 mm²		
	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 mm²		
	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 mm²		
	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 mm²		
	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)				

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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)	101 A
Rated current, max. number of poles (Tu=20°C)	101 A	Rated current, min. number of poles (Tu=40°C)	101 A
Rated current, max. number of poles (Tu=40°C)	95 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)	300 V	Rated voltage (Use group C / CSA)	1,000 V
Rated voltage (Use group D / CSA)	600 V	Rated current (Use group B / CSA)	61 A
Rated current (Use group C / CSA)	61 A	Rated current (Use group D / CSA)	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 / 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 E / UL 1059)	1,000 V
Rated current (Use group B / UL 1059)	61 A	Rated current (Use group C / UL 1059)	61 A
Rated current (Use group D / UL 1059)	5 A	Rated current (Use group E / UL 1059)	61 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.		

Packing

Packaging	Box	VPE length	179 mm
VPE width	122 mm	VPE height	51 mm

Type tests

Test: Durability of markings	Standard	IEC 60947-1 section 8.2.4.5.1 / 06.07, IEC 60512-1-1:2002-02
	Test	mark of origin, type identification, pitch, durability, stripping length
	Evaluation	available

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Technical data

Test: Clampable cross section	Standard	IEC 60999-1 section 7 and 9.1 / 11.99, IEC 60947-1 section 8.2.4.5.1 / 03.11
	Conductor type	Type of conductor and solid 0.5 mm ² conductor cross-section
		Type of conductor and stranded 0.5 mm ² conductor cross-section
		Type of conductor and solid 16 mm ² conductor cross-section
		Type of conductor and stranded 16 mm ² conductor cross-section
		Type of conductor and H07V-U16 conductor cross-section
		Type of conductor and H07V-U6 conductor cross-section
		Type of conductor and H07V-K16 conductor cross-section
		Type of conductor and AWG 4 conductor cross-section
	Evaluation	passed
Test for damage to and accidental loosening of conductors	Standard	IEC 60999-1 section 9.4 / 11.99
	Requirement	0.3 kg
	Conductor type	Type of conductor and AWG 20/1 conductor cross-section
		Type of conductor and AWG 20/19 conductor cross-section
		Type of conductor and H05V-U0.5 conductor cross-section
		Type of conductor and H05V-K0.5 conductor cross-section
	Evaluation	passed
	Requirement	2.9 kg
	Conductor type	Type of conductor and H07V-U16 conductor cross-section
		Type of conductor and H07V-K16 conductor cross-section
	Evaluation	passed
	Requirement	4,5 kg
	Conductor type	Type of conductor and AWG 4/7 conductor cross-section
		Type of conductor and AWG 4/19 conductor cross-section
	Evaluation	passed

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Technical data

Pull-out test	Standard	IEC 60999-1 section 9.5 / 11.99
	Requirement	≥20 N
	Conductor type	Type of conductor and AWG 20/1 conductor cross-section
		Type of conductor and AWG 20/19 conductor cross-section
		Type of conductor and H05V-U0.5 conductor cross-section
		Type of conductor and H05V-K0.5 conductor cross-section
	Evaluation	passed
	Requirement	≥100 N
	Conductor type	Type of conductor and H07V-U16 conductor cross-section
		Type of conductor and H07V-K16 conductor cross-section
	Evaluation	passed
	Requirement	≥ 135 N
	Conductor type	Type of conductor and AWG 4/7 conductor cross-section
		Type of conductor and AWG 4/19 conductor cross-section
	Evaluation	passed

Classifications

ETIM 6.0	EC002643	ETIM 7.0	EC002643
ETIM 8.0	EC002643	ETIM 9.0	EC002643
ETIM 10.0	EC002643	ECLASS 9.0	27-44-04-01
ECLASS 9.1	27-44-04-01	ECLASS 10.0	27-44-04-01
ECLASS 11.0	27-46-01-01	ECLASS 12.0	27-46-01-01
ECLASS 13.0	27-46-01-01	ECLASS 14.0	27-46-01-01
ECLASS 15.0	27-46-01-01		

Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption
REACH SVHC	No SVHC above 0.1 wt%

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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.
Notes	• Additional variants 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. • The single-position PCB terminal block can be used for voltages up to 1500 V (DC) and 1000 V (AC). The relevant device standard and the appropriate required clearances and creepage distances should be observed in the application • Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

Approvals

Approvals



Approvals MAMID	https://mdcop.weidmueller.com/mediadelivery/rendition/900_319230/-T1z1mm-S800/
ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E60693

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www.weidmueller.com**Technical data****Downloads**Approval/Certificate/Document of Con-
formity[Declaration of the Manufacturer](#)

Engineering Data

[CAD data – STEP](#)

Product Change Notification

[20210909 Color Change of Actuator to LLF\(S\) and LUF\(S\) Family](#)[20210909 LLF\(S\) und LUF\(S\) Familie - Farbänderung des Betätigungselementes](#)[Optimierung des QR-Codes auf den Produkten der OMNIMATE Power Leiterplattenanschlussklemmen](#)[Optimization QR- Code on OMNIMATE POWER PCB Terminals](#)

User Documentation

[QR-Code product handling video](#)[Assembly instruction_Montageanleitung_LL_F_LUF_EN_DE](#)

Catalogues

[Catalogues in PDF-format](#)

Brochures

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

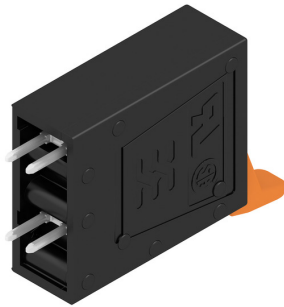
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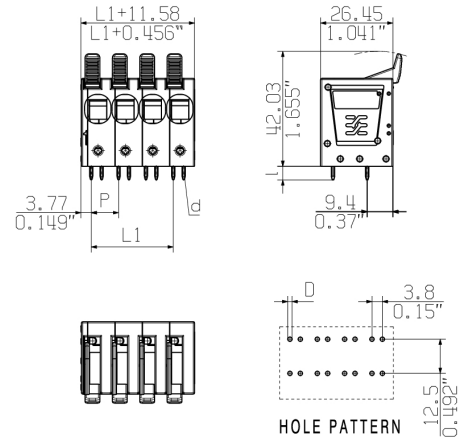
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Drawings

Product image

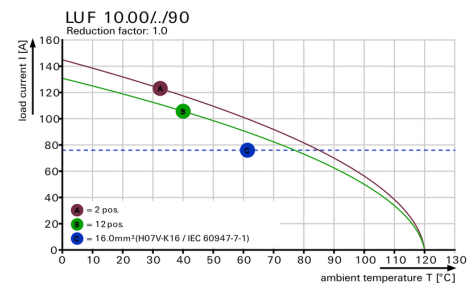


Dimensional drawing

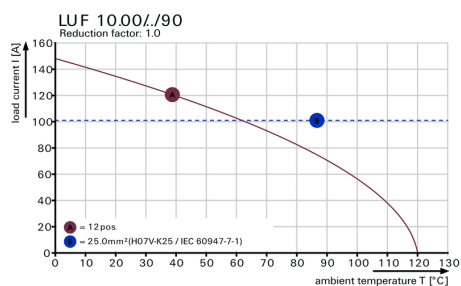


Derating curve

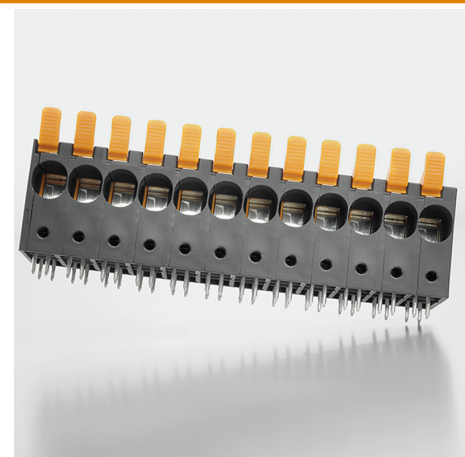
Derating curve



Derating curve



Product benefits



High stability through pin design

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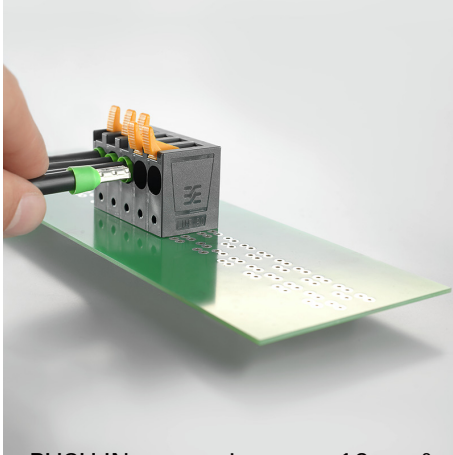
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Drawings

Product benefits

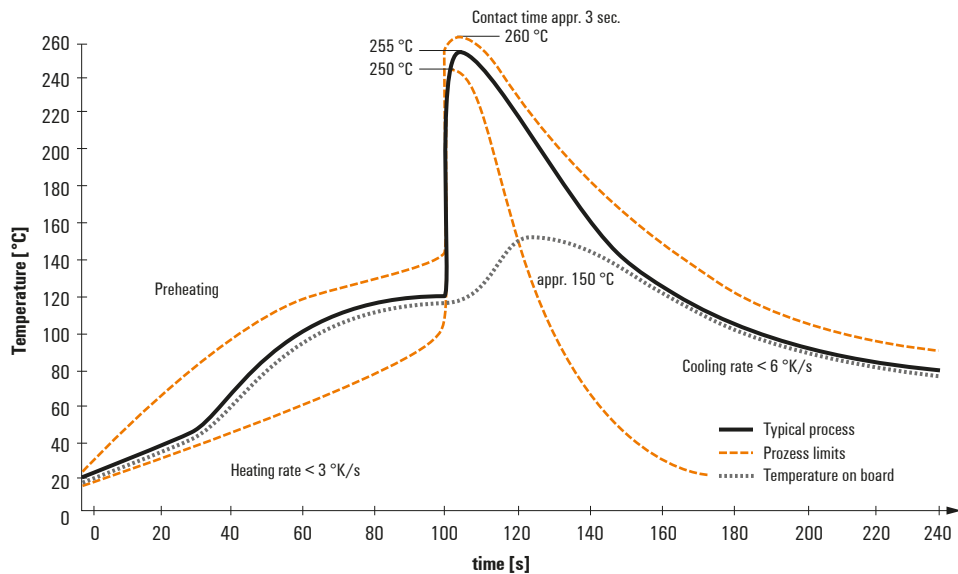


PUSH IN connection up to 16 mm²

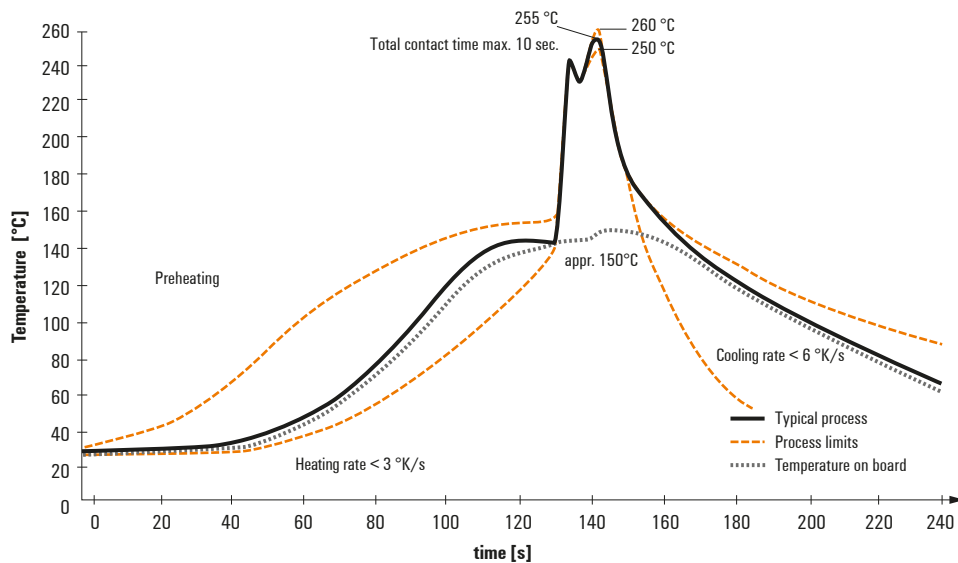
Recommended wave soldering profiles

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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.

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