

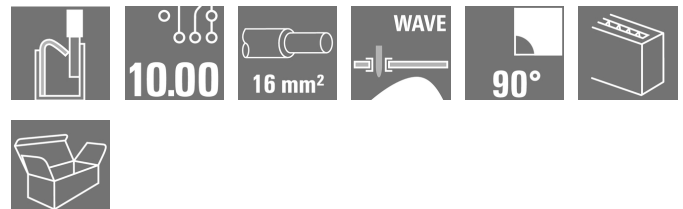
**LUF 10.00/05/90V 5.0SN BK BX SO****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**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**

Version	Printed circuit board terminals, 10.00 mm, Number of poles: 5, 90°, Solder pin length (l): 5 mm, tinned, black, PUSH IN with actuator, Clamping range, max. : 16 mm <sup>2</sup> , Box
Order No.	<a href="#">2878440000</a>
Type	LUF 10.00/05/90V 5.0SN BK BX SO
GTIN (EAN)	4064675668671
Qty.	25 pc(s).
Product data	IEC: 1000 V / 101 A / 0.5 - 25 mm <sup>2</sup> UL: / 61 A / AWG 18 - AWG 6
Packaging	Box

Creation date May 20, 2024 11:46:47 AM CEST

Catalogue status 04.05.2024 / 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	51.58 mm
Width (inches)	2.031 inch	Net weight	51.493 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	5	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
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>
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
Contact surface	tinned	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 <sup>2</sup>
Clamping range, max.	16 mm <sup>2</sup>
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	25 mm <sup>2</sup>
Flexible, min. H05(07) V-K	0.5 mm <sup>2</sup>
Flexible, max. H05(07) V-K	25 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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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)			

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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)	80 A	Rated current, min. number of poles (Tu=40°C)	82 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	690 V	Rated impulse voltage for surge voltage class/ pollution degree II/2	6 kV
Rated impulse voltage for surge voltage class/ pollution degree III/2	6 kV		

## Rated data acc. to CSA

Rated voltage (Use group B / CSA)	300 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

Rated voltage (Use group D / UL 1059)	600 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
Wire cross-section, AWG, min.	AWG 18	Wire cross-section, AWG, max.	AWG 6

## Packing

Packaging	Box	VPE length	316 mm
VPE width	140 mm	VPE height	53 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
	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 <sup>2</sup> conductor cross-section
		Type of conductor and stranded 0.5 mm <sup>2</sup> conductor cross-section
		Type of conductor and solid 16 mm <sup>2</sup> conductor cross-section
		Type of conductor and stranded 16 mm <sup>2</sup> 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
	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

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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	

## Classifications

ETIM 6.0	EC002643	ETIM 7.0	EC002643
ETIM 8.0	EC002643	ETIM 9.0	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

## Important note

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

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## Technical data

### Downloads

Engineering Data	<a href="#">CAD data – STEP</a>
User Documentation	<a href="#">Assembly instruction Montageanleitung LLF LUF EN DE</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>

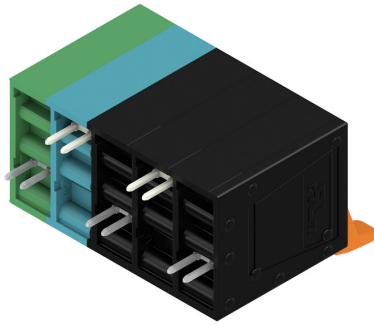
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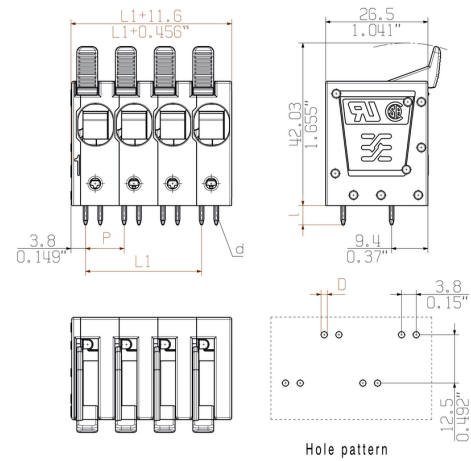
[www.weidmueller.com](http://www.weidmueller.com)

## Drawings

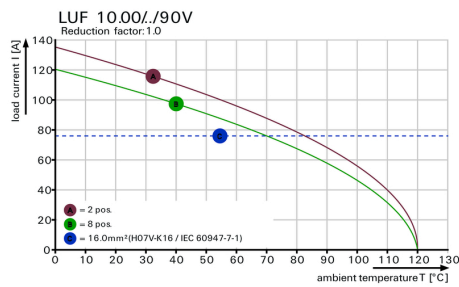
### Product image



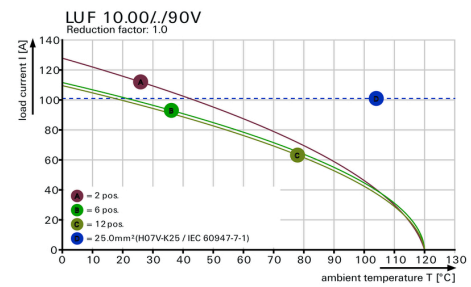
### Dimensional drawing



### Derating curve



### Derating curve



### Product benefits



High stability through pin design



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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Slotted screwdriver**

Slotted screwdriver with rounded blade SD DIN 5265, ISO 2380/2, output to DIN 5264, ISO 2380/1. ChromTop tip, SoftFinish grip

**General ordering data**

Type	SDS 0.8X4.0X100	Version
Order No.	<a href="#">9008340000</a>	Screwdriver, Screwdriver
GTIN (EAN)	4032248056293	
Qty.	1 pc(s).	

**Additional accessories****No task is too small when creating the perfect solution.**

Connections form just one part of the overall process. Small details are often the key to the perfect solution in applications where potentials are tested, grouped or even isolated.

A system is not a system without small but essential details:

- Test plugs ensure reliable pick-up from diagnostic sockets

In tandem with the manufacturing process and application.

**General ordering data**

Type	PS 2.0 MC	Version	Product data	Packaging
Order No.	<a href="#">0310000000</a>	PCB plug-in connector, Accessories, Test plug, red, Number of poles: 1		Box
GTIN (EAN)	4008190000059			
Qty.	20 pc(s).			

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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Slotted screwdriver**

VDE insulated slot-head screwdriver, SDI DIN 7437, ISO 2380/2, drive output acc. to DIN 5264, ISO 2380/1.  
SoftFinish grip

**General ordering data**

Type	SDIS 0.8X4.0X100	Version
Order No.	<a href="#">9008400000</a>	Screwdriver, Screwdriver
GTIN (EAN)	4032248056361	
Qty.	1 pc(s).	

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## Drawings

### 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.

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