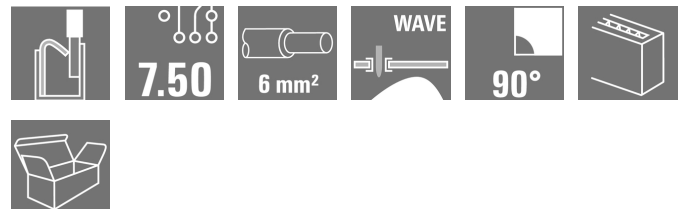


**OMNIMATE Power - series LL
LLFS 7.50/04/90V 5.0SN BK BX**

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
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Germany
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Fax: +49 5231 14-292083
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

Type	LLFS 7.50/04/90V 5.0SN BK BX
Order No.	2473020000
Version	Printed circuit board terminals, 7.50 mm, Number of poles: 4, 90°, Solder pin length (l): 5 mm, tinned, black, PUSH IN without actuator, Clamping range, max. : 6 mm², Box
GTIN (EAN)	4050118579413
Qty.	80 pc(s).
Product data	IEC: 1000 V / 41 A / 0.5 - 6 mm² UL: 600 V / 37 A / AWG 24 - AWG 8
Packaging	Box

OMNIMATE Power - series LL LLFS 7.50/04/90V 5.0SN BK BX

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Technical data

Dimensions and weights

Width	31 mm	Width (inches)	1.22 inch
Height	30.56 mm	Height (inches)	1.203 inch
Height of lowest version	25.56 mm	Depth	20.05 mm
Depth (inches)	0.789 inch	Net weight	16.55 g

System parameters

Product family	OMNIMATE Power - series LL	Wire connection method	PUSH IN without actuator
Mounting onto the PCB	THT solder connection	Conductor outlet direction	90°
Pitch in mm (P)	7.5 mm	Pitch in inches (P)	0.295 inch
Number of poles	4	Fitted by customer	No
Solder pin length (l)	5 mm	Solder pin dimensions	d = 1.5 mm
Solder eyelet hole diameter (D)	2 mm	Solder eyelet hole diameter tolerance (D)+	0,1 mm
Number of solder pins per pole	1	Stripping length	12 mm
L1 in mm	22.5 mm	L1 in inches	0.885 inch
Touch-safe protection acc. to DIN VDE 0470	IP 20	Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch

Material data

Insulating material	Wemid (PA)	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	I
Insulation strength	$\geq 10^8 \Omega$	UL 94 flammability rating	V-0
Contact material	E-Cu	Contact surface	tinned
Layer structure of solder connection	4-10 μ Sn matt	Storage temperature, min.	-40 °C
Storage temperature, max.	85 °C	Max. relative humidity during storage	80 %
Operating temperature, min.	-40 °C	Operating temperature, max.	120 °C

Conductors suitable for connection

Clamping range, min.	0.25 mm ²
Clamping range, max.	6 mm ²
Solid, min. H05(07) V-U	0.5 mm ²
Solid, max. H05(07) V-U	6 mm ²
Flexible, min. H05(07) V-K	0.5 mm ²
Flexible, max. H05(07) V-K	6 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, 0.25 mm ² min.	
w. plastic collar ferrule, DIN 46228 pt 4, 6 mm ² max.	
w. wire end ferrule, DIN 46228 pt 1, 0.25 mm ² min.	
w. wire end ferrule, DIN 46228 pt 1, 6 mm ² max.	

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Technical data

Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm ²
wire end ferrule		Stripping length	nominal 14 mm
		Recommended wire-end ferrule	H0.5/18 OR
Cross-section for conductor connection		Type	fine-wired
		nominal	1 mm ²
wire end ferrule		Stripping length	nominal 15 mm
		Recommended wire-end ferrule	H1.0/18 GE
Cross-section for conductor connection		Type	fine-wired
		nominal	1.5 mm ²
wire end ferrule		Stripping length	nominal 15 mm
		Recommended wire-end ferrule	H1.5/18D SW
		Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H1.5/12
Cross-section for conductor connection		Type	fine-wired
		nominal	0.75 mm ²
wire end ferrule		Stripping length	nominal 14 mm
		Recommended wire-end ferrule	H0.75/18 W
Cross-section for conductor connection		Type	fine-wired
		nominal	2.5 mm ²
wire end ferrule		Stripping length	nominal 14 mm
		Recommended wire-end ferrule	H2.5/19D BL
		Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H2.5/12
Cross-section for conductor connection		Type	fine-wired
		nominal	4 mm ²
wire end ferrule		Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H4.0/12
		Stripping length	nominal 14 mm
		Recommended wire-end ferrule	H4.0/20D GR
Cross-section for conductor connection		Type	fine-wired
		nominal	6 mm ²
wire end ferrule		Stripping length	nominal 14 mm
		Recommended wire-end ferrule	H6.0/20 SW
		Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H6.0/12
Cross-section for conductor connection		Type	fine-wired
		nominal	10 mm ²
wire end ferrule		Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H10.0/12
Max. clamping range	6 mm ²		

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Technical data
Rated data acc. to IEC

tested acc. to standard	In accordance with IEC 60947-7-1	Rated current, min. number of poles (Tu=20°C)	41 A
Rated current, max. number of poles (Tu=20°C)	34 A	Rated current, min. number of poles (Tu=40°C)	37 A
Rated current, max. number of poles (Tu=40°C)	29 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)	37 A
Rated current (Use group C / CSA)	37 A	Rated current (Use group D / CSA)	5 A
Wire cross-section, AWG, min.	AWG 24	Wire cross-section, AWG, max.	AWG 8

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 current (Use group B / UL 1059)	37 A
Rated current (Use group C / UL 1059)	37 A	Rated current (Use group D / UL 1059)	5 A
Wire cross-section, AWG, min.	AWG 24	Wire cross-section, AWG, max.	AWG 8
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Packing

Packaging	Box	VPE length	290 mm
VPE width	210 mm	VPE height	45 mm

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		

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Technical data

Notes

Notes

- 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.

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



Downloads

Approval/Certificate/Document of
Conformity
[Declaration of the Manufacturer](#)

Engineering Data

[STEP](#)
[STEP](#)

Motion controllers white paper

[Download Whitepaper](#)

White Paper UL 600 V

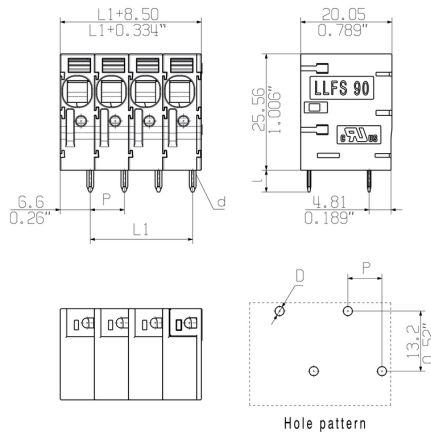
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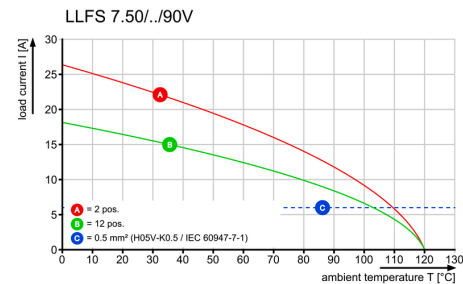
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Drawings

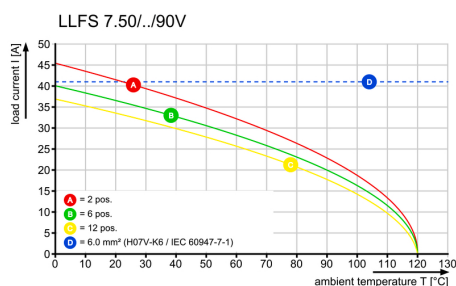
Dimensional drawing



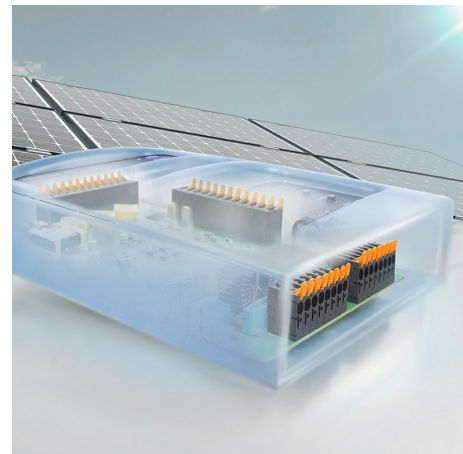
Derating curve



Derating curve

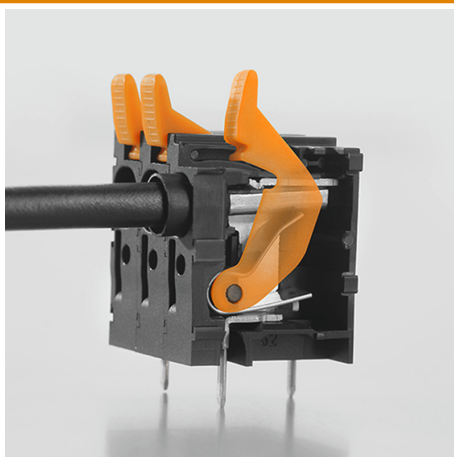


Product benefits



Power up to UL 600 V
Offset solder pins

Product benefits



Tool-free wiring
Top contact security

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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 0.5X3.0X100	Version
Order No.	9008380000	Screwdriver, Blade width (B): 3 mm, Blade length: 100 mm, Blade
GTIN (EAN)	4032248056347	thickness (A): 0.5 mm
Qty.	1 pc(s).	

Tools



- Stripping tools with automatic self-adjustment
- For flexible and solid conductors
- Ideally suitable for mechanical and plant engineering, railway and rail traffic, wind energy, robot technology, explosion protection as well as marine, offshore and ship building sectors
- Stripping length adjustable via end stop
- Automatic opening of clamping jaws after stripping
- No fanning-out of individual conductors
- Adjustable to diverse insulation thicknesses
- Double-insulated cables in two process steps without special adjustment
- No play in self-adjusting cutting unit
- Long service life
- Optimised ergonomic design

General ordering data

Type	STRIPAX	Version
Order No.	9005000000	Tools, Stripping and cutting tool, Flexible and solid conductors with
GTIN (EAN)	4008190072506	PVC insulation, 10mm², 25mm
Qty.	1 pc(s).	

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Accessories

Tools



Tools for removing the sheathing of uncut power cables and outgoing feeders, plus screwdrivers for installing FieldPower components.

General ordering data

Type	SDS 0.5X3.0X80	Version
Order No.	9008320000	Screwdriver, Blade width (B): 3 mm, Blade length: 80 mm, Blade
GTIN (EAN)	4032248056262	thickness (A): 0.5 mm
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.	0310000000	PCB plug-in connector, Accessories, Test plug, red, Number of poles: 1		Box
GTIN (EAN)	4008190000059			
Qty.	20 pc(s).			

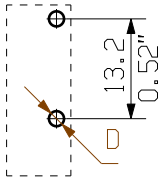
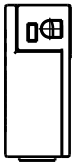
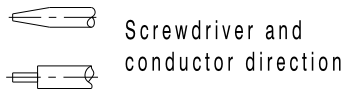
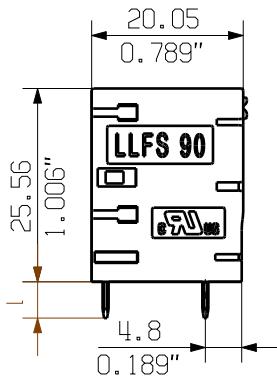
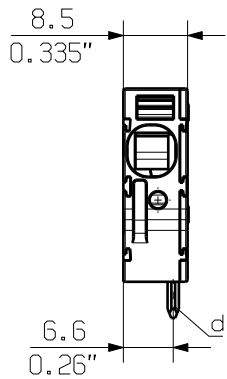
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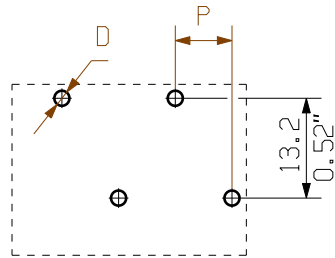
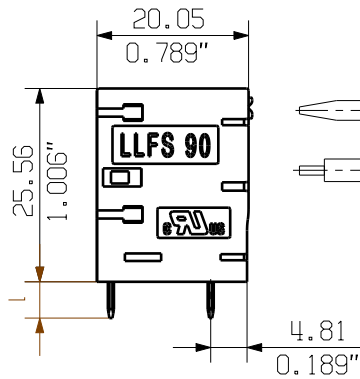
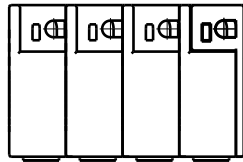
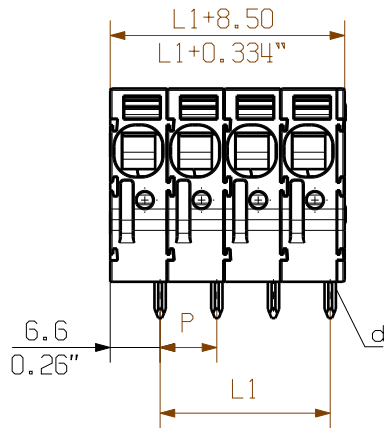
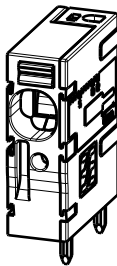
Dimensions without tolerances are no check dimensions

The English version is binding

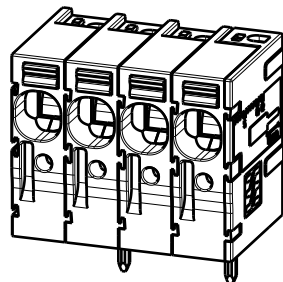
General customer drawing, topical version only if required



Hole pattern



Hole pattern



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 60664-1 (VDE 0110). The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 60326-3 very fine.

Weidmüller PCB components are tested to the IEC 60947-7-4 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.

P= 7.50
0.295" (Pitch)
D= Ø2 +0.1
0.079"
d= 1.5x0.8
0.059"x0.031"
l= 5.0 +0.2 -0.6
0.197"

12	82.50	3.248
11	75.00	2.953
10	67.50	2.657
9	60.00	2.362
8	52.50	2.067
7	45.00	1.772
6	37.50	1.476
5	30.00	1.181
4	22.50	0.886
3	15.00	0.591
2	7.50	0.295
n Poles	L1 [mm]	L1 [inch]

General tolerance: DIN ISO 2768-mK		104820/4 10.07.18 WU_M		00		Cat.no.: .	
		Modification				3 61340 04	
Scale: 1/1		Date		Name		Drawing no. Issue no.	
Supersedes: .		Drawn		KRECHT_M		Sheet 01 of 01 sheets	
		Responsible		WRIGHT_ST			
		Checked		16.07.2018 ZHOU_N			
		Approved		XU_S			
LLFS 7.50/.../90 ... LEITERPLATTENKLEMME PCB TERMINAL						Product file: LLF 7.50 7416	

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.

We reserve the right to make technical changes.

Mouser Electronics

Authorized Distributor

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