

OMNIMATE Power - series LL
LLF 7.50/05/90V 5.0SN BK BX
Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 16

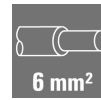
D-32758 Detmold

Germany

Fon: +49 5231 14-0

Fax: +49 5231 14-292083

www.weidmueller.com



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	LLF 7.50/05/90V 5.0SN BK BX
Order No.	2472110000
Version	Printed circuit board terminals, 7.50 mm, No. of poles: 5, 90°, Solder pin length (l): 5 mm, tinned, black, PUSH IN with actuator, Clamping range, max. : 6 mm², Box
GTIN (EAN)	4050118550115
Qty.	50 pc(s).
Product data	IEC: 1000 V / 41 A / 0.5 - 6 mm² UL: 600 V / 35 A / AWG 24 - AWG 8
Packaging	Box

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Technical data
Dimensions and weights

Width	38.5 mm	Width (inches)	1.516 inch
Height	36.55 mm	Height (inches)	1.439 inch
Height of lowest version	31.55 mm	Depth	22.07 mm
Depth (inches)	0.869 inch	Net weight	18.014 g

System parameters

Product family	OMNIMATE Power - series LL	Wire connection method	PUSH IN with 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
No. of poles	5	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	30 mm	L1 in inches	1.18 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 of operational elements	orange	Material of operational elements	PA4T GF
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
Wire connection cross section AWG, min.	AWG 24
Wire connection cross section AWG, max.	AWG 8
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, min 0.25 mm ²	
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	
AEH		Stripping length	nominal	14 mm
Cross-section for conductor connection	AEH	Type	fine-wired	
		nominal	1 mm ²	
AEH		Stripping length	nominal	15 mm
Cross-section for conductor connection	AEH	Type	fine-wired	
		nominal	1.5 mm ²	
AEH		Stripping length	nominal	15 mm
Cross-section for conductor connection	AEH	Stripping length	nominal	12 mm
		Stripping length	nominal	12 mm
Cross-section for conductor connection	AEH	Type	fine-wired	
		nominal	0.75 mm ²	
AEH		Stripping length	nominal	14 mm
Cross-section for conductor connection	AEH	Type	fine-wired	
		nominal	2.5 mm ²	
AEH		Stripping length	nominal	14 mm
Cross-section for conductor connection	AEH	Stripping length	nominal	12 mm
		Stripping length	nominal	12 mm
Cross-section for conductor connection	AEH	Type	fine-wired	
		nominal	4 mm ²	
AEH		Stripping length	nominal	12 mm
Cross-section for conductor connection	AEH	Stripping length	nominal	14 mm
		Stripping length	nominal	14 mm
Cross-section for conductor connection	AEH	Type	fine-wired	
		nominal	6 mm ²	
AEH		Stripping length	nominal	14 mm
Cross-section for conductor connection	AEH	Stripping length	nominal	12 mm
		Stripping length	nominal	12 mm
Cross-section for conductor connection	AEH	Type	fine-wired	
		nominal	10 mm ²	
AEH		Stripping length	nominal	12 mm

Max. clamping range 6 mm²

Rated data acc. to IEC

tested acc. to standard	In accordance with IEC 60947-7-1	Rated current, min. no. of poles (Tu=20°C)	41 A
Rated current, max. no. of poles (Tu=20°C)	35 A	Rated current, min. no. of poles (Tu=40°C)	41 A
Rated current, max. no. of poles (Tu=40°C)	30 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)	35 A
Rated current (Use group C / CSA)	35 A	Rated current (Use group D / CSA)	5 A
Wire cross-section, AWG, min.	AWG 24	Wire cross-section, AWG, max.	AWG 8

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Technical data
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) 35 A

Rated current (Use group C / UL 1059) 35 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	220 mm
VPE width	210 mm	VPE height	40 mm

Classifications

ETIM 3.0	EC001284	ETIM 4.0	EC002643
ETIM 5.0	EC002643	ETIM 6.0	EC002643
eClass 6.2	27-26-11-01	eClass 9.0	27-44-04-01
eClass 9.1	27-44-04-01		

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



OMNIMATE Power - series LL LLF 7.50/05/90V 5.0SN BK BX

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Technical data

Downloads

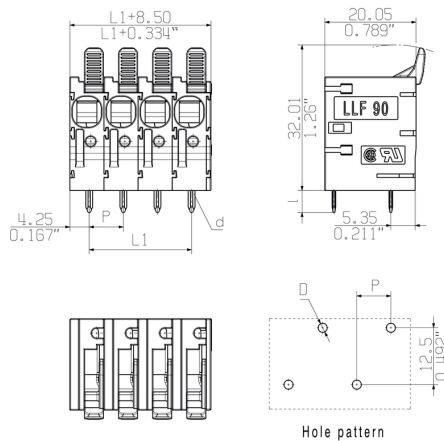
Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	STEP
Motion controllers white paper	Download Whitepaper
User Documentation	QR-Code product handling video
White Paper UL 600 V	Download Whitepaper

OMNIMATE Power - series LL LLF 7.50/05/90V 5.0SN BK BX

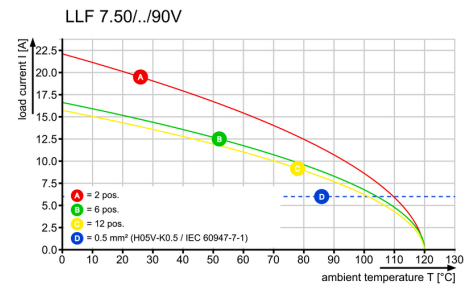
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Drawings

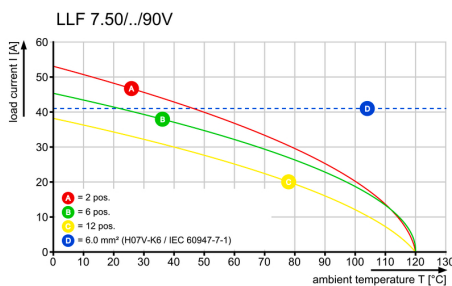
Dimensional drawing



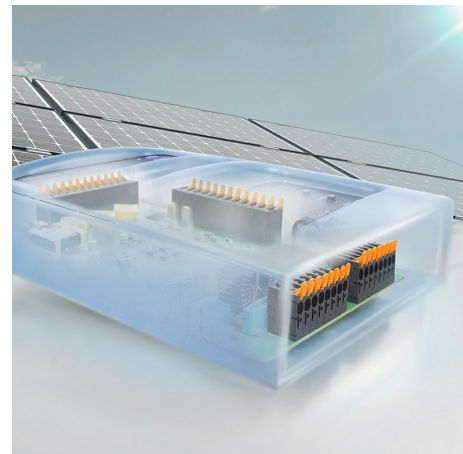
Derating curve



Derating curve

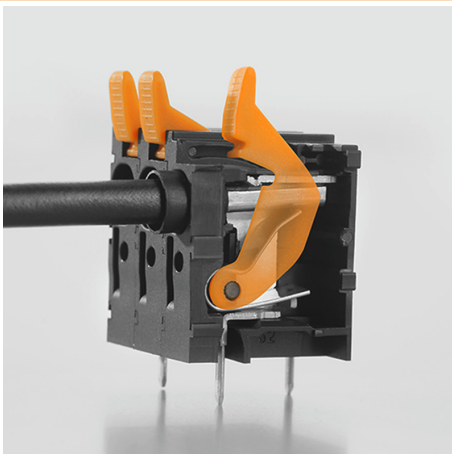


Product benefits



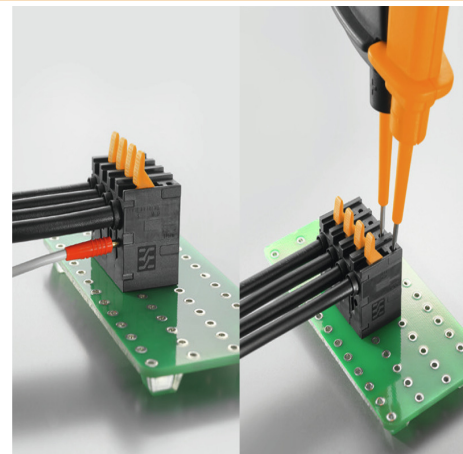
Power up to UL 600 V
Offset solder pins

Product benefits



Tool-free wiring
Top contact security

Product benefits



Maximum diagnosis flexibility
Easily accessible test point

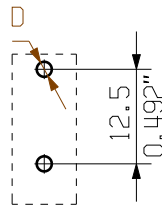
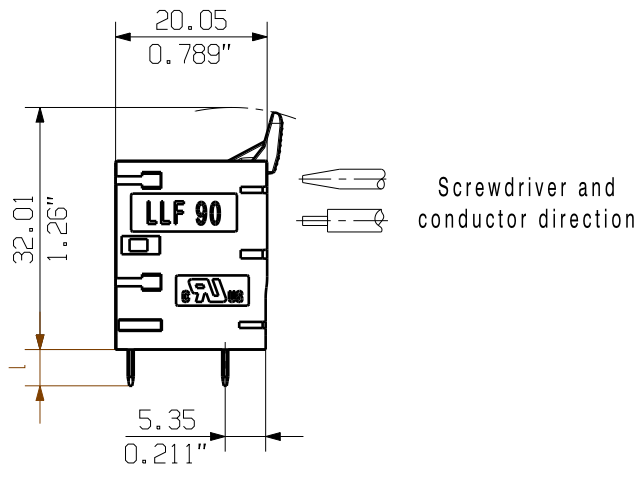
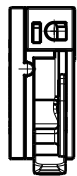
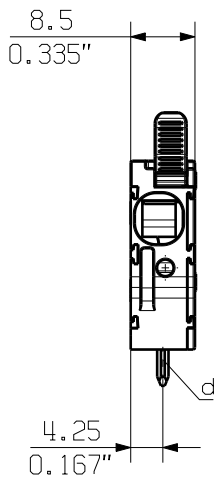
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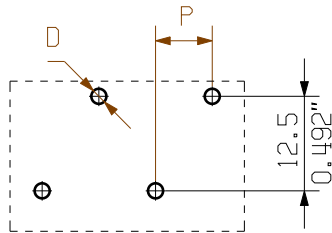
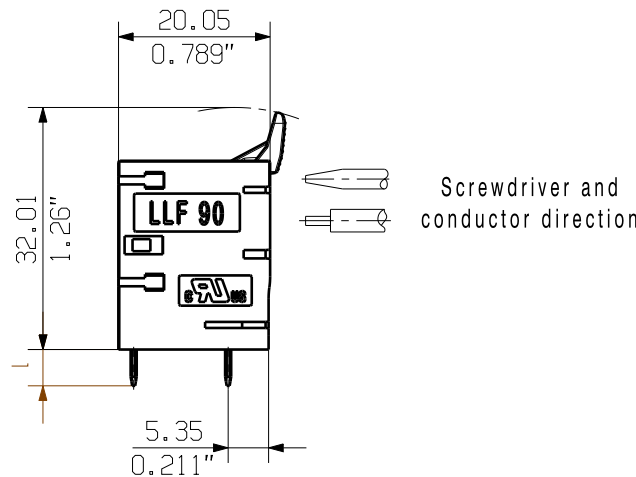
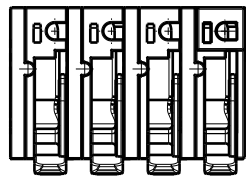
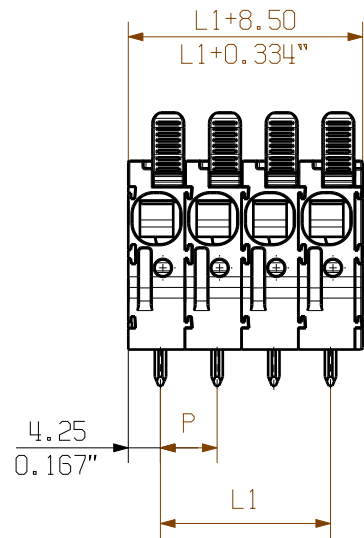
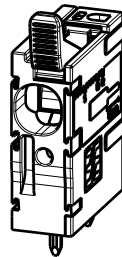
Dimensions without tolerances are no check dimensions

The English version is binding

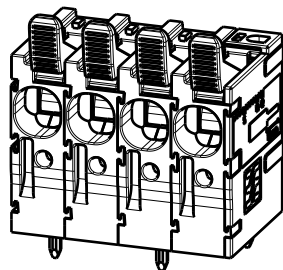
General customer drawing, topical version only if required



Hole pattern



Hole pattern



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]

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 664 / VDE 0110.
The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 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.

General tolerance:
DIN ISO 2768-mK

96880/3
02.08.17
DAMERIUS_A

00

Modification

Date

Name

Drawn

04.07.2016

KRECHT_M

Responsible

WRIGHT_ST

Checked

02.08.2017

HELIS_MA

Approved

NOLTE_S

Cat.no.: .

3 61339

06

Drawing no.

Sheet 01 of 01 sheets

Issue no.

LLF 7.50/.../90...

LEITERPLATTENKLEMME

PCB TERMINAL

Scale: 1/1

Supersedes: .

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.