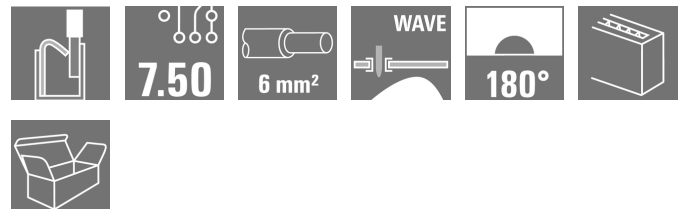


**OMNIMATE Power - series LL
LLFS 7.50/02/180V 5.0SN BK BX**

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
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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 7.50/02/180V 5.0SN BK BX
Order No.	2491620000
Version	Printed circuit board terminals, 7.50 mm, No. of poles: 2, 180°, Solder pin length (l): 5 mm, tinned, black, PUSH IN without actuator, Clamping range, max.: 6 mm², Box
GTIN (EAN)	4050118607840
Qty.	100 pc(s).
Product data	IEC: 1000 V / 41 A / 0.5 - 6 mm² UL: 600 V / 37 A / AWG 24 - AWG 8
Packaging	Box

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Technical data

Dimensions and weights

Width	16.8 mm	Width (inches)	0.661 inch
Height	29.15 mm	Height (inches)	1.148 inch
Height of lowest version	24.15 mm	Depth	18.5 mm
Depth (inches)	0.728 inch	Net weight	7.36 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	180°
Pitch in mm (P)	7.5 mm	Pitch in inches (P)	0.295 inch
No. of poles	2	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	7.5 mm	L1 in inches	0.295 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
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)	32 A	Rated current, min. no. of poles (Tu=40°C)	38 A
Rated current, max. no. of poles (Tu=40°C)	28 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

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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 D / UL 1059) 600 V

Rated current (Use group C / UL 1059) 37 A

Wire cross-section, AWG, min. AWG 24

Reference to approval values
 Specifications are
 maximum values, details -
 see approval certificate.

Rated voltage (Use group C / UL 1059) 600 V

Rated current (Use group B / UL 1059) 37 A

Rated current (Use group D / UL 1059) 5 A

Wire cross-section, AWG, max. AWG 8

Packing

Packaging	Box	VPE length	0 m
VPE width	0 m	VPE height	0 m

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 LLFS 7.50/02/180V 5.0SN BK BX

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Technical data

Downloads

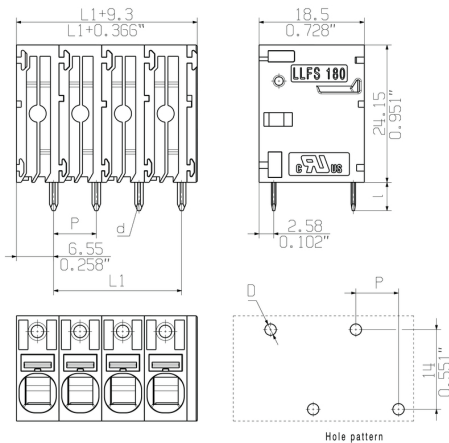
Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	STEP
Motion controllers white paper	Download Whitepaper
White Paper UL 600 V	Download Whitepaper

OMNIMATE Power - series LL LLFS 7.50/02/180V 5.0SN BK BX

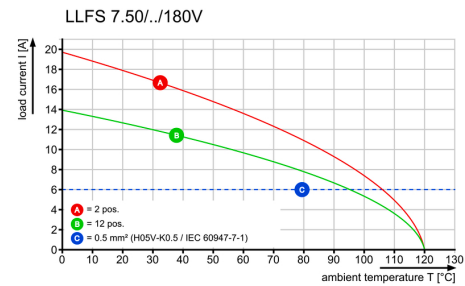
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Drawings

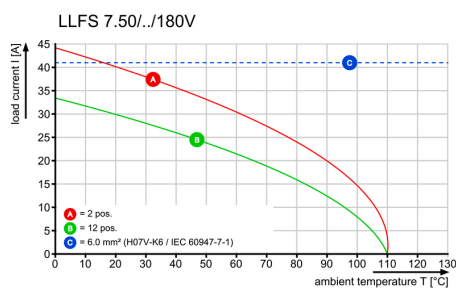
Dimensional drawing



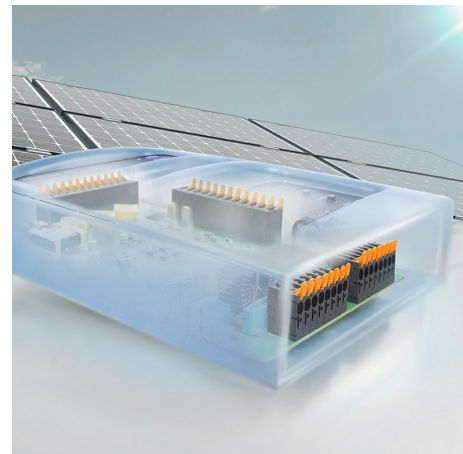
Derating curve



Derating curve

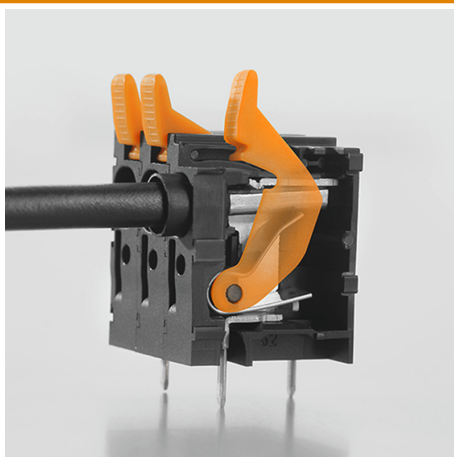


Product benefits



Power up to UL 600 V
Offset solder pins

Product benefits



Tool-free wiring
Top contact security

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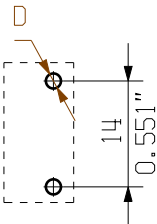
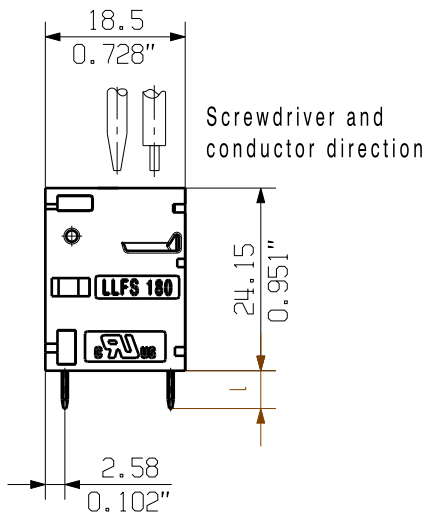
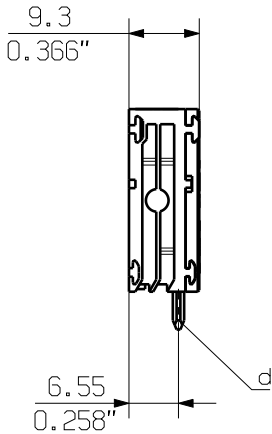
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Dimensions without tolerances are no check dimensions

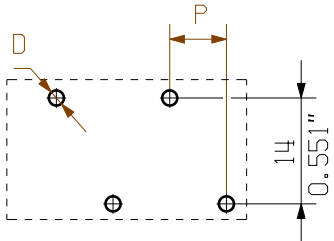
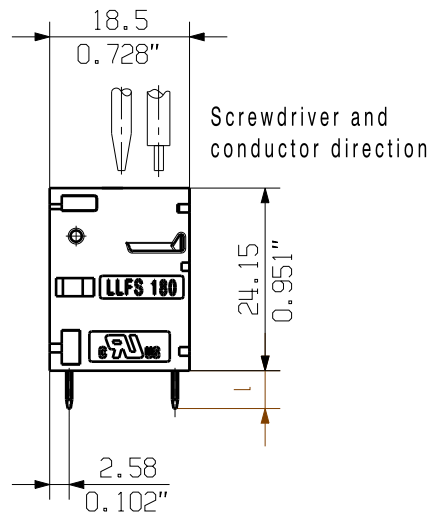
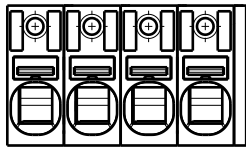
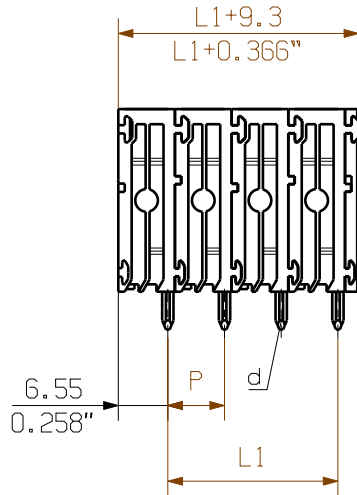
The English version is binding

04

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 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.

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		95864/4 14.07.17 XIANG_K		01	Cat.no.: .		
		Modification		Weidmüller 		3 64139 04	
				Drawing no.		Issue no.	
				Sheet 01 of 01 sheets			
Scale: 1/1		Date	Name				
Supersedes: .		Drawn	22.09.2016	HILDEBRANDT_R			LLFS 7.50/.../180 ... LEITERPLATTENKLEMME PCB TERMINAL
		Responsible		WRIGHT_ST			
		Checked	14.07.2017	ZHOU_N			
		Approved		NOLTE_S	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.