OMNIMATE Power - series LL
LLFS 7.50/06/180V 5.0SN BK BX

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany
Fon: +49 5231 14-0
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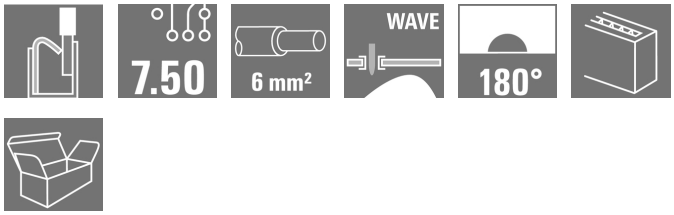
www.weidmueller.com

Product image

similar to illustration



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 7.50/06/180V 5.0SN BK BX
Order No.	2491660000
Version	Printed circuit board terminals, 7.50 mm, Number of poles: 6, 180°, Solder pin length (l): 5 mm, tinned, black, PUSH IN without actuator, Clamping range, max. : 6 mm², Box
GTIN (EAN)	4050118607819
Qty.	50 pc(s).
Product data	IEC: 1000 V / 41 A / 0.5 - 6 mm² UL: 600 V / 37 A / AWG 24 - AWG 8
Packaging	Box

Creation date May 2, 2020 10:12:33 AM CEST

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Technical data

Dimensions and weights

Width	39.3 mm	Width (inches)	1.547 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	21.61 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
Number of poles	6	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	1.181 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	≥ 10^8 Ω	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.	50 °C	Max. relative humidity during storage	70 %
Operating temperature, min.	-40 °C	Operating temperature, max.	120 °C

Conductors suitable for connection

Clamping range, min.	0.25 mm²
Clamping range, max.	6 mm²
Wire connection cross section AWG, min.	AWG 24
Wire connection cross section AWG, max.	AWG 8
Solid, min. H05(07) V-U	0.5 mm²
Solid, max. H05(07) V-U	6 mm²
Flexible, min. H05(07) V-K	0.5 mm²
Flexible, max. H05(07) V-K	6 mm²
w. plastic collar ferrule, DIN 46228 pt 4, min.	0.25 mm²
w. plastic collar ferrule, DIN 46228 pt 4, max.	6 mm²
w. wire end ferrule, DIN 46228 pt 1, min.	0.25 mm²
w. wire end ferrule, DIN 46228 pt 1, max.	6 mm²

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Technical data

Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm²
	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 mm²
	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 mm²
	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 mm²
	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 mm²
	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 mm²
	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 mm²
	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 mm²
	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H10,0/12
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)		
Max. clamping range	6 mm²		

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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)	32 A	Rated current, min. number of poles (Tu=40°C)	38 A
Rated current, max. number 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

Rated data acc. to UL 1059

Institute (cURus)	c UL us	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	0 m
VPE width	0 m	VPE height	0 m

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
White paper power electronics connected correctly	Download Whitepaper
White paper UL 600 V	Download Whitepaper

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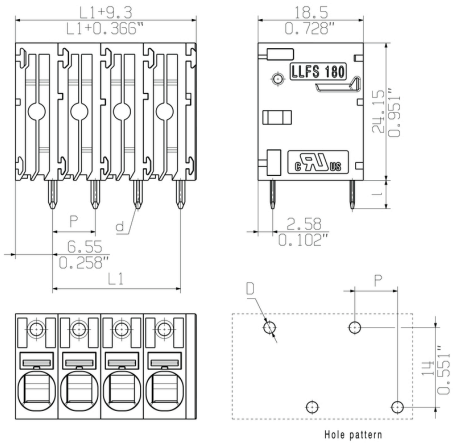
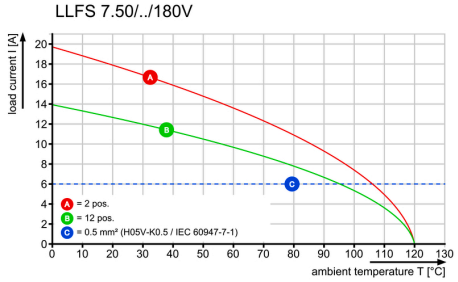
Drawings

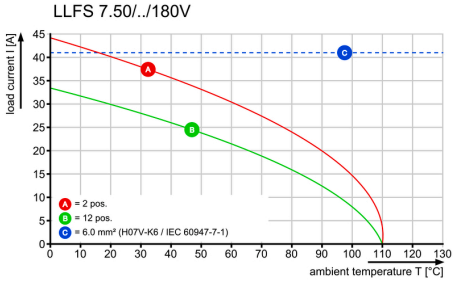
Dimensional drawing



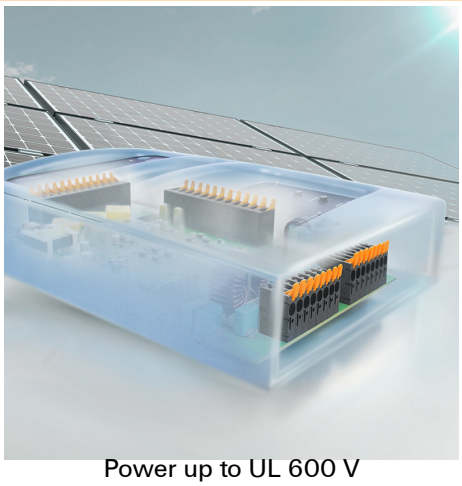
Derating curve



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

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 0.5X3.0X80	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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Accessories

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).	

Slotted screwdriver

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

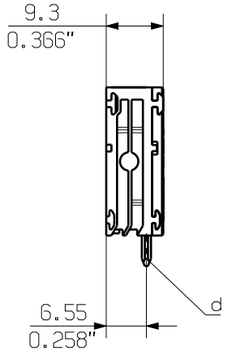
General ordering data

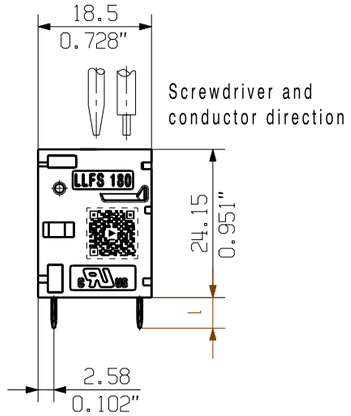
Type	SDIS 0.5X3.0X100	Version
Order No.	9008380000	Screwdriver, Blade width (B): 3 mm, Blade length: 100 mm, Blade
GTIN (EAN)	4032248056347	thickness (A): 0.5 mm
Qty.	1 pc(s).	

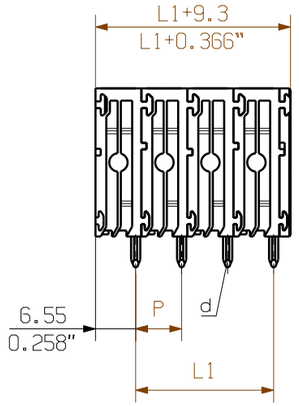
Dimensions without tolerances are no check dimensions

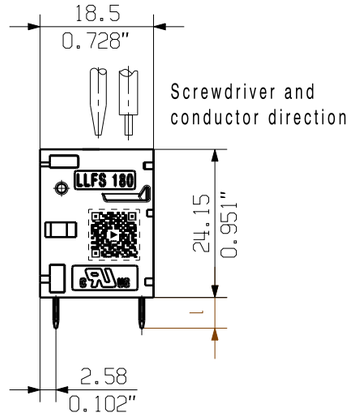
The English version is binding

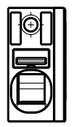
General customer drawing, topical version only if required

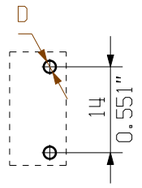




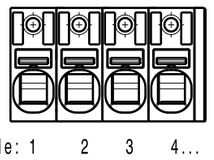


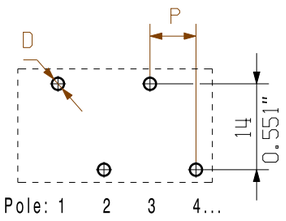






Hole pattern





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"

n Poles	L1 [mm]	L1 [inch]
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

For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone. The neccessary 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 occuring of electrical, mechanical, thermic and corrosive stress will be satisfied.

General tolerance:
DIN ISO 2768-mK

RoHS COMPLIANT

EC00000693 01

First Issue Date 22.09.2016

Max. nos.

Modification

Prim PLM Part No.: 337396

Prim ERP Part No.: 2491640000

Weidmüller

64139 Drawing no. 6 Issue no.

Sheet 01 of 01 sheets

	Date	Name
Drawn	28.04.2019	Xiang, Keqin
Responsible		Xiang, Keqin
Approved	29.04.2019	Xu, Shary

Scale: 1/1 Size: A3

Drawings Assembly

LLFS 7.50/.../180 ...
LEITERPLATTENKLEMME
PCB TERMINAL

Product file: 7416 LLF 7.50

Wave Solder Profile

Recommended wave solderding profiles

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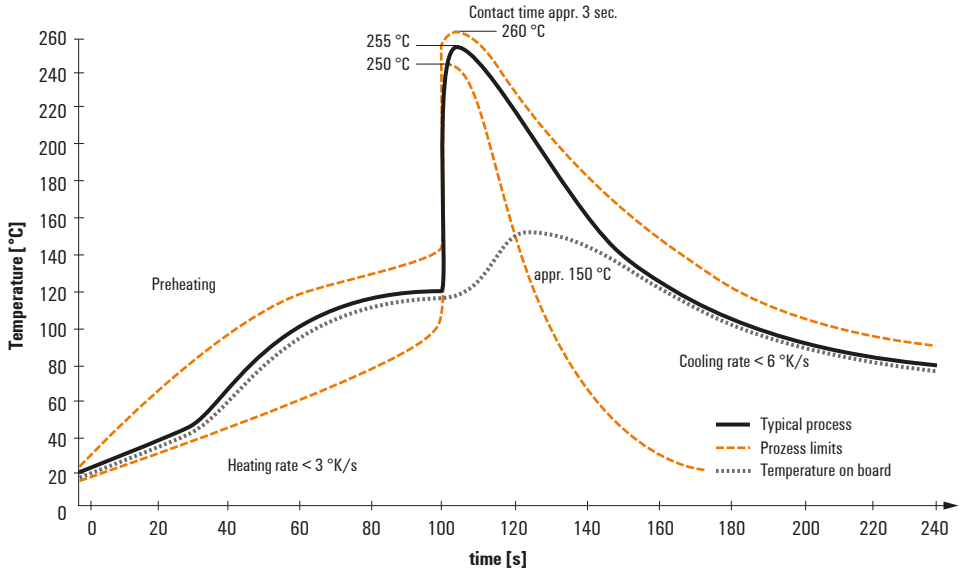
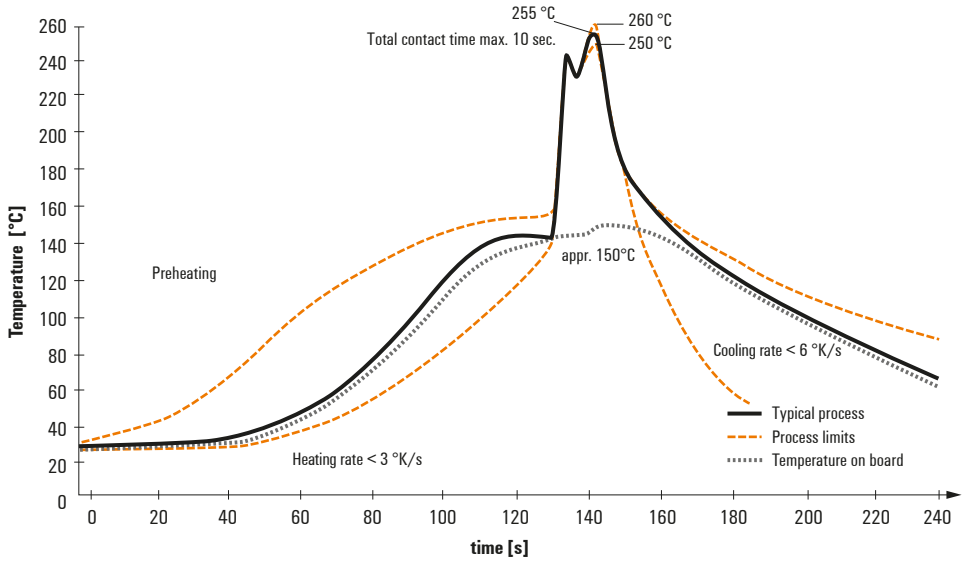
Single Wave:



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.