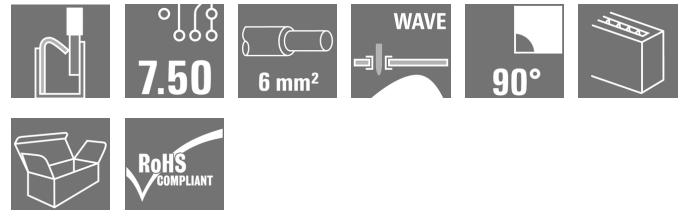


LLFS 7.50/02/90V 5.0SN BK BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

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

Version	Printed circuit board terminals, 7.50 mm, Number of poles: 2, 90°, Solder pin length (l): 5 mm, tinned, black, PUSH IN without actuator, Clamping range, max. : 6 mm², Box
Order No.	2473000000
Type	LLFS 7.50/02/90V 5.0SN BK BX
GTIN (EAN)	4050118658125
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

Creation date September 17, 2022 11:02:27 PM CEST

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Technical data

Dimensions and weights

Depth	20.05 mm	Depth (inches)	0.789 inch
Height	30.56 mm	Height (inches)	1.203 inch
Height of lowest version	25.56 mm	Width	16 mm
Width (inches)	0.63 inch	Net weight	8.8 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	2	Pin series quantity	1
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	Protection degree	IP20

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.	70 °C	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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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		
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	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	205 mm
VPE width	207 mm	VPE height	42 mm

Classifications

ETIM 6.0	EC002643	ETIM 7.0	EC002643
ETIM 8.0	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

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Technical data

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	• Additional variants 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. • 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 • Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E60693

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	CAD data – STEP
Product Change Notification	Change of locking system to LLFS 7.50/90 - DE Change of locking system to LLFS 7.50/90 - EN 20210909 Color Change of Actuator to LLF(S) and LUF(S) Family 20210909 LLF(S) und LUF(S) Familie - Farbänderung des Betätigungselementes 20220112 Änderung der LLFS Abdeckplatte 20220112 Change of Cover Plate to LLFS 90
Catalogues	Catalogues in PDF-format

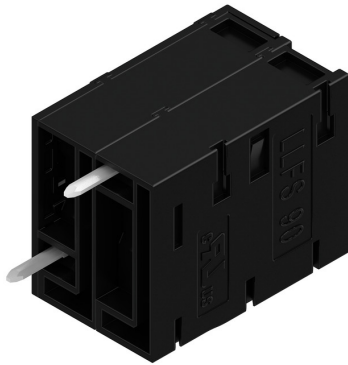
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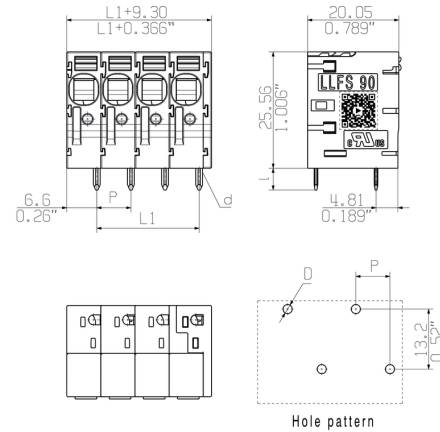
www.weidmueller.com

Drawings

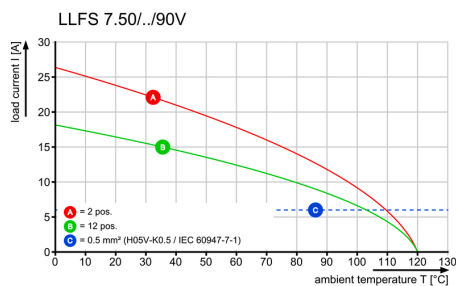
Product image



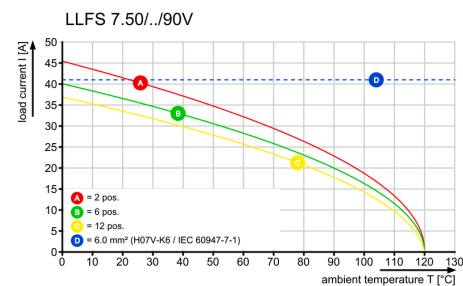
Dimensional drawing



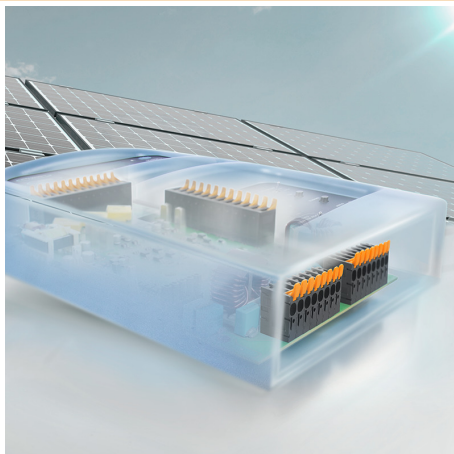
Derating curve



Derating curve

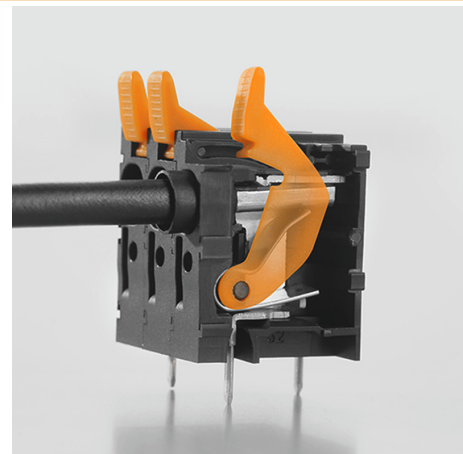


Product benefits



Power up to UL 600 V
Offset solder pins

Product benefits



Tool-free wiring
Top contact security

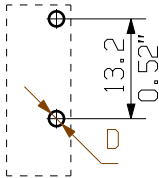
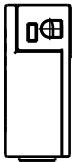
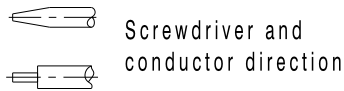
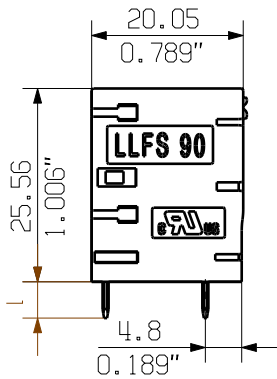
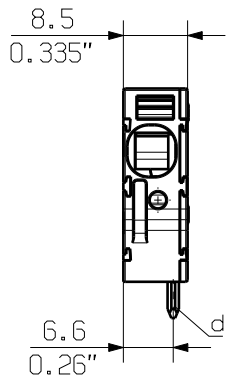
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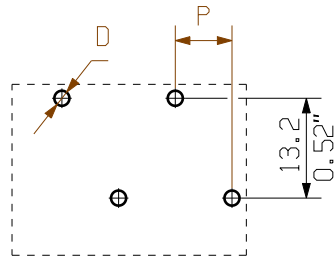
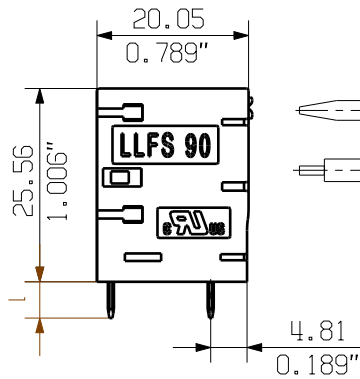
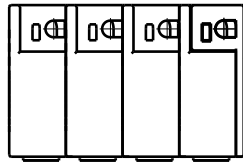
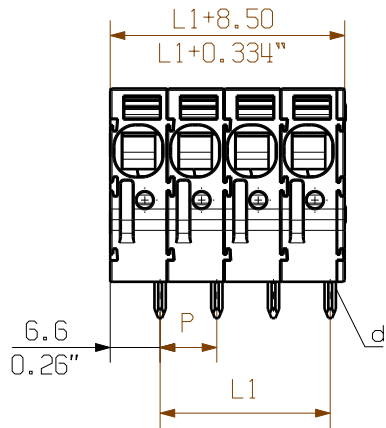
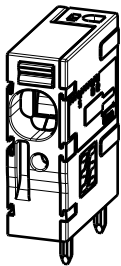
Dimensions without tolerances are no check dimensions

The English version is binding

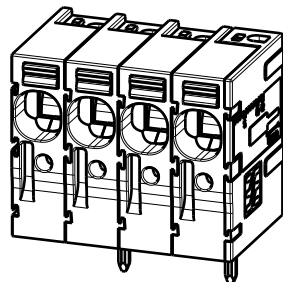
General customer drawing, topical version only if required



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 (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		Date		Name	
		Drawn		04.07.2016		KRECHT_M	
Scale: 1/1		Responsible				WRIGHT_ST	
Supersedes: .		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.