

## LMFS 5.00/14/90 3.5SN OR BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

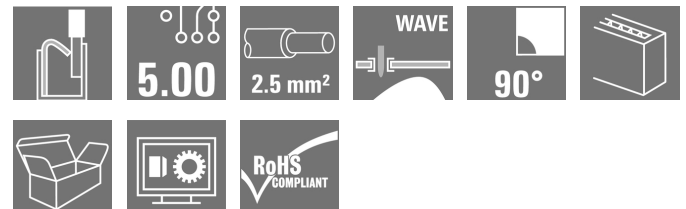
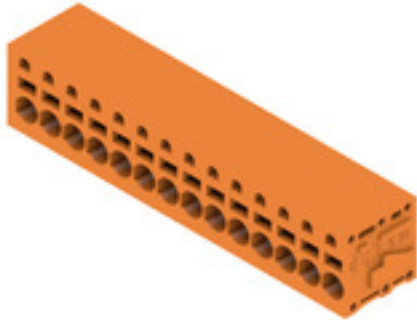
Tel. +49 5231 14-0

Fax. +49 5231 14-2083

info@weidmueller.com

www.weidmueller.com

### Product image



The new LMF allows us to meet the current market requirements for a PCB terminal with PUSH IN connection system for wire cross-sections up to 2.5 mm<sup>2</sup>

- PUSH IN connection system
- LMF with pusher for opening the terminal point
- LMFS without pusher, the terminal point is opened with a screwdriver
- Integrated test point
- 90° and 180° wire outlet direction

### General ordering data

Version	Printed circuit board terminals, 5.00 mm, Number of poles: 14, 90°, Solder pin length (l): 3.5 mm, tinned, orange, PUSH IN without actuator, Clamping range, max.: 2.5 mm <sup>2</sup> , Box
Order No.	<a href="#">1332090000</a>
Type	LMFS 5.00/14/90 3.5SN OR BX
GTIN (EAN)	4050118135718
Qty.	20 pc(s).
Product data	IEC: 400 V / 24 A / 0.5 - 2.5 mm <sup>2</sup> UL: 300 V / 20 A / AWG 24 - AWG 12
Packaging	Box

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## Technical data

### Dimensions and weights

Depth	15.2 mm	Depth (inches)	0.598 inch
Height	18.3 mm	Height (inches)	0.72 inch
Height of lowest version	14.8 mm	Width	72.7 mm
Width (inches)	2.862 inch	Net weight	18.45 g

### Temperatures

Operating temperature, min.	-50 °C	Operating temperature, max.	120 °C
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### System parameters

Product family	OMNIMATE Signal - series LMF	Wire connection method	PUSH IN without actuator
Mounting onto the PCB	THT solder connection	Conductor outlet direction	90°
Pitch in mm (P)	5 mm	Pitch in inches (P)	0.197 inch
Number of poles	14	Pin series quantity	1
Fitted by customer	No	Number of rows	1
Max. adjacent poles per row	24	Solder pin length (l)	3.5 mm
Solder pin dimensions	d = 0.8 mm	Solder eyelet hole diameter (D)	1.1 mm
Solder eyelet hole diameter tolerance (D)	+ 0,1 mm	Number of solder pins per pole	2
Screwdriver blade	0.6 x 3.5	Screwdriver blade standard	DIN 5264
Stripping length	10 mm	L1 in mm	65 mm
L1 in inches	2.559 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	orange
Colour chart (similar)	RAL 2000	Comparative Tracking Index (CTI)	≥ 600
UL 94 flammability rating	V-0	Contact material	CuSn
Contact surface	tinned	Coating	4-6 µm SN
Tinning type	matt	Layer structure of solder connection	4...8 µm Sn matt
Storage temperature, min.	-40 °C	Storage temperature, max.	70 °C
Operating temperature, min.	-50 °C	Operating temperature, max.	120 °C
Temperature range, installation, min.	-25 °C	Temperature range, installation, max.	120 °C

### Conductors suitable for connection

Clamping range, min.	0.2 mm <sup>2</sup>
Clamping range, max.	2.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 24
Wire connection cross section AWG, max.	AWG 12
Solid, min. H05(07) V-U	0.5 mm <sup>2</sup>
Solid, max. H05(07) V-U	2.5 mm <sup>2</sup>
Flexible, min. H05(07) V-K	0.25 mm <sup>2</sup>
Flexible, max. H05(07) V-K	2.5 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4, min.	0.25 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4, max.	2.5 mm <sup>2</sup>
w. wire end ferrule, DIN 46228 pt 1, min.	0.25 mm <sup>2</sup>

Creation date March 6, 2023 9:46:10 PM CET

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**Technical data**

w. wire end ferrule, DIN 46228 pt 1, max. 2.5 mm<sup>2</sup>

Plug gauge in accordance with EN 60999 a x b; ø 2.4 mm x 1.5 mm

Clampable conductor

Cross-section for conductor connection	Type	fine-wired
	nominal	0.5 mm <sup>2</sup>
wire end ferrule	Stripping length	nominal 12 mm
	Recommended wire-end ferrule	<a href="#">H0.5/16 OR</a>
	Stripping length	nominal 10 mm
	Recommended wire-end ferrule	<a href="#">H0.5/10</a>
Cross-section for conductor connection	Type	fine-wired
	nominal	0.75 mm <sup>2</sup>
wire end ferrule	Stripping length	nominal 12 mm
	Recommended wire-end ferrule	<a href="#">H0.75/16 W</a>
	Stripping length	nominal 10 mm
	Recommended wire-end ferrule	<a href="#">H0.75/10</a>
Cross-section for conductor connection	Type	fine-wired
	nominal	1 mm <sup>2</sup>
wire end ferrule	Stripping length	nominal 12 mm
	Recommended wire-end ferrule	<a href="#">H1.0/16D R</a>
	Stripping length	nominal 10 mm
	Recommended wire-end ferrule	<a href="#">H1.0/10</a>
Cross-section for conductor connection	Type	fine-wired
	nominal	1.5 mm <sup>2</sup>
wire end ferrule	Stripping length	nominal 10 mm
	Recommended wire-end ferrule	<a href="#">H1.5/10</a>
	Stripping length	nominal 12 mm
	Recommended wire-end ferrule	<a href="#">H1.5/16 R</a>
Cross-section for conductor connection	Type	fine-wired
	nominal	2.5 mm <sup>2</sup>
wire end ferrule	Stripping length	nominal 10 mm
	Recommended wire-end ferrule	<a href="#">H2.5/10</a>

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)

**Rated data acc. to IEC**

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	24 A
Rated current, max. number of poles (Tu=20°C)	24 A	Rated current, min. number of poles (Tu=40°C)	24 A
Rated current, max. number of poles (Tu=40°C)	24 A	Rated voltage for surge voltage class / pollution degree II/2	400 V
Rated voltage for surge voltage class / pollution degree III/2	320 V	Rated voltage for surge voltage class / pollution degree III/3	250 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	4 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	4 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	4 kV	Short-time withstand current resistance	3 x 1s with 120 A

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**Technical data**

**Rated data acc. to CSA**

Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group D / CSA)	300 V
Rated current (Use group B / CSA)	20 A	Rated current (Use group D / CSA)	10 A
Wire cross-section, AWG, min.	AWG 24	Wire cross-section, AWG, max.	AWG 12

**Rated data acc. to UL 1059**

Institute (cURus)		Certificate No. (cURus)	E60693
Rated voltage (Use group B / UL 1059)	300 V	Rated voltage (Use group D / UL 1059)	300 V
Rated current (Use group B / UL 1059)	20 A	Rated current (Use group D / UL 1059)	10 A
Wire cross-section, AWG, min.	AWG 24	Wire cross-section, AWG, max.	AWG 12
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

**Packing**

Packaging	Box	VPE length	338 mm
VPE width	130 mm	VPE height	27 mm

**Type tests**

Test: Durability of markings	Test	mark of origin, type identification, pitch, approval marking UL, durability	
	Evaluation	passed	
Test: Clampable cross section	Standard	DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.02	
	Conductor type	Type of conductor and conductor cross-section	solid 0.14 mm <sup>2</sup>
		Type of conductor and conductor cross-section	stranded 0.14 mm <sup>2</sup>
		Type of conductor and conductor cross-section	solid 1.5 mm <sup>2</sup>
		Type of conductor and conductor cross-section	stranded 1.5 mm <sup>2</sup>
		Type of conductor and conductor cross-section	AWG 24/1
		Type of conductor and conductor cross-section	AWG 24/19
		Type of conductor and conductor cross-section	AWG 16/1
		Type of conductor and conductor cross-section	AWG 16/19
Evaluation	passed		

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**Technical data**

Test for damage to and accidental loosening of conductors

Standard	DIN EN 60999-1 section 9.4 / 12.00	
Requirement	0.2 kg info@weidmueller.com	
Conductor type	Type of conductor and conductor cross-section	AWG 24/1
	Type of conductor and conductor cross-section	AWG 24/19
Evaluation	passed	
Requirement	0.3 kg	
Conductor type	Type of conductor and conductor cross-section	stranded 0.25 mm <sup>2</sup>
	Type of conductor and conductor cross-section	solid 0.5 mm <sup>2</sup>
Evaluation	passed	
Requirement	0.4 kg	
Conductor type	Type of conductor and conductor cross-section	solid 1.5 mm <sup>2</sup>
	Type of conductor and conductor cross-section	stranded 1.5 mm <sup>2</sup>
	Type of conductor and conductor cross-section	AWG 16/1
	Type of conductor and conductor cross-section	AWG 16/19
Evaluation	passed	

Standard	DIN EN 60999-1 section 9.5 / 12.00	
Requirement	≥10 N	
Conductor type	Type of conductor and conductor cross-section	AWG 24/1
	Type of conductor and conductor cross-section	AWG 24/19
Evaluation	passed	
Requirement	≥20 N	
Conductor type	Type of conductor and conductor cross-section	stranded 0.25 mm <sup>2</sup>
	Type of conductor and conductor cross-section	H05V-K0.5
Evaluation	passed	
Requirement	≥40 N	
Conductor type	Type of conductor and conductor cross-section	H07V-U1.5
	Type of conductor and conductor cross-section	H07V-K1.5
	Type of conductor and conductor cross-section	AWG 16/1
	Type of conductor and conductor cross-section	AWG 16/19
Evaluation	passed	

Pull-out test

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## Technical data

## 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

## 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.
- 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

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[info@weidmueller.com](mailto:info@weidmueller.com)[www.weidmueller.com](http://www.weidmueller.com)**Technical data****Downloads**

Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Engineering Data	<a href="#">WSCAD</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">FL DRIVES EN</a> <a href="#">FL ANALO.SIGN.CONV. EN</a> <a href="#">MB DEVICE MANUF. EN</a> <a href="#">FL DRIVES DE</a> <a href="#">FL BUILDING SAFETY EN</a> <a href="#">FL APPL LED LIGHTING EN</a> <a href="#">FLIndustr.CONTROLS EN</a> <a href="#">FL MACHINE SAFETY EN</a> <a href="#">FL HEATING ELECTR EN</a> <a href="#">FL APPL INVERTER EN</a> <a href="#">FL_BASE_STATION_EN</a> <a href="#">FL ELEVATOR EN</a> <a href="#">FL POWER SUPPLY EN</a> <a href="#">FL 72H SAMPLE SER EN</a> <a href="#">PO OMNIMATE EN</a> <a href="#">PO OMNIMATE EN</a>

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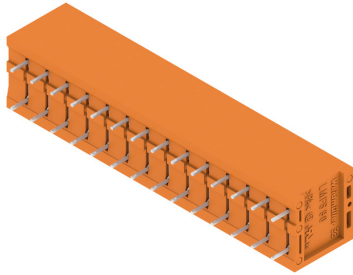
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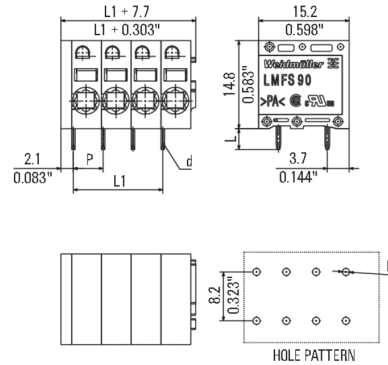
Fax. +49 5231 14-2083

**Drawings**

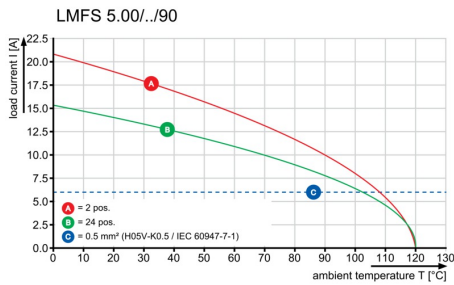
**Product image**



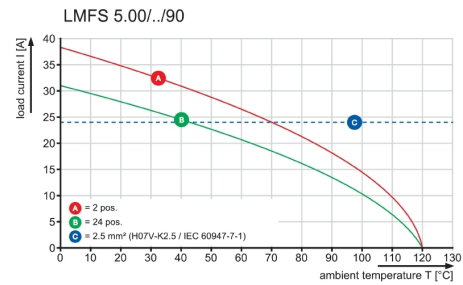
**Dimensional drawing** [info@weidmueller.com](mailto:info@weidmueller.com)



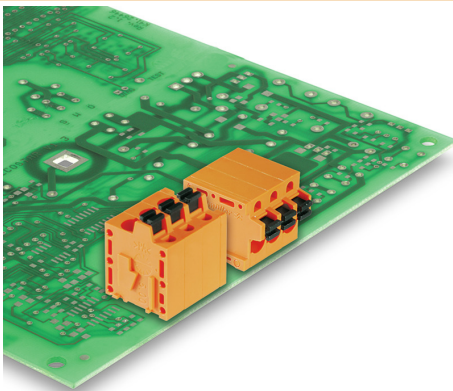
**Graph**



**Graph**

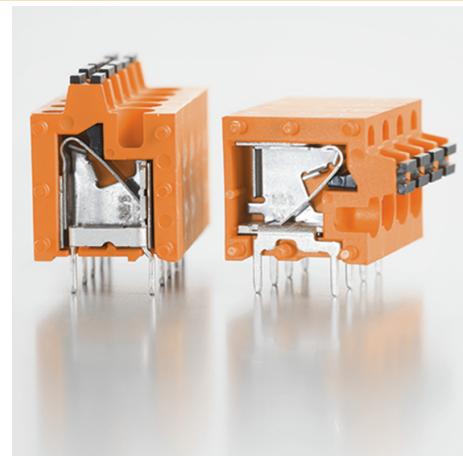


**Product benefits**



Optional conductor outlet direction  
Stable mechanical design

**Product benefits**



High reliability of the current capacity



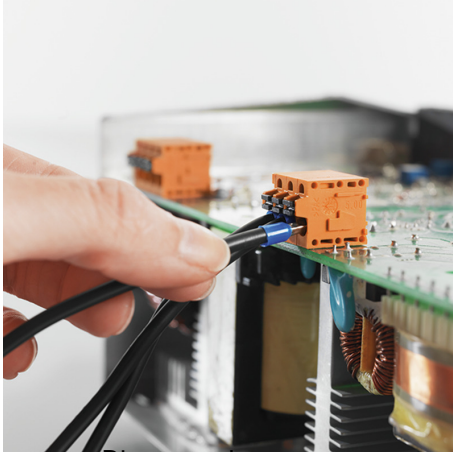
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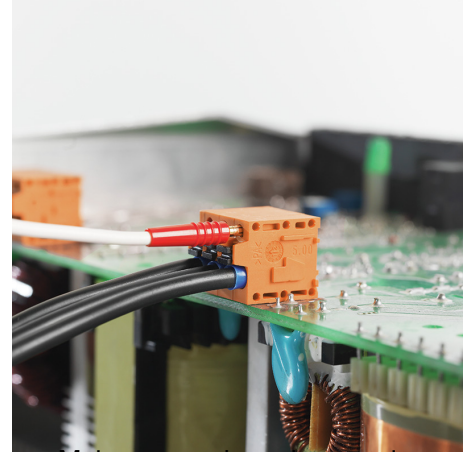
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[info@weidmueller.com](mailto:info@weidmueller.com)**Drawings****Product benefits**

Direct conductor entry  
Cross section up to 2.5 mm<sup>2</sup>

**Product benefits**

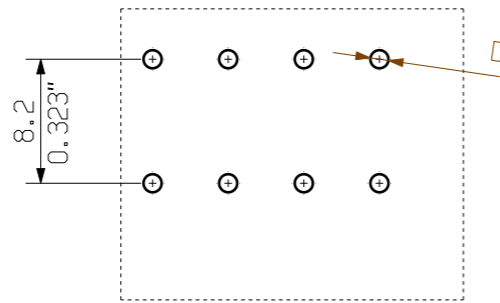
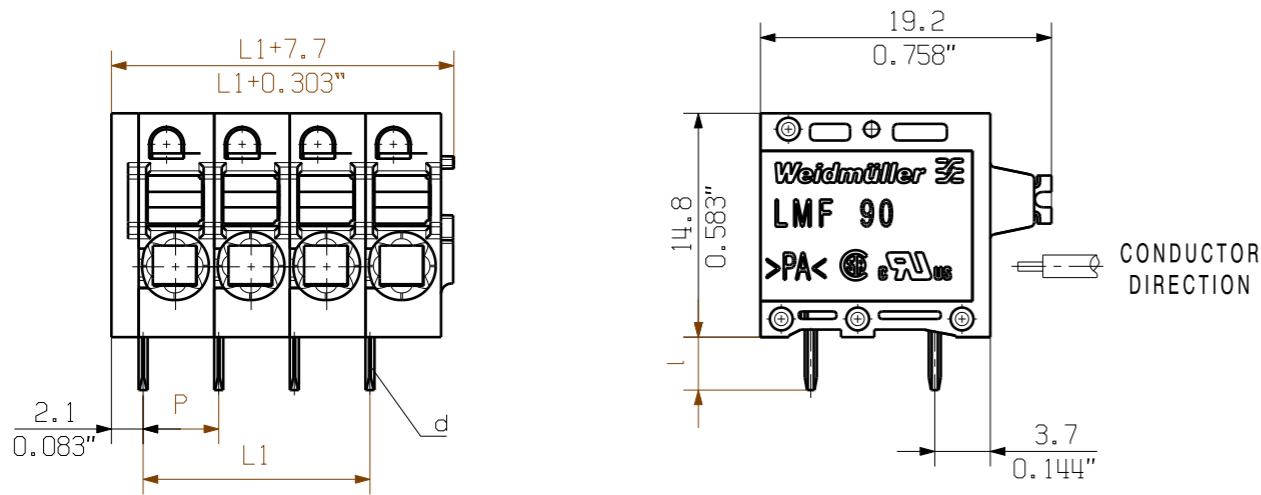
Maintenance through test point

MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE  
 DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

DIE DEUTSCHE VERSION IST VERBINDLICH  
 THE GERMAN VERSION IS BINDING

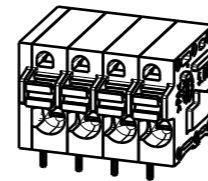
ALLGEMEINGUELTIGE KUNDENZEICHNUNG, AKTUELLER STAND NUR AUF ANFRAGE  
 GENERAL CUSTOMER DRAWING, TOPICAL VERSION ONLY IF REQUIRED

SHOWN: LMF 5.00/04/90 3.5

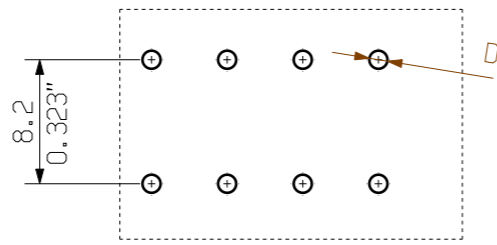
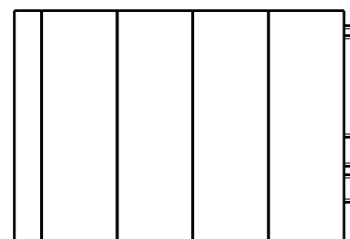
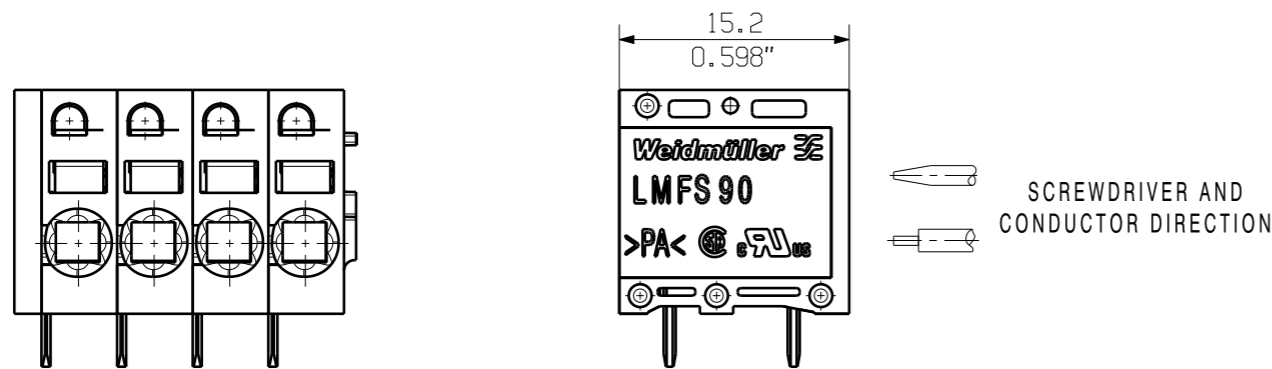


HOLE PATTERN

M 1/1

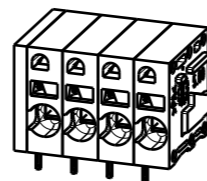


SHOWN: LMFS 5.00/04/90 3.5



HOLE PATTERN

M 1/1



24	115.00	4.528
23	110.00	4.331
22	105.00	4.134
21	100.00	3.937
20	95.00	3.740
19	90.00	3.543
18	85.00	3.346
17	80.00	3.150
16	75.00	2.953
15	70.00	2.756
14	65.00	2.559
13	60.00	2.362
12	55.00	2.165
11	50.00	1.969
10	45.00	1.772
9	40.00	1.575
8	35.00	1.378
7	30.00	1.181
6	25.00	0.984
5	20.00	0.787
4	15.00	0.591
3	10.00	0.394
2	5.00	0.197
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.

P = 5.00 RASTER PITCH  
 D = Ø1.1 +0.1 / 0.043"  
 d = 0.6x0.8 / 0.024"x0.031"  
 l = 3.5 / 0.138"

GENERAL TOLERANCE: DIN ISO 2768-m		70657/4 26.06.13 TIELKER_S 01		CAT.NO.: . . . . .	
		MODIFICATION			
		DATE	NAME	DRAWING NO. C 55663 03	
SCALE: 2/1		DRAWN	25.01.2012	REGLIN_A	ISSUE NO.
SUPERSEDES: .		RESPONSIBLE		SCHMITZ_T	SHEET 01 OF 01 SHEETS
		CHECKED	26.06.2013	HECKERT_M	
		APPROVED		HANKE_D	
				<b>LMF... 5.00/.../90 ...</b> LEITERPLATTENANSCHLUSSKLEMME PCB TERMINAL	
PRODUCT FILE: LMF 5.0X				7403	

WEITERGABE SOWIE VERVIELFÄLTIGUNG DIESES DOKUMENTS, VERWERTUNG UND MITTEILUNG SEINES INHALTS SIND VERBOTEN, SOWEIT NICHT AUSDRUECKLICH GESTATTET. ZUWIDERHANDLUNGEN VERPFLICHTEN ZU SCHADENERSATZ. ALLE RECHTE FUER DEN FALL DER PATENT-, GEBRAUCHSMUSTER-, ODER GESCHMACKSMUSTEREINTRAGUNG VORBEHALTEN. THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPLICIT AUTHORIZATION IS PROHIBITED. OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. WEIDMUELLER EXCLUSIVELY RESERVES THE RIGHT TO FILE FOR PATENTS, UTILITY MODELS OR DESIGNS. © WEIDMUELLER INTERFACE GmbH & Co.KG

## Recommended wave soldering profiles

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 16  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
 www.weidmueller.com

### 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.