

**LMFS 5.08/09/90 3.5SN OR BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

Similar to illustration

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, 5.08 mm, Number of poles: 9, 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="#">1331030000</a>                                                                                                                                                                   |
| Type         | LMFS 5.08/09/90 3.5SN OR BX                                                                                                                                                                  |
| GTIN (EAN)   | 4050118134667                                                                                                                                                                                |
| Qty.         | 30 pc(s).                                                                                                                                                                                    |
| Product data | IEC: 400 V / 24 A / 0.2 - 2.5 mm <sup>2</sup><br>UL: 300 V / 20 A / AWG 24 - AWG 12                                                                                                          |
| Packaging    | Box                                                                                                                                                                                          |

Creation date March 23, 2021 4:22:08 PM CET

## LMFS 5.08/09/90 3.5SN OR BX

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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  | Net weight      | 12.47 g    |
| Width                    | 48.34 mm | Width (inches)  | 1.903 inch |

## 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)                            | 5.08 mm                      | Pitch in inches (P)                          | 0.2 inch                 |
| Number of poles                            | 9                            | Pin series quantity                          | 1                        |
| Fitted by customer                         | No                           | 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                                   | 40.64 mm                     | L1 in inches                                 | 1.6 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                                | 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...6 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.                                                 | 0.12 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                                              | 0.2 mm <sup>2</sup>  |
| Solid, max. H05(07) V-U                                              | 2.5 mm <sup>2</sup>  |
| Flexible, min. H05(07) V-K                                           | 0.2 mm <sup>2</sup>  |
| Flexible, max. H05(07) V-K                                           | 2.5 mm <sup>2</sup>  |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.25 mm <sup>2</sup> min. |                      |
| w. plastic collar ferrule, DIN 46228 pt 4, 2.5 mm <sup>2</sup> max.  |                      |
| w. wire end ferrule, DIN 46228 pt 1, min.                            | 0.25 mm <sup>2</sup> |
| 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      |

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|                     |                                                                                                                                                                        |                              |                            |       |  |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------|-------|--|
| Clampable conductor | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                 |       |  |
|                     |                                                                                                                                                                        | nominal                      | 0.5 mm²                    |       |  |
|                     | 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 mm²                   |       |  |
|                     | 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 mm²                      |       |  |
|                     | 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 mm²                    |       |  |
|                     | 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 mm²                    |       |  |
|                     | 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

Institute (CSA)



Certificate No. (CSA)

200039-1815154

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

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

## 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 | 348 mm |
| VPE width | 135 mm | VPE height | 30 mm  |

## 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 | ECLASS 11.0 | 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          | <ul style="list-style-type: none"> <li>• Additional colours on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• Wire end ferrule without plastic collar to DIN 46228/1</li> <li>• Wire end ferrule with plastic collar to DIN 46228/4</li> <li>• P on drawing = pitch</li> <li>• 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.</li> <li>• The test point can only be used as potential-pickup point.</li> <li>• Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</li> </ul> |

## Approvals

Approvals



|                       |         |
|-----------------------|---------|
| ROHS                  | Conform |
| UL File Number Search | E60693  |

## Downloads

|                                             |                                                 |
|---------------------------------------------|-------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a> |
| Engineering Data                            | <a href="#">STEP</a>                            |
| Engineering Data                            | <a href="#">EPLAN, WSCAD</a>                    |

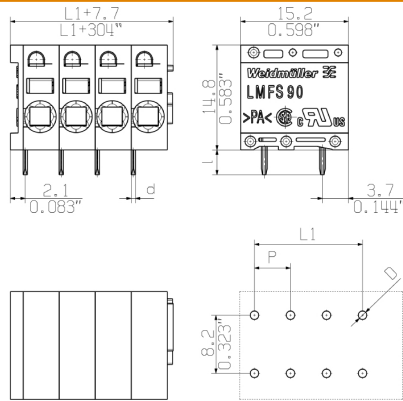
## LMFS 5.08/09/90 3.5SN OR BX

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
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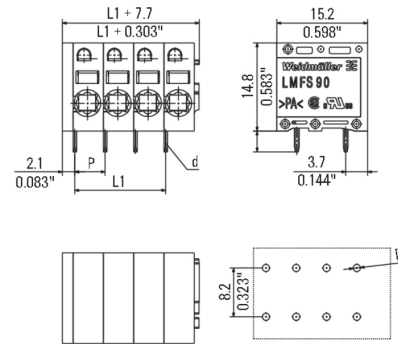
[www.weidmueller.com](http://www.weidmueller.com)

## Drawings

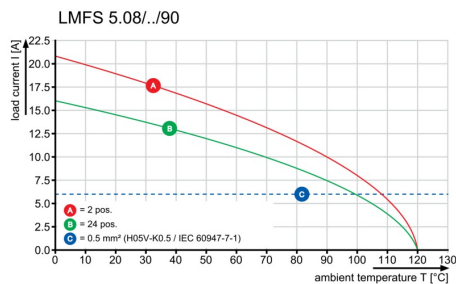
### Dimensional drawing



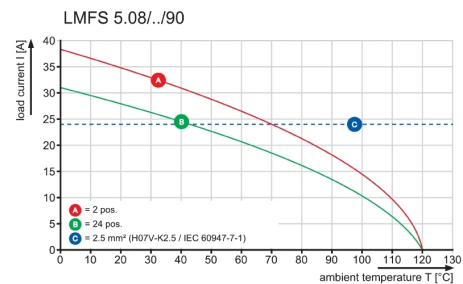
### Dimensional drawing



### Graph



### Graph



### Product benefits



Optional conductor outlet direction  
Stable mechanical design

### Product benefits



High reliability of the current capacity

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## Drawings

### Product benefits



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

### Product benefits



Maintenance through test point

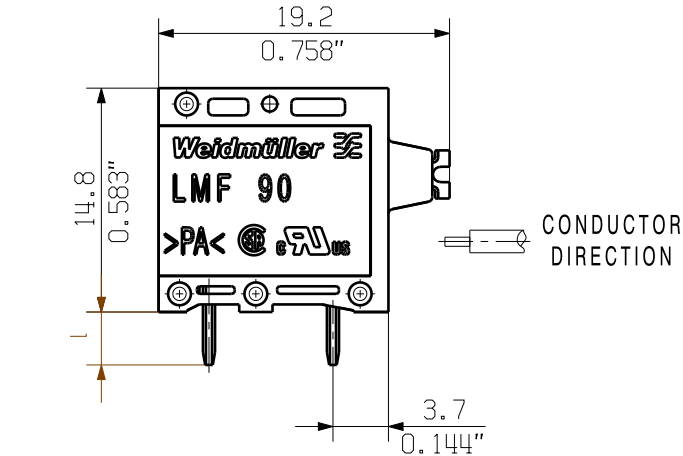
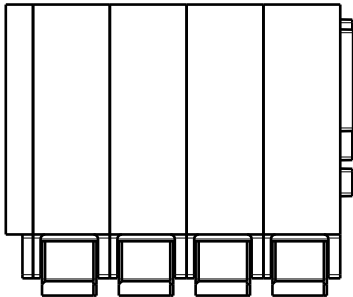
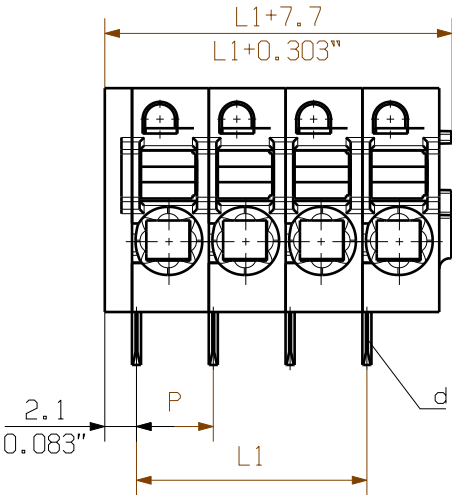
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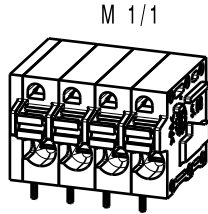
MASSE OHNE TOLERANZ SIND KEINE PRUEFFMASSE  
DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

DIE DEUTSCHE VERSION IST VERBINDLICH  
THE GERMAN VERSION IS BINDING

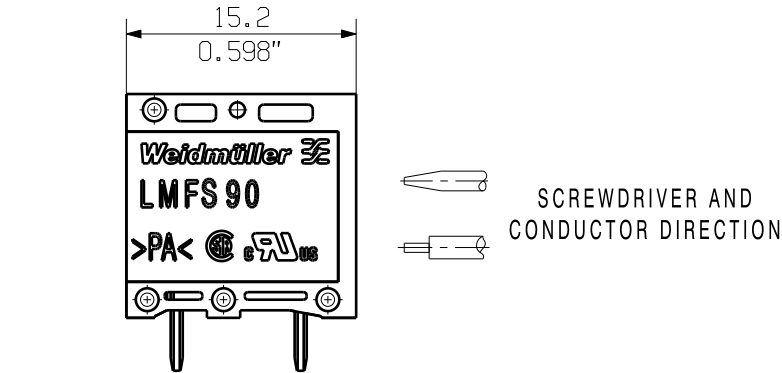
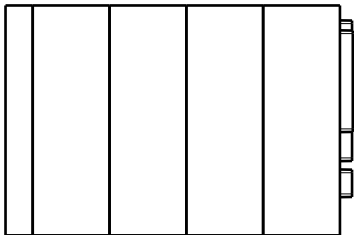
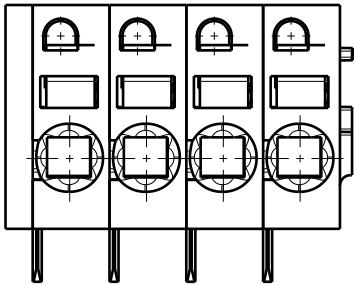
SHOWN: LMF 5.08/04/90 3.5



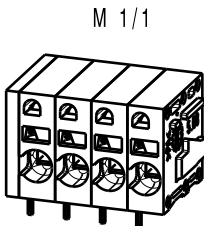
HOLE PATTERN



SHOWN: LMFS 5.08/04/90 3.5



HOLE PATTERN



P = 5.08 RASTER PITCH  
D = Ø1.1 +0.1 / 0.043"  
d = 0.6x0.8 / 0.024"x0.031"  
l = 3.5 / 0.138"

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.

|    |                  |                   |
|----|------------------|-------------------|
| 24 | 116.84           | 4.600             |
| 23 | 111.76           | 4.400             |
| 22 | 106.68           | 4.200             |
| 21 | 101.60           | 4.000             |
| 20 | 96.52            | 3.800             |
| 19 | 91.44            | 3.600             |
| 18 | 86.36            | 3.400             |
| 17 | 81.28            | 3.200             |
| 16 | 76.20            | 3.000             |
| 15 | 71.12            | 2.800             |
| 14 | 66.04            | 2.600             |
| 13 | 60.96            | 2.400             |
| 12 | 55.88            | 2.200             |
| 11 | 50.80            | 2.000             |
| 10 | 45.72            | 1.800             |
| 9  | 40.64            | 1.600             |
| 8  | 35.56            | 1.400             |
| 7  | 30.48            | 1.200             |
| 6  | 25.40            | 1.000             |
| 5  | 20.32            | 0.800             |
| 4  | 15.24            | 0.600             |
| 3  | 10.16            | 0.400             |
| 2  | 5.08             | 0.200             |
| n  | POLZAHL<br>POLES | L1 [mm] L1 [inch] |

GENERAL TOLERANCE:  
DIN ISO 2768-m

70657/4  
26.06.13 TIELKER\_S

01

MODIFICATION

DRAWN

25.01.2012

REGLIN\_A

RESPONSIBLE

HECKERT\_M

CHECKED

26.06.2013

HANKE\_D

APPROVED

CAT.NO.:.

C 55665

03

DRAWING NO.

01

ISSUE NO.

01

SHEET

01

OF

01

SHEETS

LMF... 5.08/.../90 ...

LEITERPLATTENANSCHLUSSKLEMMEN

PCB TERMINALS

PRODUCT FILE: LMF 5.0X

7403

## 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.