

**LMFV 5.00/20/90 3.5SN OR BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

The innovative quick connector - simple, safe and economical:

PCB terminals with spring connection and direct PUSH IN technology. A milestone in connection technology.

Amazingly simple and simply amazing in practice:

- Connect and easily detach solid wires or wires with wire-end ferrules without using tools
- Potentials and clamping points marked clearly by coloured push buttons

World-class design-in and processing phases, and suitable for a vast range of applications.

**General ordering data**

|              |  |
|--------------|--|
| Version      | Printed circuit board terminals, 5.00 mm, Number of poles: 20, 90°, Solder pin length (l): 3.5 mm, tinned, orange, PUSH IN with actuator, Clamping range, max.: 2.5 mm², Box |
| Order No.    | <a href="#">2786730000</a>   |
| Type         | LMFV 5.00/20/90 3.5SN OR BX  |
| GTIN (EAN)   | 4064675064282  |
| Qty.         | 36 pc(s).  |
| Product data | IEC: 630 V / 24 A / 0.2 - 2.5 mm²<br>UL: 300 V / 15 A / AWG 24 - AWG 14  |
| Packaging    | Box  |

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## Technical data

## Dimensions and weights

|            |          |                 |            |
|------------|----------|-----------------|------------|
| Depth      | 10 mm    | Depth (inches)  | 0.394 inch |
| Height     | 17.3 mm  | Height (inches) | 0.681 inch |
| Width      | 100.5 mm | Width (inches)  | 3.957 inch |
| Net weight | 28 g     |                 |            |

## System parameters

|  |                              |       |  |
|--|------------------------------|-------|--|
| Product family                               | OMNIMATE Signal - series LMF |       |  |
| Wire connection method                       | PUSH IN with actuator        |       |  |
| Mounting onto the PCB                        | THT solder connection        |       |  |
| Conductor outlet direction                   | 90°                          |       |  |
| Pitch in mm (P)                              | 5 mm                         |       |  |
| Pitch in inches (P)                          | 0.197 "                      |       |  |
| Number of poles                              | 20                           |       |  |
| Pin series quantity                          | 1                            |       |  |
| Number of rows                               | 1                            |       |  |
| Solder pin length (l)                        | 3.5 mm                       |       |  |
| Solder pin dimensions                        | 0.95 x 0.8 mm                |       |  |
| Screwdriver blade                            | 0.6 x 3.5                    |       |  |
| Stripping length                             | 8 mm                         |       |  |
| Stripping length tolerance                   | min.                         | -1 mm |  |
|  | max.                         | 0 mm  |  |
| L1 in mm                                     | 95 mm                        |       |  |
| L1 in inches                                 | 3.74 "                       |       |  |
| 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                  | PA               | Colour                           | orange    |
| Colour chart (similar)               | RAL 2000         | Comparative Tracking Index (CTI) | ≥ 600     |
| UL 94 flammability rating            | V-0              | Contact material                 | Cu-alloy  |
| Contact surface                      | tinned           | Coating                          | 4-8 µm SN |
| Layer structure of solder connection | 4...8 µm Sn matt | Storage temperature, min.        | -40 °C    |
| Storage temperature, max.            | 70 °C            | Operating temperature, min.      | -40 °C    |
| Operating temperature, max.          | 115 °C           |                                  |           |

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## 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 14              |
| 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, min. | 0.25 mm <sup>2</sup>  | w. plastic collar ferrule, DIN 46228 pt 4, max. | 1.5 mm <sup>2</sup> |
| w. wire end ferrule, DIN 46228 pt 1, min.       | 0.2 mm <sup>2</sup>   | w. wire end ferrule, DIN 46228 pt 1, max.       | 1.5 mm <sup>2</sup> |
| 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

|   |       |   |        |
|---|-------|---|--------|
| 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)                             | 23.1 A |
| Rated voltage for surge voltage class / pollution degree II/2         | 630 V | Rated voltage for surge voltage class / pollution degree III/2            | 350 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   |

## Rated data acc. to UL 1059

|                                       |   |                                       |        |
|---------------------------------------|---|---------------------------------------|--------|
| Institute (UR)                        |  | Certificate No. (UR)                  | 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) | 15 A  | Rated current (Use group D / UL 1059) | 10 A   |
| Wire cross-section, AWG, min.         | AWG 24  | Wire cross-section, AWG, max.         | AWG 14 |
| Reference to approval values          | Specifications are maximum values, details - see approval certificate.              |                                       |        |

## Packing

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 170 mm |
| VPE width | 130 mm | VPE height | 50 mm  |

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002643    | ETIM 7.0    | EC002643    |
| ETIM 8.0    | EC002643    | ETIM 9.0    | 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 | ECLASS 13.0 | 27-46-01-01 |

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[www.weidmueller.com](http://www.weidmueller.com)**Technical data****Environmental Product Compliance**

REACH SVHC

/

**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 maximum humidity 70%, 36 months

**Approvals**

Approvals



ROHS

Conform

UL File Number Search

UL Website

Certificate No. (UR)

E60693

**Downloads**

Engineering Data

[CAD data – STEP](#)

Catalogues

[Catalogues in PDF-format](#)

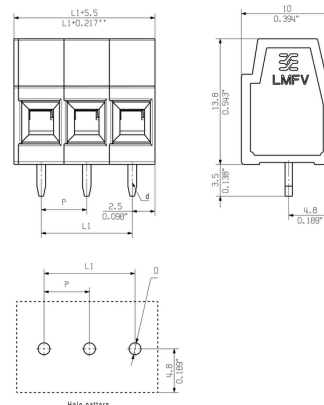
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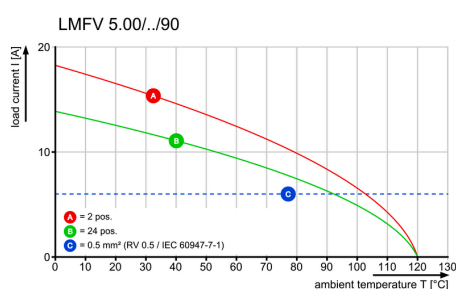
[www.weidmueller.com](http://www.weidmueller.com)

# Drawings

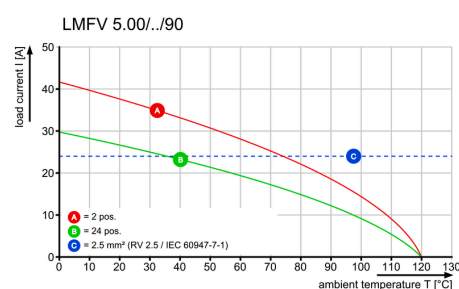
## Dimensional drawing



## Derating curve



## Derating curve



## 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.