

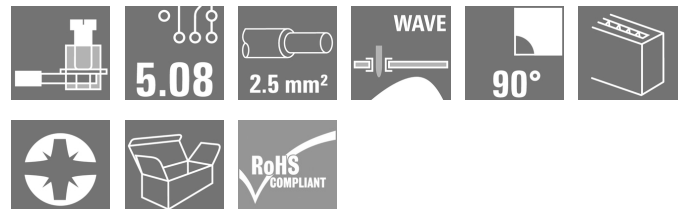
**LM1H 5.08/03/90 3.5SN BK BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

Low and high 1-row PCB terminal with proven clamping yoke connection at 5.08 mm pitch, conductor outlet direction 90°. Suitable for conductor cross-sections up to 2.5 mm².

**General ordering data**

|              |                                                                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Version      | Printed circuit board terminals, 5.08 mm, Number of poles: 3, 90°, Solder pin length (l): 3.5 mm, tinned, black, Clamping yoke connection, Clamping range, max. : 2.5 mm², Box |
| Order No.    | <a href="#">1766390000</a>                                                                                                                                                     |
| Type         | LM1H 5.08/03/90 3.5SN BK BX                                                                                                                                                    |
| GTIN (EAN)   | 4032248063833                                                                                                                                                                  |
| Qty.         | 100 pc(s).                                                                                                                                                                     |
| Product data | IEC: 630 V / 17.5 A / 0.2 - 2.5 mm²<br>UL: 300 V / 15 A / AWG 24 - AWG 14                                                                                                      |
| Packaging    | Box                                                                                                                                                                            |

Creation date February 5, 2024 12:07:26 PM CET

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## Technical data

## Dimensions and weights

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Depth                    | 11.2 mm    | Depth (inches)  | 0.441 inch |
| Height                   | 40.1 mm    | Height (inches) | 1.579 inch |
| Height of lowest version | 36.6 mm    | Width           | 16.24 mm   |
| Width (inches)           | 0.639 inch | Net weight      | 6.93 g     |

## System parameters

|                                                   |                             |                                              |                          |
|---------------------------------------------------|-----------------------------|----------------------------------------------|--------------------------|
| Product family                                    | OMNIMATE Signal - series LM | Wire connection method                       | Clamping yoke connection |
| Mounting onto the PCB                             | THT solder connection       | Conductor outlet direction                   | 90°                      |
| Pitch in mm (P)                                   | 5.08 mm                     | Pitch in inches (P)                          | 0.2 "                    |
| Number of poles                                   | 3                           | Pin series quantity                          | 1                        |
| Fitted by customer                                | Yes                         | Number of rows                               | 1                        |
| Max. adjacent poles per row                       | 24                          | Solder pin length (l)                        | 3.5 mm                   |
| Solder pin dimensions                             | 0.95 x 0.8 mm               | Solder eyelet hole diameter (D)              | 1.3 mm                   |
| Solder eyelet hole diameter tolerance (D)+ 0,1 mm |                             | Number of solder pins per pole               | 1                        |
| Screwdriver blade                                 | 0.6 x 3.5                   | Screwdriver blade standard                   | DIN 5264                 |
| Tightening torque, min.                           | 0.4 Nm                      | Tightening torque, max.                      | 0.5 Nm                   |
| Clamping screw                                    | M 2.5                       | Stripping length                             | 6 mm                     |
| L1 in mm                                          | 10.16 mm                    | L1 in inches                                 | 0.4 "                    |
| 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                        | Volume resistance                            | 1.20 mΩ                  |

## Material data

|                                       |                                |                                       |        |
|---------------------------------------|--------------------------------|---------------------------------------|--------|
| Insulating material                   | Wemid (PA)                     | Colour                                | black  |
| Colour chart (similar)                | RAL 9011                       | Insulating material group             | I      |
| Comparative Tracking Index (CTI)      | ≥ 600                          | UL 94 flammability rating             | V-0    |
| Contact material                      | Cu-alloy                       | Contact surface                       | tinned |
| Coating                               | 1-3 µm Ni, 4-6 µm SN           | Tinning type                          | matt   |
| Layer structure of solder connection  | 1...3 µm Ni / 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.                                                 | 0.2 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                                           | 1.5 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, 1.5 mm <sup>2</sup> max.  |                     |
| w. wire end ferrule, DIN 46228 pt 1, 0.25 mm <sup>2</sup> min.       |                     |

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Catalogue status 27.01.2024 / We reserve the right to make technical changes.

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w. wire end ferrule, DIN 46228 pt 1, max. 1.5 mm<sup>2</sup>

Plug gauge in accordance with EN 60999 a x b; ø 2.4 mm x 1.5 mm; 1.9mm

|                     |                                        |                              |                              |
|---------------------|----------------------------------------|------------------------------|------------------------------|
| Clampable conductor | Cross-section for conductor connection | Type                         | fine-wired                   |
|                     |                                        | nominal                      | 0.5 mm <sup>2</sup>          |
|                     | wire end ferrule                       | Stripping length             | nominal 8 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.5/12 OR</a>   |
|                     |                                        | Stripping length             | nominal 6 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.5/6</a>       |
|                     | Cross-section for conductor connection | Type                         | fine-wired                   |
|                     |                                        | nominal                      | 0.75 mm <sup>2</sup>         |
|                     | wire end ferrule                       | Stripping length             | nominal 8 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.75/12 W</a>   |
|                     |                                        | Stripping length             | nominal 6 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.75/6</a>      |
|                     | Cross-section for conductor connection | Type                         | fine-wired                   |
|                     |                                        | nominal                      | 1 mm <sup>2</sup>            |
|                     | wire end ferrule                       | Stripping length             | nominal 8 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H1.0/12 GE</a>   |
|                     |                                        | Stripping length             | nominal 6 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H1.0/6</a>       |
|                     | Cross-section for conductor connection | Type                         | fine-wired                   |
|                     |                                        | nominal                      | 0.25 mm <sup>2</sup>         |
|                     | wire end ferrule                       | Stripping length             | nominal 8 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.25/10 HBL</a> |
|                     |                                        | Stripping length             | nominal 5 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.25/5</a>      |
|                     | Cross-section for conductor connection | Type                         | fine-wired                   |
|                     |                                        | nominal                      | 0.34 mm <sup>2</sup>         |
|                     | wire end ferrule                       | Stripping length             | nominal 8 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.34/10 TK</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)                         | 17.5 A            |
| Rated current, max. number of poles (Tu=20°C)                             | 16 A                   | Rated current, min. number of poles (Tu=40°C)                         | 17.5 A            |
| Rated current, max. number of poles (Tu=40°C)                             | 14.2 A                 | Rated voltage for surge voltage class / pollution degree II/2         | 630 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) 18 A

Rated current (Use group D / CSA) 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.

## 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) 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 | 196 mm |
| VPE width | 147 mm | VPE height | 47 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 | 27460101    |

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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>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>The data given under CSA relates to a cUL approval - E60693</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>Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li> </ul> |

## Approvals

Approvals



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

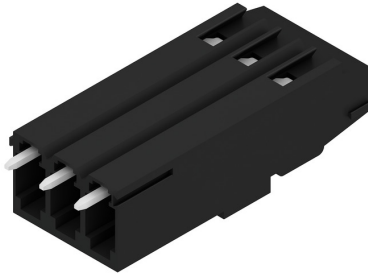
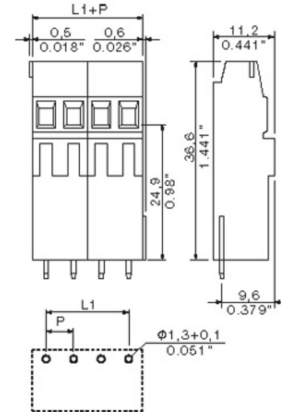
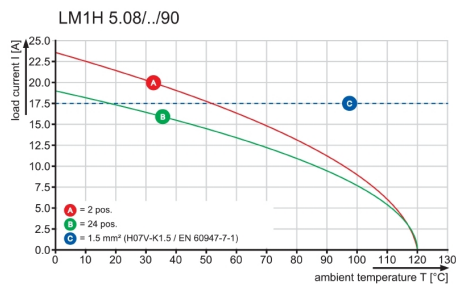
## Downloads

|                             |                                                                                                                    |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------|
| Product Change Notification | <a href="#">Modification of the clamping yoke on product families LM 5.0x, LL 5.0x, LL 6.35, LL 9.52 and WGK 4</a> |
| Catalogues                  | <a href="#">Catalogues in PDF-format</a>                                                                           |
| Brochures                   | <a href="#">FL DRIVES EN</a><br><a href="#">FL DRIVES DE</a>                                                       |

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**Drawings**
**Product image**

**Dimensional drawing**

**Graph**


## 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](http://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.

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