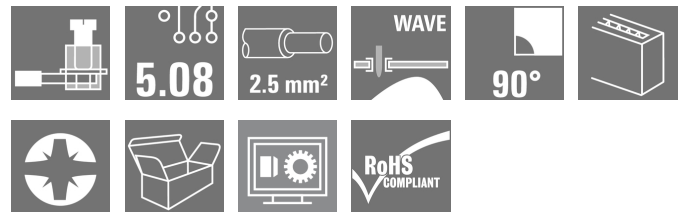


# OMNIMATE Signal - series LM

## LM 5.08/06/90 3.5SN BK BX

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 16  
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[www.weidmueller.com](http://www.weidmueller.com)



PCB terminal with proven clamping yoke connection at 5.00 and 5.08 mm pitch. Conductor outlet direction 90°, 135° and 180°. Suitable for conductor cross-sections up to 2.5 mm².

- 0.13 - 2.50 mm² (IEC) / 26 - 14 AWG (UL)
- 630 V (IEC) / 300 V (UL)
- 17.5 A (IEC) / 20 A (UL)

### General ordering data

|              |                                                                                                                                                                           |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | LM 5.08/06/90 3.5SN BK BX                                                                                                                                                 |
| Order No.    | <a href="#">9993940000</a>                                                                                                                                                |
| Version      | PCB terminal, 5.08 mm, No. of poles: 6, 90°, Solder pin length (l): 3.5 mm, tinned, Black, Clamping yoke connection, Clamping range, rated connection, max.: 2.5 mm², Box |
| GTIN (EAN)   | 4032248376148                                                                                                                                                             |
| Qty.         | 50 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                                                                                                                                                                       |

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## Technical data

### Dimensions and weights

Net weight 7.28 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 inch                 |
| No. of poles                                       | 6                           | Fitted by customer                           | Yes                      |
| 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                                           | 25.4 mm                     | L1 in inches                                 | 1 inch                   |
| Touch-safe protection acc. to DIN VDE 0470         | IP 20                       | Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch   |
| Volume resistance                                  | 1.20 mΩ                     |                                              |                          |

### Material data

|                                       |            |                                       |                            |
|---------------------------------------|------------|---------------------------------------|----------------------------|
| Insulating material                   | Wemid (PA) | Colour                                | Black                      |
| Colour chart (similar)                | RAL 9011   | Insulating material group             | I                          |
| CTI                                   | ≥ 600      | Insulation resistance                 | ≥ 10 <sup>8</sup> Ω        |
| UL 94 flammability rating             | V-0        | Contact material                      | Copper 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.             | -25 °C     | Storage temperature, max.             | 55 °C                      |
| Max. relative humidity during storage | 80 %       | 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, rated connection, min.          | 0.2 mm <sup>2</sup>    | Clamping range, rated connection, 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.       | 0.25 mm <sup>2</sup>   | w. wire end ferrule, DIN 46228 pt 1, max.       | 1.5 mm <sup>2</sup> |
| Plug gauge acc. to EN 60999 a x b; Ø            | 2.4 mm x 1.5 mm; 1.9mm |                                                 |                     |

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**Technical data**
**Rated data acc. to IEC**

|                                                                           |                        |                                                                       |                   |
|---------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------|-------------------|
| tested acc. to standard                                                   | IEC 60664-1, IEC 61984 | Rated current, min. no. of poles (Ta = 20°C)                          | 17.5 A            |
| Rated current, max. no. of poles (Ta = 20°C)                              | 16 A                   | Rated current, min. no. of poles (Ta = 40°C)                          | 17.5 A            |
| Rated current, max. no. of poles (Ta = 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 |

**Rated data acc. to CSA**

|                               |                                                                                   |                               |                |
|-------------------------------|-----------------------------------------------------------------------------------|-------------------------------|----------------|
| Institute (CSA)               |  | Certificate No. (CSA)         | 200039-1815154 |
| Rated voltage (Use group B)   | 300 V                                                                             | Rated voltage (use group D)   | 300 V          |
| Rated current (use group B)   | 18 A                                                                              | Rated current (use group D)   | 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)   | 300 V                                                                               | Rated voltage (use group D)   | 300 V  |
| Rated current (use group B)   | 15 A                                                                                | Rated current (use group D)   | 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.              |                               |        |

**Classifications**

|            |             |            |             |
|------------|-------------|------------|-------------|
| ETIM 3.0   | EC001284    | ETIM 4.0   | EC002643    |
| ETIM 5.0   | EC002643    | ETIM 6.0   | EC002643    |
| UNSPSC     | 30-21-18-01 | eClass 6.2 | 27-26-11-01 |
| eClass 7.1 | 27-44-04-01 | eClass 8.1 | 27-44-04-01 |
| eClass 9.0 | 27-44-04-01 | eClass 9.1 | 27-44-04-01 |

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## Technical data

### Notes

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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> </ul> |
| IPC conformity | The products are developed, manufactured and delivered according to the internationally recognised IPC-A-610 standard, category "permissible". More extensive demands on the products can be evaluated on request.                                                                                                                                                                                                                                                                                                                             |

### Approvals

Approvals



|      |         |
|------|---------|
| ROHS | Conform |
|------|---------|

### Downloads

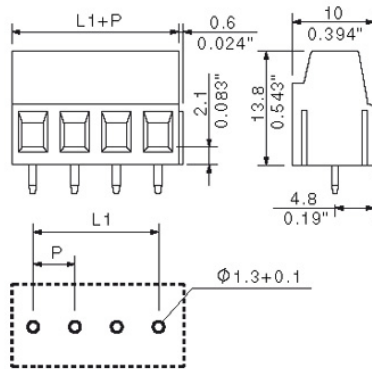
|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Brochure/Catalogue                          | <a href="#">FL DRIVES EN</a><br><a href="#">FL ANALO.SIGN.CONV. EN</a><br><a href="#">MB DEVICE MANUF. EN</a><br><a href="#">FL DRIVES DE</a><br><a href="#">FL BUILDING SAFETY EN</a><br><a href="#">FL APPL LED LIGHTING EN</a><br><a href="#">FL INDUSTR.CONTROLS EN</a><br><a href="#">FL MACHINE SAFETY EN</a><br><a href="#">FL HEATING ELECTR EN</a><br><a href="#">FL APPL INVERTER EN</a><br><a href="#">FL_BASE_STATION_EN</a><br><a href="#">FL ELEVATOR EN</a><br><a href="#">FL POWER SUPPLY EN</a><br><a href="#">FL 72H SAMPLE SER EN</a><br><a href="#">PO OMNIMATE EN</a> |
| Engineering Data                            | <a href="#">EPLAN_WSCAD</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Engineering Data                            | <a href="#">LM.zip</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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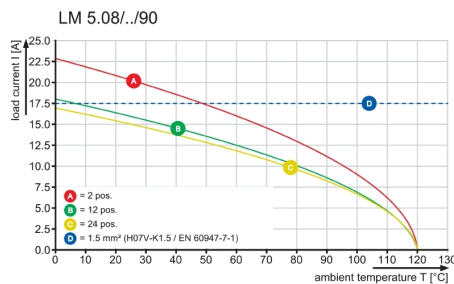
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# Drawings

## Dimensional drawing



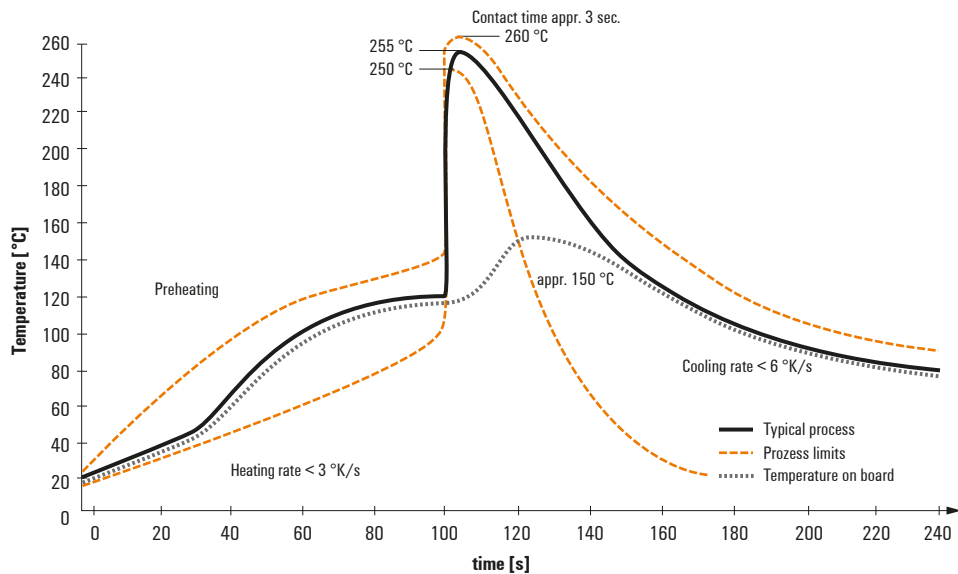
## Graph



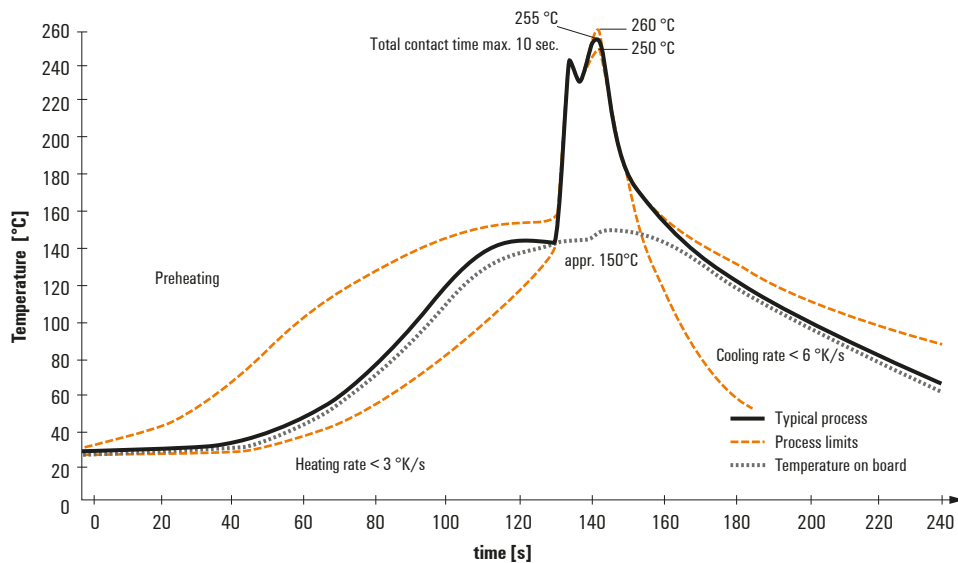
## Recommended wave soldering profiles

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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  $260\text{ °C}$ . In practice, the maximum soldering temperature is quite often well below the above maximum profile.

We reserve the right to make technical changes.

