

## LMZFL 5/23/135 3.5OR

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany

www.weidmueller.com

### Product image



Similar to illustration

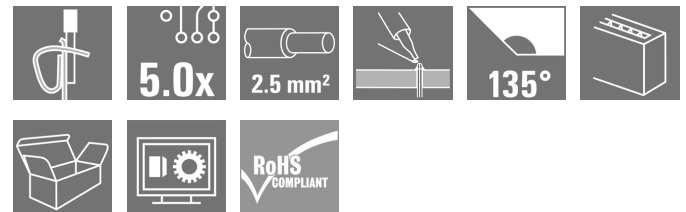
The compact installation terminal for the standard wire cross-section size of 2.5mm<sup>2</sup>. Tension clamp connection with a 135° outlet direction, in variable pitch: 5.00 - 5.08 mm (1 part with 2 pitches).

#### Rated data:

- 24A at 40°C / 630V (IEC) or 15A / 300V (UL)
- 0.13 - 2.5 mm<sup>2</sup> (IEC) / 26 - 14 AWG (UL)
- Flammability class according to UL 94: V0

#### Application benefits:

- Safe: ATEX certification Ex II 2GD / Ex e II (KEMA07 ATAEX0047U) optional
- Temperature resistant: long-term resistance up to 120°C provided by high-performance Wemid insulation material
- Adaptable: simple pitch adaptation from 5.00 to 5.08 mm (0.200 inch)
- Convenient: optional lever for simple opening of terminal point



### General ordering data

|              |   |
|--------------|---|
| Version      | Printed circuit board terminals, 5.00 mm, Number of poles: 23, 135°, Solder pin length (l): 3.5 mm, tinned, orange, Tension clamp connection with actuator, Clamping range, max.: 2.5 mm <sup>2</sup> , Box |
| Order No.    | <a href="#">1958500000</a>  |
| Type         | LMZFL 5/23/135 3.5OR  |
| GTIN (EAN)   | 403224865 1436  |
| Qty.         | 50 Stück  |
| Product data | IEC: 630 V / 24 A / 0.13 - 2.5 mm <sup>2</sup><br>UL: 300 V / 15 A / AWG 26 - AWG 14  |
| Packaging    | Box   |

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## Technische Daten

### Dimensions and weights

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Depth                    | 14.5 mm    | Depth (inches)  | 0.571 inch |
| Height                   | 20.24 mm   | Height (inches) | 0.797 inch |
| Height of lowest version | 16.74 mm   | Width           | 117.98 mm  |
| Width (inches)           | 4.645 inch | Net weight      | 28.532 g   |

### Temperatures

|                             |        |                             |        |
|-----------------------------|--------|-----------------------------|--------|
| Operating temperature, min. | -50 °C | Operating temperature, max. | 120 °C |
|-----------------------------|--------|-----------------------------|--------|

### System parameters

|  |                               |  |  |
|--|-------------------------------|--|--|
| Product family                               | OMNIMATE Signal - series LMZF | Wire connection method                     | Tension clamp connection with actuator |
| Mounting onto the PCB                        | THT solder connection         | Conductor outlet direction                 | 135°                                   |
| Pitch in mm (P)                              | 5 mm                          | Pitch in inches (P)                        | 0.197 inch                             |
| Number of poles                              | 23                            | Pin series quantity                        | 1                                      |
| Fitted by customer                           | No                            | Number of rows                             | 1                                      |
| Max. adjacent poles per row                  | 48                            | Solder pin length (l)                      | 3.5 mm                                 |
| Solder pin dimensions                        | 0.8 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             | 2                                      |
| Screwdriver blade                            | 0.4 x 2.5                     | Screwdriver blade standard                 | DIN 5264-A                             |
| Stripping length                             | 6 mm                          | L1 in mm                                   | 110 mm                                 |
| L1 in inches                                 | 4.331 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         | Insulating material group             | I      |
| Comparative Tracking Index (CTI)      | ≥ 600            | UL 94 flammability rating             | V-0    |
| Contact material                      | Copper alloy     | Contact surface                       | tinned |
| Coating                               | 5-8 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.                            | 0.13 mm <sup>2</sup> |
| Clamping range, max.                            | 2.5 mm <sup>2</sup>  |
| Wire connection cross section AWG, min.         | AWG 26               |
| Wire connection cross section AWG, max.         | AWG 14               |
| Solid, min. H05(07) V-U                         | 0.13 mm <sup>2</sup> |
| Solid, max. H05(07) V-U                         | 2.5 mm <sup>2</sup>  |
| Flexible, min. H05(07) V-K                      | 0.13 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>  |

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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>

| 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>       |         |                      |
|  |  | Stripping length                       | nominal 8 mm               |         |                      |
|  |  | Recommended wire-end ferrule           | <a href="#">H0.75/12 W</a> |         |                      |
| wire end ferrule                       |  | 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>    |
| Stripping length                       | nominal 8 mm                           |  |                            |         |                      |
| Recommended wire-end ferrule           | <a href="#">H1.0/12 GE</a>             |  |                            |         |                      |
| wire end ferrule                       |  | 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> |
| Stripping length                       | nominal 8 mm                           |  |                            |         |                      |
| Recommended wire-end ferrule           | <a href="#">H0.25/10 HBL</a>           |  |                            |         |                      |
| wire end ferrule                       |  | 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> |
| 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   |                        | Rated current, min. number of poles (Tu=20°C)                         |       |
|---|------------------------|---|-------|
|   | IEC 60664-1, IEC 61984 |   | 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         | 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                   |   |       |

## LMZFL 5/23/135 3.50R

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## Technische Daten

### 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) | 10 A  | Rated current (Use group D / CSA) | 10 A           |
| Wire cross-section, AWG, min.     | AWG 26  | 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 26  | Wire cross-section, AWG, max.         | AWG 14 |
| Reference to approval values          | Specifications are maximum values, details - see approval certificate.            |                                       |        |

### Packing

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 275 mm |
| VPE width | 150 mm | VPE height | 105 mm |

### 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          | <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>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 average humidity 70%, 36 months</li> </ul> |

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## Technische Daten

### Approvals

Approvals



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

### Downloads

|                  |   |
|------------------|---|
| 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><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="#">FLIndustr.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><br><a href="#">PO OMNIMATE EN</a> |

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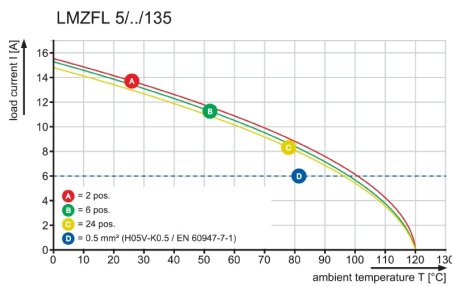
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Zeichnungen

Dimensional drawing



Graph



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°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.