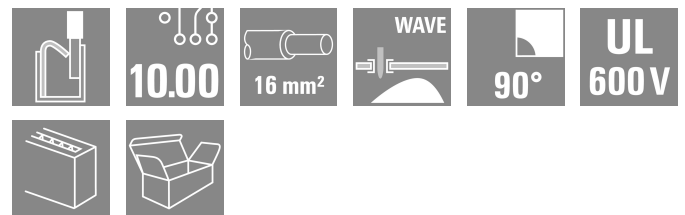
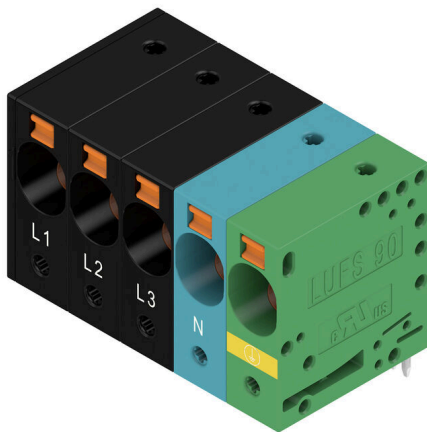


## LUFS 10.00/05/90V 5.0SN BK BX SO

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

www.weidmueller.com

### Product image



High-performance PCB terminal with a PUSH IN connection system for conductor cross-sections up to 16 mm<sup>2</sup>.

- Fast connection without tools thanks to pushers to open the contact point, or direct plug-in method
- Securely closed contact point, with the "Connection Safety Concept" the conductor is always clamped securely
- Integrated test point for PS 2.0 test plug
- Central tip test point for test probes on the upper side of the terminal
- Increased derating reserves because WEMID insulating material is used.
- Conductor outlet direction of 180°

### General ordering data

|              |   |
|--------------|---|
| Version      | Printed circuit board terminals, 10.00 mm, Number of poles: 5, 90°, Solder pin length (l): 5 mm, tinned, black, PUSH IN without actuator, Clamping range, max. : 16 mm <sup>2</sup> , Box |
| Order No.    | <a href="#">2878500000</a>  |
| Type         | LUFS 10.00/05/90V 5.0SN BK BX SO  |
| GTIN (EAN)   | 4064675668701   |
| Qty.         | 25 items  |
| Product data | IEC: 1000 V / 101 A / 0.5 - 25 mm <sup>2</sup><br>UL: 600 V / 53 A / AWG 18 - AWG 4   |
| Packaging    | Box   |

## LUF5 10.00/05/90V 5.0SN BK BX SO

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## Technical data

## Approvals

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

## Dimensions and weights

|                          |             |                 |            |
|--------------------------|-------------|-----------------|------------|
| Depth                    | 28.55 mm    | Depth (inches)  | 1.124 inch |
| Height                   | 35 mm       | Height (inches) | 1.378 inch |
| Height of lowest version | 30 mm       | Width           | 51.8 mm    |
| Width (inches)           | 2.0394 inch | Net weight      | 48 g       |

## Environmental Product Compliance

|                        |                             |
|------------------------|-----------------------------|
| RoHS Compliance Status | Compliant without exemption |
| REACH SVHC             | No SVHC above 0.1 wt%       |

## System parameters

|  |                              |  |   |
|--|------------------------------|--|---|
| Product family                             | OMNIMATE Power - series LU   | Wire connection method                       | PUSH IN without actuator                                    |
| Mounting onto the PCB                      | THT solder connection        | Conductor outlet direction                   | 90°   |
| Pitch in mm (P)                            | 10.00 mm                     | Pitch in inches (P)                          | 0.394 "   |
| Number of poles                            | 5                            | Pin series quantity                          | 1   |
| Fitted by customer                         | No                           | Number of rows                               | 1   |
| Solder pin length (l)                      | 5 mm                         | Solder pin dimensions                        | d = 1.2 mm, Octagonal                                       |
| Solder eyelet hole diameter (D)            | 1.6 mm                       | Solder eyelet hole diameter tolerance (D)    | + 0,1 mm  |
| Number of solder pins per pole             | 2                            | Screwdriver blade                            | 0.8 x 4.0   |
| Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged/ IP10 unplugged | Touch-safe protection acc. to DIN VDE 57 106 | touch-safe with connected connectors from 6 mm <sup>2</sup> |
| Protection degree                          | IP20                         |  |   |

## Material data

|                                  |            |                             |        |
|----------------------------------|------------|-----------------------------|--------|
| Insulating material              | Wemid (PA) | Colour                      | black  |
| Colour chart (similar)           | RAL 9011   | Insulating material group   | I      |
| Comparative Tracking Index (CTI) | ≥ 600      | Moisture Level (MSL)        |        |
| UL 94 flammability rating        | V-0        | Contact base material       | E-Cu   |
| Contact material                 | Cu-alloy   | Contact surface             | tinned |
| Storage temperature, min.        | -40 °C     | Storage temperature, max.   | 70 °C  |
| Operating temperature, min.      | -40 °C     | Operating temperature, max. | 120 °C |

## Conductors suitable for connection

|   |                     |
|---|---------------------|
| Clamping range, min.  | 0.5 mm <sup>2</sup> |
| Clamping range, max.  | 16 mm <sup>2</sup>  |
| Solid, min. H05(07) V-U   | 0.5 mm <sup>2</sup> |
| Solid, max. H05(07) V-U   | 16 mm <sup>2</sup>  |
| Stranded, min. H07V-R   | 6 mm <sup>2</sup>   |
| Stranded, max. H07V-R   | 25 mm <sup>2</sup>  |
| Flexible, min. H05(07) V-K  | 0.5 mm <sup>2</sup> |
| Flexible, max. H05(07) V-K  | 25 mm <sup>2</sup>  |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.5 mm <sup>2</sup> min. |                     |
| w. plastic collar ferrule, DIN 46228 pt 4, 16 mm <sup>2</sup> max.  |                     |
| w. wire end ferrule, DIN 46228 pt 1, 0.5 mm <sup>2</sup> min.       |                     |

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**Technical data**

w. wire end ferrule, DIN 46228 pt 1, max. 16 mm<sup>2</sup>

Plug gauge in accordance with EN 60999 a x b; ø 5.3mm (B6)

|  |  |                              |                             |
|--|--|------------------------------|-----------------------------|
| Clampable conductor                    | Cross-section for conductor connection | Type                         | fine-wired                  |
|  |  | nominal                      | 2.5 mm <sup>2</sup>         |
| wire end ferrule                       |  | Stripping length             | nominal 20 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H2.5/25D BL</a> |
|  |  | Stripping length             | nominal 18 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H2.5/18</a>     |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                             |
|  | nominal                                | 4 mm <sup>2</sup>            |                             |
| wire end ferrule                       |  | Stripping length             | nominal 20 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H4.0/26D GR</a> |
|  |  | Stripping length             | nominal 18 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H4.0/18</a>     |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                             |
|  | nominal                                | 6 mm <sup>2</sup>            |                             |
| wire end ferrule                       |  | Stripping length             | nominal 20 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H6.0/26 SW</a>  |
|  |  | Stripping length             | nominal 18 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H6.0/18</a>     |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                             |
|  | nominal                                | 10 mm <sup>2</sup>           |                             |
| wire end ferrule                       |  | Stripping length             | nominal 21 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H10.0/28 EB</a> |
|  |  | Stripping length             | nominal 18 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H10.0/18</a>    |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                             |
|  | nominal                                | 16 mm <sup>2</sup>           |                             |
| wire end ferrule                       |  | Stripping length             | nominal 21 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H16.0/28 GN</a> |
|  |  | Stripping length             | nominal 18 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H16.0/18</a>    |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                             |
|  | nominal                                | 1.5 mm <sup>2</sup>          |                             |
| wire end ferrule                       |  | Stripping length             | nominal 20 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H1.5/24 R</a>   |
|  |  | Stripping length             | nominal 18 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H1.5/18</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 60947-7-4 | Rated current, min. number of poles (Tu=20°C) | 101 A  |
| Rated current, max. number of poles (Tu=20°C) | 77.8 A        | Rated current, min. number of poles (Tu=40°C) | 90.2 A |

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## Technical data

|   |        |   |        |
|---|--------|---|--------|
| Rated current, max. number of poles (Tu=40°C)                             | 69.8 A | Rated voltage for surge voltage class / pollution degree II/2         | 1000 V |
| Rated voltage for surge voltage class / pollution degree III/2            | 1000 V | Rated voltage for surge voltage class / pollution degree III/3        | 1000 V |
| Rated impulse voltage for surge voltage class/ pollution degree II/2      | 8 kV   | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 8 kV   |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 8 kV   |   |        |

### Rated data acc. to CSA

|                                   |        |                                   |       |
|-----------------------------------|--------|-----------------------------------|-------|
| Rated voltage (Use group B / CSA) | 600 V  | Rated voltage (Use group C / CSA) | 600 V |
| Rated voltage (Use group D / CSA) | 600 V  | Rated current (Use group B / CSA) | 53 A  |
| Rated current (Use group C / CSA) | 53 A   | Rated current (Use group D / CSA) | 5 A   |
| Wire cross-section, AWG, min.     | AWG 18 | Wire cross-section, AWG, max.     | AWG 4 |

### Rated data acc. to UL 1059

|                                       |        |                                       |        |
|---------------------------------------|--------|---------------------------------------|--------|
| Rated voltage (Use group B / UL 1059) | 600 V  | Rated voltage (Use group C / UL 1059) | 600 V  |
| Rated voltage (Use group D / UL 1059) | 600 V  | Rated voltage (Use group F / UL 1059) | 1000 V |
| Rated current (Use group B / UL 1059) | 53 A   | Rated current (Use group C / UL 1059) | 53 A   |
| Rated current (Use group D / UL 1059) | 5 A    | Rated current (Use group F / UL 1059) | 53 A   |
| Wire cross-section, AWG, min.         | AWG 18 | Wire cross-section, AWG, max.         | AWG 4  |

### Packing

|           |           |            |           |
|-----------|-----------|------------|-----------|
| Packaging | Box       | VPE length | 316.00 mm |
| VPE width | 135.00 mm | VPE height | 52.00 mm  |

### Type tests

|   |                |  |                              |  |
|---|----------------|--|------------------------------|--|
| Test: Durability of markings                  | Standard       | IEC 60947-1 section 8.2.4.5.1 / 06.07, IEC 60512-1-1:2002-02                 |                              |  |
|   | Test           | mark of origin, type identification, pitch, durability, stripping length     |                              |  |
|   | Evaluation     | available  |                              |  |
| Test: Clampable cross section                 | Standard       | IEC 60999-1 section 7 and 9.1 / 11.99, IEC 60947-1 section 8.2.4.5.1 / 03.11 |                              |  |
|   | Conductor type | Type of conductor and conductor cross-section                                | solid 0.5 mm <sup>2</sup>    |  |
|   |                | Type of conductor and conductor cross-section                                | stranded 0.5 mm <sup>2</sup> |  |
|   |                | Type of conductor and conductor cross-section                                | solid 16 mm <sup>2</sup>     |  |
|   |                | Type of conductor and conductor cross-section                                | stranded 16 mm <sup>2</sup>  |  |
|   |                | Type of conductor and conductor cross-section                                | H07V-U16                     |  |
|   |                | Type of conductor and conductor cross-section                                | H07V-U6                      |  |
| Type of conductor and conductor cross-section |                | H07V-K16   |                              |  |

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**Technical data**

|   |   |   |           |
|---|---|---|-----------|
|   |   | Type of conductor and conductor cross-section | AWG 4     |
| Test for damage to and accidental loosening of conductors | Evaluation                                    | passed  |           |
|   | Standard                                      | IEC 60999-1 section 9.4 / 11.99               |           |
|   | Requirement                                   | 0.3 kg  |           |
|   | Conductor type                                | Type of conductor and conductor cross-section | AWG 20/1  |
|   |   | Type of conductor and conductor cross-section | AWG 20/19 |
|   |   | Type of conductor and conductor cross-section | H05V-U0.5 |
|   |   | Type of conductor and conductor cross-section | H05V-K0.5 |
|   | Evaluation                                    | passed  |           |
|   | Requirement                                   | 2.9 kg  |           |
|   | Conductor type                                | Type of conductor and conductor cross-section | H07V-U16  |
|   |   | Type of conductor and conductor cross-section | H07V-K16  |
|   | Evaluation                                    | passed  |           |
| Requirement   | 4,5 kg  |   |           |
| Conductor type  | Type of conductor and conductor cross-section | AWG 4/7                                       |           |
|   | Type of conductor and conductor cross-section | AWG 4/19                                      |           |
| Pull-out test   | Evaluation                                    | passed  |           |
|   | Standard                                      | IEC 60999-1 section 9.5 / 11.99               |           |
|   | Requirement                                   | ≥20 N   |           |
|   | Conductor type                                | Type of conductor and conductor cross-section | AWG 20/1  |
|   |   | Type of conductor and conductor cross-section | AWG 20/19 |
|   |   | Type of conductor and conductor cross-section | H05V-U0.5 |
|   |   | Type of conductor and conductor cross-section | H05V-K0.5 |
|   | Evaluation                                    | passed  |           |
|   | Requirement                                   | ≥100 N  |           |
|   | Conductor type                                | Type of conductor and conductor cross-section | H07V-U16  |
|   |   | Type of conductor and conductor cross-section | H07V-K16  |
|   | Evaluation                                    | passed  |           |
| Requirement   | ≥ 135 N                                       |   |           |
| Conductor type  | Type of conductor and conductor cross-section | AWG 4/7                                       |           |

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**Technical data**

|            |   |          |
|------------|---|----------|
|            | Type of conductor and conductor cross-section | AWG 4/19 |
| Evaluation | passed  |          |

**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 variants 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>• The single-position PCB terminal block can be used for voltages up to 1500 V (DC) and 1000 V (AC). The relevant device standard and the appropriate required clearances and creepage distances should be observed in the application</li> <li>• Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li> </ul> |

**Classifications**

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 8.0    | EC002643    | ETIM 9.0    | EC002643    |
| ETIM 10.0   | EC002643    | ECLASS 14.0 | 27-46-01-01 |
| ECLASS 15.0 | 27-46-01-01 |             |             |

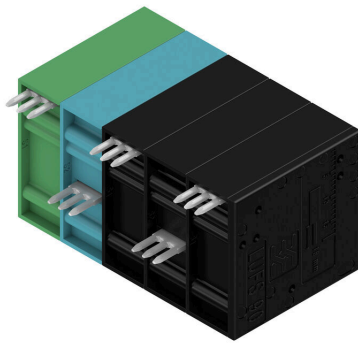
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Drawings

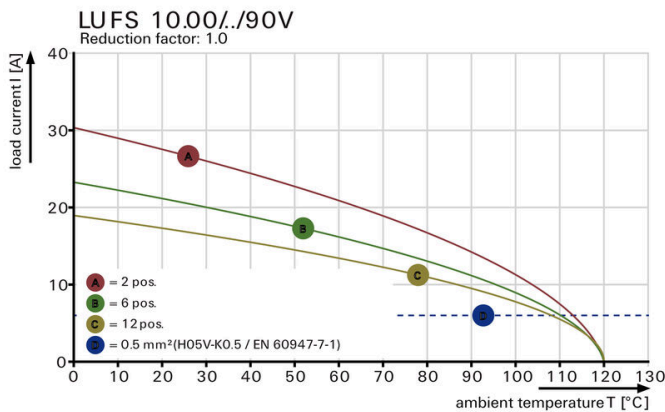
Product image



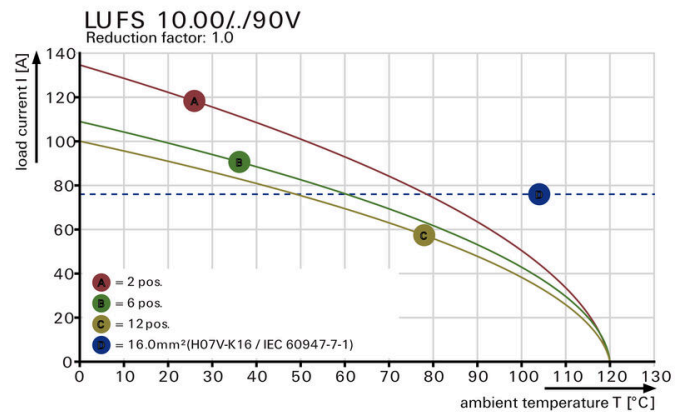
Dimensional drawing



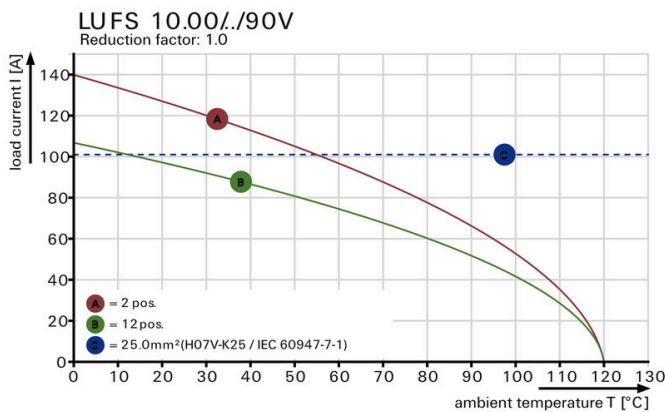
Derating curve



Derating curve



Derating curve



Product benefits



Power up to UL 600 V offset solder pins

**Product benefits**

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PUSH IN connection up to 16 mm<sup>2</sup>