

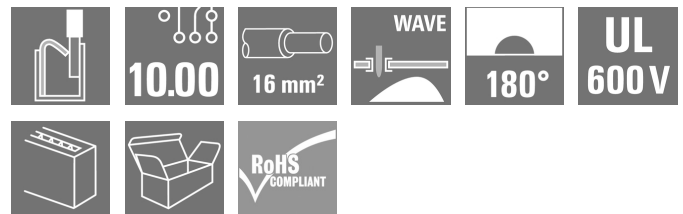
LUFS 10.00/09/180V 5.0SN BK BX**Weidmüller Interface GmbH & Co. KG**

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 mm².

- 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: 9, 180°, Solder pin length (l): 5 mm, tinned, black, PUSH IN with actuator, Clamping range, max. : 16 mm ² , Box |
| Order No. | 2492180000 |
| Type | LUFS 10.00/09/180V 5.0SN BK BX |
| GTIN (EAN) | 4050118559903 |
| Qty. | 10 pc(s). |
| Product data | IEC: 1000 V / 101 A / 0.5 - 25 mm ² UL: 600 V / 57 A / AWG 18 - AWG 4 |
| Packaging | Box |

Creation date July 3, 2024 1:49:58 AM CEST

Catalogue status 29.06.2024 / We reserve the right to make technical changes.

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Technical data
Dimensions and weights

| | | | |
|--------------------------|------------|-----------------|------------|
| Depth | 24.7 mm | Depth (inches) | 0.972 inch |
| Height | 36.3 mm | Height (inches) | 1.429 inch |
| Height of lowest version | 31.3 mm | Width | 91.58 mm |
| Width (inches) | 3.606 inch | Net weight | 72.885 g |

System parameters

| | | | |
|--|----------------------------|--|------------------------------|
| Product family | OMNIMATE Power - series LU | Wire connection method | PUSH IN with actuator |
| Mounting onto the PCB | THT solder connection | Conductor outlet direction | 180° |
| Pitch in mm (P) | 10 mm | Pitch in inches (P) | 0.394 " |
| Number of poles | 9 | 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 |
| Stripping length | 18 mm | L1 in mm | 80 mm |
| L1 in inches | 3.15 " | Touch-safe protection acc. to DIN VDE 0470 | IP20 plugged/ IP10 unplugged |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch | 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 | UL 94 flammability rating | V-0 |
| Contact base material | E-Cu | Contact material | Cu-alloy |
| Contact surface | tinned | Layer structure of solder connection | 4...10 µm Sn matt |
| 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 ² |
| Clamping range, max. | 16 mm ² |
| Wire connection cross section AWG, min. | AWG 18 |
| Wire connection cross section AWG, max. | AWG 4 |
| Solid, min. H05(07) V-U | 0.5 mm ² |
| Solid, max. H05(07) V-U | 16 mm ² |
| Stranded, min. H07V-R | 6 mm ² |
| Stranded, max. H07V-R | 25 mm ² |
| Flexible, min. H05(07) V-K | 0.5 mm ² |
| Flexible, max. H05(07) V-K | 25 mm ² |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.5 mm ² min. | |
| w. plastic collar ferrule, DIN 46228 pt 4, 16 mm ² max. | |
| w. wire end ferrule, DIN 46228 pt 1, min. | 0.5 mm ² |
| w. wire end ferrule, DIN 46228 pt 1, max. | 16 mm ² |
| Plug gauge in accordance with EN 60999 a x b; ø | 5.4 mm x 5.1 mm; 5.3 mm |

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Technical data

| | | | | |
|---------------------|--|------------------------------|-----------------------------|-------|
| Clampable conductor | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 2.5 mm ² | |
| | wire end ferrule | Stripping length | nominal | 20 mm |
| | | Recommended wire-end ferrule | H2.5/25D BL | |
| | | Stripping length | nominal | 18 mm |
| | | Recommended wire-end ferrule | H2.5/18 | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 4 mm ² | |
| | wire end ferrule | Stripping length | nominal | 20 mm |
| | | Recommended wire-end ferrule | H4.0/26D GR | |
| | | Stripping length | nominal | 18 mm |
| | | Recommended wire-end ferrule | H4.0/18 | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 6 mm ² | |
| | wire end ferrule | Stripping length | nominal | 20 mm |
| | | Recommended wire-end ferrule | H6.0/26 SW | |
| | | Stripping length | nominal | 18 mm |
| | | Recommended wire-end ferrule | H6.0/18 | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 10 mm ² | |
| | wire end ferrule | Stripping length | nominal | 21 mm |
| | | Recommended wire-end ferrule | H10.0/28 EB | |
| | | Stripping length | nominal | 18 mm |
| | | Recommended wire-end ferrule | H10.0/18 | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 16 mm ² | |
| | wire end ferrule | Stripping length | nominal | 21 mm |
| | | Recommended wire-end ferrule | H16.0/28 GN | |
| | | Stripping length | nominal | 18 mm |
| | | Recommended wire-end ferrule | H16.0/18 | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 1.5 mm ² | |
| | wire end ferrule | Stripping length | nominal | 20 mm |
| | | Recommended wire-end ferrule | H1.5/24 R | |
| | | Stripping length | nominal | 18 mm |
| | | Recommended wire-end ferrule | H1.5/18 | |
| 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) | | | |

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Technical data
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) | 85.8 A | Rated current, min. number of poles (Tu=40°C) | 101 A |
| Rated current, max. number of poles (Tu=40°C) | 76 A | Rated voltage for surge voltage class / pollution degree II/2 | 1,000 V |
| Rated voltage for surge voltage class / pollution degree III/2 | 1,000 V | Rated voltage for surge voltage class / pollution degree III/3 | 1,000 V |
| Rated impulse voltage for surge voltage class/ pollution degree II/2 | 6 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) | 57 A |
| Rated current (Use group C / CSA) | 57 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

| | | | |
|---------------------------------------|---|---------------------------------------|---------|
| Institute (cURus) |  | Certificate No. (cURus) | E60693 |
| 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) | 1,000 V |
| Rated current (Use group B / UL 1059) | 57 A | Rated current (Use group C / UL 1059) | 57 A |
| Rated current (Use group D / UL 1059) | 5 A | Rated current (Use group F / UL 1059) | 57 A |
| Wire cross-section, AWG, min. | AWG 18 | Wire cross-section, AWG, max. | AWG 4 |
| Reference to approval values | Specifications are maximum values, details - see approval certificate. | | |

Packing

| | | | |
|-----------|--------|------------|--------|
| Packaging | Box | VPE length | 261 mm |
| VPE width | 100 mm | VPE height | 44 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 |
| | Evaluation | available |

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Technical data

| | | |
|---|----------------|--|
| 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 solid 0.5 mm ² conductor cross-section |
| | | Type of conductor and stranded 0.5 mm ² conductor cross-section |
| | | Type of conductor and solid 16 mm ² conductor cross-section |
| | | Type of conductor and stranded 16 mm ² conductor cross-section |
| | | Type of conductor and H07V-U16 conductor cross-section |
| | | Type of conductor and H07V-U6 conductor cross-section |
| | | Type of conductor and H07V-K16 conductor cross-section |
| | Evaluation | passed |
| Test for damage to and accidental loosening of conductors | Standard | IEC 60999-1 section 9.4 / 11.99 |
| | Requirement | 0.3 kg |
| | Conductor type | Type of conductor and AWG 20/1 conductor cross-section |
| | | Type of conductor and AWG 20/19 conductor cross-section |
| | | Type of conductor and H05V-U0.5 conductor cross-section |
| | | Type of conductor and H05V-K0.5 conductor cross-section |
| | Evaluation | passed |
| | Requirement | 2.9 kg |
| | Conductor type | Type of conductor and H07V-U16 conductor cross-section |
| | | Type of conductor and H07V-K16 conductor cross-section |
| | Evaluation | passed |

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Technical data

| | | |
|---------------|----------------|---|
| Pull-out test | Standard | IEC 60999-1 section 9.5 / 11.99 |
| | Requirement | ≥20 N |
| | Conductor type | Type of conductor and AWG 20/1 conductor cross-section |
| | | Type of conductor and AWG 20/19 conductor cross-section |
| | | Type of conductor and H05V-U0.5 conductor cross-section |
| | | Type of conductor and H05V-K0.5 conductor cross-section |
| | Evaluation | passed |
| | Requirement | ≥100 N |
| | Conductor type | Type of conductor and H07V-U16 conductor cross-section |
| | | Type of conductor and H07V-K16 conductor cross-section |
| | Evaluation | passed |

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 |

Environmental Product Compliance

REACH SVHC /

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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"> • 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. • 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 • 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. (cURus) | E60693 |

Downloads

| | |
|---|---|
| Approval/Certificate/Document of Conformity | Declaration of the Manufacturer |
| Engineering Data | CAD data – STEP |
| Product Change Notification | 20210909 Color Change of Actuator to LLF(S) and LUF(S) Family 20210909 LLF(S) und LUF(S) Familie - Farbänderung des Betätigungselementes |
| User Documentation | QR-Code product handling video Assembly instruction_Montageanleitung_LLFS_LUFS_EN_DE |
| Catalogues | Catalogues in PDF-format |

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Technical drawing of the LUFS 180 device, showing front, top, and side views with dimensions in inches and millimeters.

Front View Dimensions:

- Overall width: $L1 + 11.8$ inches / $L1 + 0.464$ inches
- Overall height: 31.3 inches / 1.232 inches
- Pin pitch: P
- Pin diameter: d
- Pin length: 4.3 inches / 0.169 inches

Top View Dimensions:

- Overall width: 24.7 inches / 0.972 inches
- Overall height: 15 inches / 0.591 inches
- Pin diameter: 2.5 inches / 0.098 inches
- Pin pitch: 2.5 inches / 0.098 inches

Side View Dimensions:

- Overall width: 5.91 inches / 0.233 inches
- Pin diameter: 0.169 inches / 4.3 mm

Device Details:

- Model name: LUFS 180
- Serial number: 33
- Pin configuration: 18 pins (9 on each side)

LUF5 1000L/180V
Reduction factor: 1.0

Y-axis: load current I_A [A]
X-axis: ambient temperature T [°C]

Legend:

- Red circle: $n = 2$ pos.
- Green circle: $n = 12$ pos.
- Blue circle: $\phi = 0.5 \text{ mm}^3$ (H05V-K0.5 / EN 60947-7-1)

The graph shows two curves representing the maximum load current I_A as a function of ambient temperature T for a reduction factor of 1.0. The upper curve (red) corresponds to $n = 2$ pos. and the lower curve (green) corresponds to $n = 12$ pos. Data points are plotted for $n = 2$ pos. (red circle at $T \approx 30^\circ\text{C}$), $n = 12$ pos. (green circle at $T \approx 40^\circ\text{C}$), and $\phi = 0.5 \text{ mm}^3$ (blue circle at $T \approx 95^\circ\text{C}$). A dashed blue line indicates the maximum load current for $\phi = 0.5 \text{ mm}^3$ is approximately 6.5 A.

LUFS 1000L/180V
Reduction factor: 1.0

load current I [A]

ambient temperature T [°C]

Legend:

- = 2 pos.
- = 12 pos.
- = 16.0mm³ (H07V-K16 / IEC 60947-7-1)

| Ambient Temperature T [°C] | Load Current I [A] (2 pos.) | Load Current I [A] (12 pos.) | Load Current I [A] (16.0mm ³) |
|----------------------------|-----------------------------|------------------------------|---|
| 0 | 120 | 100 | 120 |
| 30 | 105 | 85 | 105 |
| 40 | 100 | 80 | 100 |
| 70 | 85 | 65 | 85 |
| 100 | 65 | 45 | 65 |
| 130 | 0 | 0 | 0 |

Figure 10 is a line graph showing the relationship between Load Current I_A [A] (Y-axis) and Ambient Temperature T [°C] (X-axis) for the LUFS 10.00./180V. The graph includes three curves representing different reduction factors:

- Red curve: $\bullet = 2$ pos.
- Green curve: $\bullet = 12$ pos.
- Blue curve: $\bullet = 25.0\text{mm}^3$ (IH07V-K25 / IEC 60947-7-1)

The X-axis ranges from 0 to 130 °C, and the Y-axis ranges from 0 to 200 A. The curves show that the load current decreases as the ambient temperature increases. The red curve (2 pos.) is the highest, followed by the green curve (12 pos.), and the blue curve (25.0mm³) is the lowest. The blue curve is a horizontal dashed line at 100 A.

A yellow and black Würth Elektronik 5E power supply unit is shown in the foreground. The unit has a yellow front panel with the brand name 'Würth Elektronik' and '5E' printed on it. It features a black side panel with vertical cooling fins and a black top panel with a digital display showing '0.00'. The unit is connected to a power source and has several output ports on the bottom. In the background, a person is working on a circuit board in a laboratory setting.

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www.weidmueller.com**Accessories****Slotted screwdriver**

Slotted screwdriver with rounded blade SD DIN 5265, ISO 2380/2, output to DIN 5264, ISO 2380/1. ChromTop tip, SoftFinish grip

General ordering data

| | | |
|------------|----------------------------|--------------------------|
| Type | SDS 0.8X4.0X100 | Version |
| Order No. | 9008340000 | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056293 | |
| Qty. | 1 pc(s). | |

Additional accessories**No task is too small when creating the perfect solution.**

Connections form just one part of the overall process. Small details are often the key to the perfect solution in applications where potentials are tested, grouped or even isolated.

A system is not a system without small but essential details:

- Test plugs ensure reliable pick-up from diagnostic sockets

In tandem with the manufacturing process and application.

General ordering data

| | | | | |
|------------|----------------------------|--|--------------|-----------|
| Type | PS 2.0 MC | Version | Product data | Packaging |
| Order No. | 0310000000 | PCB plug-in connector, Accessories, Test plug, red, Number of poles: 1 | | Box |
| GTIN (EAN) | 4008190000059 | | | |
| Qty. | 20 pc(s). | | | |

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www.weidmueller.com**Accessories****Slotted screwdriver**

VDE insulated slot-head screwdriver, SDI DIN 7437, ISO 2380/2, drive output acc. to DIN 5264, ISO 2380/1.
SoftFinish grip

General ordering data

| | | |
|------------|----------------------------|--------------------------|
| Type | SDIS 0.8X4.0X100 | Version |
| Order No. | 9008400000 | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056361 | |
| Qty. | 1 pc(s). | |

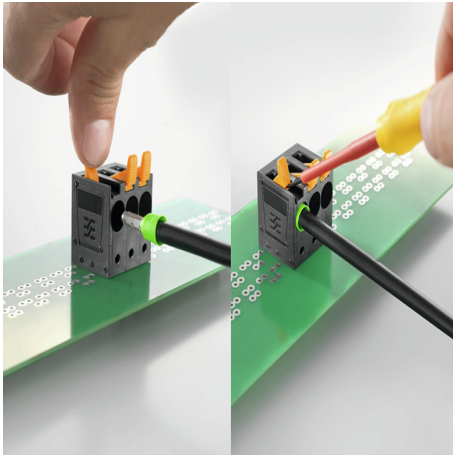
LUFS 10.00/09/180V 5.0SN BK BX

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Drawings

Product benefits



Simple actuation of the contact point

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.