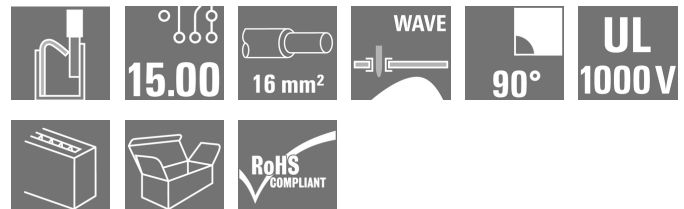


# OMNIMATE Power - series LU

## LUFS 15.00/06/90V 5.0SN BK BX

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
 www.weidmueller.com

### Product image



**The sturdy, direct connection for extreme current and voltage requirements in all power electronics applications such as solar inverters, frequency converters, servo-controllers and power supplies.**

### General ordering data

|              |                                                                                                                                                                     |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | LUFS 15.00/06/90V 5.0SN BK BX                                                                                                                                       |
| Order No.    | <a href="#">2500660000</a>                                                                                                                                          |
| Version      | Printed circuit board terminals, 15.00 mm, Number of poles: 6, 90°, Solder pin length (l): 5 mm, black, PUSH IN without actuator, Clamping range, max.: 16 mm², Box |
| GTIN (EAN)   | 4050118604481                                                                                                                                                       |
| Qty.         | 10 pc(s).                                                                                                                                                           |
| Product data | IEC: 1000 V / 76 A / 0.5 - 16 mm²<br>UL: 600 V / 53 A / AWG 18 - AWG 4                                                                                              |
| Packaging    | Box                                                                                                                                                                 |

Creation date September 9, 2020 11:39:28 AM CEST

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**Technical data**
**Dimensions and weights**

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Width                    | 86.8 mm    | Width (inches)  | 3.417 inch |
| Height                   | 35 mm      | Height (inches) | 1.378 inch |
| Height of lowest version | 30 mm      | Depth           | 28.55 mm   |
| Depth (inches)           | 1.124 inch | Net weight      | 70.45 g    |

**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)                              | 15 mm                                                       | Pitch in inches (P)                        | 0.591 inch                   |
| Number of poles                              | 6                                                           | Fitted by customer                         | No                           |
| Solder pin length (l)                        | 5 mm                                                        | Solder pin dimensions                      | d = 1.2 mm, Octagonal        |
| Solder eyelet hole diameter (D)              | 1.7 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                                   | 75 mm                        |
| L1 in inches                                 | 2.953 inch                                                  | 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> |                                            |                              |

**Material data**

|                                  |            |                                  |                     |
|----------------------------------|------------|----------------------------------|---------------------|
| Insulating material              | Wemid (PA) | Colour                           | black               |
| Colour of operational elements   | orange     | Material of operational elements | PA4T GF             |
| Colour chart (similar)           | RAL 9011   | Insulating material group        | I                   |
| Comparative Tracking Index (CTI) | ≥ 600      | Insulation strength              | ≥ 10 <sup>8</sup> Ω |
| UL 94 flammability rating        | V-0        | Contact material                 | E-Cu                |
| 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>  |
| 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 <sup>2</sup> |
| Solid, max. H05(07) V-U                                             | 16 mm <sup>2</sup>  |
| Stranded, min. H07V-R                                               | 10 mm <sup>2</sup>  |
| Stranded, max. H07V-R                                               | 16 mm <sup>2</sup>  |
| Flexible, min. H05(07) V-K                                          | 0.5 mm <sup>2</sup> |
| Flexible, max. H05(07) V-K                                          | 16 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.       |                     |
| w. wire end ferrule, DIN 46228 pt 1, 16 mm <sup>2</sup> max.        |                     |

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**Technical data**

|                     |                                                                                                                                                                        |                              |                             |       |  |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------|-------|--|
| Clampable conductor | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                  |       |  |
|                     |                                                                                                                                                                        | nominal                      | 2.5 mm²                     |       |  |
|                     | 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 mm²                       |       |  |
|                     | 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 mm²                       |       |  |
|                     | 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 mm²                      |       |  |
|                     | 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 mm²                      |       |  |
|                     | 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 mm²                     |       |  |
|                     | 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) |                              |                             |       |  |
| Max. clamping range | 16 mm²                                                                                                                                                                 |                              |                             |       |  |

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

|                                                                          |         |                                                                              |         |
|--------------------------------------------------------------------------|---------|------------------------------------------------------------------------------|---------|
| Rated current, min. number of poles<br>(Tu=20°C)                         | 76 A    | Rated current, max. number of poles<br>(Tu=20°C)                             | 76 A    |
| Rated current, min. number of poles<br>(Tu=40°C)                         | 76 A    | Rated current, max. number of poles<br>(Tu=40°C)                             | 76 A    |
| Rated voltage for surge voltage class /<br>pollution degree II/2         | 1,000 V | Rated voltage for surge voltage class /<br>pollution degree III/2            | 1,000 V |
| Rated voltage for surge voltage class /<br>pollution degree III/3        | 1,000 V | Rated impulse voltage for surge voltage<br>class/ pollution degree II/2      | 6 kV    |
| Rated impulse voltage for surge voltage<br>class/ pollution degree III/2 | 8 kV    | Rated impulse voltage for surge voltage<br>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**

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 E / UL 1059) | 1,000 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 E / UL 1059) | 53 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 | 0 m |
| VPE width | 0 m | VPE height | 0 m |

**Classifications**

|             |             |            |             |
|-------------|-------------|------------|-------------|
| ETIM 6.0    | EC002643    | ETIM 7.0   | EC002643    |
| eClass 9.0  | 27-44-04-01 | eClass 9.1 | 27-44-04-01 |
| eClass 10.0 | 27-44-04-01 |            |             |

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## Technical data

### Notes

#### Notes

- Additional colours 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.
- Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

#### 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.

### Approvals

#### Approvals



#### ROHS

Conform

### Downloads

#### Approval/Certificate/Document of Conformity

[Declaration of the Manufacturer](#)

#### Engineering Data

[STEP](#)

#### White paper power electronics connected correctly

[Download Whitepaper](#)

#### User Documentation

[QR-Code product handling video](#)

#### White paper UL 600 V

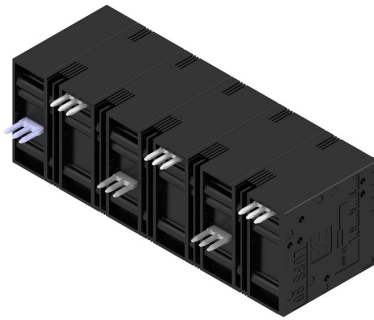
[Download Whitepaper](#)

## OMNIMATE Power - series LU LUFS 15.00/06/90V 5.0SN BK BX

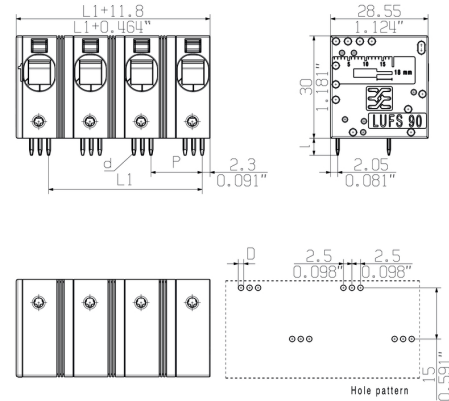
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# Drawings

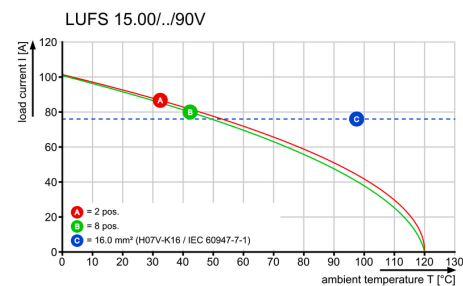
## Product image



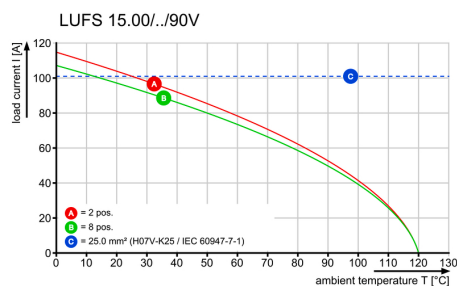
## Dimensional drawing



## Derating curve



## Derating curve



## Product benefits



Power up to UL 600 V  
Offset solder pins

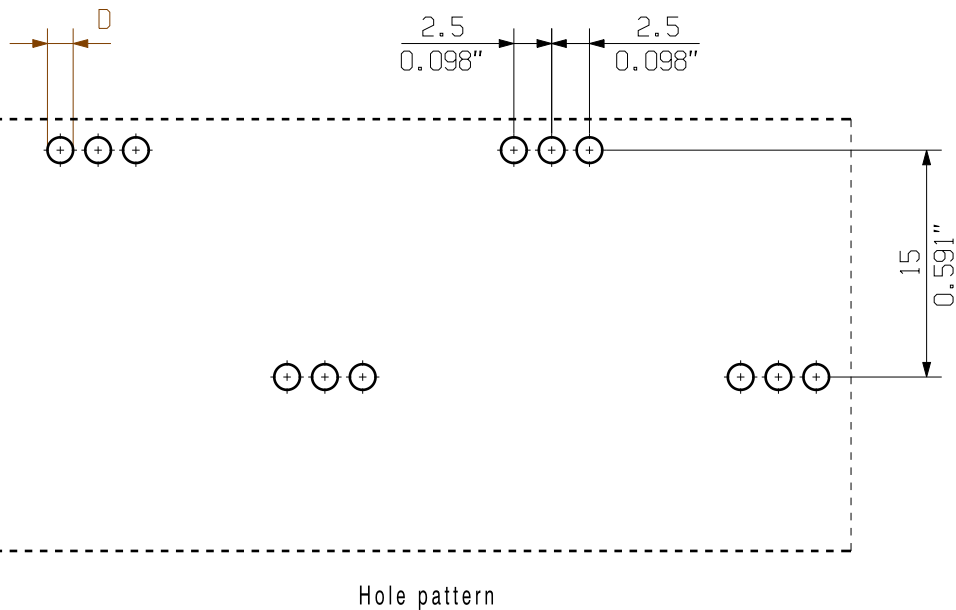
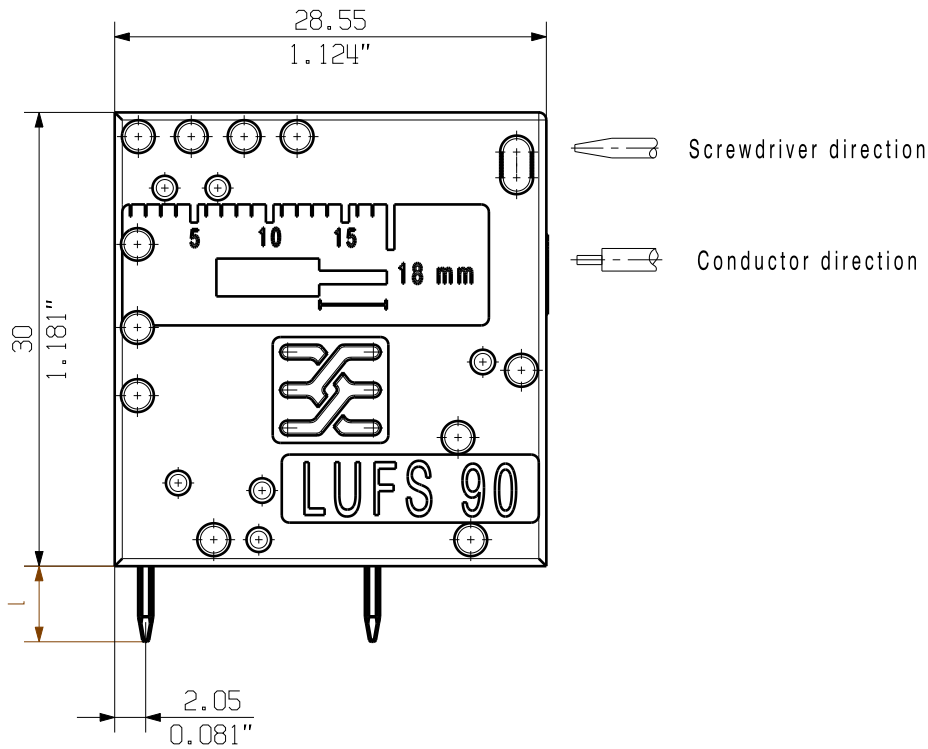
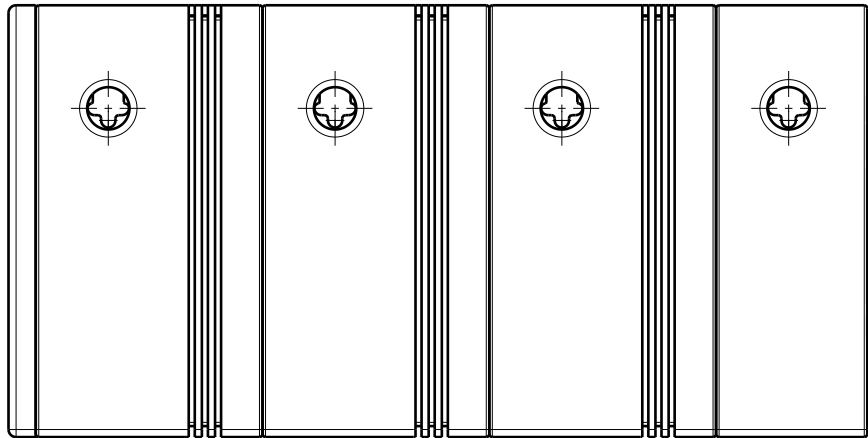
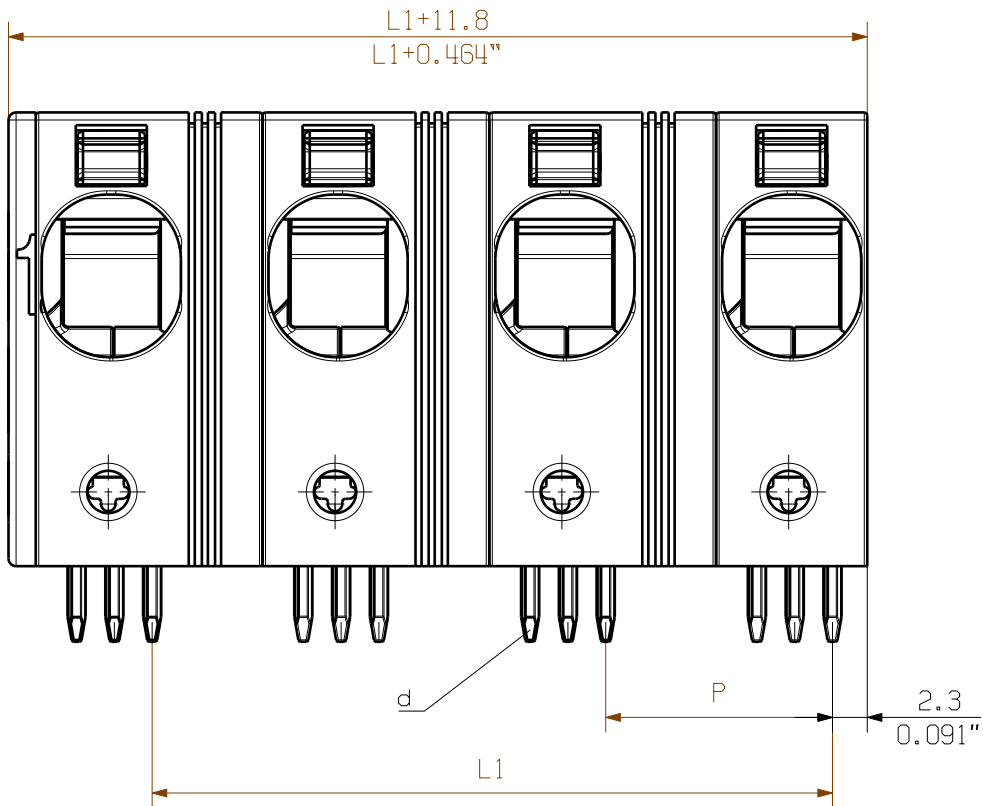
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Dimensions without tolerances are no check dimensions

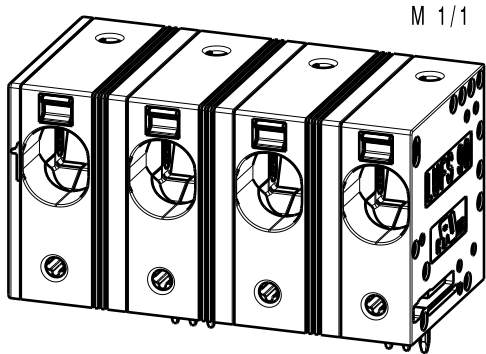
The English version is binding

Allgemeingültige Kundenzeichnung, aktueller Stand nur auf Anfrage  
General customer drawing, topical version only if required



P= 15.00 Pitch  
0,590" Raster  
D= Ø1.7 +0.1  
0.066"  
d= 1.24x1.2  
0.049"x0.047"  
l= 5.0  
0.197"

|                    |            |            |
|--------------------|------------|------------|
| 12                 | 165.00     | 6.496      |
| 11                 | 150.00     | 5.905      |
| 10                 | 135.00     | 5.314      |
| 9                  | 120.00     | 4.724      |
| 8                  | 105.00     | 4.133      |
| 7                  | 90.00      | 3.543      |
| 6                  | 75.00      | 0.952      |
| 5                  | 60.00      | 2.362      |
| 4                  | 45.00      | 1.771      |
| 3                  | 30.00      | 1.181      |
| 2                  | 15.00      | 0.590      |
| n Poles<br>Polzahl | L1<br>[mm] | L1<br>[mm] |



For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone.  
The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.  
The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application. Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

|                                       |                                 |            |            |                   |                                                |
|---------------------------------------|---------------------------------|------------|------------|-------------------|------------------------------------------------|
| General tolerance:<br>DIN ISO 2768-mK | 95782/3<br>17.08.17 KRECHT_M 01 |            | Cat.no.: . |                   |                                                |
|                                       | Modification                    |            | 3 64094 01 |                   |                                                |
|                                       | Drawn                           | 02.12.2016 | KRECHT_M   | <b>Weidmüller</b> | Drawing no. Issue no.<br>Sheet 01 of 01 sheets |
|                                       | Responsible                     |            | SCHMITZ_T  |                   |                                                |
|                                       | Checked                         | 07.09.2017 | HELIS_MA   |                   |                                                |
| Supersedes: .                         | Approved                        |            | NOLTE_S    | LUF 10.00         |                                                |

**LUF 15.00/./90**  
LEITERPLATTENKLEMME  
PCB TERMINAL

Product file: LUF 10.00 7419

## 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.