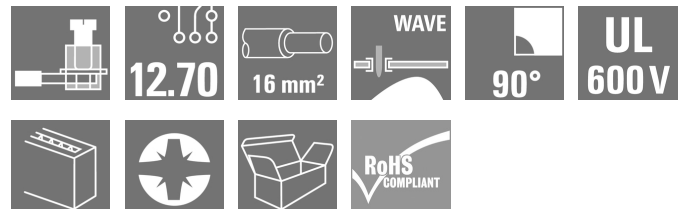


LUP 12.70/05/90 5.0SN BK BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com**Product image**

This PCB terminal provides connections for 1000 V, 76 A and 16 mm² conductor cross-section with proven clamping yoke connection at 12.7 mm pitch, conductor outlet direction in 90° design.

General ordering data

| | |
|--------------|---|
| Version | Printed circuit board terminals, 12.70 mm, Number of poles: 5, 90°, Solder pin length (l): 5 mm, tinned, black, Clamping yoke connection, Clamping range, max. : 16 mm ² , Box |
| Order No. | 2014420000 |
| Type | LUP 12.70/05/90 5.0SN BK BX |
| GTIN (EAN) | 4050118399776 |
| Qty. | 20 pc(s). |
| Product data | IEC: 1000 V / 76 A / 0.5 - 16 mm ² UL: 600 V / 65 A / AWG 22 - AWG 6 |
| Packaging | Box |

Creation date May 23, 2024 2:06:39 PM CEST

LUP 12.70/05/90 5.0SN BK BX

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Dimensions and weights

| | | | |
|--------------------------|------------|-----------------|------------|
| Depth | 25.1 mm | Depth (inches) | 0.988 inch |
| Height | 36.5 mm | Height (inches) | 1.437 inch |
| Height of lowest version | 31.5 mm | Width | 61.76 mm |
| Width (inches) | 2.431 inch | Net weight | 50.6 g |

System parameters

| | | | |
|--|------------------------------|--|--------------------------|
| Product family | OMNIMATE Power - series LUP | Wire connection method | Clamping yoke connection |
| Mounting onto the PCB | THT solder connection | Conductor outlet direction | 90° |
| Pitch in mm (P) | 12.7 mm | Pitch in inches (P) | 0.5 " |
| Number of poles | 5 | Pin series quantity | 1 |
| Fitted by customer | Yes | Number of rows | 1 |
| Max. adjacent poles per row | 12 | Solder pin length (l) | 5 mm |
| Solder pin dimensions | 1.2 x 1.2 mm | 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 | 1.0 x 5.5, PZ 2 | Screwdriver blade standard | DIN 5264 |
| Tightening torque, min. | 1.2 Nm | Tightening torque, max. | 1.5 Nm |
| Clamping screw | M 4 | Stripping length | 12 mm |
| L1 in mm | 50.8 mm | L1 in inches | 2 " |
| 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 | Volume resistance | 0.50 mΩ |

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 material | Cu-alloy | Contact surface | tinned |
| Layer structure of solder connection | 1.5...3 µm Ni / 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 ² |
| Clamping range, max. | 16 mm ² |
| Wire connection cross section AWG, min. | AWG 22 |
| Wire connection cross section AWG, max. | AWG 6 |
| 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 | 16 mm ² |
| Flexible, min. H05(07) V-K | 0.5 mm ² |
| Flexible, max. H05(07) V-K | 16 mm ² |
| w. plastic collar ferrule, DIN 46228 pt 4, 2.5 mm ² min. | |
| w. plastic collar ferrule, DIN 46228 pt 4, 10 mm ² max. | |
| w. wire end ferrule, DIN 46228 pt 1, 2.5 mm ² min. | |

Creation date May 23, 2024 2:06:39 PM CEST

LUP 12.70/05/90 5.0SN BK BX

Weidmüller Interface GmbH & Co. KG

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Technical data

w. wire end ferrule, DIN 46228 pt 1, max. 10 mm²

Plug gauge in accordance with EN 60999 a x b; ø 5.4 mm x 5.1 mm; 5.3 mm

| | | | | |
|---------------------|--|------------------------------|-----------------------------|-------|
| Clampable conductor | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 2.5 mm ² | |
| | wire end ferrule | Stripping length | nominal | 12 mm |
| | | Recommended wire-end ferrule | H2.5/12 | |
| | | Stripping length | nominal | 14 mm |
| | | Recommended wire-end ferrule | H2.5/19D BL | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 4 mm ² | |
| | wire end ferrule | Stripping length | nominal | 12 mm |
| | | Recommended wire-end ferrule | H4.0/12 | |
| | | Stripping length | nominal | 14 mm |
| | | Recommended wire-end ferrule | H4.0/20D GR | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 6 mm ² | |
| | wire end ferrule | Stripping length | nominal | 12 mm |
| | | Recommended wire-end ferrule | H6.0/12 | |
| | | Stripping length | nominal | 14 mm |
| | | Recommended wire-end ferrule | H6.0/20 SW | |
| | Cross-section for conductor connection | Type | fine-wired | |
| | | nominal | 10 mm ² | |
| | wire end ferrule | Stripping length | nominal | 15 mm |
| | | Recommended wire-end ferrule | H10.0/22 EB | |
| | | Stripping length | nominal | 12 mm |
| | | Recommended wire-end ferrule | H10.0/12 | |

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 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C) | 76 A |
| Rated current, max. number of poles (Tu=20°C) | 74 A | Rated current, min. number of poles (Tu=40°C) | 76 A |
| Rated current, max. number of poles (Tu=40°C) | 64 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 | Short-time withstand current resistance | 1 x 1s with 700 A |

Rated data acc. to CSA

| | | | |
|-----------------------------------|--------|-----------------------------------|-------|
| Rated voltage (Use group B / CSA) | 600 V | Rated voltage (Use group C / CSA) | 600 V |
| Rated current (Use group B / CSA) | 65 A | Rated current (Use group C / CSA) | 65 A |
| Wire cross-section, AWG, min. | AWG 22 | Wire cross-section, AWG, max. | AWG 6 |

Creation date May 23, 2024 2:06:39 PM CEST

Catalogue status 18.05.2024 / We reserve the right to make technical changes.

LUP 12.70/05/90 5.0SN BK BX

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

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 current (Use group B / UL 1059) 65 A

Rated current (Use group C / UL 1059) 65 A

Wire cross-section, AWG, min.

AWG 22

Wire cross-section, AWG, max.

AWG 6

Reference to approval values

Specifications are maximum values, details - see approval certificate.

Packing

Packaging

Box

VPE length

162 mm

VPE width

141 mm

VPE height

85 mm

Type tests

Test: Durability of markings

Standard

DIN EN 61984 section 7.3.2 / 09.02 taking pattern from DIN EN 60068-2-70 / 07.96

Test

mark of origin, type identification, type of material, approval marking UL, durability

Evaluation

available

Test: Clampable cross section

Standard

DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.02

Conductor type

Type of conductor and solid 0.5 mm² conductor cross-sectionType of conductor and stranded 0.5 mm² conductor cross-sectionType of conductor and solid 16 mm² conductor cross-sectionType of conductor and stranded 16 mm² conductor cross-section

Type of conductor and AWG 22/1 conductor cross-section

Type of conductor and AWG 22/19 conductor cross-section

Type of conductor and AWG 6/7 conductor cross-section

Type of conductor and AWG 6/19 conductor cross-section

Evaluation

passed

LUP 12.70/05/90 5.0SN BK BX

Weidmüller Interface GmbH & Co. KG

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Technical data

| | | |
|---|----------------|--|
| Test for damage to and accidental loosening of conductors | Standard | DIN EN 60999-1 section 9.4 / 12.00 |
| | Requirement | 0.2 kg |
| | Conductor type | Type of conductor and AWG 22/1 conductor cross-section |
| | | Type of conductor and AWG 22/19 conductor cross-section |
| | Evaluation | passed |
| | Requirement | 0.3 kg |
| | 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 |
| | Evaluation | passed |
| | Requirement | 2.9 kg |
| Pull-out test | Standard | DIN EN 60999-1 section 9.5 / 12.00 |
| | | ≥15 N |
| | Conductor type | Type of conductor and AWG 22/1 conductor cross-section |
| | | Type of conductor and AWG 22/19 conductor cross-section |
| | Evaluation | passed |
| | Requirement | ≥20 N |
| | Conductor type | 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-K16 conductor cross-section |
| | | Type of conductor and H07V-U16 conductor cross-section |
| | | Type of conductor and AWG 6/7 conductor cross-section |
| | Evaluation | passed |

LUP 12.70/05/90 5.0SN BK BX

Weidmüller Interface GmbH & Co. KG

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Technical data

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 |

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

- 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
- The data given under CSA relates to a cUL approval - E60693
- 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.
- 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 |

LUP 12.70/05/90 5.0SN BK BX

Weidmüller Interface GmbH & Co. KG
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Technical data

Downloads

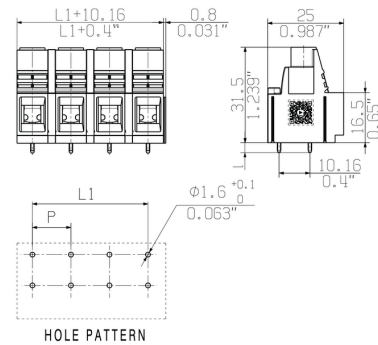
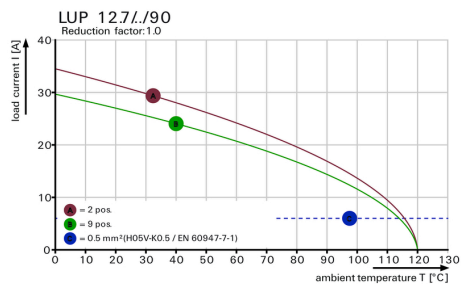
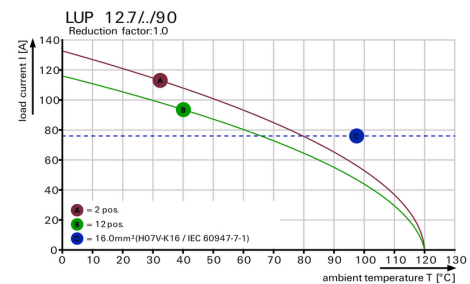
| | |
|---|---|
| Approval/Certificate/Document of Conformity | Declaration of the Manufacturer |
| Engineering Data | CAD data – STEP |
| Product Change Notification | 20220201 Visual change OMNIMATE® Power PCB terminal blocks and connectors 20220201 Visuelle Änderung OMNIMATE® Power Leiterplattenklemmen und -steckverbinder |
| User Documentation | QR-Code product handling video |
| Catalogues | Catalogues in PDF-format |
| Brochures | FL DRIVES EN MB DEVICE MANUF. EN FL DRIVES DE FL APPL. INVERTER EN FL BASE STATION EN FL ELEVATOR EN FL POWER SUPPLY EN FL 72H SAMPLE SER EN PO OMNIMATE EN |

LUP 12.70/05/90 5.0SN BK BX

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 26
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 Germany

www.weidmueller.com

Drawings
Product image

Dimensional drawing

Graph

Graph


LUP 12.70/05/90 5.0SN BK BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

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 1.0X5.5X125 | Version |
| Order No. | 9008410000 | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056378 | |
| Qty. | 1 pc(s). | |

Crosshead screwdriver Pozidriv

VDE insulated crosshead screwdriver type Pozidriv SDIK PZ DIN 7438, ISO 8764/2-PZ, output to ISO 8764-PZ, SoftFinish grip

General ordering data

| | | |
|------------|----------------------------|--------------------------|
| Type | SDIK PZ2 | Version |
| Order No. | 9008890000 | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248266661 | |
| Qty. | 1 pc(s). | |

LUP 12.70/05/90 5.0SN BK BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

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www.weidmueller.com**Accessories****Crosshead screwdriver Pozidriv**

Crosshead screwdriver, Pozidriv, SDK PZ DIN 5262, ISO 8764/2-PZ, output to ISO 8764/1-PZ, ChromTop tip, SoftFinish grip

General ordering data

| | | |
|------------|----------------------------|--------------------------|
| Type | SDK PZ2 | Version |
| Order No. | 9008540000 | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056538 | |
| Qty. | 1 pc(s). | |

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 1.0X5.5X150 | Version |
| Order No. | 9008350000 | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056316 | |
| Qty. | 1 pc(s). | |

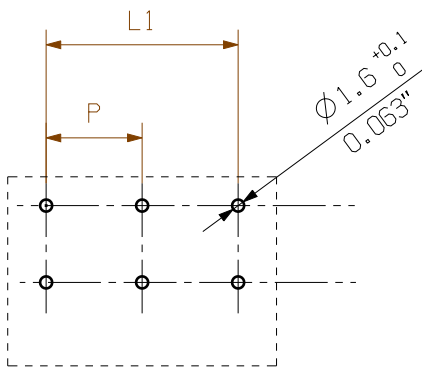
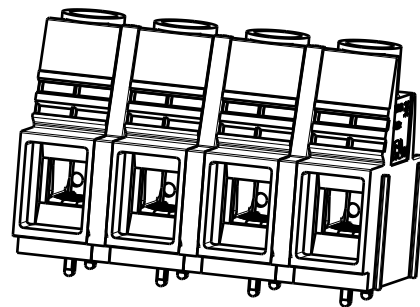
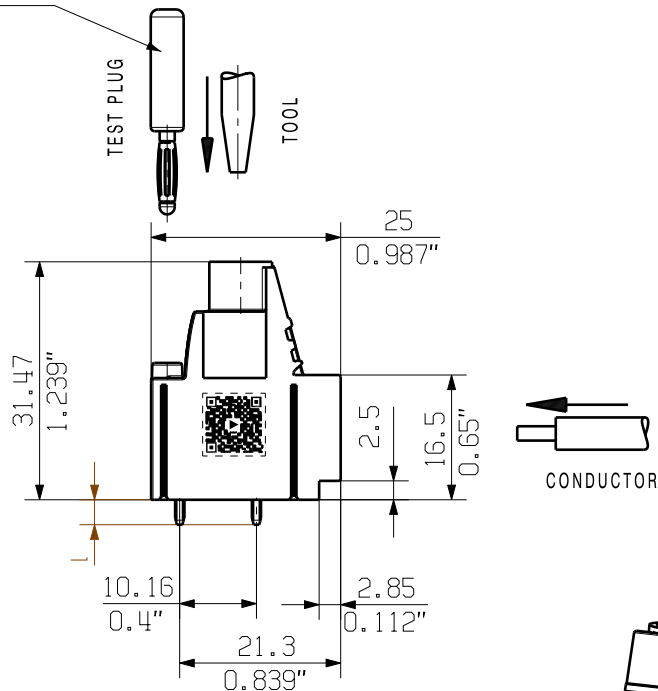
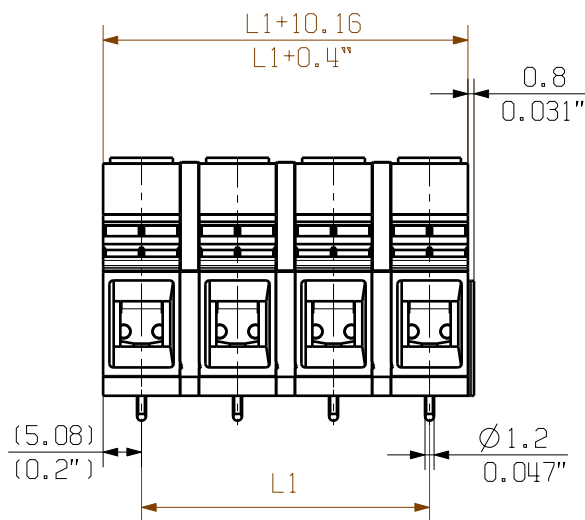
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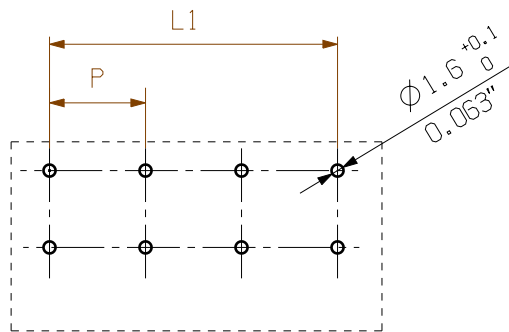
Dimensions without tolerances are no check dimensions

The English version is binding

PS 2.0 / ORDER NO.
031000 0000



HOLE PATTERN (BLOCK)

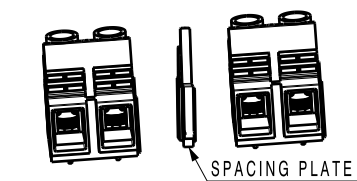


HOLE PATTERN

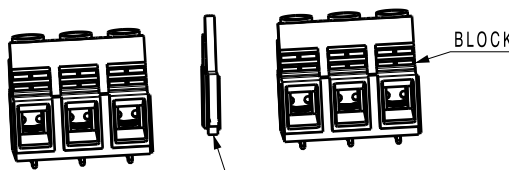
n=NO OF POLES
P= PITCH=12.70
l= STIFTLAENGE/ 5.0mm/0.197"
PIN LENGTH 3.2mm/0.126"
SHOWN: LUP 12.70/02/90...SO (BLOCK)
LUP 12.70/03/90...SO (BLOCK)
LUP 12.7/04/90... (SINGLE POL)

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

Weidmüller connectors are tested to the DIN VDE 0627 standard, and are valid for its field of application. Provided that the connectors are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

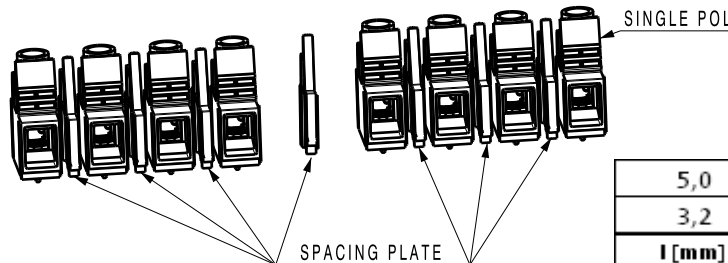


SPACING PLATE



BLOCK

SPACING PLATE



SINGLE POL

SPACING PLATE

TO MAINTAIN THE NECESSARY VOLTAGE DISTANCES FOR 600V - UL & 1000V - IEC, A SPACING PLATE IS REQUIRED BETWEEN ASSEMBLED LUP 12.7 PCB TERMINAL BLOCKS

| | | |
|--------|--------|-------------------|
| 12 | 139,70 | 5,500 |
| 11 | 127,00 | 5,000 |
| 10 | 114,30 | 4,500 |
| 9 | 101,60 | 4,000 |
| 8 | 88,90 | 3,500 |
| 7 | 76,20 | 3,000 |
| 6 | 63,50 | 2,500 |
| 5 | 50,80 | 2,000 |
| 4 | 38,10 | 1,500 |
| 3 | 25,40 | 1,000 |
| 2 | 12,70 | 0,500 |
| l [mm] | n | L1 [mm] L1 [inch] |

GENERAL TOLERANCE:
DIN ISO 2768-mK

| | | |
|--------------------------------|-----------------------------------|-------------------------------|
| 102479 | Prim PLM Part No.: 411688 | Prim ERP Part No.: 1160810000 |
| First Issue Date 03.03.2018 | Modification | Weidmüller |
| Scale: 2:1 | Size: A3 | 34163 |
| Drawings Assembly | Product file: 7233 LUP 10.16/12.7 | Sheet 02 of 02 sheets |

Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

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.