

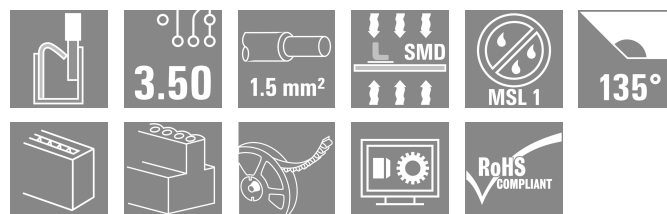
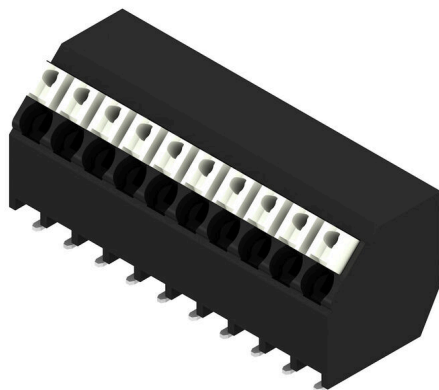
**LSF-SMD 3.50/10/135 SN BK RL**
**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**


The innovative quick connector - simple, safe and economical:

PCB terminals with spring connection and direct PUSH IN technology. A milestone in connection technology.

Amazingly simple and simply amazing in practice:

- Connect and easily detach solid wires or wires with wire-end ferrules without using tools
- Processed automatically in the reflow or vapour phase
- Potentials and clamping points marked clearly by coloured push buttons

World-class design-in and processing phases, and suitable for a vast range of applications.

PCB terminal for fully automatic assembly using reflow soldering (SMD), with PUSH IN wire connections. Conductor insertion and slider operation from the same direction (TOP).

- Solid & flexible conductors with wire-end ferrules need only to be inserted and they are ready.
- When connecting stranded wires without wire-end ferrules the actuating element is used to open the terminal point
- Intuitive handling – since the wire-entry area and handling area are clearly separated.
- Packaged in tape-on-reel
- Conductor outlet direction 135°

**General ordering data**

|              |                                                                                                                                        |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Version      | Printed circuit board terminals, 3.50 mm, Number of poles: 10, 135°, black, PUSH IN with actuator, Clamping range, max.: 1.5 mm², Tape |
| Order No.    | <a href="#">1473410000</a>                                                                                                             |
| Type         | LSF-SMD 3.50/10/135 SN BK RL                                                                                                           |
| GTIN (EAN)   | 4050118279672                                                                                                                          |
| Qty.         | 210 items                                                                                                                              |
| Product data | IEC: 320 V / 12 A / 0.2 - 1.5 mm²<br>UL: 300 V / 12 A / AWG 28 - AWG 14                                                                |
| Packaging    | Tape                                                                                                                                   |

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## Technical data

## Approvals

Approvals



ROHS Conform

UL File Number Search [UL Website](#)

Certificate No. (cULus) E60693

## Dimensions and weights

|                          |             |                 |             |
|--------------------------|-------------|-----------------|-------------|
| Depth                    | 12.7 mm     | Depth (inches)  | 0.5 inch    |
| Height                   | 14.45 mm    | Height (inches) | 0.5689 inch |
| Height of lowest version | 14.45 mm    | Width           | 35.7 mm     |
| Width (inches)           | 1.4055 inch | Net weight      | 7.51 g      |

## Temperatures

Continuous operating temp., max. 120 °C

## Environmental Product Compliance

RoHS Compliance Status Compliant without exemption

REACH SVHC No SVHC above 0.1 wt%

## System parameters

|                                              |                              |                                            |                       |
|----------------------------------------------|------------------------------|--------------------------------------------|-----------------------|
| Product family                               | OMNIMATE Signal - series LSF | Wire connection method                     | PUSH IN with actuator |
| Mounting onto the PCB                        | SMD solder connection        | Conductor outlet direction                 | 135°                  |
| Pitch in mm (P)                              | 3.50 mm                      | Pitch in inches (P)                        | 0.138 "               |
| Number of poles                              | 10                           | Pin series quantity                        | 1                     |
| Fitted by customer                           | No                           | Number of rows                             | 1                     |
| Coplanarity:                                 | 100 µm                       | Number of solder pins per pole             | 2                     |
| Stripping length                             | 8 mm                         | L1 in mm                                   | 31.50 mm              |
| L1 in inches                                 | 1.242 "                      | 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                  |
| Volume resistance                            | 1.60 mΩ                      |                                            |                       |

## Material data

|                                       |          |                                       |                  |
|---------------------------------------|----------|---------------------------------------|------------------|
| Insulating material                   | LCP GF   | Colour                                | black            |
| Colour of operational elements        | white    | Colour chart (similar)                | RAL 9011         |
| Insulating material group             | IIla     | Comparative Tracking Index (CTI)      | ≥ 175            |
| Moisture Level (MSL)                  | 1        | UL 94 flammability rating             | V-0              |
| Contact material                      | Cu-alloy | 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. | -30 °C   | Temperature range, installation, max. | 120 °C           |

## Conductors suitable for connection

|                      |                      |
|----------------------|----------------------|
| Clamping range, min. | 0.13 mm <sup>2</sup> |
| Clamping range, max. | 1.5 mm <sup>2</sup>  |

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|                                                          |                                                                                                                                                                        |                              |                               |       |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------|-------|
| Wire connection cross section AWG, min.                  | AWG 28                                                                                                                                                                 |                              |                               |       |
| Wire connection cross section AWG, max.                  | AWG 14                                                                                                                                                                 |                              |                               |       |
| Solid, min. H05(07) V-U                                  | 0.2 mm²                                                                                                                                                                |                              |                               |       |
| Solid, max. H05(07) V-U                                  | 1.5 mm²                                                                                                                                                                |                              |                               |       |
| Flexible, min. H05(07) V-K                               | 0.2 mm²                                                                                                                                                                |                              |                               |       |
| Flexible, max. H05(07) V-K                               | 1.5 mm²                                                                                                                                                                |                              |                               |       |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.25 mm² min. |                                                                                                                                                                        |                              |                               |       |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.75 mm² max. |                                                                                                                                                                        |                              |                               |       |
| w. wire end ferrule, DIN 46228 pt 1, min.                | 0.25 mm²                                                                                                                                                               |                              |                               |       |
| w. wire end ferrule, DIN 46228 pt 1, max.                | 1.5 mm²                                                                                                                                                                |                              |                               |       |
| Clampable conductor                                      | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                    |       |
|                                                          |                                                                                                                                                                        | nominal                      | 0.25 mm²                      |       |
|                                                          | wire end ferrule                                                                                                                                                       | Stripping length             | nominal                       | 10 mm |
|                                                          |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0,25/12 HBL</a>  |       |
|                                                          | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                    |       |
|                                                          |                                                                                                                                                                        | nominal                      | 0.34 mm²                      |       |
|                                                          | wire end ferrule                                                                                                                                                       | Stripping length             | nominal                       | 10 mm |
|                                                          |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0,34/12 TK</a>   |       |
|                                                          | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                    |       |
|                                                          |                                                                                                                                                                        | nominal                      | 0.5 mm²                       |       |
|                                                          | wire end ferrule                                                                                                                                                       | Stripping length             | nominal                       | 10 mm |
|                                                          |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0,5/14 OR</a>    |       |
|                                                          | Cross-section for conductor connection                                                                                                                                 | Type                         | fine-wired                    |       |
|                                                          |                                                                                                                                                                        | nominal                      | 0.75 mm²                      |       |
|                                                          | wire end ferrule                                                                                                                                                       | Stripping length             | nominal                       | 10 mm |
|                                                          |                                                                                                                                                                        | Recommended wire-end ferrule | <a href="#">H0,75/14T HBL</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 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C)                         | 12 A             |
| Rated current, max. number of poles (Tu=20°C)                             | 12 A                   | Rated current, min. number of poles (Tu=40°C)                         | 12 A             |
| Rated current, max. number of poles (Tu=40°C)                             | 12 A                   | Rated voltage for surge voltage class / pollution degree II/2         | 320 V            |
| Rated voltage for surge voltage class / pollution degree III/2            | 160 V                  | Rated voltage for surge voltage class / pollution degree III/3        | 160 V            |
| Rated impulse voltage for surge voltage class/ pollution degree II/2      | 2.5 kV                 | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 2.5 kV           |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 2.5 kV                 | Short-time withstand current resistance                               | 3 x 1s with 80 A |

## Rated data acc. to CSA

|                                   |        |                                   |                |
|-----------------------------------|--------|-----------------------------------|----------------|
| Institute (CSA)                   | CSA    | Certificate No. (CSA)             | 200039-1664286 |
| 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 28 | Wire cross-section, AWG, max.     | AWG 14         |

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Reference to approval values

Specifications are  
maximum values, details -  
see approval certificate.

## Rated data acc. to UL 1059

|                                       |                                                                              |                                       |        |
|---------------------------------------|------------------------------------------------------------------------------|---------------------------------------|--------|
| Institute (cURus)                     | 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) | 12 A                                                                         | Rated current (Use group D / UL 1059) | 10 A   |
| Wire cross-section, AWG, min.         | AWG 28                                                                       | Wire cross-section, AWG, max.         | AWG 14 |
| Reference to approval values          | Specifications are<br>maximum values, details -<br>see approval certificate. |                                       |        |

## Packing

|                             |                          |                               |           |
|-----------------------------|--------------------------|-------------------------------|-----------|
| ESD Level packaging         | static dissipative       | Packaging                     | Tape      |
| VPE length                  | 330.00 mm                | VPE width                     | 330.00 mm |
| VPE height                  | 64.00 mm                 | Tape depth (T2)               | 15.70 mm  |
| Tape width (W)              | 56 mm                    | Tape pocket depth (K0)        | 15.20 mm  |
| Tape pocket height (A0)     | 11.30 mm                 | Tape pocket width (B0)        | 44.06 mm  |
| Tape pocket separation (P1) | 20.00 mm                 | Tape hole separation (E)      | 1.75 mm   |
| Tape pocket separation (F)  | 26.20 mm                 | Tape reel diameter $\phi$ (A) | 330 mm    |
| Surface resistance          | Rs = 109 - 1012 $\Omega$ |                               |           |

## Type tests

|                                                           |                |                                                                                    |                               |
|-----------------------------------------------------------|----------------|------------------------------------------------------------------------------------|-------------------------------|
| Test: Durability of markings                              | Test           | mark of origin, type identification, pitch, approval marking UL, durability        |                               |
| 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 conductor cross-section                                      | solid 0.14 mm <sup>2</sup>    |
|                                                           |                | Type of conductor and conductor cross-section                                      | stranded 0.14 mm <sup>2</sup> |
|                                                           |                | Type of conductor and conductor cross-section                                      | solid 1.5 mm <sup>2</sup>     |
|                                                           |                | Type of conductor and conductor cross-section                                      | stranded 1.5 mm <sup>2</sup>  |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 24/1                      |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 22/19                     |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 16/1                      |
|                                                           |                | Type of conductor and conductor cross-section                                      | AWG 16/19                     |
| Test for damage to and accidental loosening of conductors | Evaluation     | passed                                                                             |                               |
|                                                           | Standard       | DIN EN 60999-1 section 9.4 / 12.00                                                 |                               |
|                                                           | Requirement    | 0.2 kg                                                                             |                               |
|                                                           | Conductor type | Type of conductor and conductor cross-section                                      | AWG 24/1                      |

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|---------------|----------------|-----------------------------------------------|-------------------------------|
| Pull-out test |                | Type of conductor and conductor cross-section | AWG 24/19                     |
|               | Evaluation     | passed                                        |                               |
|               | Requirement    | 0.3 kg                                        |                               |
|               | Conductor type | Type of conductor and conductor cross-section | stranded 0.25 mm <sup>2</sup> |
|               |                | Type of conductor and conductor cross-section | solid 0.5 mm <sup>2</sup>     |
|               | Evaluation     | passed                                        |                               |
|               | Requirement    | 0.4 kg                                        |                               |
|               | Conductor type | Type of conductor and conductor cross-section | solid 1.5 mm <sup>2</sup>     |
|               |                | Type of conductor and conductor cross-section | stranded 1.5 mm <sup>2</sup>  |
|               |                | Type of conductor and conductor cross-section | AWG 16/1                      |
|               |                | Type of conductor and conductor cross-section | AWG 16/19                     |
|               | Evaluation     | passed                                        |                               |
|               | Standard       | DIN EN 60999-1 section 9.5 / 12.00            |                               |
|               | Requirement    | ≥10 N                                         |                               |
|               | Conductor type | Type of conductor and conductor cross-section | AWG 24/1                      |
|               |                | Type of conductor and conductor cross-section | AWG 24/19                     |
|               | Evaluation     | passed                                        |                               |
|               | Requirement    | ≥20 N                                         |                               |
|               | Conductor type | Type of conductor and conductor cross-section | stranded 0.25 mm <sup>2</sup> |
|               |                | Type of conductor and conductor cross-section | H05V-U0.5                     |
|               | Evaluation     | passed                                        |                               |
|               | Requirement    | ≥40 N                                         |                               |
|               | Conductor type | Type of conductor and conductor cross-section | H07V-U1.5                     |
|               |                | Type of conductor and conductor cross-section | H07V-K1.5                     |
|               |                | Type of conductor and conductor cross-section | AWG 16/1                      |
|               |                | Type of conductor and conductor cross-section | AWG 16/19                     |
|               | 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.

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**Technical data**

fulfill decorative properties in accordance with IPC-A-610 "Class 2". Further claims on the products can be evaluated on request.

## Notes

- Additional push button colours on request
- Operating force of slider max. 40 N
- Rated current related to rated cross-section & min. No. of poles.
- Wire end ferrule with plastic collar to DIN 46228/4
- Wire end ferrule without plastic collar to DIN 46228/1
- 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.
- Crimping shape "A" for wire end ferrules with PZ 6/5 crimping tool recommended.
- Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

**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 |             |             |

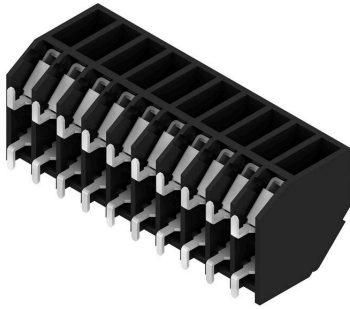
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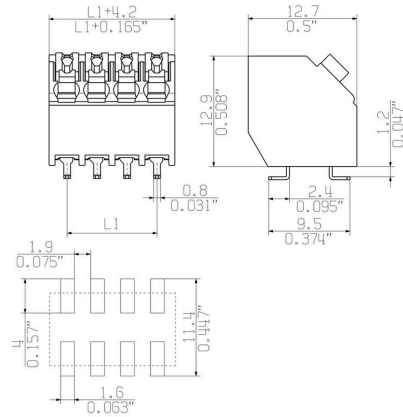
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## Drawings

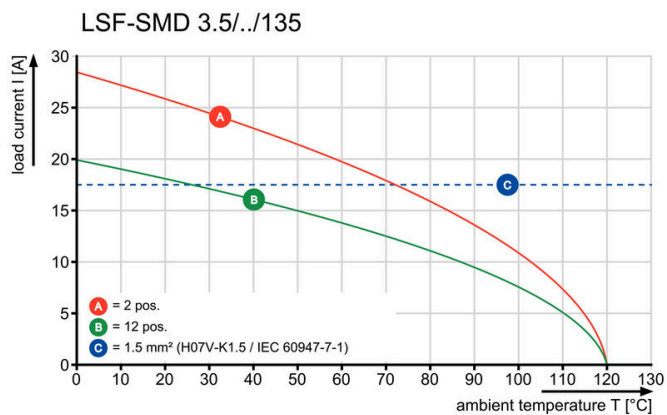
### Product image



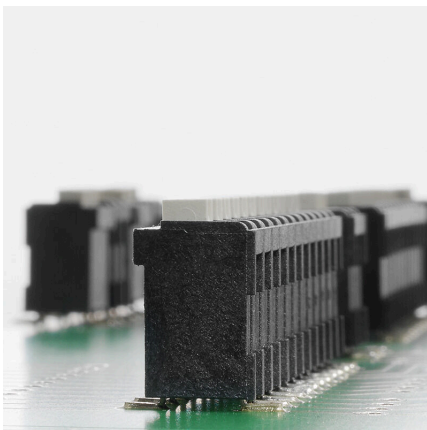
### Dimensional drawing



### Graph

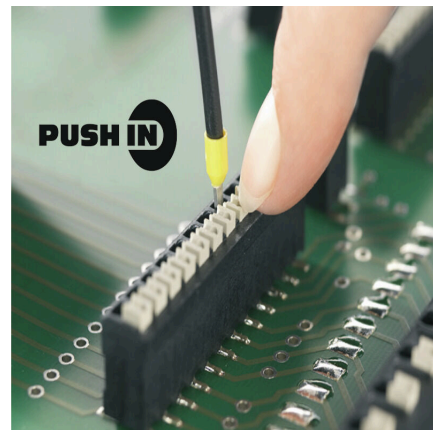


### Product benefits



Stable solder connection

### Product benefits



PUSH IN wire connection

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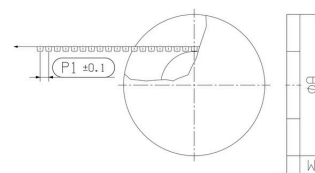
## Drawings

### Product benefits

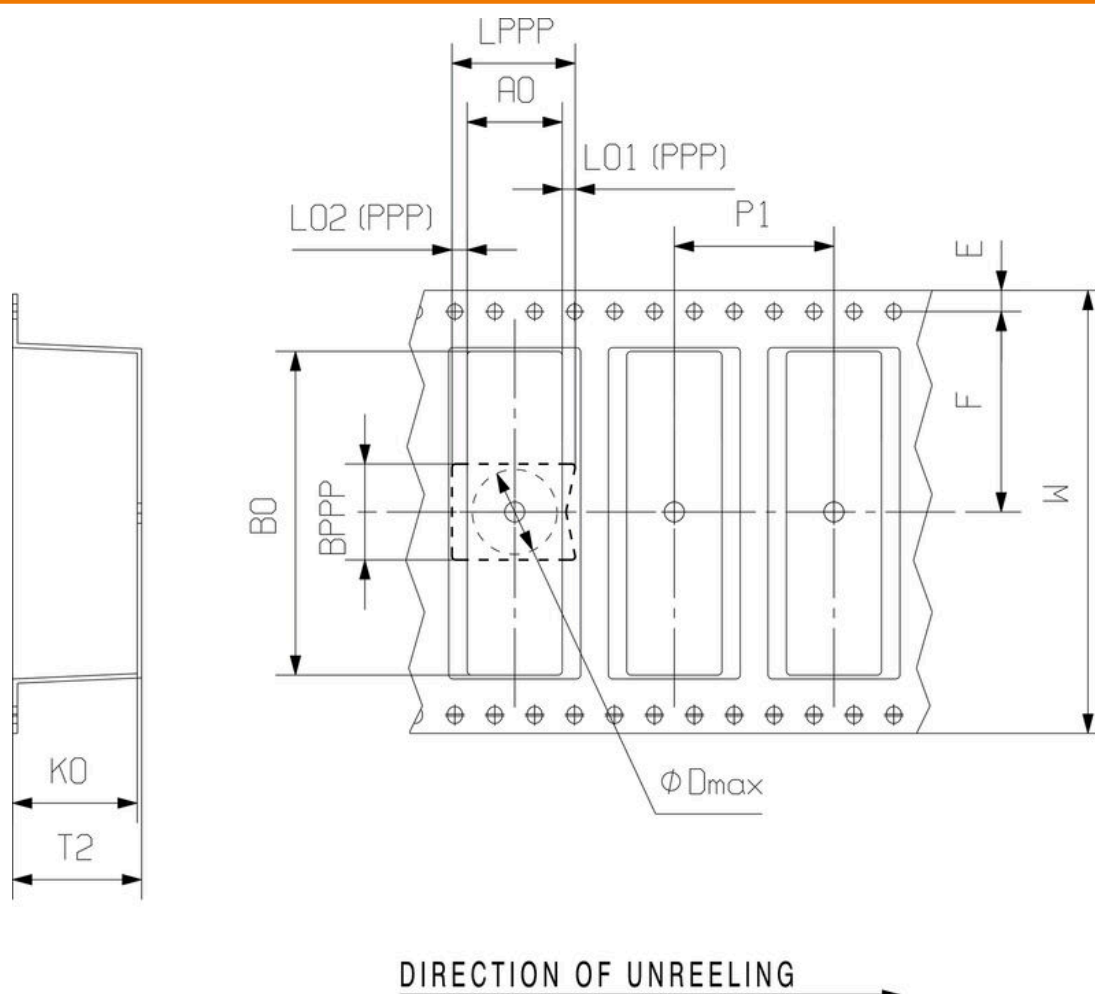


Packaged in tape-on-reel

### Dimensional drawing



### Dimensional drawing





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[www.weidmueller.com](http://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 0.4X2.5X75            | Version                  |
| Order No.  | <a href="#">9008370000</a> | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056330              |                          |
| Qty.       | 1 ST                       |                          |
| Type       | SDS 0.4X2.5X75             | Version                  |
| Order No.  | <a href="#">9009030000</a> | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248266944              |                          |
| Qty.       | 1 ST                       |                          |