

## OMNIMATE Signal - series LSF LSF-SMD 3.50/06/135 SN BK RL

**Weidmüller Interface GmbH & Co. KG**  
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### 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

|              |   |
|--------------|---|
| Type         | LSF-SMD 3.50/06/135 SN BK RL  |
| Order No.    | <a href="#">1473350000</a>  |
| Version      | PCB terminal, 3.50 mm, No. of poles: 6, 135°, Black, PUSH IN, Clamping range, rated connection, max.: 1.5 mm², Tape (Ø 330 mm); Rs = 10 <sup>9</sup> - 10 <sup>12</sup> Ω |
| GTIN (EAN)   | 4050118279788   |
| Qty.         | 210 pc(s).  |
| Product data | IEC: 320 V / 12 A / 0.2 - 1.5 mm²<br>UL: 300 V / 12 A / AWG 24 - AWG 16   |
| Packaging    | Tape (Ø 330 mm); Rs = 10 <sup>9</sup> - 10 <sup>12</sup> Ω  |

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

Net weight 5.742 g

**System parameters**

|  |                              |  |            |
|--|------------------------------|--|------------|
| Product family                               | OMNIMATE Signal - series LSF | Wire connection method                     | PUSH IN    |
| Mounting onto the PCB                        | SMD solder connection        | Conductor outlet direction                 | 135°       |
| Pitch in mm (P)                              | 3.5 mm                       | Pitch in inches (P)                        | 0.138 inch |
| No. of poles                                 | 6                            | Fitted by customer                         | No         |
| Coplanarity:                                 | 100 µm                       | Number of solder pins per pole             | 2          |
| Stripping length                             | 8 mm                         | L1 in mm                                   | 17.5 mm    |
| L1 in inches                                 | 0.69 inch                    | Touch-safe protection acc. to DIN VDE 0470 | IP 20      |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch       | Volume resistance                          | 1.60 mΩ    |

**Material data**

|                                       |              |                                       |                     |
|---------------------------------------|--------------|---------------------------------------|---------------------|
| Insulating material                   | LCP GF       | Colour                                | Black               |
| Colour chart (similar)                | RAL 9011     | Insulating material group             | IIIa                |
| CTI                                   | ≥ 175        | Insulation resistance                 | ≥ 10 <sup>8</sup> Ω |
| Moisture Level (MSL)                  | 1            | UL 94 flammability rating             | V-0                 |
| Contact material                      | Copper alloy | Layer structure of solder connection  | 4-6 µm Sn matt      |
| Storage temperature, min.             | -25 °C       | Storage temperature, max.             | 55 °C               |
| Max. relative humidity during storage | 80 %         | 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, rated connection, min.          | 0.13 mm <sup>2</sup> | Clamping range, rated connection, max.          | 1.5 mm <sup>2</sup>  |
| Wire connection cross section AWG, min.         | AWG 24               | Wire connection cross section AWG, max.         | AWG 16               |
| Solid, min. H05(07) V-U                         | 0.2 mm <sup>2</sup>  | Solid, max. H05(07) V-U                         | 1.5 mm <sup>2</sup>  |
| Flexible, min. H05(07) V-K                      | 0.2 mm <sup>2</sup>  | Flexible, max. H05(07) V-K                      | 1.5 mm <sup>2</sup>  |
| w. plastic collar ferrule, DIN 46228 pt 4, min. | 0.25 mm <sup>2</sup> | w. plastic collar ferrule, DIN 46228 pt 4, max. | 0.75 mm <sup>2</sup> |
| w. wire end ferrule, DIN 46228 pt 1, min.       | 0.25 mm <sup>2</sup> | w. wire end ferrule, DIN 46228 pt 1, max.       | 1.5 mm <sup>2</sup>  |


**Rated data acc. to IEC**

|   |                        |   |                  |
|---|------------------------|---|------------------|
| tested acc. to standard   | IEC 60664-1, IEC 61984 | Rated current, min. no. of poles (Ta = 20°C)                          | 12 A             |
| Rated current, max. no. of poles (Ta = 20°C)                              | 12 A                   | Rated current, min. no. of poles (Ta = 40°C)                          | 12 A             |
| Rated current, max. no. of poles (Ta = 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 |


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**Technical data****Rated data acc. to CSA**

|                               |   |                               |                |
|-------------------------------|---|-------------------------------|----------------|
| Institute (CSA)               |  | Certificate No. (CSA)         | 200039-1664286 |
| Rated voltage (Use group B)   | 300 V   | Rated voltage (use group D)   | 300 V          |
| Rated current (use group B)   | 10 A  | Rated current (use group D)   | 10 A           |
| Wire cross-section, AWG, min. | AWG 24  | Wire cross-section, AWG, max. | AWG 16         |
| Reference to approval values  | Specifications are maximum values, details - see approval certificate.            |                               |                |

**Rated data acc. to UL 1059**

|                               |   |                               |        |
|-------------------------------|---|-------------------------------|--------|
| Institute (cURus)             |  | Certificate No. (cURus)       | E60693 |
| Rated voltage (use group B)   | 300 V   | Rated voltage (use group D)   | 300 V  |
| Rated current (use group B)   | 12 A  | Rated current (use group D)   | 10 A   |
| Wire cross-section, AWG, min. | AWG 24  | Wire cross-section, AWG, max. | AWG 16 |
| Reference to approval values  | Specifications are maximum values, details - see approval certificate.            |                               |        |

**Classifications**

|            |             |            |             |
|------------|-------------|------------|-------------|
| ETIM 3.0   | EC001284    | ETIM 4.0   | EC002643    |
| ETIM 5.0   | EC002643    | ETIM 6.0   | EC002643    |
| eClass 6.2 | 27-26-11-01 | eClass 7.1 | 27-44-04-01 |
| eClass 8.1 | 27-44-04-01 | eClass 9.0 | 27-44-04-01 |
| eClass 9.1 | 27-44-04-01 |            |             |

**Notes**

|                |  |
|----------------|--|
| Notes          | <ul style="list-style-type: none"> <li>• Additional push button colours on request</li> <li>• Operating force of slider max. 40 N</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• Wire end ferrule with plastic collar to DIN 46228/4</li> <li>• Wire end ferrule without plastic collar to DIN 46228/1</li> <li>• P on drawing = pitch</li> <li>• Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards.</li> <li>• Crimping shape "A" for wire end ferrules with PZ 6/5 crimping tool are recommended for the largest cable sizes.</li> </ul> |
| IPC conformity | The products are developed, manufactured and delivered according to the internationally recognised IPC-A-610 standard, category "permissible". More extensive demands on the products can be evaluated on request.   |

**Data sheet**

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**Technical data**

**Approvals**

Approvals



ROHS

Conform

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Approval/Certificate/Document of  
Conformity

[Declaration of the Manufacturer](#)

Brochure/Catalogue

- [FL DRIVES EN](#)
- [PI OMNIMATE LSF SMD EN](#)
- [FL ANALO.SIGN.CONV. EN](#)
- [MB DEVICE MANUF. EN](#)
- [FL DRIVES DE](#)
- [FL BUILDING SAFETY EN](#)
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- [FL\\_BASE\\_STATION\\_EN](#)
- [FL ELEVATOR EN](#)
- [FL POWER SUPPLY EN](#)
- [FL 72H SAMPLE SER EN](#)
- [PO OMNIMATE EN](#)

Engineering Data

[EPLAN, WSCAD](#)

SMT white paper

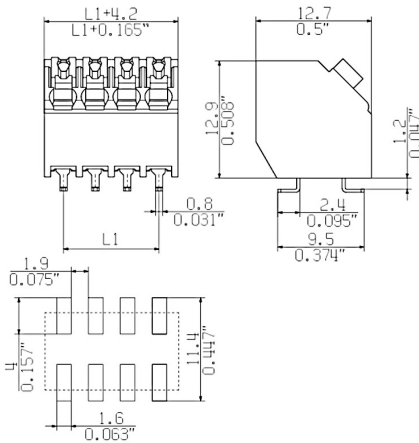
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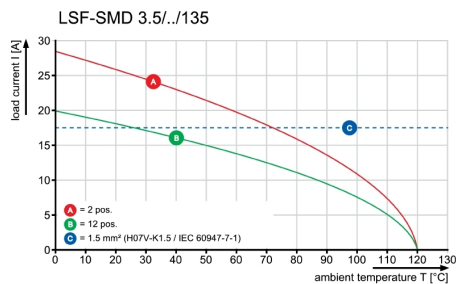
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**Drawings**

**Dimensional drawing**

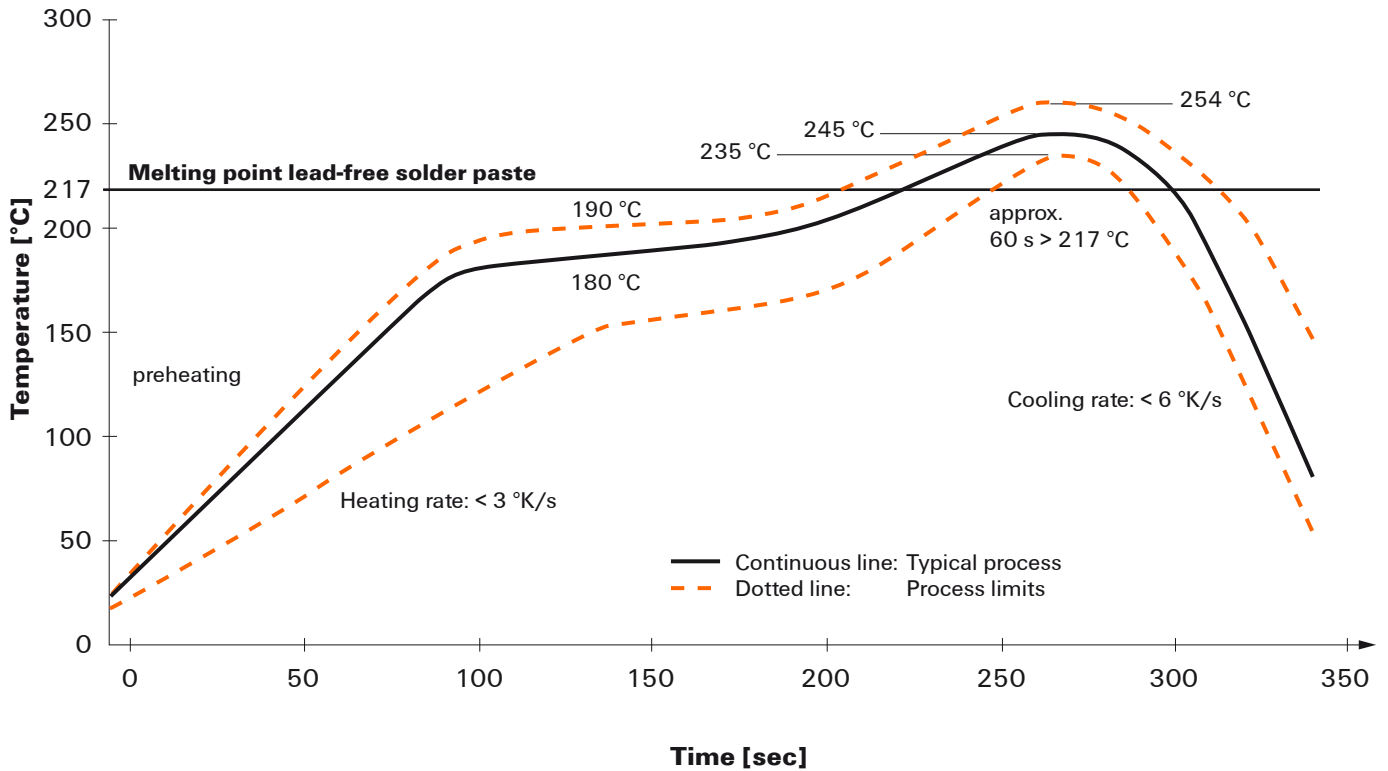


**Graph**



## Recommended reflow soldering profile

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### Reflow soldering profile

The perfect soldering profile for SMT Surface Mount Technology is one the most exiting question in SMT production. But there are more than one correct answer: The diagram of temperature-on-time is related to processing features of solder paste and to maximum load of components.

We have to consider the following parameters:

- Time for pre heating
- Maximum temperature
- Time above melting point
- Time for cooling
- Maximum heating rate
- Maximum cooling rate

We recommend a typical solder profile with associated process limits. With preheating components and board are prepared smoothly for the solder phase. Heating rate is typically  $\leq +3\text{K/s}$ . In parallel the solder paste is ‚activated‘. The time above melting point of  $217^\circ\text{C}$  the paste gets liquid and components and boards begin to connect. The maximum temperature of  $245^\circ\text{C}$  to  $254^\circ\text{C}$  should stay between 10 and 40 seconds. In the cooling phase at  $\geq -6\text{K/s}$  solder is cured. Board and components cool down while avoiding cold cracks.

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