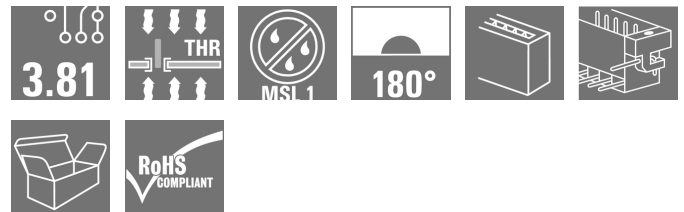


**OMNIMATE Signal - series BC/SC 3.81**  
**SC-SMT 3.81/10/180LF 3.2SN BK BX**

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



High-temperature-resistant pin header (SC-SMT 180LF) in 3.81-mm pitch (0.15 inch)

- Plugging direction is perpendicular to PCB (standing)
- With solder flange (LF).
- Packed either in box (BX) or on anti-static roll (tape-on-reel, RL)
- Pin length of either 1.5 mm or 3.2 mm

Weidmüller's 3.81-mm-pitch (0.15 inch) plug-in connectors are compatible with the layouts of standard connectors and offer space for labelling.

**General ordering data**

Type	SC-SMT 3.81/10/180LF 3.2SN BK BX
Order No.	<a href="#">1863380000</a>
Version	PCB plug-in connector, male header, Solder flange, THT/THR solder connection, 3.81 mm, No. of poles: 10, 180°, Solder pin length (l): 3.2 mm, tinned, Black, Box
GTIN (EAN)	4032248428618
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 10 A
Packaging	Box

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

Net weight 3.14 g

**System specifications**

Product family		Type of connection	
OMNIMATE Signal - series BC/SC 3.81		Board connection	
Mounting onto the PCB		Pitch in mm (P)	
THT/THR solder connection		3.81 mm	
Pitch in inches (P)		Outgoing elbow	
0.15 inch		180°	
No. of poles		Number of solder pins per pole	
10		1	
Solder pin length (l)		Solder pin length tolerance	
3.2 mm		0 / -0,02 mm	
Tolerance of solder pin position		Solder pin dimensions	
± 0.15 mm		d = 1.0 mm, Octagonal	
Solder pin dimensions = d tolerance		Solder eyelet hole diameter (D)	
0 / -0,04 mm		1.3 mm	
Solder eyelet hole diameter tolerance (D)+ 0,1 mm		Outside diameter of solder pad	
		2.1 mm	
Template aperture diameter		L1 in mm	
1.9 mm		34.29 mm	
L1 in inches		Number of rows	
1.35 inch		1	
Pin series quantity		Touch-safe protection acc. to DIN VDE 57 106	
1		Safe from finger touch	
Touch-safe protection acc. to DIN VDE 0470		Volume resistance	
IP 20		6.00 mΩ	
Can be coded		Plugging cycles	
Yes		25	
Packaging			
Box			

**Material data**

Insulating material		Colour	
LCP GF		Black	
Colour chart (similar)		Insulating material group	
RAL 9011		IIIa	
CTI		Insulation resistance	
≥ 175		≥ 10 <sup>8</sup> Ω	
Moisture Level (MSL)		UL 94 flammability rating	
1		V-0	
Contact material		Contact surface	
Copper alloy		tinned	
Storage temperature, min.		Storage temperature, max.	
-25 °C		55 °C	
Max. relative humidity during storage		Operating temperature, min.	
80 %		-50 °C	
Operating temperature, max.		Temperature range, installation, min.	
120 °C		-25 °C	
Temperature range, installation, max.			
120 °C			

**Rated data acc. to IEC**

tested acc. to standard		Rated current, min. no. of poles (Tu=20°C)	
IEC 60664-1, IEC 61984		17.5 A	
Rated current, max. no. of poles (Tu=20°C)		Rated current, min. no. of poles (Tu=40°C)	
13.9 A		17 A	
Rated current, max. no. of poles (Tu=40°C)		Rated voltage for surge voltage class / pollution degree II/2	
12.4 A		320 V	
Rated voltage for surge voltage class / pollution degree III/2		Rated voltage for surge voltage class / pollution degree III/3	
160 V		160 V	
Rated impulse voltage for surge voltage class/ pollution degree II/2		Rated impulse voltage for surge voltage class/ pollution degree III/2	
2.5 kV		2.5 kV	
Rated impulse voltage for surge voltage class/ contamination degree III/3		Short-time withstand current resistance	
2.5 kV		3 x 1s with 76 A	


**Data sheet**

**OMNIMATE Signal - series BC/SC 3.81  
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**Technical data**

**Rated data acc. to CSA**

Institute (CSA)		Certificate No. (CSA)	
			200039-1121690
Rated voltage (Use group B)	300 V	Rated current (use group B)	8 A
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)	10 A	Rated current (use group D)	10 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

**Classifications**

ETIM 3.0	EC001284	ETIM 4.0	EC002637
ETIM 5.0	EC002637	ETIM 6.0	EC002637
UNSPSC	30-21-18-10	eClass 5.1	27-26-07-04
eClass 6.2	27-26-07-04	eClass 7.1	27-44-04-02
eClass 8.1	27-44-04-02	eClass 9.0	27-44-04-02
eClass 9.1	27-44-04-02		

**Notes**

Notes	<ul style="list-style-type: none"> <li>Rated current related to rated cross-section &amp; min. No. of poles.</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>P on drawing = pitch</li> </ul>
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

**Data sheet****OMNIMATE Signal - series BC/SC 3.81  
SC-SMT 3.81/10/180LF 3.2SN BK BX**

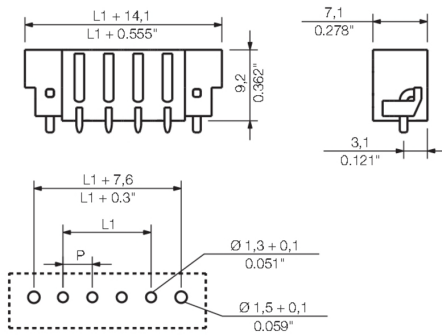
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**Technical data****Downloads**

Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Brochure/Catalogue	<a href="#">FL DRIVES EN</a> <a href="#">MB SMT EN</a> <a href="#">FL DRIVES DE</a> <a href="#">MB DEVICE MANUF. EN</a> <a href="#">CAT 2 PORTFOLIOGUIDE EN</a> <a href="#">FL BUILDING SAFETY EN</a> <a href="#">FL APPL LED LIGHTING EN</a> <a href="#">FL INDUSTR.CONTROLS EN</a> <a href="#">FL MACHINE SAFETY EN</a> <a href="#">FL HEATING ELECTR EN</a> <a href="#">FL APPL INVERTER EN</a> <a href="#">FL_BASE_STATION_EN</a> <a href="#">FL ELEVATOR EN</a> <a href="#">FL POWER SUPPLY EN</a> <a href="#">FL 72H SAMPLE SER EN</a> <a href="#">PO OMNIMATE EN</a>
SMT white paper	<a href="#">Download Whitepaper</a>

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**Drawings****Dimensional drawing**

## 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.

## 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  $\leq +3K/s$ . In parallel the solder paste is ‚activated‘. The time above melting point of 217°C the paste gets liquid and components and boards begin to connect. The maximum temperature of 245°C to 254°C should stay between 10 and 40 seconds. In the cooling phase at  $\geq -6K/s$  solder is cured. Board and components cool down while avoiding cold cracks.