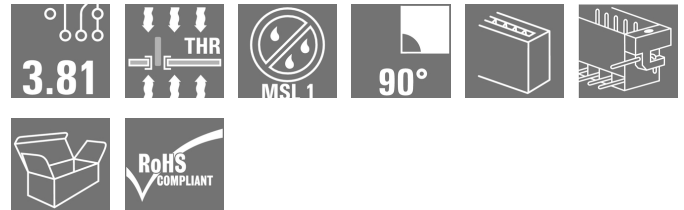


OMNIMATE Signal - series BC/SC 3.81
SC-SMT 3.81/12/90LF 3.2SN BK BX

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



High-temperature-resistant pin header (SC-SMT 90LF) in 3.81-mm pitch (0.15 inch)

- Plugging direction parallel to PCB (recumbent)
- 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 3.81/12/90LF 3.2SN BK BX
Order No.	1863820000
Version	PCB plug-in connector, male header, Solder flange, THT/THR solder connection, 3.81 mm, No. of poles: 12, 90°, Solder pin length (l): 3.2 mm, tinned, Black, Box
GTIN (EAN)	4032248429059
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 3.72 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		90°	
No. of poles		Number of solder pins per pole	
12		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		41.91 mm	
L1 in inches		Number of rows	
1.65 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 ⁸ 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"> Rated current related to rated cross-section & min. No. of poles. 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. P on drawing = pitch
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

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Technical data**Downloads**

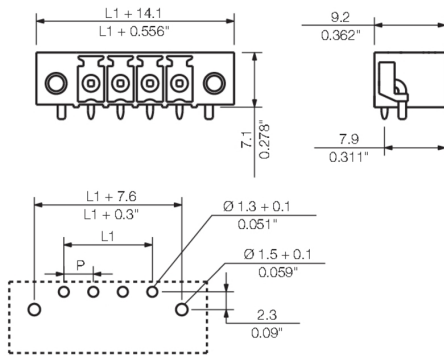
Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Brochure/Catalogue	FL DRIVES EN MB SMT EN FL DRIVES DE MB DEVICE MANUF. EN CAT 2 PORTFOLIOGUIDE EN FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FL INDUSTR.CONTROLS EN FL MACHINE SAFETY EN FL HEATING ELECTR EN FL APPL INVERTER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

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Drawings

Dimensional drawing



Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
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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 $\leq +3\text{K/s}$. 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 $\geq -6\text{K/s}$ solder is cured. Board and components cool down while avoiding cold cracks.