

**OMNIMATE Signal - series BC/SC 3.81
SCDV-THR 3.81/22/90G 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 two-tier SCDV-THR pin header for reflow soldering.

- It allows you to use two interfaces on only one surface and with only one step in the work flow.
- Outlet direction: 90° (recumbent)
- Connections at two offset levels and open access to each row.
- Space for labelling and coding
- Packed in cardboard box.

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 and coding.

General ordering data

Type	SCDV-THR 3.81/22/90G 3.2SN BK BX
Order No.	1033590000
Version	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.81 mm, No. of poles: 22, 90°, Solder pin length (l): 3.2 mm, tinned, Black, Box
GTIN (EAN)	4032248762507
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 10 A
Packaging	Box

**OMNIMATE Signal - series BC/SC 3.81
SCDV-THR 3.81/22/90G 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

Technical data**Dimensions and weights**

Net weight	12.025 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	
22		1	
Solder pin length (l)		Solder pin length tolerance	
3.2 mm		+0,02 / -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 / -0,03 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		38.1 mm	
L1 in inches		Number of rows	
1.5 inch		2	
Pin series quantity		Touch-safe protection acc. to DIN VDE 57 106	
2		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 (Ta = 20°C)	
IEC 60664-1, IEC 61984		17.5 A	
Rated current, min. no. of poles (Ta = 40°C)		Rated voltage for surge voltage class / pollution degree II/2	
17 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	

Rated data acc. to CSA

Rated voltage (Use group B)		Rated voltage (use group D)	
300 V		300 V	
Rated current (use group B)		Rated current (use group D)	
11 A		11 A	

**OMNIMATE Signal - series BC/SC 3.81
SCDV-THR 3.81/22/90G 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

Technical data**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 4.0	EC002637	ETIM 5.0	EC002637
ETIM 6.0	EC002637	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

- 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

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.

Approvals

Approvals



ROHS

Conform

Downloads

Approval/Certificate/Document of Conformity

[Declaration of the Manufacturer](#)

Brochure/Catalogue

[FL DRIVES EN](#)
[MB DEVICE MANUF. EN](#)
[FL DRIVES DE](#)
[CAT 2 PORTFOLIOGUIDE EN](#)
[FL BUILDING SAFETY EN](#)
[FL APPL LED LIGHTING EN](#)
[FLIndustr.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](#)

Creation date 14 February 2018 14:40:54 CET

Catalogue status 09.02.2018 / We reserve the right to make technical changes.

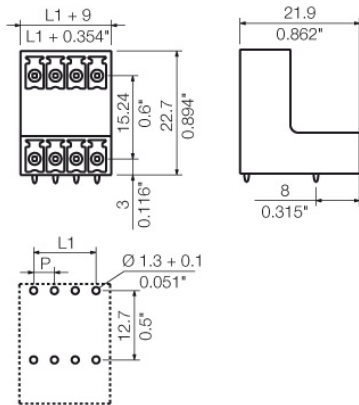
3

**OMNIMATE Signal - series BC/SC 3.81
SCDV-THR 3.81/22/90G 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

Drawings

Dimensional drawing



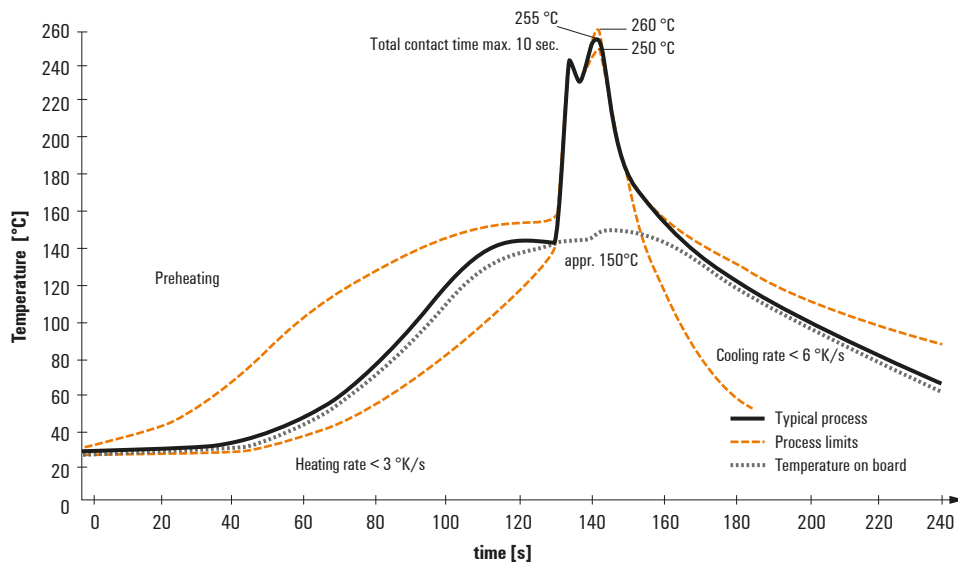
Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
 Klängenbergstraße 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.

Recommended reflow soldering profile

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



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.