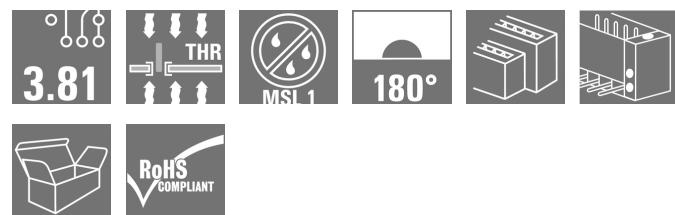


## OMNIMATE Signal - series BC/SC 3.81 SCD-THR 3.81/18/180F 3.2SN BK BX

Weidmüller Interface GmbH & Co. KG  
Klingenbergsstraße 16  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
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[www.weidmueller.com](http://www.weidmueller.com)

### Product image



#### Similar to illustration

High-temperature-resistant two-tier SCD-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 the same level and with access that is flush over the front board.
- 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	SCD-THR 3.81/18/180F 3.2SN BK BX
Order No.	<a href="#">1031560000</a>
Version	PCB plug-in connector, male header, Flange, THT/THR solder connection, 3.81 mm, No. of poles: 18, 180°, Solder pin length (l): 3.2 mm, tinned, black, Box
GTIN (EAN)	4032248760558
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**

Width	44.68 mm	Width (inches)	1.759 inch
Height	25.1 mm	Height (inches)	0.988 inch
Height of lowest version	21.9 mm	Depth	22.7 mm
Depth (inches)	0.894 inch	Net weight	19.509 g

**Environmental Product Compliance**

REACH SVHC	Lead 7439-92-1
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**System specifications**

Product family	OMNIMATE Signal - series BC/SC 3.81	Type of connection	Board connection
Mounting onto the PCB	THT/THR solder connection	Pitch in mm (P)	3.81 mm
Pitch in inches (P)	0.15 inch	Outgoing elbow	180°
No. of poles	18	Number of solder pins per pole	1
Solder pin length (l)	3.2 mm	Solder pin length tolerance	+0,02 / -0,02 mm
Tolerance of solder pin position	± 0.1 mm	Solder pin dimensions	d = 1.0 mm, Octagonal
Solder pin dimensions = d tolerance	0 / -0,03 mm	Solder eyelet hole diameter (D)	1.3 mm
Solder eyelet hole diameter tolerance (D)+ 0,1 mm		Outside diameter of solder pad	2.1 mm
Template aperture diameter	1.9 mm	L1 in mm	30.48 mm
L1 in inches	1.2 inch	Number of rows	2
Pin series quantity	2	Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch
Touch-safe protection acc. to DIN VDE 0470	IP 20	Volume resistance	6.00 mΩ
Can be coded	Yes	Plugging cycles	25
Plugging force/pole, max.	8 N	Pulling force/pole, max.	5.5 N

**Material data**

Insulating material	LCP GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
CTI	≥ 175	Insulation strength	≥ 10 <sup>8</sup> Ω
Moisture Level (MSL)	1	UL 94 flammability rating	V-0
GWIT	930 °C	GWFI	960 °C
Contact material	Copper alloy	Contact surface	tinned
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.	-25 °C
Temperature range, installation, max.	120 °C		

## Data sheet

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**Technical data****Rated data acc. to IEC**

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. no. of poles (Tu=20°C)	17.5 A
Rated current, max. no. of poles (Tu=20°C)	9.4 A	Rated current, min. no. of poles (Tu=40°C)	17 A
Rated current, max. no. of poles (Tu=40°C)	8.1 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 76 A

**Rated data acc. to CSA**

Rated voltage (Use group B / CSA)	300 V	Rated current (Use group B / CSA)	11 A
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**Rated data acc. to UL 1059**

Institute (cURus)		Certificate No. (cURus)	
Rated voltage (Use group B / UL 1059)	300 V	E60693	
Rated current (Use group B / UL 1059)	10 A	Rated voltage (Use group D / UL 1059)	300 V
Reference to approval values	Specifications are maximum values, details - see approval certificate.	Rated current (Use group D / UL 1059)	10 A

**Packing**

Packaging	Box	VPE length	495 mm
VPE width	355 mm	VPE height	182 mm

**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	<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.

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**Technical data****Approvals**

Approvals



ROHS

Conform

**Downloads**Approval/Certificate/Document of  
Conformity[Declaration of the Manufacturer](#)

Brochure/Catalogue

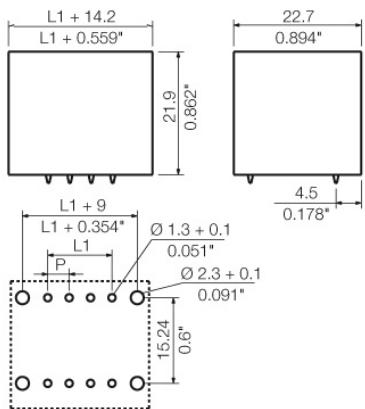
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SMT white paper

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**Data sheet****OMNIMATE Signal - series BC/SC 3.81  
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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.

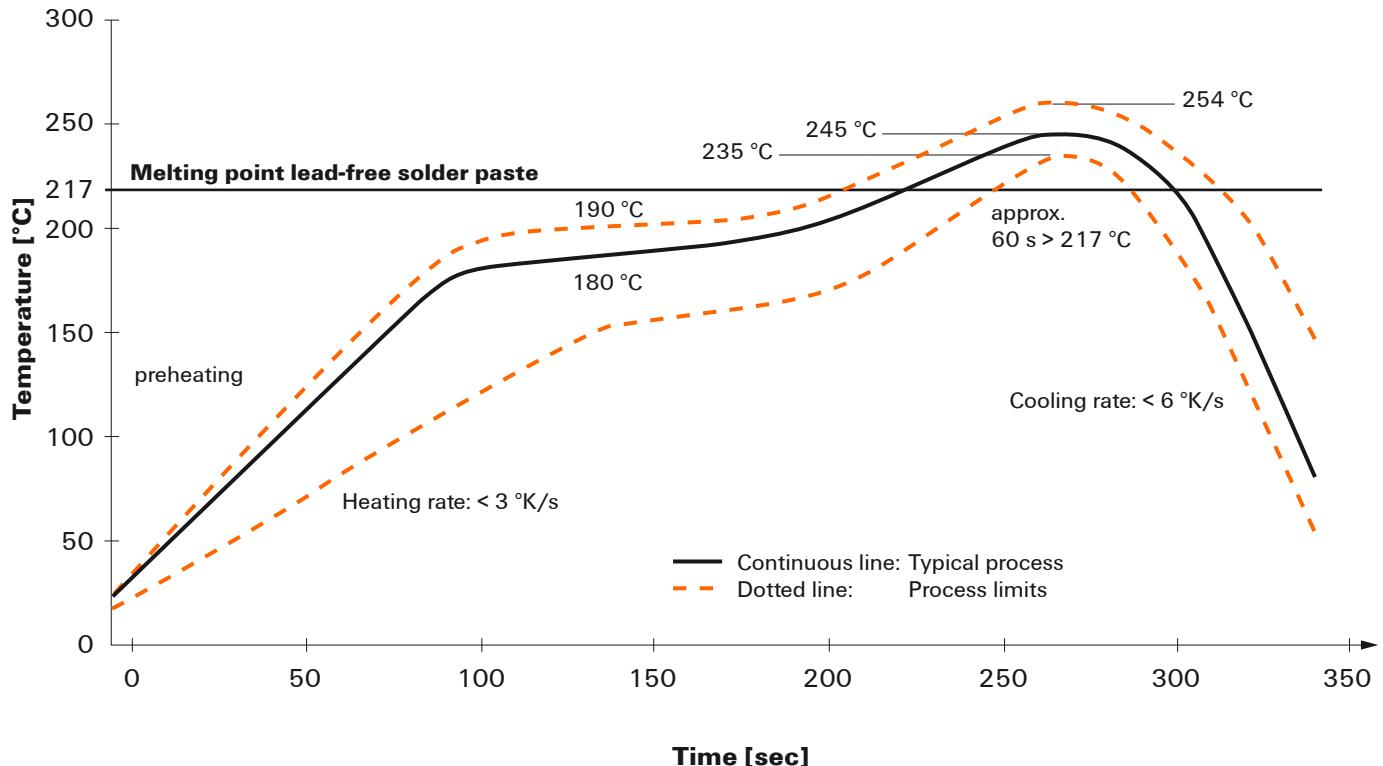
When choosing a suitable profile for your application, the following factors also need to be considered:

- 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  $\leq +3\text{K/s}$ . 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.