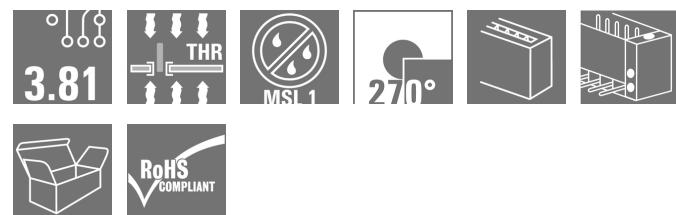


**SC-SMT 3.81/05/270F 3.2SN BK BX**

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergsstraße 26  
 D-32758 Detmold  
 Germany

[www.weidmueller.com](http://www.weidmueller.com)

**Product image**

## Similar to illustration

The SC-SMT pin header in 270°-outlet direction: the 270° angle exists between the plugging direction and the solder pin. The plugging direction is then parallel to the PCB. Sockets blocks, however, have an overhead plugging angle.

- More freedom when designing components and devices.
- A high component density when multiple PCBs are arranged in parallel within one housing
- The housing design is application-friendly because of the additional optional wire outlet direction.
- Available in closed (G) and screw flange (F) versions.
- 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 and coding.

**General ordering data**

Version	PCB plug-in connector, male header, Flange, THT/THR solder connection, 3.81 mm, Number of poles: 5, 270°, Solder pin length (l): 3.2 mm, tinned, black, Box
Order No.	<a href="#">1037030000</a>
Type	SC-SMT 3.81/05/270F 3.2SN BK BX
GTIN (EAN)	4032248765591
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 11 A
Packaging	Box

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

Depth	9.2 mm	Depth (inches)	0.362 inch
Height	10.3 mm	Height (inches)	0.406 inch
Height of lowest version	7.1 mm	Width	29.64 mm
Width (inches)	1.167 inch	Net weight	2.521 g

**Environmental Product Compliance**

REACH SVHC	SCIP	308576ca-4abc-409a-b0d0-6626109a7446
	Lead 7439-92-1	

**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	270°										
Number of poles	5										
Number of solder pins per pole	1										
Solder pin length (l)	3.2 mm										
Solder pin length tolerance	+0,02 / -0,02 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	15.24 mm										
L1 in inches	0.6 inch										
Number of rows	1										
Pin series quantity	1										
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	≤5 mΩ										
Can be coded	Yes										
Tightening torque	<table border="1"> <tr> <td>Torque type</td> <td>Mounting screw, PCB</td> </tr> <tr> <td>Usage information</td> <td> <table border="1"> <tr> <td>Tightening torque</td> <td>min. 0.1 Nm</td> </tr> <tr> <td></td> <td>max. 0.15 Nm</td> </tr> <tr> <td>Recommended screw</td> <td>Part number <a href="#">PTSC KA 2.2X4.5 WN1412</a></td> </tr> </table> </td> </tr></table>	Torque type	Mounting screw, PCB	Usage information	<table border="1"> <tr> <td>Tightening torque</td> <td>min. 0.1 Nm</td> </tr> <tr> <td></td> <td>max. 0.15 Nm</td> </tr> <tr> <td>Recommended screw</td> <td>Part number <a href="#">PTSC KA 2.2X4.5 WN1412</a></td> </tr> </table>	Tightening torque	min. 0.1 Nm		max. 0.15 Nm	Recommended screw	Part number <a href="#">PTSC KA 2.2X4.5 WN1412</a>
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	max. 0.15 Nm										
Recommended screw	Part number <a href="#">PTSC KA 2.2X4.5 WN1412</a>										

**Material data**

Insulating material	LCP GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 175	Moisture Level (MSL)	1
UL 94 flammability rating	V-0	Contact material	Copper alloy
Contact surface	tinned	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	Operating temperature, min.	-50 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-25 °C
Temperature range, installation, max.	120 °C		

Creation date September 15, 2022 10:36:08 PM CEST

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

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	17.5 A
Rated current, max. number of poles (Tu=20°C)	17 A	Rated current, min. number of poles (Tu=40°C)	17.5 A
Rated current, max. number of poles (Tu=40°C)	15.1 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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**Packing**

Packaging	Box	VPE length	85 mm
VPE width	85 mm	VPE height	35 mm

**Classifications**

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ECLASS 9.0	27-44-04-02
ECLASS 9.1	27-44-04-02	ECLASS 10.0	27-44-04-02
ECLASS 11.0	27-46-02-01	ECLASS 12.0	27-46-02-01

**Important note**

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.
Notes	<ul style="list-style-type: none"> <li>Additional variants on request</li> <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> <li>Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</li> </ul>

**Approvals**

Approvals	
ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E60693

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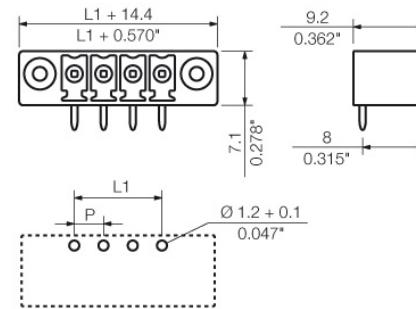
**Technical data****Downloads**

Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<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="#">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> <a href="#">PO OMNIMATE EN</a>
White paper surface mount technology	<a href="#">Download Whitepaper</a>

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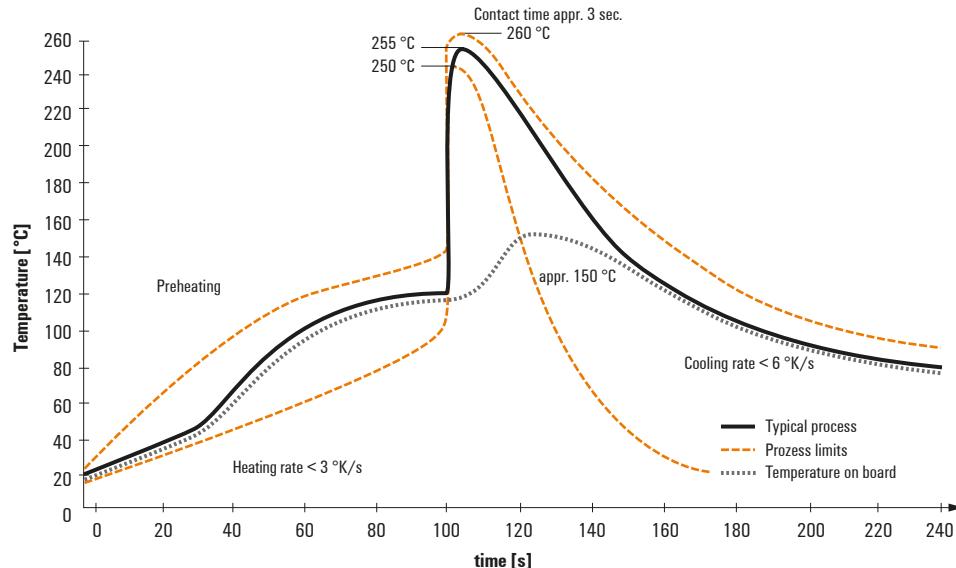
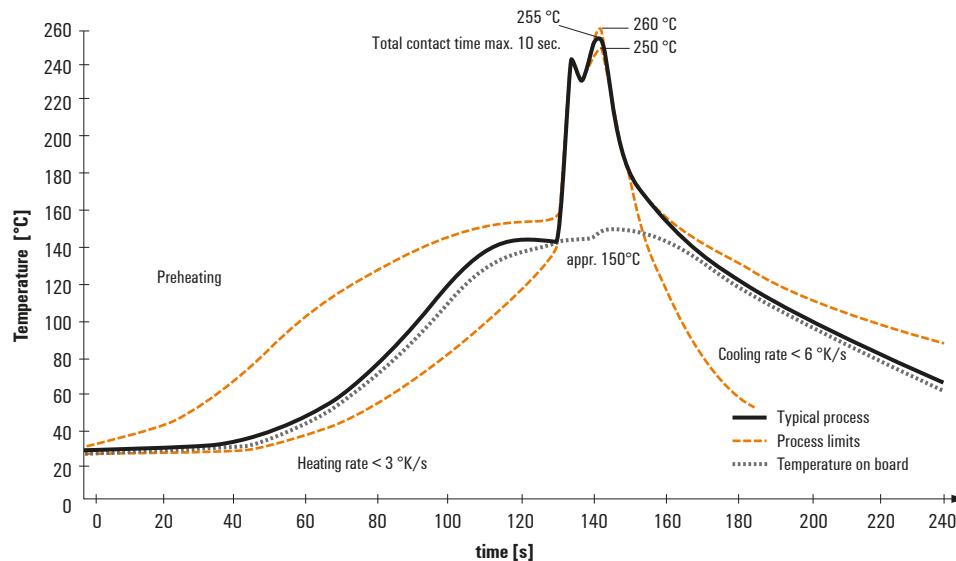
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**Drawings****Dimensional drawing**

## Recommended wave soldering profiles

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergsstraße 16  
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 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
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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.

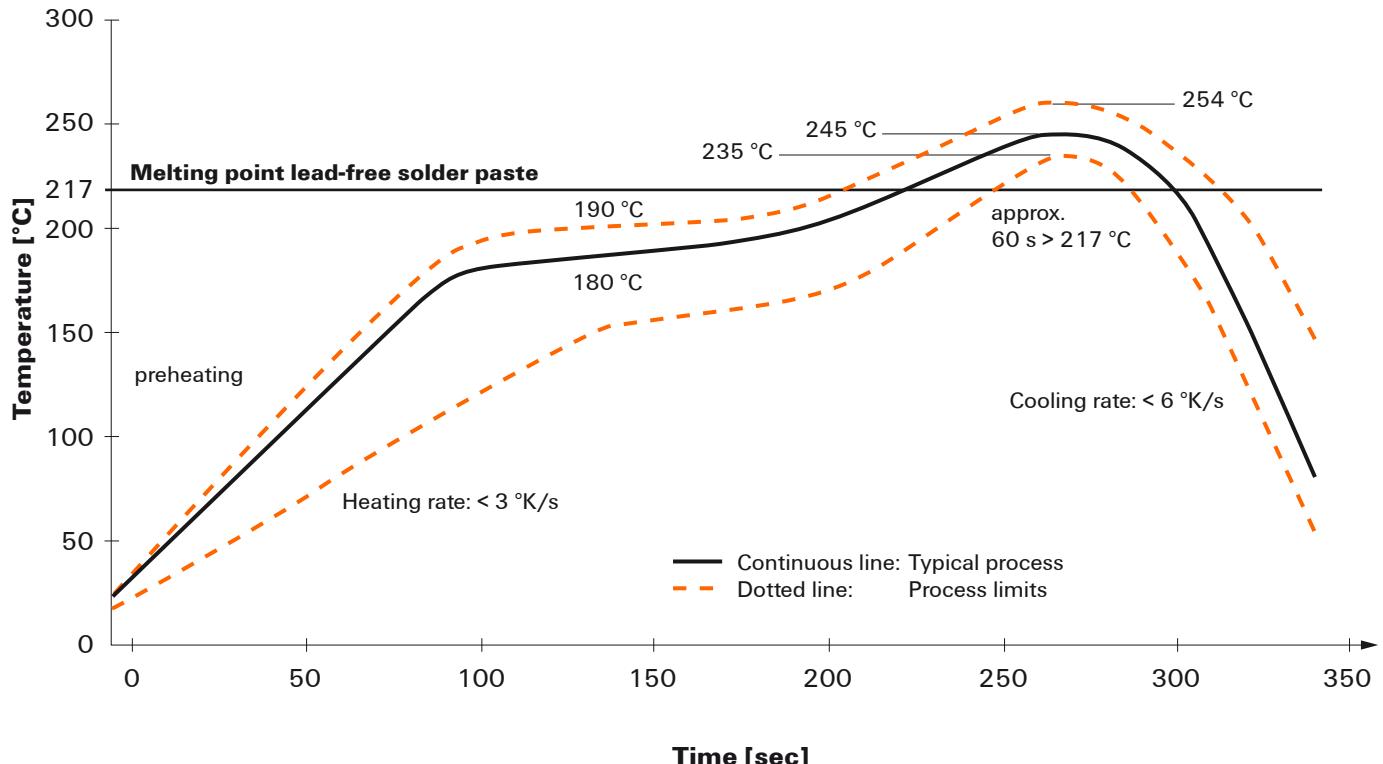
When choosing a suitable profile for your application, the following factors also need to be considered:

- 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.