

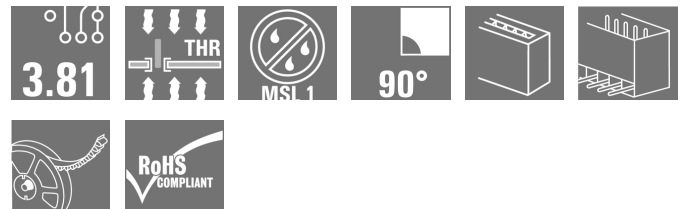
SC-SMT 3.81/04/90G 2.1SN BK RL**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

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

- Plugging direction parallel to PCB (recumbent)
- Closed (G)
- 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 and coding.

General ordering data

Version	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.81 mm, Number of poles: 4, 90°, Solder pin length (l): 2.1 mm, tinned, black, Tape
Order No.	2495680000
Type	SC-SMT 3.81/04/90G 2.1SN BK RL
GTIN (EAN)	4050118505962
Qty.	400 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 11 A
Packaging	Tape

Creation date March 29, 2021 5:58:08 PM CEST

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Technical data

Dimensions and weights

Depth	9.2 mm	Depth (inches)	0.362 inch
Height	9.17 mm	Height (inches)	0.361 inch
Height of lowest version	7.07 mm	Net weight	1.019 g
Width	15.93 mm	Width (inches)	0.627 inch

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	90°
Number of poles	4	Number of solder pins per pole	1
Solder pin length (l)	2.1 mm	Solder pin length tolerance	0 / -0,02 mm
Solder pin dimensions	d = 1.0 mm, Octagonal	Solder pin dimensions = d tolerance	0 / -0,04 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	11.43 mm	L1 in inches	0.45 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

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		

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)	13.9 A	Rated current, min. number of poles (Tu=40°C)	17 A
Rated current, max. number of poles (Tu=40°C)	12.4 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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Technical data

Rated data acc. to UL 1059

Rated voltage (Use group B / UL 1059) 300 V

Rated voltage (Use group D / UL 1059) 300 V

Rated current (Use group B / UL 1059) 11 A

Rated current (Use group D / UL 1059) 11 A

Packing

Packaging	Tape	VPE length	0
VPE width	0	VPE height	0
Tape depth (T2)	11.4 mm	Tape width (W)	32 mm
Tape pocket depth (K0)	10.9 mm	Tape pocket height (A0)	9.5 mm
Tape pocket width (B0)	18.2 mm	Tape pocket separation (P1)	16 mm
Tape hole separation (E)	1.75 mm	Tape pocket separation (F)	14.2 mm
Tape reel diameter Ø (A)	330 mm	Surface resistance	$R_s = 10^9 - 10^{12} \Omega$

Classifications

ETIM 6.0	EC002637	ETIM 7.0	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

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	Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

Downloads

Approval/Certificate/Document of Conformity

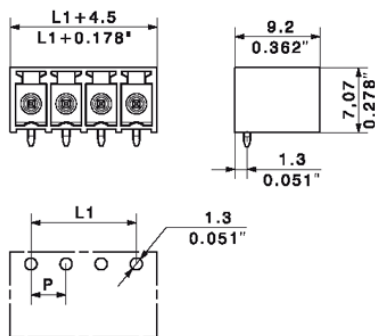
[Declaration of the Manufacturer](#)

SC-SMT 3.81/04/90G 2.1SN BK RL

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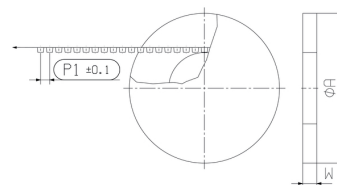
Drawings



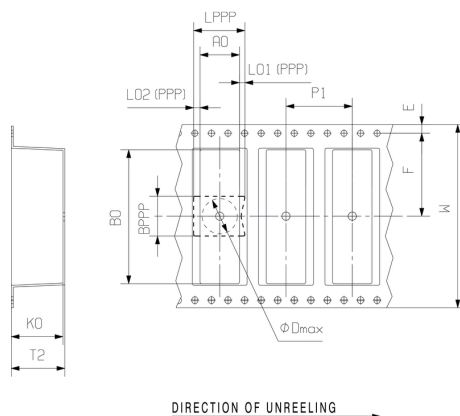
Example of use

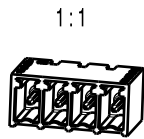
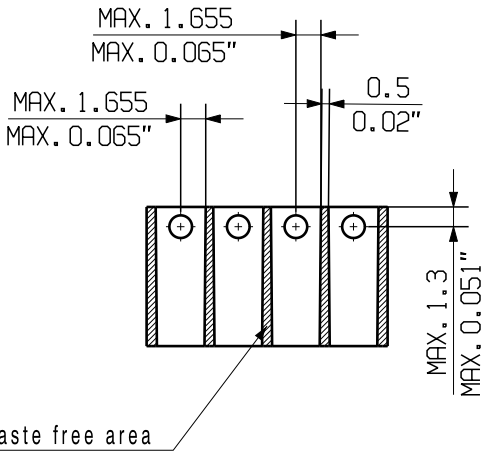
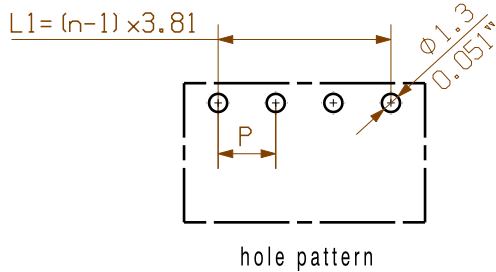
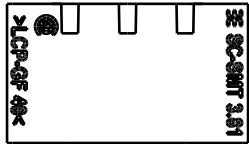
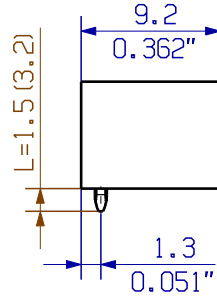
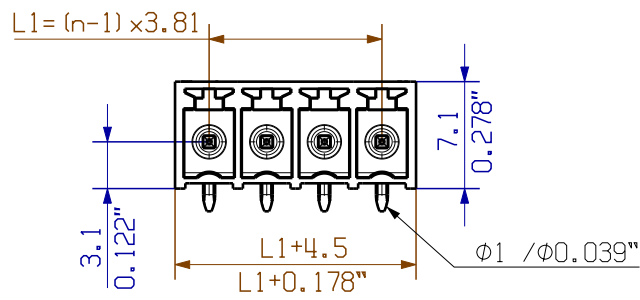


Dimensional drawing



Dimensional drawing





16	57,15	2,252
15	53,34	2,102
14	49,53	1,951
13	45,72	1,801
12	41,91	1,651
11	38,1	1,501
10	34,29	1,351
9	30,48	1,201
8	26,67	1,051
7	22,86	0,901
6	19,05	0,751
5	15,24	0,600
4	11,43	0,450
3	7,62	0,300
2	3,81	0,150
n	L1 [mm]	L1 [Inch]

pin length l	tolerance			
1,5	0,0 -0,2	6	19,05	0,751
3,2	0,0 -0,2	4	11,43	0,450
2,1	0,1 -0,2	2	3,81	0,150

P= Raster/pitch
n= Polzahl/no of poles
shown: SC-SMT3.81/04/90G

For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone.
The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.
The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application. Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

GENERAL TOLERANCE:
DIN ISO 2768-m

106980/5
02.08.18 HELIS_MA
00

Modification

Drawn
Responsible
Checked
Approved

Date
11.11.2004
29.08.2018

Name
POCTA_C
AMANN_A
HELIS_MA
LANG_T

Weidmüller

SC-SMT 3.81/02...16/90...
STIFTLEISTE
MALE HEADER

Product file: SC-SMT 3.81

Cat.no.: .

3 36136

27

Drawing no.

Sheet 02 of 05 sheets

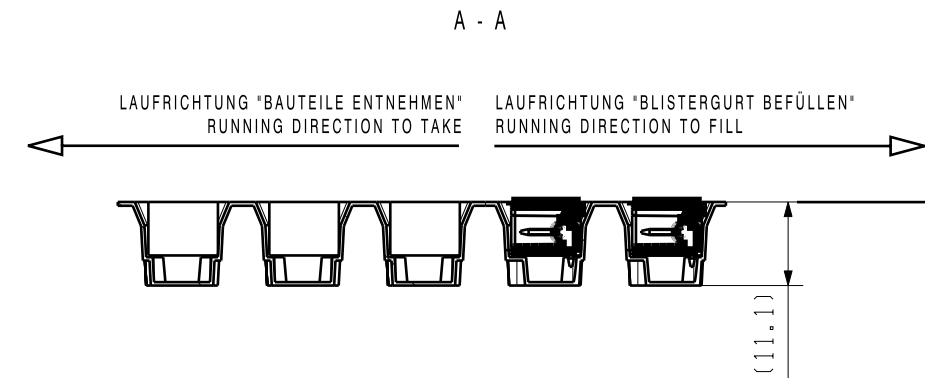
Issue no.

7278

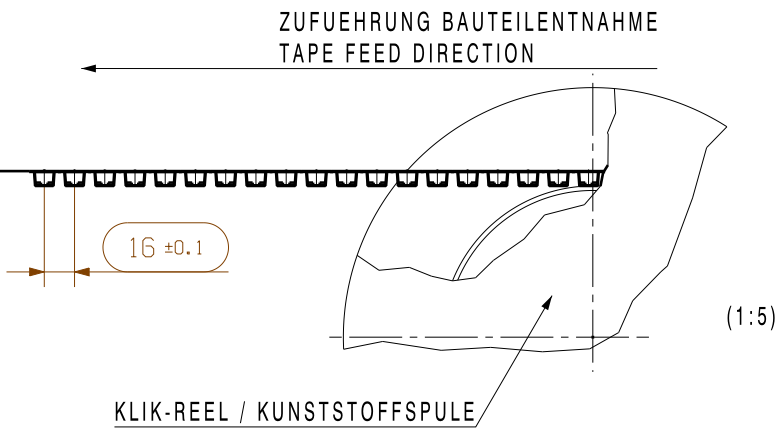
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MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE
DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

DIE DEUTSCHE VERSION IST VERBINDLICH
THE GERMAN VERSION IS BINDING

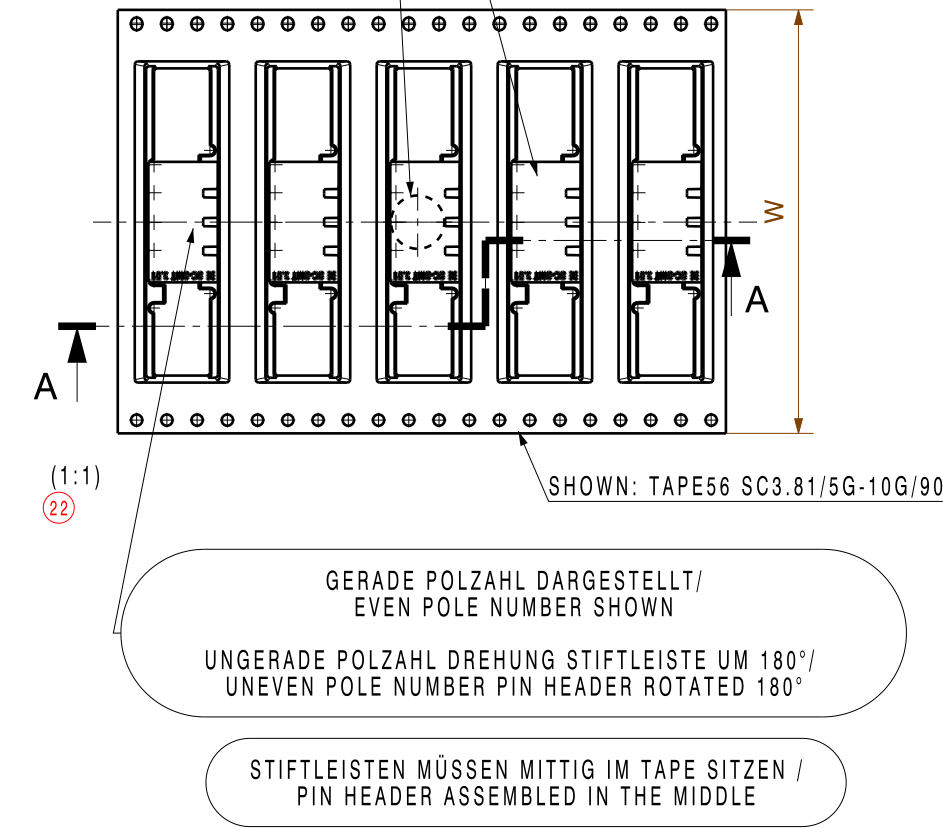


New Universal-Tape



SHOWN: SC-SMT 3.81/04/180G 1.5 ..

PICK AND PLACE AREA MAX. Ø7



TAPEBREITE/ TAPEWIDTH (MAT.NR.)	POL ZAHL NO OF POLS	SC-SMT 3.81/.. /90.. 1.5 BK		SC-SMT 3.81/.. /90.. 3.2 BK		SC-SMT 3.81/.. /90.. 2.1 BK		SC-SMT 3.81/.. /90.. 1.5 OR	
		BESTELLN.R./CAT.NO.		BESTELLN.R./CAT.NO.		BESTELLN.R./CAT.NO.		BESTELLN.R./CAT.NO.	
W	n	G	LF	G	LF	G	LF	G	LF
32 (1437290000)	2	1863140000	1862720000	1862810000	1863890000	2429820000		1105060000	
	3	1863150000	/	1862840000	/	2128630000	/		/
	4	1863160000	/	1862860000	/		/		/
44 (2017990000)	3	/	1862750000	/	1863970000	/		/	
	4	/	1862770000	/	1863980000	/		/	
	5	1863170000	1862790000	1862870000					
	6	1863180000	1862820000	1862880000					
	7	1863190000	/		/		/		/
	8	1863200000	/	1862900000	/		/		/
56 (1348070000)	7	/	1862830000	/		/		/	
	8	/	1862850000	/		/		/	
	9	1863210000	/		/		/		/
	10	1863220000	/	1862930000	/		/		/
88 (1396710000)	9	/	1430360000	/	1430370000	/		/	
	10	/	1430380000	/	1430390000	/		/	
	11	1430230000	1430400000		1430420000				
	12	1430250000	1430430000	1430240000	1359450000				
	13	1430270000	1430440000	1430260000	1430450000				
	14	1430290000	1430470000	1430280000	1430480000				
	15	1430330000	1430490000	1430320000	1430500000				
	16	1430350000	1430510000	1430340000	1430520000				

TAPE UND REEL GEMAESS IEC 286-3 (EN 60286-3) /
TAPE AND REEL ACCORDING TO IEC 286-3 (EN 60286-3)

84755/5 04.11.15 AMANN_A 02		CAT.NO.: .	
MODIFICATION		Weidmüller	
DRAWN 11.11.2004 POCTA_C		DRAWING NO. 3 36136 22	
RESPONSIBLE AMANN_A		SHEET 05 OF 05 SHEETS	
CHECKED		In Prüfung / Verification	
APPROVED		LANG_T	
SCALE: 5:1 SUPERSEDES: .		SC-SMT 3.81/02...16/90 STIFTELEISTE MALE PLUG PRODUCT FILE: SC-SMT 3.81 7278	

Recommended wave soldering profiles

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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.

We reserve the right to make technical changes.

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.