

SCDN-THR 3.81/20/90F 3.2SN BK BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

Similar to illustration

Extra flat high-temperature-resistant two-tier SCDN-THR pin header for reflow soldering.

- Two compact interfaces are used with the flat BCF 3.81 (PUSH IN) socket block.
- Available as 90° (recumbent).
- Connections on a single level, allowing 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

Version	PCB plug-in connector, male header, Flange, THT/THR solder connection, 3.81 mm, Number of poles: 20, 90°, Solder pin length (l): 3.2 mm, tinned, black, Box
Order No.	1039570000
Type	SCDN-THR 3.81/20/90F 3.2SN BK BX
GTIN (EAN)	4032248772810
Qty.	50 pc(s).
Product data	IEC: 320 V / 17.5 A UL: 300 V / 11 A
Packaging	Box

Creation date March 22, 2021 6:49:35 PM CET

SCDN-THR 3.81/20/90F 3.2SN BK BX

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Dimensions and weights

Depth	13.3 mm	Depth (inches)	0.524 inch
Height	18.4 mm	Height (inches)	0.724 inch
Height of lowest version	15.2 mm	Net weight	2.5 g
Width	48.49 mm	Width (inches)	1.909 inch

Environmental Product Compliance

REACH SVHC	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	90°		
Number of poles	20		
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	34.29 mm		
L1 in inches	1.35 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	≤5 mΩ		
Can be coded	Yes		
Tightening torque	Torque type	Mounting screw, PCB	
	Usage information	Tightening torque	min. 0.1 Nm
			max. 0.15 Nm
		Recommended screw	Part number PTSC KA 2.2X4.5 WN1412

Material data

Insulating material	LCP GF	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIla
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		

SCDN-THR 3.81/20/90F 3.2SN BK BX

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

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)	13.2 A	Rated current, min. number of poles (Tu=40°C)	17 A
Rated current, max. number of poles (Tu=40°C)	12.2 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 voltage (Use group D / CSA)	300 V
Rated current (Use group B / CSA)	11 A	Rated current (Use group D / CSA)	11 A

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	Box	VPE length	26 mm
VPE width	250 mm	VPE height	270 mm

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

Approvals

Approvals



ROHS

Conform

Creation date March 22, 2021 6:49:35 PM CET

Catalogue status 12.03.2021 / We reserve the right to make technical changes.

SCDN-THR 3.81/20/90F 3.2SN BK BX

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Downloads

Approval/Certificate/Document of
Conformity

[Declaration of the Manufacturer](#)

Engineering Data

[STEP](#)

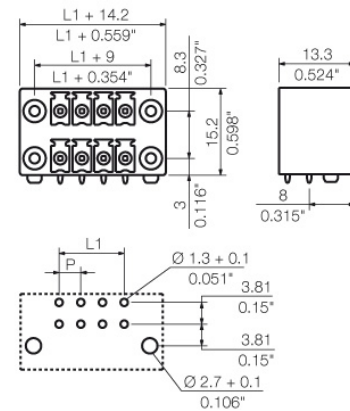
SCDN-THR 3.81/20/90F 3.2SN BK BX

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

www.weidmueller.com

Drawings

Dimensional drawing

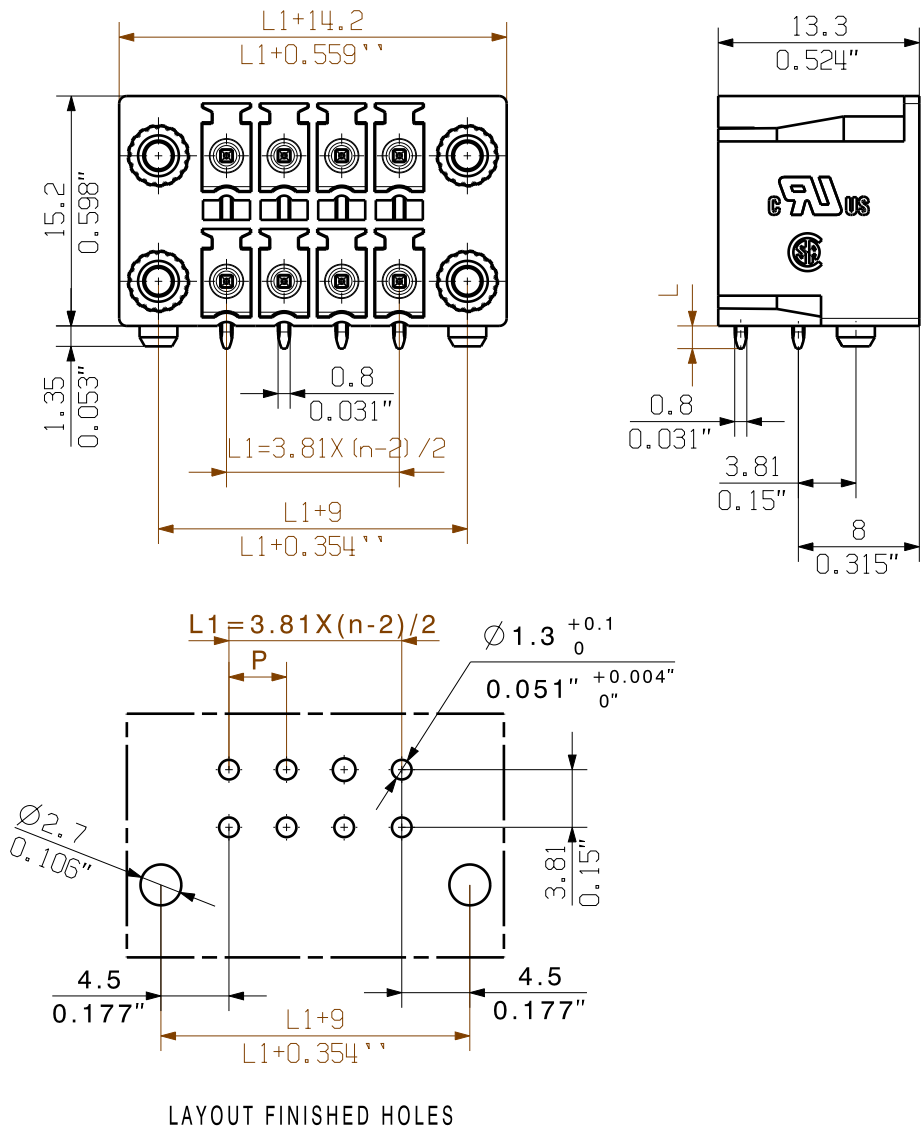


WEITERGABE SOWIE Vervielfältigung dieses Dokuments, Verwertung und Mitteilung seines Inhalts sind verboten, soweit nicht ausdrücklich gestattet.
Zuwendungen verpflichten zu Schadenersatz. Alle Rechte für den Fall der Patent-, Gebrauchsmuster- oder Geschmacksuntertragung vorbehalten.
THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPLICIT AUTHORIZATION IS PROHIBITED.
OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. WEIDMÜLLER EXCLUSIVELY RESERVES THE RIGHT TO FILE FOR PATENTS, UTILITY MODELS OR DESIGNS.

WEIDMÜLLER INTERFACE GmbH & Co.KG

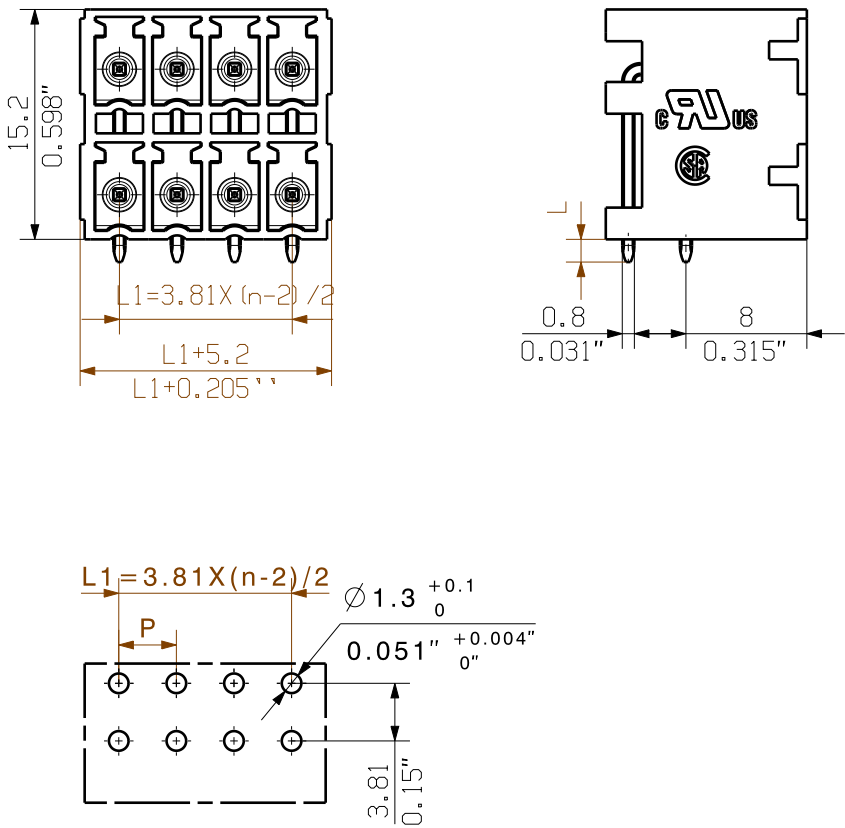
03

SCDN-THR 3.81/.../90F ...SN



LAYOUT FINISHED HOLES

SCDN-THR 3.81/.../90G ...SN



LAYOUT FINISHED HOLES

NOTE:

n=NO OF POLES
P=PITCH

KUNDENZEICHNUNG
CUSTOMER DRAWING

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

Weidmüller connectors are tested to the DIN VDE 0627 standard, and are valid for its field of application. Provided that the connectors are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

3.2±0.2	0.126"±0.008"	SCDN-THR 3.81/.../90F 3.2...
3.2±0.2	0.126"±0.008"	SCDN-THR 3.81/.../90G 3.2...
1.5 _{-0.2} ⁰	0.059" _{-0.008} ⁰	SCDN-THR 3.81/.../90F 1.5...
1.5 _{-0.2} ⁰	0.059" _{-0.008} ⁰	SCDN-THR 3.81/.../90G 1.5...
PIN LENGTH L(mm)	PIN LENGTH L(inch)	TYP PRODUCT NAME

32	57.15	2.250
30	53.34	2.100
28	49.53	1.950
26	45.72	1.800
24	41.91	1.650
22	38.10	1.500
20	34.29	1.350
18	30.48	1.200
16	26.67	1.050
14	22.86	0.900
12	19.05	0.750
10	15.24	0.600
8	11.43	0.450
6	7.62	0.300
4	3.81	0.150
n	L1 [mm]	L1 [inch]

GENERAL TOLERANCE: DIN ISO 2768-m		78721/5 06.11.14 MA_J		01	Weidmüller 		CAT.NO.: .				
	MAX. NRN./NOS.	MODIFICATION		C 46288			03				
			DATE		NAME		DRAWING NO.		ISSUE NO.		
DRAWN			08.01.2009		GE_G		SHEET 02		OF 03 SHEETS		
RESPONSIBLE				XU_S		SCDN... 3.81/.../90... THR-LOETANSCHLUSS STIFTELEISTE THR SOLDER CONNECTION PIN HEADER					
CHECKED		25.11.2014		ZHOU_N							
APPROVED				XU_S							
SCALE: 3/1						PRODUCT FILE:SCDN 3.81					
SUPERSEDES: .											
						7086					

Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 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.

We reserve the right to make technical changes.

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.