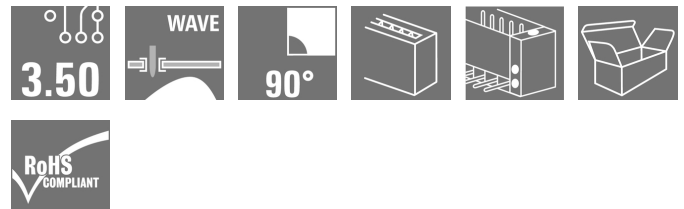
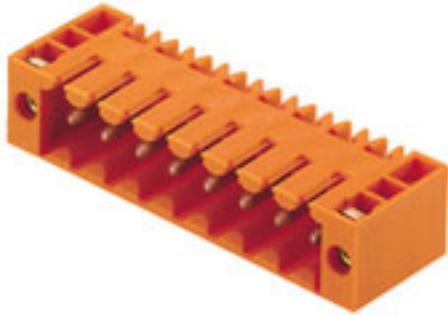


## OMNIMATE Signal - series BL/SL 3.50 SL 3.50/20/90F 3.2SN OR BX

**Weidmüller Interface GmbH & Co. KG**  
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D-32758 Detmold  
Germany  
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Fax: +49 5231 14-292083  
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### Product image



Similar to illustration

Pin headers for wave soldering in 3.50 mm pitch

- Plugging direction is parallel (90°), straight 180° or angled (135°) to the PCB
- Housing variant: screw flange (F)
- Packed in a cardboard box (BX)
- Pin header can be coded

### General ordering data

Type	SL 3.50/20/90F 3.2SN OR BX
Order No.	<a href="#">1619800000</a>
Version	PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, No. of poles: 20, 90°, Solder pin length (l): 3.2 mm, tinned, Orange, Box
GTIN (EAN)	4008190147549
Qty.	20 pc(s).
Product data	IEC: / 17 A UL: 300 V / 10 A
Packaging	Box

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

Width	77 mm	Width (inches)	3.031 inch
Height	10.7 mm	Height (inches)	0.421 inch
Height of lowest version	7.5 mm	Depth	11.1 mm
Depth (inches)	0.437 inch	Net weight	6.6 g

**System specifications**

Product family	OMNIMATE Signal - series BL/SL 3.50	Type of connection	Board connection
Mounting onto the PCB	THT solder connection	Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch	Outgoing elbow	90°
No. of poles	20	Number of solder pins per pole	1
Solder pin length (l)	3.2 mm	Solder pin length tolerance	+0.1 / -0.3 mm
Tolerance of solder pin position	± 0.20 mm	Solder pin dimensions	d = 1.2 mm, Octagonal
Solder pin dimensions = d tolerance	0 / -0,03 mm	Solder eyelet hole diameter (D)	1.4 mm
Solder eyelet hole diameter tolerance (D)+	0,1 mm	L1 in mm	66.5 mm
L1 in inches	2.618 inch	Number of rows	1
Pin series quantity	1	Touch-safe protection acc. to DIN VDE 57 106	Safe from back-of-hand touch
Touch-safe protection acc. to DIN VDE 0470	IP 10	Volume resistance	6.00 mΩ
Can be coded	Yes	Plugging cycles	25
Plugging force/pole, max.	10 N	Pulling force/pole, max.	10 N

**Material data**

Insulating material	PBT	Colour	Orange
Colour chart (similar)	RAL 2000	Insulating material group	IIIa
CTI	≥ 200	Insulation resistance	≥ 10 <sup>8</sup> Ω
UL 94 flammability rating	V-0	Contact base material	CuSn
Contact material	CuSn	Contact surface	tinned
Layer structure of solder connection	2-4 μm Ni / 5-8 μm Sn glossy	Layer structure of plug contact	2-4 undefined Ni / 5-8 undefined Sn glossy
Storage temperature, min.	-25 °C	Storage temperature, max.	55 °C
Max. relative humidity during storage	80 %	Operating temperature, min.	-50 °C
Operating temperature, max.	100 °C	Temperature range, installation, min.	-30 °C
Temperature range, installation, max.	100 °C		

**Rated data acc. to IEC**

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. no. of poles (Tu=20°C)	17 A
Rated current, max. no. of poles (Tu=20°C)	12 A	Rated current, min. no. of poles (Tu=40°C)	14.5 A
Rated current, max. no. of poles (Tu=40°C)	10 A		

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**Technical data****Rated data acc. to CSA**

Institute (CSA)



Certificate No. (CSA)

154685-1318353

Rated voltage (Use group B / CSA) 300 V

Rated voltage (Use group D / CSA) 300 V

Rated current (Use group B / CSA) 10 A

Rated current (Use group D / CSA) 10 A

Reference to approval values

Specifications are maximum values, details - see approval certificate.

**Rated data acc. to UL 1059**

Institute (UR)



Certificate No. (UR)

E60693

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) 10 A

Rated current (Use group D / UL 1059) 10 A

Reference to approval values

Specifications are maximum values, details - see approval certificate.

**Packaging**

Packaging	Box	VPE length	35 mm
VPE width	90 mm	VPE height	90 mm

**Classifications**

ETIM 3.0	EC001284	ETIM 4.0	EC002637
ETIM 5.0	EC002637	ETIM 6.0	EC002637
UNSPSC	30-21-18-10	eClass 5.1	27-26-07-04
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

- Additional colours on request
- Gold-plated contact surfaces on request
- Rated current related to rated cross-section & min. No. of poles.
- P on drawing = pitch
- 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.
- For additional mechanical support for male connectors with screw flange (...F), we recommend an additional cable gland with fastening screws (sheet metal screw ISO 1481-ST 2.2x4.5 C or ISO 7049-ST 2.2x4.5 C - see Accessories). Cable gland only permitted before soldering.

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.

Creation date January 14, 2019 6:59:03 AM CET

Catalogue status 04.01.2019 / We reserve the right to make technical changes.

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**Data sheet****OMNIMATE Signal - series BL/SL 3.50  
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**Technical data****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](#)

Engineering Data

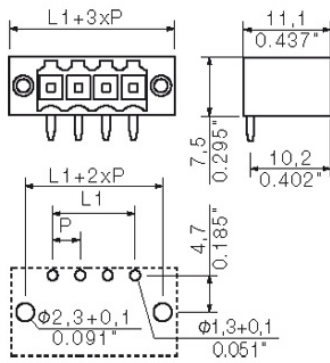
[SL.zip](#)  
[STEP](#)

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**Drawings**

**Dimensional drawing**



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24	80.5	+/-0.2	
23	77.0		
22	73.5		
21	70.0		
20	66.5		
19	63.0		
18	59.5		
17	56.0		
16	52.5		
15	49.0		
14	45.5	+/-0.15	
13	42.0		
12	38.5		
11	35.0		
10	31.5	+/-0.1	
9	28.0		
8	24.5		
7	21.0		
6	17.5		
5	14.0		
4	10.5		
3	7.0		
2	3.5		
n	Polzahl/ no of poles	L1	Toleranz/ tolerance L1

P = 3.50 Raster Pitch  
 D = Ø1,3<sup>+0.1</sup>  
 Ø0.051" <sup>+0.1</sup>  
 d = 1,2mm oktogonal  
 0.047" octogonal

1,5	0,1 -0,3
3,2	0,1 -0,3
4,5	0,1 -0,3
pin length l / Stiftlänge l	tolerance / Toleranz

shown : SL 3.50/04/90F

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.

General tolerance: DIN ISO 2768-mK		96310/5 06.07.17 HELIS_MA 00		Cat.no.: .	
		Modification			
		Drawn	Date		
Scale: 5/1		Responsible	21.08.2008	HELIS_MA	<b>3 19670</b> <b>48</b> Drawing no. Issue no. Sheet 03 of 03 sheets
Supersedes: .		Checked	20.09.2017	HERTEL_S	
		Approved		LANG_T	
				<b>SL 3.50/.. /90...</b> STIFTLASTE MALE HEADER	
				Product file: SL 3.50 7296	

## 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.