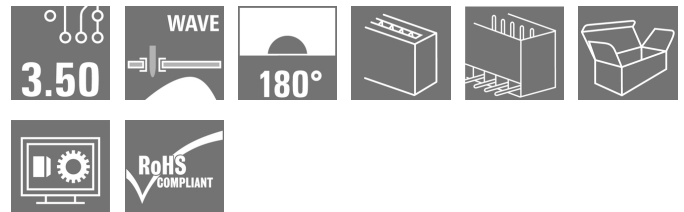


## OMNIMATE Signal - series BL/SL 3.50 SL 3.50/12/180G 3.2SN OR BX

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 16  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
www.weidmueller.com

### 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 3.50/12/180G 3.2SN OR BX
Order No.	<a href="#">1604570000</a>
Version	PCB plug-in connector, male header, closed side, THT solder connection, 3.50 mm, No. of poles: 12, 180°, Solder pin length (l): 3.2 mm, tinned, Orange, Box
GTIN (EAN)	4008190031572
Qty.	50 pc(s).
Product data	IEC: 320 V / 17 A UL: 300 V / 10 A
Packaging	Box

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

Width	43.4 mm	Width (inches)	1.709 inch
Height	14.3 mm	Height (inches)	0.563 inch
Height of lowest version	11.1 mm	Depth	7.5 mm
Depth (inches)	0.295 inch	Net weight	3.4 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	180°
No. of poles	12	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	± 0.15 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	38.5 mm
L1 in inches	1.516 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 material	CuSn
Contact surface	tinned	Layer structure of solder connection	5-7 μm Sn glossy
Layer structure of plug contact	5-7 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	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 100 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	84 mm	VPE height	115 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	<ul style="list-style-type: none"> <li>• Additional colours on request</li> <li>• Gold-plated contact surfaces on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• P on drawing = pitch</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> </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.

**Data sheet**

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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

[EPLAN, WSCAD, Zuken E3.S](#)

Engineering Data

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

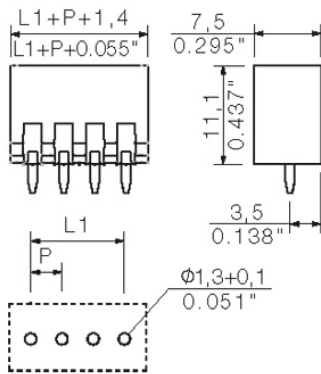
**Data sheet**

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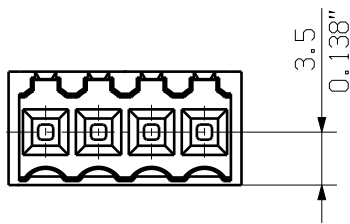
**Drawings**

**Dimensional drawing**



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24	80.5	3.171	±0.2	
23	77.0	3.033		
22	73.5	2.895		
21	70.0	2.757		
20	66.5	2.619		
19	63.0	2.481		
18	59.5	2.343		
17	56.0	2.205		
16	52.5	2.067		
15	49.0	1.929		
14	45.5	1.791	±0.15	
13	42.0	1.654		
12	38.5	1.516		
11	35.0	1.378		
10	31.5	1.240	±0.1	
9	28.0	1.102		
8	24.5	0.965		
7	21.0	0.827		
6	17.5	0.689		
5	14.0	0.551		
4	10.5	0.413		
3	7.00	0.276		
2	3.50	0.138		
n	no of poles	L1 [mm]	L1 [inch]	Toleranz/ tolerance

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 with 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.

P = Raster / pitch  
shown: SL 3.50/04/180G

General tolerance:  
DIN ISO 2768-mK



90310/5  
30.09.16 HELIS\_MA 00

Modification



Cat.no.: . . . . .  
**4 19672 28**

Drawing no. Issue no.  
Sheet 02 of 03 sheets



Date Name

Drawn 04.09.2008 HELIS\_MA

Responsible AMANN\_A

Checked 18.10.2016 HELIS\_MA

Approved LANG\_T

**SL 3.50/./180...**  
STIFTLISTE  
MALE HEADER

Scale: 5:1

Supersedes: .

Product file: SL 3.50

7296

## Recommended wave soldering profiles

**Weidmüller Interface GmbH & Co. KG**  
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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.