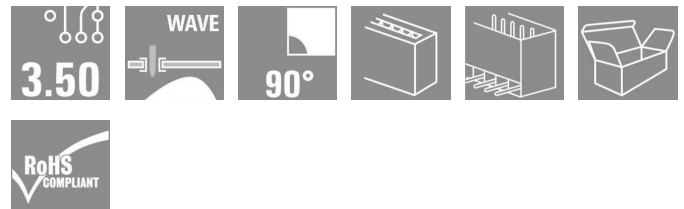
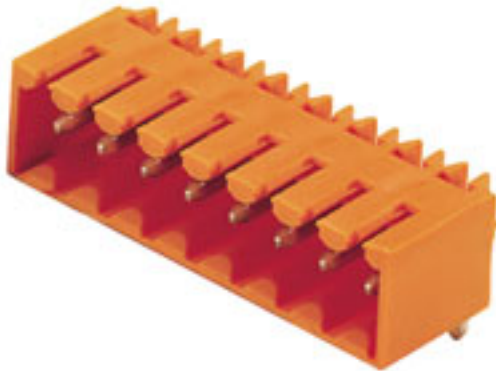


## OMNIMATE Signal - series BL/SL 3.50 SL 3.50/14/90G 3.2SN OR BX

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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 3.50/14/90G 3.2SN OR BX
Order No.	<a href="#">1605190000</a>
Version	PCB plug-in connector, male header, closed side, THT solder connection, 3.50 mm, No. of poles: 14, 90°, Solder pin length (l): 3.2 mm, tinned, Orange, Box
GTIN (EAN)	4008190097318
Qty.	50 pc(s).
Product data	IEC: 320 V / 17 A UL: 300 V / 10 A
Packaging	Box

**OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/14/90G 3.2SN OR BX**

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

Net weight	4.2 g
------------	-------

**System parameters**

Product family		Mounting onto the PCB	
OMNIMATE Signal - series BL/SL 3.50		THT solder connection	
Outgoing elbow	90°	Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch	No. of poles	14
Solder pin length (l)	3.2 mm	Solder pin length tolerance	+0.1 / -0.3 mm
Solder pin dimensions	d = 1.2 mm, Octagonal	Solder pin dimensions = d tolerance	0 / -0,03 mm
Plugging cycles	25	Can be coded	Yes
Number of solder pins per pole	1	Solder eyelet hole diameter (D)	1.3 mm
Solder eyelet hole diameter tolerance (D)	+ 0,1 mm	L1 in mm	45.5 mm
L1 in inches	1.791 inch	Insulation resistance	≥ 10 <sup>8</sup> Ω
Touch-safe protection acc. to DIN VDE 0470	IP 10	Touch-safe protection acc. to DIN VDE 57 106	Safe from back-of-hand touch
Volume resistance	6.00 mΩ		


**Material data**

Insulating material	PBT	Colour	Orange
Insulating material group	IIIa	UL 94 flammability rating	V-0
CTI	≥ 200	Contact material	CuSn
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
Contact surface	tinned	Operating temperature, min.	-50 °C
Operating temperature, max.	100 °C	Temperature range, installation, min.	-30 °C
Temperature range, installation, max.	100 °C	Storage temperature, min.	-25 °C
Storage temperature, max.	55 °C	Max. relative humidity during storage	80 %

**Rating data acc. to IEC 60664-1 / IEC 61984**

Rated current, min. no. of poles (Ta = 20°C)	17 A	Rated current, max. no. of poles (Ta = 20°C)	12 A
Rated current, min. no. of poles (Ta = 40°C)	14.5 A	Rated current, max. no. of poles (Ta = 40°C)	10 A
Rated voltage for surge voltage class / pollution degree III/3	160 V	Rated impulse voltage for surge voltage class/ contamination degree III/3	2.5 kV
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated impulse voltage for surge voltage class/ pollution degree III/2	2.5 kV
Rated voltage for surge voltage class / pollution degree II/2	320 V	Rated impulse voltage for surge voltage class/ pollution degree II/2	2.5 kV
Short-time withstand current resistance	3 x 1s with 100 A		

**Rated data acc. to CSA**

Institute (CSA)		Certificate No. (CSA)	154685-1318353
Rated voltage (Use group B)	300 V	Rated voltage (use group D)	300 V
Rated current (use group B)	10 A	Rated current (use group D)	10 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

## Data sheet

### OMNIMATE Signal - series BL/SL 3.50 SL 3.50/14/90G 3.2SN OR BX

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## Technical data

### Rated data acc. to UL 1059

Institute (UR)



Certificate No. (UR)

E60693

Rated voltage (use group B)	300 V
Rated current (use group B)	10 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.

Rated voltage (use group D)	300 V
Rated current (use group D)	10 A

### 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

### 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	The products are developed, manufactured and delivered according to the internationally recognised IPC-A-610 standard, category "permissible". More extensive demands on the products can be evaluated on request.

### Approvals

Approvals



ROHS

Conform

### Downloads

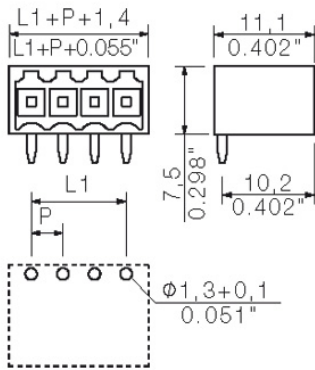
EDA Layout Library (Mentor Graphics Expedition, Mentor Graphics Pads, Altium Designer)	<a href="#">Select your download</a>
CAD Library (P-CAD Format - ASCII)	<a href="#">SL.zip</a>
CAD Library (P-CAD Format - Standard)	<a href="#">SL.zip</a>
<a href="#">3-D model</a>	

**Data sheet**

**OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/14/90G 3.2SN OR BX**

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**Drawings**



**OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/14/90G 3.2SN OR BX**

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**Mating connector (fully pluggable)**
**BL 3.50/180**


Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

**General ordering data**

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/14/180 SN OR BX	<a href="#">1597480000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm², Box	4008190181376 50 pc(s).		IEC: 320 V / 17 A / 0.2 - 1.5 mm² UL: 300 V / 10 A / AWG 28 - AWG 14	Box
BL 3.50/14/180 SN BK BX	<a href="#">1615750000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm², Box	4008190060909 50 pc(s).		IEC: 320 V / 17 A / 0.2 - 1.5 mm² UL: 300 V / 10 A / AWG 28 - AWG 14	Box

**BL 3.50/90**


Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

**General ordering data**

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/14/90 SN OR BX	<a href="#">1638670000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 90°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm², Box	4008190276218 50 pc(s).		IEC: 320 V / 12 A / 0.2 - 1.5 mm² UL: 300 V / 8 A / AWG 28 - AWG 14	Box
BL 3.50/14/90 SN BK BX	<a href="#">1638900000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 90°, Clamping yoke connection, Clamping	4008190276447 50 pc(s).		IEC: 320 V / 12 A / 0.2 - 1.5 mm² UL: 300 V / 8 A / AWG 28 - AWG 14	Box

## OMNIMATE Signal - series BL/SL 3.50 SL 3.50/14/90G 3.2SN OR BX

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### Mating connector (fully pluggable)

range, rated connection,  
 max.: 1.5 mm<sup>2</sup>, Box

#### BL 3.50/270



Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

#### General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging	
BL 3.50/14/270 SN OR BX	<a href="#">1639590000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 270°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	400819027714750	50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 8 A / AWG 28 - AWG 14	Box	
2014-05-20	010350102000	BL 3.50/14/270 SN BK BX	<a href="#">1639820000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 270°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	400819027737650	50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 8 A / AWG 28 - AWG 14

**OMNIMATE Signal - series BL/SL 3.50  
SL 3.50/14/90G 3.2SN OR BX**

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**Mating connector (conditionally pluggable)**
**BL 3.50/180F**


Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

**General ordering data**

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/14/180F SN BK BX	<a href="#">1615900000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm², Box	4008190064099	50 pc(s).	IEC: 320 V / 17 A / 0.2 - 1.5 mm² UL: 300 V / 10 A / AWG 28 - AWG 14	Box
BL 3.50/14/180F SN OR BX	<a href="#">1606760000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm², Box	4008190130237	50 pc(s).	IEC: 320 V / 17 A / 0.2 - 1.5 mm² UL: 300 V / 10 A / AWG 28 - AWG 14	Box

**BL 3.50/90F**


Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

**General ordering data**

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/14/90F SN OR BX	<a href="#">1639130000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 90°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm², Box	4008190276676	50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm² UL: 300 V / 8 A / AWG 28 - AWG 14	Box
BL 3.50/14/90F SN BK BX	<a href="#">1639360000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 90°, Clamping yoke connection, Clamping	4008190276904	50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm² UL: 300 V / 8 A / AWG 28 - AWG 14	Box

## OMNIMATE Signal - series BL/SL 3.50 SL 3.50/14/90G 3.2SN OR BX

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### Mating connector (conditionally pluggable)

range, rated connection,  
max.: 1.5 mm<sup>2</sup>, Box

#### BL 3.50/180LH



Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

#### General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/14/180LH SN OR BX	<a href="#">1687770000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4008190853327	50 pc(s).	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 14	Box
BL 3.50/14/180LH SN BK BX	<a href="#">1688000000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4008190853556	50 pc(s).	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 14	Box

#### BL 3.50/270F



Female connectors with clamping yoke screw system for connecting conductors at 3.50 mm pitch. They provide space for labelling and can be coded.

#### General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/14/270F SN BK BX	<a href="#">1640280000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 270°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm <sup>2</sup> , Box	4008190277864	50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 8 A / AWG 28 - AWG 14	Box

Creation date February 22, 2016 12:53:41 PM CET



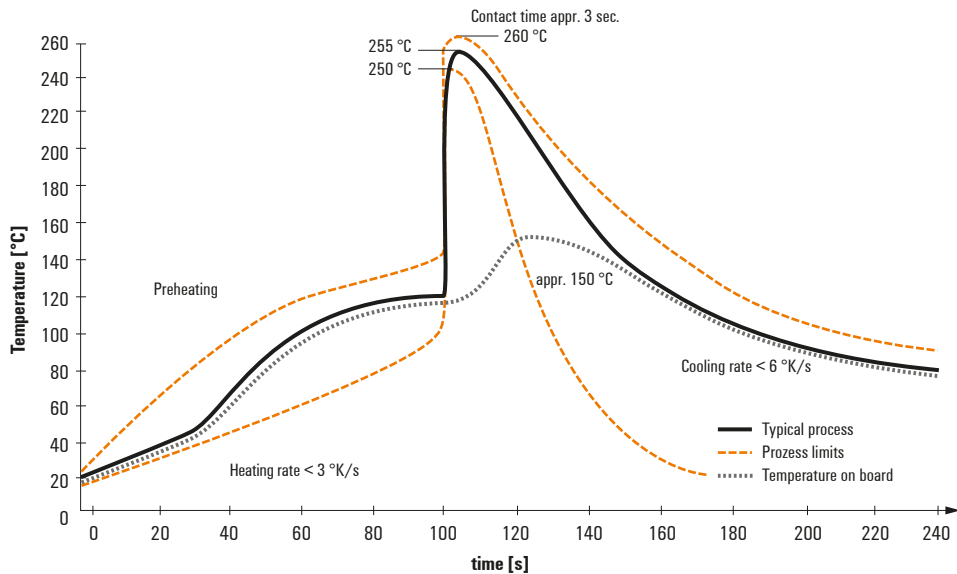
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BL 3.50/14/270F SN OR BX	<a href="#">1640050000</a>	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 14, 270°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm², Box	4008190277604 50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm² UL: 300 V / 8 A / AWG 28 - AWG 14	Box
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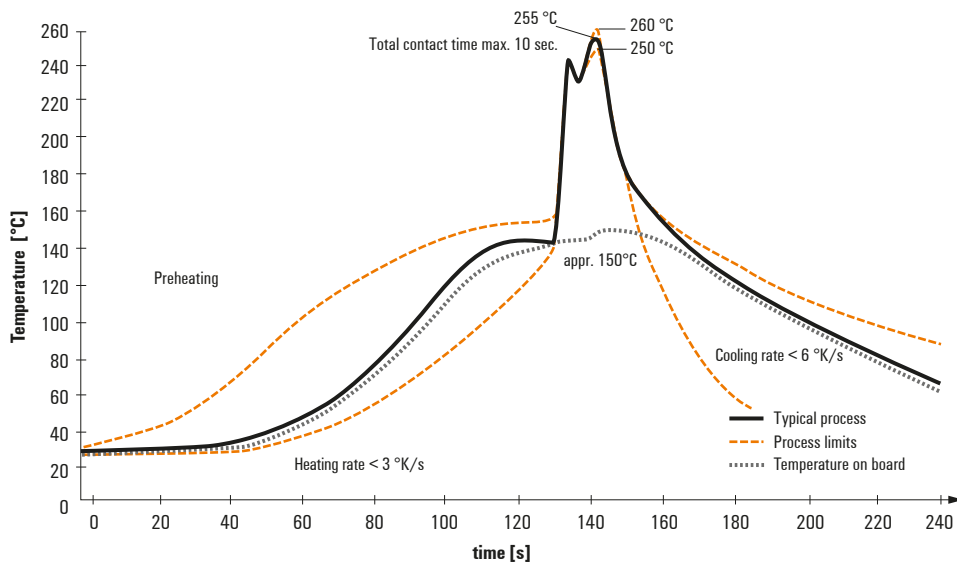
## Recommended wave soldering profiles

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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.





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