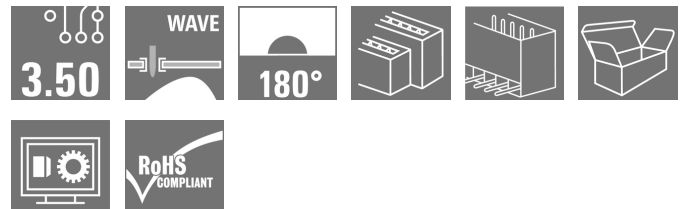


## OMNIMATE Signal - series BL/SL 3.50 SLD 3.50V/44/180G 3.2SN OR BX

**Weidmüller Interface GmbH & Co. KG**  
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### Product image



Similar to illustration

Double-level, staggered pin header for wave soldering at 3.50 mm pitch. They are available in closed and flanged versions. The male connectors provide space for labelling and can be coded.

### General ordering data

Type	SLD 3.50V/44/180G 3.2SN OR BX
Order No.	<a href="#">1641210000</a>
Version	PCB plug-in connector, male header, closed side, THT solder connection, 3.50 mm, Number of poles: 44, 180°, Solder pin length (l): 3.2 mm, tinned, orange, Box
GTIN (EAN)	4008190279615
Qty.	10 pc(s).
Product data	IEC: 200 V / 10.5 A UL: 300 V / 8 A
Packaging	Box

Creation date May 3, 2020 5:14:14 PM CEST

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

Width	78.4 mm	Width (inches)	3.087 inch
Height	27.4 mm	Height (inches)	1.079 inch
Height of lowest version	24.2 mm	Depth	22 mm
Depth (inches)	0.866 inch	Net weight	27.3 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°
Number of poles	44	Number of solder pins per pole	1
Solder pin length (l)	3.2 mm	Solder pin length tolerance	0 / -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	73.5 mm
L1 in inches	2.894 inch	Number of rows	2
Pin series quantity	2	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	≤ 5mΩ
Can be coded	Yes	Plugging cycles	25
Plugging force/pole, max.	10 N	Pulling force/pole, max.	8 N

**Material data**

Insulating material	PBT	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	Insulation strength	≥ 10 <sup>8</sup> Ω
UL 94 flammability rating	V-0	GWFI	960 °C
Contact material	CuSn	Contact surface	tinned
Layer structure of solder connection	2-3 μm Ni / 5-7 μm Sn glossy	Storage temperature, min.	-25 °C
Storage temperature, max.	50 °C	Max. relative humidity during storage	70 %
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. number of poles (Tu=20°C)	10.5 A
Rated current, max. number of poles (Tu=20°C)	8 A	Rated current, min. number of poles (Tu=40°C)	9 A
Rated current, max. number of poles (Tu=40°C)	7 A	Rated voltage for surge voltage class / pollution degree II/2	200 V
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated voltage for surge voltage class / pollution degree III/3	125 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 80 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)	8 A	Rated current (Use group D / CSA)	8 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)	8 A	Rated current (Use group D / UL 1059)	8 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

**Packing**

Packaging	Box	VPE length	80 mm
VPE width	85 mm	VPE height	100 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	UNSPSC	30-21-18-10

**Notes**

Notes	<ul style="list-style-type: none"> <li>• Additional colours on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• Spacing between rows: see hole layout</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**

**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

[EPLAN\\_WSCAD](#)

Engineering Data

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

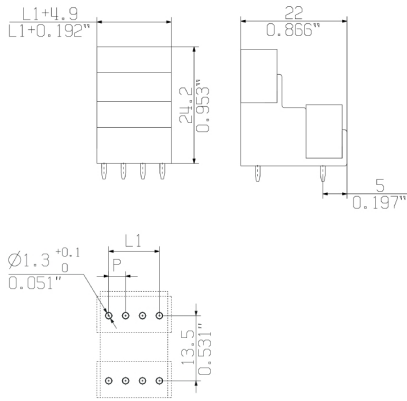
**Data sheet**

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**Drawings**

**Dimensional drawing**



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**Mating connector (conditionally pluggable)**
**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	BL 3.50/22/180LH SN BK ...	Version	Product data	Packaging
Order No.	<a href="#">1688080000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190853631	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		
Type	BL 3.50/22/180LH SN OR ...	Version	Product data	Packaging
Order No.	<a href="#">1687850000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190853402	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	18 pc(s).	Box		

**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	BL 3.50/22/180F SN BK BX	Version	Product data	Packaging
Order No.	<a href="#">1620890000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190164874	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	18 pc(s).	Box		
Type	BL 3.50/22/180F SN DKGK ...	Version	Product data	Packaging
Order No.	<a href="#">1621330000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190171230	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		
Type	BL 3.50/22/180F SN GY BX	Version	Product data	Packaging
Order No.	<a href="#">1621120000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190168810	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		
Type	BL 3.50/22/180F SN OR BX	Version	Product data	Packaging
Order No.	<a href="#">1620810000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190164195	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	18 pc(s).	Box		

**OMNIMATE Signal - series BL/SL 3.50  
SLD 3.50V/44/180G 3.2SN OR BX**

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**Mating connector (conditionally pluggable)**
**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	BL 3.50/22/90F SN BK BX	Version	Product data	Packaging
Order No.	<a href="#">1639440000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190276980	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , Box	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	20 pc(s).			
Type	BL 3.50/22/90F SN OR BX	Version	Product data	Packaging
Order No.	<a href="#">1639210000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190276751	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , Box	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	18 pc(s).			

**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	BL 3.50/22/270F SN BK BX	Version	Product data	Packaging
Order No.	<a href="#">1640360000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190277949	270°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		
Type	BL 3.50/22/270F SN OR BX	Version	Product data	Packaging
Order No.	<a href="#">1640130000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190277680	270°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	18 pc(s).	Box		

**OMNIMATE Signal - series BL/SL 3.50  
SLD 3.50V/44/180G 3.2SN OR BX**

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**Mating connector (fully pluggable)**
**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	BL 3.50/22/90 SN OR BX	Version	Product data	Packaging
Order No.	<a href="#">1638750000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190276294	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , Box	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	24 pc(s).			
Type	BL 3.50/22/90 SN BK BX	Version	Product data	Packaging
Order No.	<a href="#">1638980000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190276522	90°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> , Box	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	20 pc(s).			

**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	BL 3.50/22/270 SN BK BX	Version	Product data	Packaging
Order No.	<a href="#">1639900000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190277451	270°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		
Type	BL 3.50/22/270 SN OR BX	Version	Product data	Packaging
Order No.	<a href="#">1639670000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 12 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190277222	270°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 8 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		



## OMNIMATE Signal - series BL/SL 3.50 SLD 3.50V/44/180G 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	BL 3.50/22/180 SN BK BX	Version	Product data	Packaging
Order No.	<a href="#">1620420000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190156022	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		
Type	BL 3.50/22/180 SN DKGN ...	Version	Product data	Packaging
Order No.	<a href="#">1620730000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190161415	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		
Type	BL 3.50/22/180 SN OR BX	Version	Product data	Packaging
Order No.	<a href="#">1620340000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190154783	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	24 pc(s).	Box		
Type	BL 3.50/22/180 SN GY BX	Version	Product data	Packaging
Order No.	<a href="#">1620650000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 17 A / 0.2 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4008190160357	180°, Clamping yoke connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / 10 A / AWG 28 - AWG 14	
Qty.	20 pc(s).	Box		

#### BLF 3.50/180



Connect efficiently - in a small space: female header with spring connection (PUSH IN) as a plug-in connection level; used together with male headers in 3.50 mm pitch.

#### General ordering data

Type	BLF 3.50/22/180 SN OR BX	Version	Product data	Packaging
Order No.	<a href="#">2459250000</a>	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22,	IEC: 320 V / 17.5 A / 0.14 - 1.5 mm <sup>2</sup>	Box
GTIN (EAN)	4050118474602	180°, PUSH IN, Spring connection, Clamping range, max. : 1.5 mm <sup>2</sup> ,	UL: 300 V / AWG 26 - AWG 16	
Qty.	24 pc(s).	Box		

## OMNIMATE Signal - series BL/SL 3.50 SLD 3.50V/44/180G 3.2SN OR BX

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# Accessories

## Coding elements



**Only connects what is supposed to be connected:  
the right connection at the right place.**

Coding elements and locking devices clearly assign connecting elements during the manufacturing process and operation

The coding elements and locking devices are inserted prior to assembly or during the cable assembly phase. The Weidmüller alternative: configure online using the variant configurator to precode prior to delivery.

Incorrect assembly on the circuit board and incorrect plugging of connecting elements is no longer possible. The advantage: no troubleshooting during manufacture and no operational errors by the user.

## General ordering data

Type	BL SL 3.5 KO SW	Version	Product data	Packaging
Order No.	<a href="#">1610100000</a>	PCB plug-in connector, Accessories, Coding element, black, Number		Box
GTIN (EAN)	4008190187637	of poles: 1		
Qty.	100 pc(s).			
Type	BL SL 3.5 KO OR	Version	Product data	Packaging
Order No.	<a href="#">1693430000</a>	PCB plug-in connector, Accessories, Coding element, orange, Number		Box
GTIN (EAN)	4008190867447	of poles: 1		
Qty.	100 pc(s).			

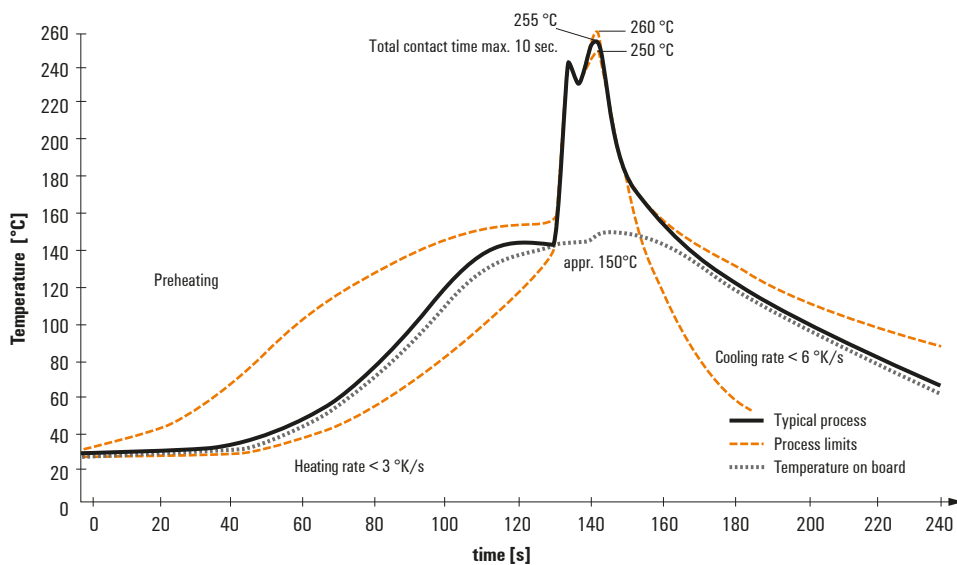
## Recommended wave soldering profiles

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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.