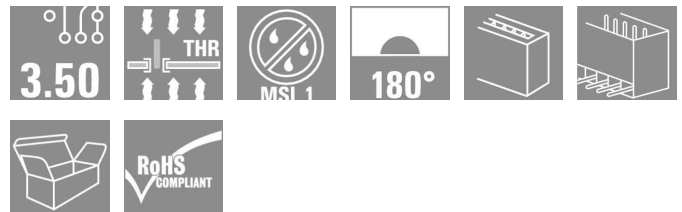


**OMNIMATE Signal - series BL/SL 3.50
SL-SMT 3.50/05/180G 1.5SN BK BX**

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
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 Germany
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 www.weidmueller.com



High-temperature-resistant male header, 3.50 mm pitch.

- **Plugging direction parallel (90°), straight 180° or angled (135°) to PCB**
- **Housing variants: closed side (G), screw flange (F), solder flange (LF) or snap-on solder flange (RF)**
- **Optimised for the SMT process**
- **Pin length 3.2 mm universal for all soldering methods**
- **Pin length 1.5 mm optimised for reflow soldering methods**
- **Packed either in a box (BX) or tape-on-reel (RL)**
- **Male header can be coded**

General ordering data

Type	SL-SMT 3.50/05/180G 1.5SN BK BX
Order No.	1753012001
Version	PCB plug-in connector, male header, closed side, Reflow solder connection, 3.50 mm, No. of poles: 5, 180°, Solder pin length (l): 1.5 mm, tinned, Black, Box
GTIN (EAN)	4032248130900
Qty.	50 pc(s).
Product data	IEC: 320 V / 15 A UL: 300 V / 10 A
Packaging	Box

Creation date December 24, 2013 2:51:43 PM CET

OMNIMATE Signal - series BL/SL 3.50 SL-SMT 3.50/05/180G 1.5SN BK BX

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Technical data

Dimensions and weights

Net weight 1.402 g

System parameters

Product family	OMNIMATE Signal - series BL/SL 3.50	Mounting onto the PCB	Reflow solder connection
Outgoing elbow	180°	Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch	No. of poles	5
Solder pin length (l)	1.5 mm	Pin dimensions	d = 1.2 mm, Octagonal
Can be coded	Yes	Number of solder pins per pole	1
Solder eyelet hole diameter (D)	1.4 mm	Solder eyelet hole diameter tolerance (D)	+ 0.1 mm
L1 in mm	14 mm	L1 in inches	0.551 inch
Insulation resistance	10 ³ 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		


Material data

Insulating material	LCP GF	Colour	Black
Insulating material group	IIIa	UL 94 flammability rating	V-0
CTI	≥ 175	Temperature of glow-wire test	960 °C
Duration of glow-wire test	30 s	Contact material	CuSn
Contact surface	tinned	Max. relative humidity during storage	80 %

DIN IEC rating data

Rated current, min. no. of poles (Tu=20°C)	15 A	Rated current, max. no. of poles (Tu=20°C)	12 A
Rated current, number of poles (Tu=40°C), min	13 A	Rated current, number of poles (Tu=40°C), max.	10 A
Rated voltage for surge voltage class pollution degree III/3	160 V	Rated impulse voltage for surge voltage classcontamination degree III/3	2.5 kV
Rated voltage for surge voltage class pollution degree III/2	160 V	Rated impulse voltage for surge voltage classpollution degree III/2	2.5 kV
Rated voltage for surge voltage class pollution degree II/2	320 V	Rated impulse voltage for surge voltage classpollution degree II/2	2.5 kV
Short-time withstand current resistance	3 x 1s with 100 A		

CSA rating data

Institute (CSA)		Rated voltage (Use group B)	300 V
Rated current (use group B)	10 A	Rated voltage (use group D)	300 V
Rated current (use group D)	10 A		

Data sheet

**OMNIMATE Signal - series BL/SL 3.50
SL-SMT 3.50/05/180G 1.5SN BK BX**

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Technical data

UL 1059 rating data

Institute (UR)



Rated voltage (use group B)

300 V

Rated current (use group B)

10 A

Rated voltage (use group D)

300 V

Rated current (use group D)

10 A

Classifications

ETIM 3.0	EC001284	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		

Notes

Notes

- Gold-plated contact surfaces on request
- Rated current related to rated cross-section & min. No. of poles.
- Solder eyelet diameter D = 1.5 + 0.1 mm, from 9 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.

Approvals

Approvals



ROHS

Conform

Downloads

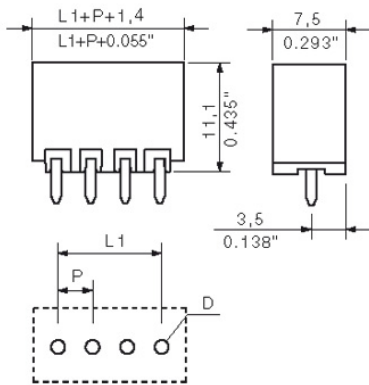
CAD Library (P-CAD Format - ASCII) [SL-SMT.zip](#)

CAD Library (P-CAD Format - Standard) [SL-SMT.zip](#)

[3-D model](#)

Data sheet**OMNIMATE Signal - series BL/SL 3.50
SL-SMT 3.50/05/180G 1.5SN BK BX**

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Drawings

**OMNIMATE Signal - series BL/SL 3.50
SL-SMT 3.50/05/180G 1.5SN BK 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 include space for labelling and can be coded.

- 0.20 - 1.5 mm² (IEC) / 28 - 14 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 17 A (IEC) / 10 A (UL)

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/05/180F SN OR BX	1606670000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190119720	50 pc(s).	IEC: 320 V / 17 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 14	Box
BL 3.50/05/180F SN BK BX	1615810000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190062286	50 pc(s).	IEC: 320 V / 17 A / 0.2 - 1.5 mm ² 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 include space for labelling and can be coded.

- 0.20 - 1.5 mm² (IEC) / 28 - 14 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 17 A (IEC) / 10 A (UL)

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/05/270F SN OR BX	1639960000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 270°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190277512	50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm ² UL: 300 V / 8 A / AWG 28 - AWG 14	Box
BL 3.50/05/270F SN BK BX	1640190000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 270°, Clamping yoke connection, Clamping	4008190277758	50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm ² UL: 300 V / 8 A / AWG 28 - AWG 14	Box

**OMNIMATE Signal - series BL/SL 3.50
SL-SMT 3.50/05/180G 1.5SN BK BX**

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Fax: +49 5231 14-292083
www.weidmueller.com

Mating connector (conditionally pluggable)

range, rated connection,
max.: 1.5 mm², Box

BL 3.50/270


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

- 0.20 - 1.5 mm² (IEC) / 28 - 14 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 17 A (IEC) / 10 A (UL)

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/05/270 SN OR BX	1639500000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 270°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190277055	50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm ² UL: 300 V / 8 A / AWG 28 - AWG 14	Box
BL 3.50/05/270 SN BK BX	1639730000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 270°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190277284	50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm ² UL: 300 V / 8 A / AWG 28 - AWG 14	Box

BLIDCB 3.5F


Female connectors for fast wiring with IDC system for connecting conductors at 3.50 mm pitch. They include space for labelling and can be coded.

- 0.35 - 0.5 mm² (IEC) / 22 - 20 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 6 A (IEC) / 7 A (UL)

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BLIDCB 3.50/05/-F SN OR BX	1751480000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 90°/270°, IDC terminal, Clamping range, rated connection, max.: 0.5 mm ² , Box	4032248174416	10 pc(s).	IEC: 250 V / 6 A / 0.35 - 0.5 mm ² UL: 300 V / 7 A / AWG 22 - AWG 20	Box
BLIDCB 3.50/05/-F SN BK BX	1770770000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 90°/270°, IDC	4032248174553	10 pc(s).	IEC: 250 V / 6 A / 0.35 - 0.5 mm ² UL: 300 V / 7 A / AWG 22 - AWG 20	Box

Creation date December 24, 2013 2:51:44 PM CET

OMNIMATE Signal - series BL/SL 3.50 SL-SMT 3.50/05/180G 1.5SN BK BX

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Mating connector (conditionally pluggable)

terminal, Clamping range,
 rated connection, max.: 0.5
 mm², Box

BLIDCB 3.5



Female connectors for fast wiring with IDC system for connecting conductors at 3.50 mm pitch. They include space for labelling and can be coded.

- 0.35 - 0.5 mm² (IEC) / 22 - 20 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 6 A (IEC) / 7 A (UL)

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BLIDCB 3.50/05/- SN BK BX	1770700000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 90°/270°, IDC terminal, Clamping range, rated connection, max.: 0.5 mm ² , Box	4032248174485	10 pc(s).	IEC: 250 V / 6 A / 0.35 - 0.5 mm ² UL: 300 V / 7 A / AWG 22 - AWG 20	Box
BLIDCB 3.50/05/- SN OR BX	1751410000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 90°/270°, IDC terminal, Clamping range, rated connection, max.: 0.5 mm ² , Box	4032248174348	10 pc(s).	IEC: 250 V / 6 A / 0.35 - 0.5 mm ² UL: 300 V / 7 A / AWG 22 - AWG 20	Box

BL 3.50/90F



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

- 0.20 - 1.5 mm² (IEC) / 28 - 14 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 17 A (IEC) / 10 A (UL)

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/05/90F SN OR BX	1639040000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 90°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190276584	50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm ² UL: 300 V / 8 A / AWG 28 - AWG 14	Box

**OMNIMATE Signal - series BL/SL 3.50
SL-SMT 3.50/05/180G 1.5SN BK BX**

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Mating connector (conditionally pluggable)

BL 3.50/05/90F SN BK BX	1639270000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 90°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190276812 50 pc(s).	IEC: 320 V / 12 A / 0.2 - 1.5 mm ² UL: 300 V / 8 A / AWG 28 - AWG 14	Box
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BL 3.50/180


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

- 0.20 - 1.5 mm² (IEC) / 28 - 14 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 17 A (IEC) / 10 A (UL)

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/05/180 SN BK BX	1614090000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190019310 50 pc(s).		IEC: 320 V / 17 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 14	Box
BL 3.50/05/180 SN OR BX	1597390000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190134785 50 pc(s).		IEC: 320 V / 17 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 14	Box

BL 3.50/180LH


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

- 0.20 - 1.5 mm² (IEC) / 28 - 14 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 17 A (IEC) / 10 A (UL)

General ordering data

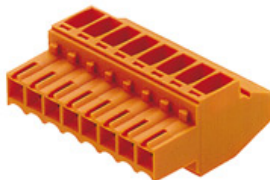
Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/05/180LH SN BK BX	1687910000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 180°, Clamping yoke connection, Clamping	4008190853464 50 pc(s).		IEC: 320 V / 17 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 14	Box

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Mating connector (conditionally pluggable)

		range, rated connection, max.: 1.5 mm ² , Box		
BL 3.50/05/180LH SN OR BX	1687680000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 180°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190853235 50 pc(s).	IEC: 320 V / 17 A / 0.2 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 14

BL 3.50/90


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

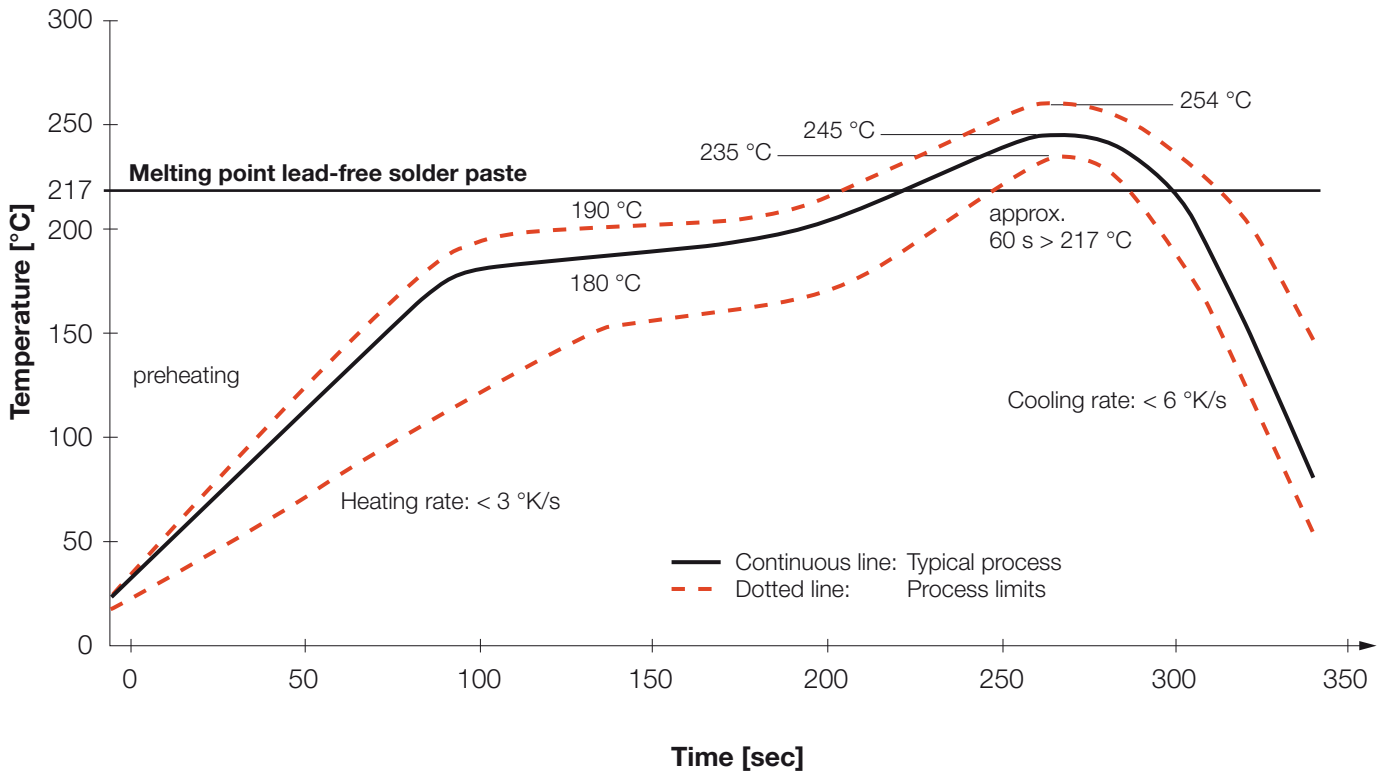
- 0.20 - 1.5 mm² (IEC) / 28 - 14 AWG (UL)
- 250 V (IEC) / 300 V (UL)
- 17 A (IEC) / 10 A (UL)

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
BL 3.50/05/90 SN BK BX	1638810000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 90°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190276355 50 pc(s).		IEC: 320 V / 12 A / 0.2 - 1.5 mm ² UL: 300 V / 8 A / AWG 28 - AWG 14	Box
BL 3.50/05/90 SN OR BX	1638580000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 5, 90°, Clamping yoke connection, Clamping range, rated connection, max.: 1.5 mm ² , Box	4008190276126 50 pc(s).		IEC: 320 V / 12 A / 0.2 - 1.5 mm ² UL: 300 V / 8 A / AWG 28 - AWG 14	Box

Recommended reflow soldering profile

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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.