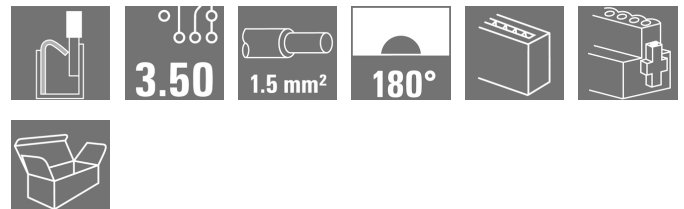


**OMNIMATE Signal - series BL/SL 3.50**  
**BLF 3.50/12/180F SN BK BX**

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
 www.weidmueller.com



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 3.50/12/180F SN BK BX
Order No.	<a href="#">2459670000</a>
Version	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 12, 180°, PUSH IN, Spring connection, Clamping range, max. : 1.5 mm², Box
GTIN (EAN)	4050118475081
Qty.	36 pc(s).
Product data	IEC: 320 V / 17.5 A / 0.14 - 1.5 mm² UL: 300 V / AWG 26 - AWG 16
Packaging	Box

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**OMNIMATE Signal - series BL/SL 3.50**  
**BLF 3.50/12/180F SN BK BX**

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

Width	49 mm	Width (inches)	1.929 inch
Height	9 mm	Height (inches)	0.354 inch
Depth	22.7 mm	Depth (inches)	0.894 inch
Net weight	8.771 g		

**System Parameters**

Product family	OMNIMATE Signal - series BL/SL 3.50		
Type of connection	Field connection		
Wire connection method	PUSH IN, Spring connection		
Pitch in mm (P)	3.5 mm		
Pitch in inches (P)	0.138 inch		
Conductor outlet direction	180°		
Number of poles	12		
L1 in mm	38.5 mm		
L1 in inches	1.516 inch		
Number of rows	1		
Pin series quantity	1		
Rated cross-section	1.5 mm <sup>2</sup>		
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch		
Touch-safe protection acc. to DIN VDE 0470	IP 20		
Volume resistance	≤ 5mΩ		
Can be coded	Yes		
Stripping length	8 mm		
Stripping length tolerance	min.	0 mm	
	max.	1 mm	
Tightening torque for screw flange, min.	0.15 Nm		
Tightening torque for screw flange, max.	0.2 Nm		
Screwdriver blade	0.4 x 2.5		
Screwdriver blade standard	DIN 5264-A		
Plugging cycles	25		
Plugging force/pole, max.	6 N		
Pulling force/pole, max.	6 N		

**Material data**

Insulating material	PA GF	Colour	black
Colour of operational elements	orange	Material of operational elements	PA 66/6
Colour chart (similar)	RAL 9011	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 400, ≤ 600	Insulation strength	10 <sup>6</sup> Ω
UL 94 flammability rating	V-0	GWFI	960 °C
Contact material	Copper alloy	Contact surface	tinned
Storage temperature, min.	-25 °C	Storage temperature, max.	50 °C
Max. relative humidity during storage	70 %	Operating temperature, min.	-50 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-30 °C
Temperature range, installation, max.	100 °C		

**Conductors suitable for connection**

Clamping range, min.	0.14 mm <sup>2</sup>
Clamping range, max.	1.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 26

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**Technical data**

Wire connection cross section AWG, max.	AWG 16			
Solid, min. H05(07) V-U	0.14 mm <sup>2</sup>			
Solid, max. H05(07) V-U	1.5 mm <sup>2</sup>			
Flexible, min. H05(07) V-K	0.14 mm <sup>2</sup>			
Flexible, max. H05(07) V-K	1.5 mm <sup>2</sup>			
w. plastic collar ferrule, DIN 46228 pt 4, min.	0.25 mm <sup>2</sup>			
w. plastic collar ferrule, DIN 46228 pt 4, max.	1 mm <sup>2</sup>			
w. wire end ferrule, DIN 46228 pt 1, min.	0.25 mm <sup>2</sup>			
w. wire end ferrule, DIN 46228 pt 1, max.	1 mm <sup>2</sup>			
Plug gauge in accordance with EN 60999 a x b; ø	2.4 mm x 1.5 mm			
Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.25 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	10 mm
		Recommended wire-end ferrule	<a href="#">H0.25/12 HBL</a>	
		Cross-section for conductor connection	Type	fine-wired
	wire end ferrule	nominal	0.34 mm <sup>2</sup>	
		Stripping length	nominal	10 mm
		Recommended wire-end ferrule	<a href="#">H0.34/12 TK</a>	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.5 mm <sup>2</sup>	
		Stripping length	nominal	10 mm
	wire end ferrule	Recommended wire-end ferrule	<a href="#">H0.5/14 OR</a>	
		Cross-section for conductor connection	Type	fine-wired
		nominal	0.75 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	10 mm
		Recommended wire-end ferrule	<a href="#">H0.75/14T HBL</a>	
		Cross-section for conductor connection	Type	fine-wired
	wire end ferrule	nominal	1 mm <sup>2</sup>	
		Stripping length	nominal	10 mm
		Recommended wire-end ferrule	<a href="#">H1.0/14 GE</a>	
	Reference text	The outside diameter of the plastic collar should not be larger than the pitch (P). Length of ferrules is to be chosen depending on the product and the rated voltage.		
	Max. clamping range	1.5 mm <sup>2</sup>		

**Rated data acc. to IEC**

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	17.5 A
Rated current, max. number of poles (Tu=20°C)	14.7 A	Rated current, min. number of poles (Tu=40°C)	17.1 A
Rated current, max. number of poles (Tu=40°C)	13.1 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	1 x 1s with 120 A

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**OMNIMATE Signal - series BL/SL 3.50**  
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**Technical data**
**Rated data acc. to CSA**

Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group C / CSA)	50 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	Wire cross-section, AWG, min.	AWG 26
Wire cross-section, AWG, max.	AWG 16		

**Rated data acc. to UL 1059**

Institute (cURus)		Certificate No. (cURus)	E60693
Rated voltage (Use group B / UL 1059)	300 V	Rated voltage (Use group C / UL 1059)	50 V
Rated voltage (Use group D / UL 1059)	300 V	Rated current (Use group D / UL 1059)	10 A
Wire cross-section, AWG, min.	AWG 26	Wire cross-section, AWG, max.	AWG 16
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

**Packing**

Packaging	Box	VPE length	0 m
VPE width	0 m	VPE height	0 m

**Classifications**

ETIM 6.0	EC002638	ETIM 7.0	EC002638
eClass 9.0	27-44-03-09	eClass 9.1	27-44-03-09
eClass 10.0	27-44-03-09		

**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>• Wire end ferrule without plastic collar to DIN 46228/1</li> <li>• Wire end ferrule with plastic collar to DIN 46228/4</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  
BLF 3.50/12/180F SN BK BX****Weidmüller Interface GmbH & Co. KG**  
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www.weidmueller.com**Technical data****Approvals**

Approvals

**Downloads**

Engineering Data

[STEP](#)

White paper PUSH IN wire connection

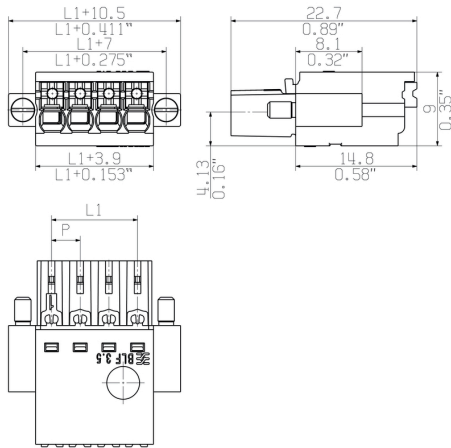
[Download Whitepaper](#)

**Data sheet**

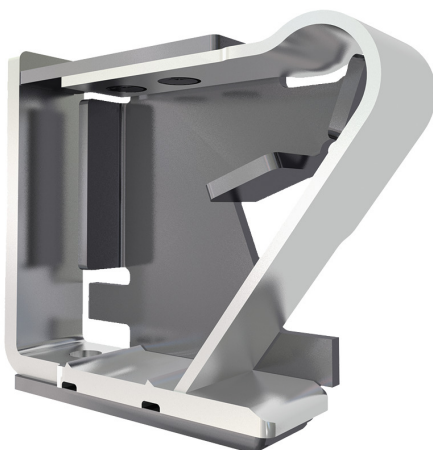
**OMNIMATE Signal - series BL/SL 3.50  
BLF 3.50/12/180F SN BK BX**

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**Drawings**



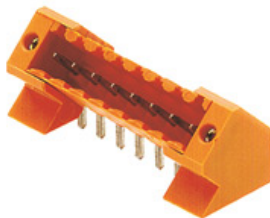
**Product benefits**



Solid PUSH IN contact  
Safe and durable

**OMNIMATE Signal - series BL/SL 3.50  
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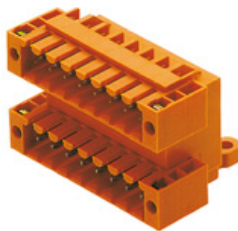
**Mating connector (fully pluggable)**
**SL 3.50/135F**


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 3.50/12/135F 3.2SN O ...	Version	Product data	Packaging
Order No.	<a href="#">1643430000</a>	PCB plug-in connector, male header, Flange, THT solder connection,	IEC: 320 V / 15 A	Box
GTIN (EAN)	4008190282196	3.50 mm, Number of poles: 12, 135°, Solder pin length (l): 3.2 mm,	UL: 300 V / 10 A	
Qty.	36 pc(s).	tinned, orange, Box		

**SLD 3.50/90F**


Two-tier pin header for wave soldering in 3.50 mm pitch. The connector is available in open, closed and flange versions. The male connectors provide space for labelling and can be coded. Packed in a cardboard box.

**General ordering data**

Type	SLD 3.50/24/90F 3.2SN O ...	Version	Product data	Packaging
Order No.	<a href="#">1633910000</a>	PCB plug-in connector, male header, Flange, THT solder connection,	IEC: 200 V / 10.5 A	Box
GTIN (EAN)	4008190258368	3.50 mm, Number of poles: 24, 90°, Solder pin length (l): 3.2 mm,	UL: 300 V / 8 A	
Qty.	10 pc(s).	tinned, orange, Box		

**OMNIMATE Signal - series BL/SL 3.50  
BLF 3.50/12/180F SN BK BX**

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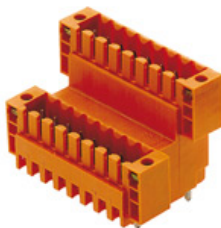
**Mating connector (fully pluggable)**
**SL-THR 3.5/135F**


**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 3.50/12/135F 3.2 ...	Version	Product data	Packaging
Order No.	<a href="#">1003620000</a>	PCB plug-in connector, male header, Flange, THT/THR solder connection, 3.50 mm, Number of poles: 12, 135°, Solder pin length (l): 3.2 mm, tinned, black, Box	IEC: 320 V / 15 A UL: 300 V / 10 A	Box
GTIN (EAN)	4032248700240			
Qty.	36 pc(s).			

**SLD 3.50V/180F**


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 3.50 V/22/180F 3.2 ...	Version	Product data	Packaging
Order No.	<a href="#">1891100000</a>	PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, Number of poles: 22, 180°, Solder pin length (l): 3.2 mm, tinned, orange, Box	IEC: 200 V / 10.5 A UL: 300 V / 8 A	Box
GTIN (EAN)	4032248500628			
Qty.	20 pc(s).			

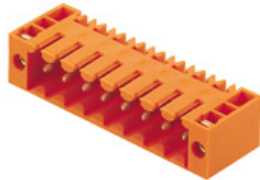


## OMNIMATE Signal - series BL/SL 3.50 BLF 3.50/12/180F SN BK BX

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### Mating connector (fully pluggable)

#### SL 3.50/90F



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 3.50/12/90F 3.2SN OR ...	Version	Product data	Packaging
Order No.	<a href="#">1607140000</a>	PCB plug-in connector, male header, Flange, THT solder connection,	IEC: / 17 A	Box
GTIN (EAN)	4008190092375	3.50 mm, Number of poles: 12, 90°, Solder pin length (l): 3.2 mm,	UL: 300 V / 10 A	
Qty.	50 pc(s).	tinned, orange, Box		

#### SL-SMT 3.5/90F Box



**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 3.50/12/90F 3.2S ...	Version	Product data	Packaging
Order No.	<a href="#">1842180000</a>	PCB plug-in connector, male header, Flange, THT/THR solder	IEC: 320 V / 15 A	Box
GTIN (EAN)	4032248353538	connection, 3.50 mm, Number of poles: 12, 90°, Solder pin length (l):	UL: 300 V / 10 A	
Qty.	36 pc(s).	3.2 mm, tinned, black, Box		

**OMNIMATE Signal - series BL/SL 3.50  
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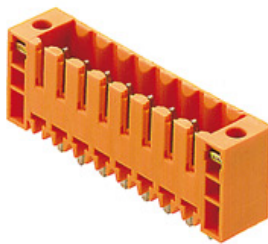
**Mating connector (fully pluggable)**
**SL-SMT 3.5/180F Box**


**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 3.50/12/180F 3.2 ...	Version	Product data	Packaging
Order No.	<a href="#">1842870000</a>	PCB plug-in connector, male header, Flange, THT/THR solder connection, 3.50 mm, Number of poles: 12, 180°, Solder pin length (l): 3.2 mm, tinned, black, Box	IEC: 320 V / 15 A UL: 300 V / 10 A	Box
GTIN (EAN)	4032248354337			
Qty.	36 pc(s).			

**SL 3.50/180F**


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 3.50/12/180F 3.2SN O ...	Version	Product data	Packaging
Order No.	<a href="#">1607600000</a>	PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, Number of poles: 12, 180°, Solder pin length (l): 3.2 mm, tinned, orange, Box	IEC: 320 V / 17 A UL: 300 V / 10 A	Box
GTIN (EAN)	4008190164935			
Qty.	50 pc(s).			