

#### 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

Straight, double-row pin header available in closed-sided or flange version (open-sided pin headers on request). The male headers with a pin length of 3.5mm are designed for wave soldering and are packed in a box. They can be screwed on to the PCB. The male headers provide space for labelling and can be coded.

Туре	S2L 3.50/32/180F 3.5SN BK BX
Order No.	<u>1729720000</u>
Version	PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, No. of poles: 32, 180°, Solder pin length (I): 3.5 mm, tinned, black, Box
GTIN (EAN)	4032248041121
Qty.	24 pc(s).
Product data	IEC: 250 V / 10 A UL: 150 V / 10 A
Packaging	Вох



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## **Technical data**

#### **Dimensions and weights**

Width	63 mm	Width (inches)	2.48 inch
Height	17.7 mm	Height (inches)	0.697 inch
Height of lowest version	14.2 mm	Depth	10.5 mm
Depth (inches)	0.413 inch	Net weight	9.5 g

#### **System specifications**

Product family	OMNIMATE Signal - series B2L/S2L 3.50 - 2-row	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	32	Number of solder pins per pole	1
Solder pin length (I)	3.5 mm	Tolerance of solder pin position	± 0.20 mm
Solder pin dimensions	d = 1.0 mm, Octagonal	Solder eyelet hole diameter (D)	1.3 mm
Solder eyelet hole diameter tole	rance (D)+ 0,1 mm	L1 in mm	52.5 mm
L1 in inches	2.067 inch	Number of rows	1
Pin series quantity	2	Touch-safe protection acc. to DIN VDE 57 106	Safe from back-of-hand touch
Touch-safe protection acc. to DI	N VDE	Can be coded	
0470	IP 10		Yes
Plugging cycles	25	Plugging force/pole, max.	5 N
Pulling force/pole, max.	4 N		

#### **Material data**

Insulating material	PBT	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	Illa
СТІ	≥ 200	Insulation strength	≥ 10 <sup>8</sup> Ω
UL 94 flammability rating	V-0	GWFI	960 °C
Contact material	Copper alloy	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.	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		Rated current, min. no. of poles	
	IEC 60664-1, IEC 61984	(Tu=20°C)	10 A
Rated current, max. no. of poles (Tu=20°C)	10 A	Rated current, min. no. of poles (Tu=40°C)	9 A
Rated current, max. no. of poles (Tu=40°C)	8.5 A	Rated voltage for surge voltage class / pollution degree II/2	250 V
Rated voltage for surge voltage class / pollution degree III/2	125 V	Rated voltage for surge voltage class / pollution degree III/3	80 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 77 A



Box

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30 mm

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## **Technical data**

#### Rated data acc. to CSA

Institute (CSA)	<b>⊕</b>	Certificate No. (CSA)	200039-1488444
Rated voltage (Use group B / CSA)	150 V	Rated current (Use group B / CSA)	5 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Rated data acc. to UL 1059			
Institute (UR)		Certificate No. (UR)	
mattate (OH)	<i>71</i> 2	Certificate No. (Off)	E60693
Rated voltage (Use group B / UL 1059)	150 V	Rated voltage (Use group C / UL 1059)	50 V
Rated current (Use group B / UL 1059)	10 A	Rated current (Use group C / UL 1059)	10 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		
Packing			

VPE width	135 mm	VPE height	350 mm	
Classifications				
ETIM 4.0	EC002637	ETIM 5.0	EC002637	
ETIM 6.0	EC002637	UNSPSC	30-21-18-10	
eClass 5.1	27-26-07-01	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	

VPE length

#### N

Packaging

Additional colours on request
Gold-plated contact surfaces on request
Spacing between rows: see hole layout
Rated current related to rated cross-section & min. No. of poles.
• P on drawing = pitch
<ul> <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>
<ul> <li>For additional mechanical support for male connectors with screw flange (F), we recommend an additional cable gland with fastening screws (sheet metal screw ISO 1481-ST 2.2x4.5 C or ISO 7049-ST 2.2x4.5 C – see Accessories). Cable gland only permitted before soldering.</li> </ul>
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.



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## Technical data

Approval	s
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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
	FL INDUSTR.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	S2L-SMT.zip
	<u>STEP</u>



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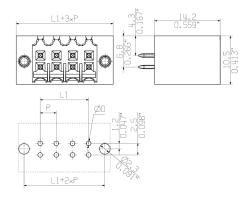
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## **Drawings**

#### **Dimensional drawing**





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### Mating connector (conditionally pluggable)

#### **B2L 3.50**



## Component density redefined: the future standard for signal connection

A maximum number of connections requiring minimum space - the double-row B2L sets the bar for field connections of typical sensor cables up to 1mm<sup>2</sup> very high and closes the gap between "less space" and "more functions".

The result is a connection solution for standard industrial cables in 1.75 pitch - 30% smaller than equivalent solutions in 2.5 pitch, and with the 140% robustness of the 3.5 pitch

Dimensions: double the connection density with a 3.5mm pitch size

Connection system: tried and tested maintenance-free Weidmüller tension clamp connection

The basic application advantages:

Efficient: maximum component density on the PCB Suitable for industrial use - minimum dimensions, maximum robustness

Process-optimised - automatic assembly and reflow soldering, fast connection

User-friendly - patented release lever for the easy release of larger numbers of poles

Application-oriented: easy labelling and reliable coding despite compact dimensions

Miniaturisation is more than just a larger number of functions within a smaller space:

Each reduction in size decreases space requirements and so reduces overall system costs for the end customer. Thus, Weidmüller fulfils a growing demand in the engineering and industrial automation sectors.

Туре	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packagin
B2L	<u>1747980000</u>	PCB plug-in connector,	403224819865	830 pc(s).	IEC: 200 V / 10.3 A / 0.2 - 1 mm <sup>2</sup>	Box
3.50/32/18	30	female plug, 3.50 mm,			UL: 300 V / 10 A / AWG 28 - AWG 1	6
SN BK BX		No. of poles: 32, 180°,				
		Tension-clamp connection	,			
		Clamping range, max. : 1				
		mm², Box				
B2L	<u>1747900000</u>	PCB plug-in connector,	403224814502	7 30 pc(s).	IEC: 200 V / 10.3 A / 0.2 - 1 mm <sup>2</sup>	Box
3.50/32/180 fer		female plug, 3.50 mm,			UL: 300 V / 10 A / AWG 28 - AWG 1	6
SN OR BX		No. of poles: 32, 180°,				
		Tension-clamp connection	,			
		Clamping range, max. : 1				
		mm², Box				



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### Mating connector (conditionally pluggable)

#### **B2L 3.50LH**



Female connectors with tension clamp connection system enable quick and simple wiring. These female header can be mounted side by side and therefore have a high connection density. The release lever simplifies the separation of the connection in confined spaces. The socket blocks provide space for labelling and can be coded.

Туре	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packagi
B2L	<u>1748620000</u>	PCB plug-in connector,	40322481987	1924 pc(s).	IEC: 250 V / 10.3 A / 0.2 - 1 mm <sup>2</sup>	Box
3.50/32/	180LH	female plug, 3.50 mm,			UL: 300 V / 10 A / AWG 28 - AWG	16
SN BK BX		No. of poles: 32, 180°,				
		Tension-clamp connection	n,			
		Clamping range, max. : 1				
		mm², Box				
B2L	1748460000	PCB plug-in connector,	40322481886	1124 pc(s).	IEC: 250 V / 10.3 A / 0.2 - 1 mm <sup>2</sup>	Box
3.50/32/	180LH	female plug, 3.50 mm,			UL: 300 V / 10 A / AWG 28 - AWG	16
SN OR BX		No. of poles: 32, 180°,				
		Tension-clamp connection	n,			
		Clamping range, max. : 1				
		mm², Box				



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### Mating connector (fully pluggable)

#### **B2CF 3.50/180F**



## Two-row female plug with PUSH IN spring connection

- Simply insert the prepared wire and you're done
- Intuitive to use because
- the wire-entry area and handling area are clearly separated
- Integrated push-buttons for opening the terminal point
- High component density because of low heights
- Optional: locking and releasing require no tools when using Weidmüller's release latch (LR) or release lever (LH)

#### **General ordering data**

Туре	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packag		
B2CF	<u>1278010000</u>	PCB plug-in connector,	40501180687	1924 pc(s).	IEC: 320 V / 13.4 A / 0.14 - 1.5 mm <sup>2</sup>	Box		
3.50/32/18	OF	female plug, 3.50 mm,			UL: 300 V / 9.5 A / AWG 26 - AWG			
SN BK BX		No. of poles: 32, 180°,			16			
		PUSH IN, Tension-clamp						
		connection, Clamping						
		range, max. : 1.5 mm², Box						
B2CF	<u>1277830000</u>	PCB plug-in connector,	40501180681	1524 pc(s).	IEC: 320 V / 13.4 A / 0.14 - 1.5 mm <sup>2</sup>	Вох		
3.50/32/18	OF	female plug, 3.50 mm,			UL: 300 V / 9.5 A / AWG 26 - AWG			
SN OR BX		No. of poles: 32, 180°,			16			
		PUSH IN, Tension-clamp						
		connection, Clamping						

#### **B2CF 3.50/180LH**



## Two-row female plug with PUSH IN spring connection

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Delivery status Available until	Туре	Order No.	Version	GTIN (EAN)	Qty.
Discontinued 2016-09-01T00:00:00+02:00	B2CF 3.50/32/180LH SN	1319450000	PCB plug-in	4050118125320	30
	BK BX SO		connector, female		pc(s).
			plug, 3.50 mm,		
		No	No. of poles: 32, 180°, PUSH IN,		
			Tension-clamp		



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## Mating connector (fully pluggable)

connection, Clamping range, max.: 1.5 mm²,

			max. : 1.5 mm²,					
			Box					
B2CF	1376030000	PCB plug-in connector,	405011817702230 pc(s).	IEC: 320 V / 13.4 A / 0.14 - 1.5 mm <sup>2</sup>	Box			
3.50/32/180L	.H	female plug, 3.50 mm,		UL: 300 V / 9.5 A / AWG 26 - AWG				
SN OR BX		No. of poles: 32, 180°,		16				
		PUSH IN, Tension-clamp						
		connection, Clamping						
		range, max. : 1.5 mm², Box						
B2CF	1375850000	PCB plug-in connector,	405011817669830 pc(s).	IEC: 320 V / 13.4 A / 0.14 - 1.5 mm <sup>2</sup>	Box			
3.50/32/180L	H	female plug, 3.50 mm,		UL: 300 V / 9.5 A / AWG 26 - AWG				
SN BK BX		No. of poles: 32, 180°,		16				
		PUSH IN, Tension-clamp						
		connection, Clamping						
		range, max. : 1.5 mm², Box						



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Туре	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packag
B2L	<u>1748140000</u>	PCB plug-in connector,	40322481942	1624 pc(s).	IEC: 250 V / 10.3 A / 0.2 - 1 mm <sup>2</sup>	Box
3.50/32/18	30F	female plug, 3.50 mm,			UL: 300 V / 10 A / AWG 28 - AWG	16
SN OR BX		No. of poles: 32, 180°,				
		Tension-clamp connection	٦,			
		Clamping range, max. : 1				
		mm², Box				
B2L	<u>1748300000</u>	PCB plug-in connector,	40322481986	8924 pc(s).	IEC: 250 V / 10.3 A / 0.2 - 1 mm <sup>2</sup>	Box
3.50/32/18	B0F	female plug, 3.50 mm,			UL: 300 V / 10 A / AWG 28 - AWG	16
SN BK BX		No. of poles: 32, 180°,				
		Tension-clamp connection	٦,			
		Clamping range, max. : 1				
		mm², Box				



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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.

Туре	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packagin
• •	3.50 1849730000	PCB plug-in connector,	40322483781	•	1 loddet data	Box
KO OR BX		Accessories, Coding		1 ( )		
		element, orange, No. of				
	poles: 1					
B2L/S2L 3	3.50 <u>1849740000</u>	PCB plug-in connector,	40322483782	:03 100 pc(s).		Box
KO BK BX		Accessories, Coding				
		element, black, No. of po	les:			
		1				



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### **Accessories**

#### **Additional accessories**



## No task is too small when creating the perfect solution. br />

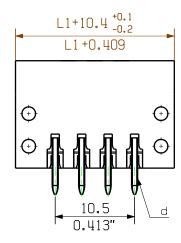
Connections form just one part of the overall process. Small details are often the key to the perfect solution in applications where potentials are tested, grouped or even isolated.

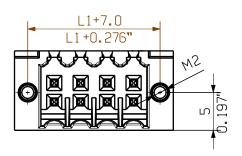
A system is not a system without small but useful details:

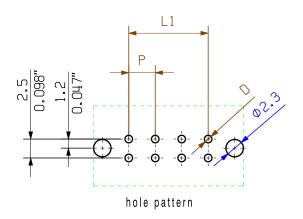
- Test plugs ensure reliable pick-up from diagnostic sockets
- Cross-connectors ensure a stable electrical distribution contact directly at the connection
- Compartment partition elements divide a large number of male connectors into several separate socket connector channels
- Locks and clips optional vibration-resistant clipon connection or mounting for male and female connectors

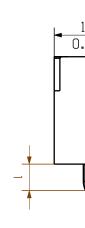
In tandem with the manufacturing process and application - more accessories = smaller workload

Туре	Order No.	Version	GTIN (EAN)	Qty.	Product data	
PTSC KA	<u>1610740000</u>	PCB plug-in connector,	40081900395	23 100 pc(s).		
2.2X4.5		Accessories, Mounting				
WN1412		screw, No. of poles: 1				









For the mounting of PCBs, it should be rated data given in the catalogue relate connection elements. The neccessary or clearance paths must be observed in cothe respective applicant in accordance the current-carrying capacity and pitch be determined according to DIN IEC 326

Weidmueller connectors are tested to th standard, and are valid for its field of a Provided that the connectors are used to purpose, all requirements with respect to occuring of electrical, mechanical, there corrosive stress will be satisfied.



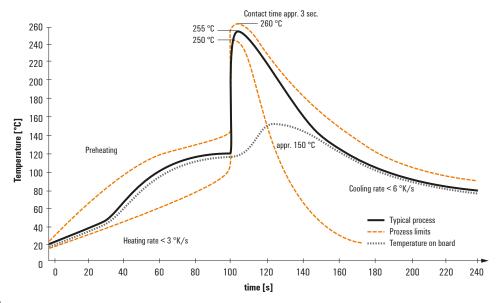
#### Recommended wave solderding profiles

#### Weidmüller Interface GmbH & Co. KG

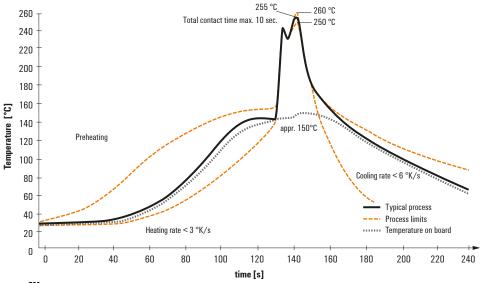
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#### **Single Wave:**



#### **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.

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Other Similar products are found below:

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