

#### Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 16 D-32758 Detmold

Germany

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# Component density redefined: the future standard for signal connection

Maximum connection density in the smallest of spaces - the 2-row B2L raises the bar higher for standard sensor cables up to 1mm<sup>2</sup> and bridges the gap between insufficient space and more functions.

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

Dimensions: double the connection density with 3.5mm pitch size

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

Connection data / Performance:

- 0.20 1.0mm2 (IEC) / 28 18 AWG (UL)
- 80 V / 10 A (IEC) / 150 V / 10 A (UL)
- No. of poles: 4 to 36

The basic application advantages:

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

Process-optimised - automatic configuration and reflow solders, rapid 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 small space:

Every reduction in size decreases space requirements and the overall system costs less for the end customer. Weidmüller fulfils a growing demand in the engineering and industrial automation sectors.

#### **General ordering data**

Order No.	<u>1748130000</u>
Туре	B2L 3.50/30/180F SN OR BX
Version	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 30, 180°, Tension clamp connection, Clamping range, rated connection, max.: 1 mm², Box
GTIN (EAN)	4032248198573
Qty.	20 pc(s).
Product data	IEC: 250 V / 10.3 A / 0.2 - 1 mm <sup>2</sup> UL: 300 V / 10 A / AWG 28 - AWG 16
Packaging	Вох

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### **Technical data**

#### **Dimensions**

Net weight	17.75 g	

#### System parameters

Product family	B2L/S2L 3.50 - 2-row	Conductor connection system	
	series		Tension clamp connection
Outgoing direction of conductor	180°	Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch	No. of poles	30
Number of rows	1	Stripping length	7 mm
L1 in mm	49 mm	L1 in inches	1.929 inch
Touch-safe protection acc. to DIN VD	DE	Touch-safe protection acc. to DIN VDE	
0470	IP 20	57 106	Safe from finger touch

#### **Material data**

Insulating material	PBT	Colour	Orange
Colour chart	Similar to RAL 2000	Flammability class UL 94	V-0
Contact material	Copper alloy	Contact surface	tinned
Continuous operating temp., min.	-25 °C	Continuous operating temp., max.	100 °C

#### **Connectable conductors**

Clamping range, rated connection	n, min. 0.08 mm²	Clamping range, rated connection	n, max. 1 mm²
Wire connection cross section Al	NG,	Wire connection cross section AV	VG,
min.	AWG 28	max.	AWG 18
Solid, min. H05(07) V-U	0.2 mm <sup>2</sup>	Solid, max. H05(07) V-U	1 mm²
Flexible, min. H05(07) V-K	0.2 mm <sup>2</sup>	Flexible, max. H05(07) V-K	1 mm²
w. wire end ferrule, DIN 46228 p	t 1, min	w. wire end ferrule, DIN 46228 p	t 1,
	0.13 mm <sup>2</sup>	max.	0.34 mm <sup>2</sup>
w. plastic collar ferrule, DIN 4622	28 pt 4,	w. plastic collar ferrule, DIN 4622	28 pt 4,
min.	0.13 mm <sup>2</sup>	max.	0.34 mm <sup>2</sup>

### **DIN IEC** rating data

Rated current, min. no. of poles		Rated current, max. no. of poles	
(TU=20°C)	10.3 A	(Tu=20°C)	8.7 A
Rated current, number of poles		Rated current, number of poles	
(Tu=40°C), min	8.9 A	(Tu=40°C), max.	7.4 A
Rated voltage for surge voltage class / pollution degree II/2	250 V	Rated voltage for surge voltage class / pollution degree III/2	160 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	e 2.5 kV	Rated impulse voltage for surge voltage class/ contamination degree III/3	2.5 kV
Short-time withstand current resistand	ce 3 x 1s with 77 A		

### **CSA** rating data

(224)				
Institute (CSA)	<b>€</b> 12)	Rated voltage (Use group B)		
			300 V	
Rated current (use group B)	5 A	Wire cross-section, AWG, min.	AWG 28	
Wire cross-section, AWG, max.	AWG 18			



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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 C)	50 V		
Rated current (use group C)	10 A	Wire cross-section, AWG, min.	AWG 28		
Wire cross-section, AWG, max.	AWG 16				
Classifications					
UNSPSC	30-21-18-10	eClass 4.1	27-26-07-01		
eClass 5.1	27-26-07-01	eClass 4. 1	27-26-07-01		
eClass 7.0	27-44-04-02	001033 0.0	27-20-07-04		
Notes					
Notes	Additional colours on	request			
	Gold-plated contact su	urfaces on request			
	Rated current related t	o rated cross-section and min. No. of poles.			
	Wire end ferrule with plastic collar to DIN 46228/4				
	Wire end ferrule without	out plastic collar to DIN 46228/1			
	• P on drg. = pitch				
		shape A for wire-end ferrules with crimping tools 1460000) for the larger wire cross-sections.	PZ 1,5 (order no. 9005990000) or		
		o the component itself. Clearance and creepage d ance with the relevant application standards.	istances to other components are to		



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### **B2L/S2L 3.50 - 2-row series B2L 3.50/30/180F SN OR BX**

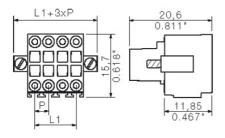
### Klingenbergstraße 16

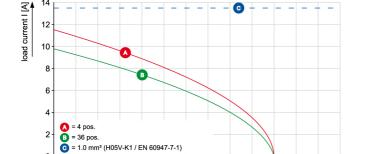
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### **Drawings**



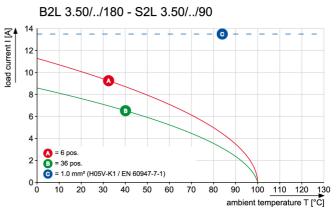


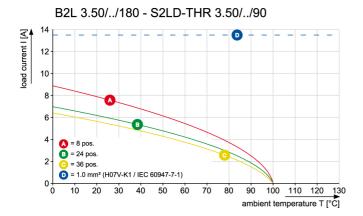
70 80 90 100 110 120 130

ambient temperature T [°C]

B2L 3.50/../180 - S2L-SMT 3.50/../90

30 40 50 60







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### Mating connector (fully pluggable)

### **S2L-SMT 3.50/90LF Box**



High-temperature-resistant, straight, 2-tier male connector for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. 3.2 mm solder pin suitable for reflow and wave soldering. These male connectors can be labelled and coded.

- 50 V (IEC) / 150 V (UL) 10 A (IEC) / 10 A (UL)

### **General ordering data**

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data	Packaging
179498000	0 S2L-SMT 3.50/30/90LF 3.2SN BK BX	PCB plug-in connector,	403224823243	7 20 pc(s).	IEC: 160 V / 10 A	Box
		male header, Solder flange	٠,		UL: 150 V / 10 A	
		Reflow solder connection,				
		3.50 mm, No. of poles: 30,	•			
		90°, Solder pin length (I):				
		3.2 mm, tinned, Black, Box				

#### S2L-SMT 3.50/180LF Box



High-temperature-resistant, straight, 2-tier male connector for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. 3.2 mm solder pin suitable for reflow and wave soldering. These male connectors can be labelled and coded.

- 50 V (IEC) / 150 V (UL)
- 10 A (IEC) / 10 A (UL)

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data	Packaging
1795320000	S2L-SMT 3.50/30/180LF 3.5SN BK BX	PCB plug-in connector,	403224823283	3 20 pc(s).	IEC: 160 V / 10 A	Box
		male header, Solder flange	,		UL: 150 V / 10 A	
		Reflow solder connection,				
		3.50 mm, No. of poles: 30,				
		180°, Solder pin length (I):				
		3.5 mm, tinned, Black, Box				



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### Mating connector (fully pluggable)

### S2L 3.50/180F



Straight two-tier pin header available as closed-sided or with flange (open-sided pin headers on request). Pin headers with 3.5mm pins are designed for wave soldering and are packaged in a box. They can be screwed on to the PCB. The pin headers provide space for labelling and can be coded.

- 80 V (IEC) / 150 V (UL)
- 9 A (IEC / 8 A (UL)

### **General ordering data**

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data	Packaging
1729550000	2 S2L 3.50/30/180F 3.5SN OR BX	PCB plug-in connector,	403224804095	7 20 pc(s).	IEC: 250 V / 10 A	Box
		male header, Flange, Solde	er		UL: 150 V / 10 A	
		connection, 3.50 mm, No.				
		of poles: 30, 180°, Solder				
		pin length (I): 3.5 mm,				
		tinned, Orange, Box				

#### S2L 3.50/90F



Angled, two-tier pin header available as closed-sided or with flange (open-sided pin headers on request). Pin headers with 3.5mm pins are designed for wave soldering and are packaged in a box. They can be screwed on to the PCB. The pin headers provide space for labelling and can be coded.

- 80 V (IEC) / 150 V (UL)
- 9 A (IEC / 8 A (UL)

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data	Packaging
172859000	2 S2L 3.50/30/90F 3.5SN OR BX	PCB plug-in connector,	403224804005	6 20 pc(s).	IEC: 250 V / 10 A	Box
		male header, Flange, Solde	er		UL: 150 V / 10 A	
		connection, 3.50 mm, No.				
		of poles: 30, 90°, Solder pi	n			
		length (I): 3.5 mm, tinned,				
		Orange, Box				



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### Mating connector (conditionally pluggable)

### **S2L-SMT 3.50/180 Box**



High-temperature-resistant, straight, 2-tier male connector for all common soldering methods. Optimized for automatic assembly. Packed in box or tape. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers can be labelled and coded. (Packaging in tape on request)

- 50 V (IEC) / 150 V (UL)
- 10 A (IEC) / 10 A (UL)

### **General ordering data**

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data	Packaging
179481000	O S2L-SMT 3.50/30/180 3.5SN BK BX	PCB plug-in connector, ma	ale403224823199	97 20 pc(s).	IEC: 160 V / 10 A	Box
		header, open side, Reflow			UL: 150 V / 10 A	
		solder connection, 3.50				
		mm, No. of poles: 30, 180	)°,			
		Solder pin length (I): 3.5				
		mm, tinned, Black, Box				

### S2L 3.50/90G



Angled, two-tier pin header available as closed-sided or with flange (open-sided pin headers on request). Pin headers with 3.5mm pins are designed for wave soldering and are packaged in a box. They can be screwed on to the PCB. The pin headers provide space for labelling and can be coded.

- 80 V (IEC) / 150 V (UL)
- 9 A (IEC / 8 A (UL)

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data	Packagin		
172795000	00 S2L 3.50/30/90G 3.5SN OR BX	PCB plug-in connec	tor, male40322480394	149 20 pc(s).	IEC: 250 V / 10 A	Вох		
		header, closed side,	Solder	UL: 150 V / 10 A				
		connection, 3.50 m	connection, 3.50 mm, No.					
		of poles: 30, 90°, So	of poles: 30, 90°, Solder pin					
		length (I): 3.5 mm, tinned,						
		Orange, Box						
172811000	00 S2L 3.50/30/90G 3.5SN BK BX	PCB plug-in connec	tor, male40322480396	609 20 pc(s).	IEC: 250 V / 10 A	Box		
		header, closed side,	Solder	UL: 150 V / 10 A				
		connection, 3.50 m	m, No.					
		of poles: 30, 90°, So	older pin					
		length (I): 3.5 mm, t	inned,					
		Black, Box						



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### Mating connector (conditionally pluggable)

### **S2L-SMT 3.50/90G Box**



High-temperature-resistant, straight, 2-tier male connector for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. 3.2 mm solder pin suitable for reflow and wave soldering. These male connectors can be labelled and coded.

- 50 V (IEC) / 150 V (UL) 10 A (IEC) / 10 A (UL)

#### General ordering data

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data	Packaging
179433000	2 S2L-SMT 3.50/30/90G 3.2SN BK BX	PCB plug-in connector, mal	e403224823150	8 20 pc(s).	IEC: 160 V / 10 A	Box
		header, closed side, Reflow	/		UL: 150 V / 10 A	
		solder connection, 3.50				
		mm, No. of poles: 30, 90°,				
		Solder pin length (I): 3.2				
		mm, tinned, Black, Box				

### S2L-SMT 3.50/180G Box



High-temperature-resistant, straight, 2-tier male connector for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. 3.2 mm solder pin suitable for reflow and wave soldering. These male connectors can be labelled and coded.

- 50 V (IEC) / 150 V (UL)
- 10 A (IEC) / 10 A (UL)

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data	Packaging
179465000	2 S2L-SMT 3.50/30/180G 3.5SN BK BX	PCB plug-in connector, ma	le403224823183	36 20 pc(s).	IEC: 160 V / 10 A	Box
		header, closed side, Reflov	v		UL: 150 V / 10 A	
		solder connection, 3.50				
		mm, No. of poles: 30, 180	٥,			
		Solder pin length (I): 3.5				
		mm, tinned, Black, Box				



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### Mating connector (conditionally pluggable)

### S2L 3.50/180G



Straight two-tier pin header available as closed-sided or with flange (open-sided pin headers on request). Pin headers with 3.5mm pins are designed for wave soldering and are packaged in a box. They can be screwed on to the PCB. The pin headers provide space for labelling and can be coded.

- 80 V (IEC) / 150 V (UL)
- 9 A (IEC / 8 A (UL)

#### **General ordering data**

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data	Packagi
172907000	00 S2L 3.50/30/180G 3.5SN BK BX	PCB plug-in connector,	403224804050	06 20 pc(s).	IEC: 250 V / 10 A	Box
		male header, closed side,			UL: 150 V / 10 A	
		Solder connection, 3.50				
		mm, No. of poles: 30, 180	٥,			
		Solder pin length (I): 3.5				
		mm, tinned, Black, Box				
172891000	00 S2L 3.50/30/180G 3.5SN OR BX	PCB plug-in connector,	403224804034	16 20 pc(s).	IEC: 250 V / 10 A	Box
		male header, closed side,			UL: 150 V / 10 A	
		Solder connection, 3.50				
		mm, No. of poles: 30, 180	۰,			
		Solder pin length (I): 3.5				
		mm, tinned, Orange, Box				

### **S2L-SMT 3.50/90 BOX**



High-temperature-resistant, straight, 2-tier pin header for all common soldering methods. Optimized for automatic assembly. Packed in box or tape. 3.2 mm solder pin suitable for reflow and wave soldering. These pin headers can be labelled and coded. (Packaging in tape on request)

- 50 V (IEC) / 150 V (UL)
- 10 A (IEC) / 10 A (UL)

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data	Packaging
179449000	2 S2L-SMT 3.50/30/90 3.2SN BK BX	PCB plug-in connector, ma	le40322482316	76 20 pc(s).	IEC: 160 V / 10 A	Box
		header, open side, Reflow			UL: 150 V / 10 A	
		solder connection, 3.50				
		mm, No. of poles: 30, 90°,	•			
		Solder pin length (I): 3.2				
		mm, tinned, Black, Box				



### Accessories

#### Weidmüller Interface GmbH & Co. KG

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#### **Cover hoods**



## Effective protection, optimised ergonomics and closed design:

From the strain relief on the connected conductors and the visual/contact protection and the disconnection aid: the optional retrofit hoods perform mechanical, visual and haptic functions.

The two half shells clip together securely, enclose the plug completely and offer the following functions:

- Cable ties or integrated cable clips provide strain relief.
- Marked with dekafix labels or adhesive strips
- Mounting side by side without losing poles or displacing the pitch
- Compatible: suitable for plugs with or without a flange or mounting bracket
- Flexible: 1-3 cable outlets leading in different directions available depending on the size

Weidmüller hoods offer added stability, better identification, complete compatibility and versatility. The result: maximum reliability and user-friendliness in any application.

### **General ordering data**

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data
1781680000	B2L 3.50-AH 30 SW	PCB plug-in connector,	403224817273	3 10 pc(s).	
		Accessories, Cover hood,			
		Black, No. of poles: 30			

### **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**

Order No.	Туре	Version	GTIN (EAN)	Qty.	Product data
1849730000	B2L/S2L 3.5 KO OR	PCB plug-in connector,	403224837819	7 100 pc(s).	
		Accessories, Coding			
		element, Orange, No. of			
		poles: 1			
1849740000	B2L/S2L 3.5 KO SW	PCB plug-in connector,	4032248378203	3 100 pc(s).	
		Accessories, Coding			

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element, Black, No. of poles: 1

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