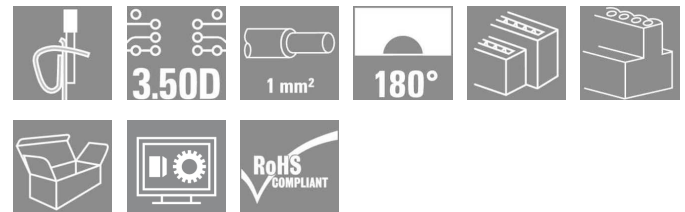


OMNIMATE Signal - series B2L/S2L 3.50 - 2-row B2L 3.50/22/180 SN BK BX

Weidmüller Interface GmbH & Co. KG
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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 1 mm² 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.

General ordering data

Type	B2L 3.50/22/180 SN BK BX
Order No.	1747930000
Version	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 22, 180°, Tension clamp connection, Clamping range, rated connection, max.: 1 mm ² , Box
GTIN (EAN)	4032248037919
Qty.	42 pc(s).
Product data	IEC: 200 V / 10.3 A / 0.2 - 1 mm ² UL: 300 V / 10 A / AWG 28 - AWG 16
Packaging	Box

**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
B2L 3.50/22/180 SN BK BX**

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Technical data**Dimensions and weights**

Net weight	12.55 g
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System parameters

Product family	OMNIMATE Signal - series B2L/S2L 3.50 - 2-row	Type of connection	Field connection
Wire connection method	Tension clamp connection	Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch	Conductor outlet direction	180°
No. of poles	22	L1 in mm	35 mm
L1 in inches	1.378 inch	Number of rows	1
Pin series quantity	2	Rated cross-section	1 kByte
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch	Touch-safe protection acc. to DIN VDE 0470	IP 20
Can be coded	Yes	Stripping length	7 mm
Plugging cycles	25	push-in force/pole	3 N
Withdrawal force per pole	6 N	Packaging	Box

Material data

Insulating material	PBT	Colour	Black
Colour chart (similar)	RAL 9011	Insulation resistance	$\geq 10^8 \Omega$
UL 94 flammability rating	V-0	Contact material	Copper alloy
Contact surface	tinned	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

Conductors suitable for connection

Clamping range, rated connection, min.	0.08 mm ²	Clamping range, rated connection, max.	1 mm ²
Wire connection cross section AWG, min.	AWG 28	Wire connection cross section AWG, max.	AWG 18
Solid, min. H05(07) V-U	0.2 mm ²	Solid, max. H05(07) V-U	1 mm ²
Flexible, min. H05(07) V-K	0.2 mm ²	Flexible, max. H05(07) V-K	1 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, min.	0.5 mm ²	w. plastic collar ferrule, DIN 46228 pt 4, max.	0.34 mm ²
w. wire end ferrule, DIN 46228 pt 1, min.	0.13 mm ²	w. wire end ferrule, DIN 46228 pt 1, max.	0.34 mm ²

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. no. of poles (Ta = 20°C)	10.3 A
Rated current, max. no. of poles (Ta = 20°C)	8.7 A	Rated current, min. no. of poles (Ta = 40°C)	8.9 A
Rated current, max. no. of poles (Ta = 40°C)	7.4 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	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

**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
B2L 3.50/22/180 SN BK BX**

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Technical data**Rated data acc. to CSA**

Institute (CSA)



Certificate No. (CSA)

200039-1488444

Rated voltage (Use group B)	300 V
Wire cross-section, AWG, min.	AWG 28
Reference to approval values	Specifications are maximum values, details - see approval certificate.

Rated current (use group B)	5 A
Wire cross-section, AWG, max.	AWG 18

Rated data acc. to UL 1059

Institute (UR)



Certificate No. (UR)

E60693

Rated voltage (use group B)	300 V
Rated current (use group B)	10 A
Wire cross-section, AWG, min.	AWG 28
Reference to approval values	Specifications are maximum values, details - see approval certificate.

Rated voltage (use group C)	50 V
Rated current (use group C)	10 A
Wire cross-section, AWG, max.	AWG 16

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

Notes

Notes

- Additional colours on request
- Gold-plated contact surfaces on request
- Rated current related to rated cross-section & min. No. of poles.
- Wire end ferrule with plastic collar to DIN 46228/4
- Wire end ferrule without plastic collar to DIN 46228/1
- P on drawing = pitch
- Crimp shape A for wire-end ferrules with crimping tools PZ 1,5 (order no. 9005990000) or PZ 6/5 (order no. 9011460000) for larger wire cross-sections recommended.
- 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.

IPC conformity

The products are developed, manufactured and delivered according to the internationally recognised IPC-A-610 standard, category "permissible". More extensive demands on the products can be evaluated on request.

Data sheet**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
B2L 3.50/22/180 SN BK BX**

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Technical data**Approvals**

Approvals



ROHS

Conform

DownloadsApproval/Certificate/Document of
Conformity[Declaration of the Manufacturer](#)

Brochure/Catalogue

[FL DRIVES EN](#)
[MB DEVICE MANUF. EN](#)
[FL DRIVES DE](#)
[FL BUILDING SAFETY EN](#)
[FL APPL LED LIGHTING EN](#)
[FLIndustr.CONTROLS EN](#)
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[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

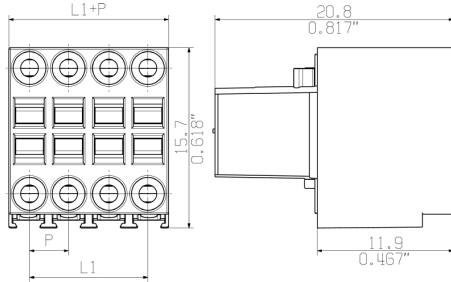
[EPLAN_WSCAD](#)

**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
B2L 3.50/22/180 SN BK BX**

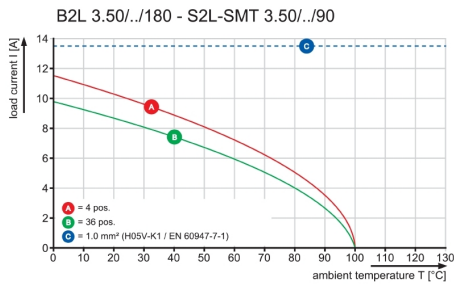
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Drawings

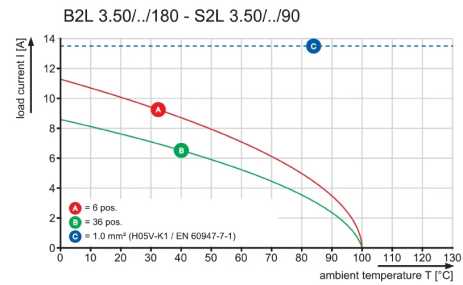
Dimensional drawing



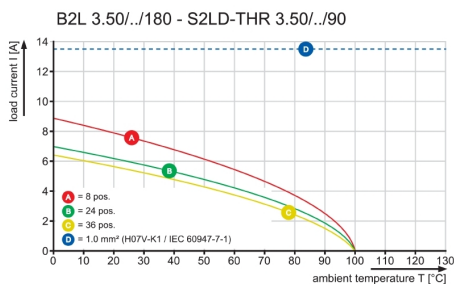
Graph



Graph



Graph



**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
B2L 3.50/22/180 SN BK BX**

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Mating connector (conditionally pluggable)
S2L 3.50/180F


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.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
S2L 3.50/22/180F 3.5SN OR BX	1729510000	PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, No. of poles: 22, 180°, Solder pin length (l): 3.5 mm, tinned, Orange, Box	4032248040919 36 pc(s).		IEC: 250 V / 10 A UL: 150 V / 10 A	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.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
S2L 3.50/22/90F 3.5SN OR BX	1728550000	PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, No. of poles: 22, 90°, Solder pin length (l): 3.5 mm, tinned, Orange, Box	4032248040018 36 pc(s).		IEC: 250 V / 10 A UL: 150 V / 10 A	Box

**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
B2L 3.50/22/180 SN BK BX**

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Mating connector (conditionally pluggable)
S2L-SMT 3.50/180LF Box


High-temperature-resistant, double-row pin header for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. Solder pin 3.2 mm long, suitable for reflow and wave soldering. The male connectors provide space for labelling and can be coded.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
S2L-SMT 3.50/22/180LF 3.5SN BK BX	1795280000	PCB plug-in connector, male header, Solder flange, THT/ THR solder connection, 3.50 mm, No. of poles: 22, 180°, Solder pin length (l): 3.5 mm, tinned, Black, Box	4032248232796	36 pc(s).	IEC: 160 V / 10 A UL: 150 V / 10 A	Box

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.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
S2L-SMT 3.50/22/90LF 3.2SN BK BX	1794940000	PCB plug-in connector, male header, Solder flange, THT/ THR solder connection, 3.50 mm, No. of poles: 22, 90°, Solder pin length (l): 3.2 mm, tinned, Black, Box	4032248232390	36 pc(s).	IEC: 160 V / 10 A UL: 150 V / 10 A	Box

**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
B2L 3.50/22/180 SN BK BX**

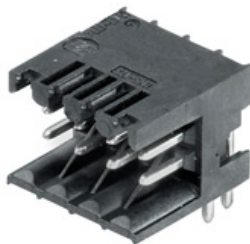
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Mating connector (fully pluggable)**S2L 3.50/180G**

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.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
S2L 3.50/22/180G 3.5SN OR BX	1728870000	PCB plug-in connector, male header, closed side, THT solder connection, 3.50 mm, No. of poles: 22, 180°, Solder pin length (l): 3.5 mm, tinned, Orange, Box	4032248040308	42 pc(s).	IEC: 250 V / 10 A UL: 150 V / 10 A	Box
Discontinued	2016-04-08T00:00:00+02:00	S2L 3.50/22/180G 3.5SN BK BX	1729030000	PCB plug-in connector, male header, closed side, THT solder connection, 3.50 mm, No. of poles: 22, 180°, Solder pin length (l): 3.5 mm, tinned, Black, Box	4032248040469	42 pc(s).

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)

General ordering data

Delivery status	Available until	Type	Order No.	Version	GTIN (EAN)	Qty.
Discontinued	2014-05-20T00:00:00+02:00	S2L-SMT 3.50/22/90 3.2SN BK BX	1794450000	PCB plug-in connector, male header, open side, THT/THR solder connection, 3.50 mm, No. of poles: 22, 90°, Solder pin length (l): 3.2	4032248231638	20 pc(s).

**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
B2L 3.50/22/180 SN BK BX**

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Mating connector (fully pluggable)

mm, tinned, Black,
Box

S2L-SMT 3.50/180G Box


High-temperature-resistant, double-row pin header for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. Solder pin 3.2 mm long, suitable for reflow and wave soldering. The male connectors provide space for labelling and can be coded.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
S2L-SMT 3.50/22/180G 3.5SN BK BX	1794610000	PCB plug-in connector, male header, closed side, THT/ THR solder connection, 3.50 mm, No. of poles: 22, 180°, Solder pin length (l): 3.5 mm, tinned, Black, Box	4032248231799	42 pc(s).	IEC: 160 V / 10 A UL: 150 V / 10 A	Box

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.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
S2L-SMT 3.50/22/90G 3.2SN BK BX	1794290000	PCB plug-in connector, male header, closed side, THT/ THR solder connection, 3.50 mm, No. of poles: 22, 90°, Solder pin length (l): 3.2 mm, tinned, Black, Box	4032248231454	42 pc(s).	IEC: 160 V / 10 A UL: 150 V / 10 A	Box

**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
B2L 3.50/22/180 SN BK BX**

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Mating connector (fully pluggable)
S2L-SMT 3.50/180G Tape


High-temperature-resistant, double-row pin header for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. Solder pin 3.2 mm long, suitable for reflow and wave soldering. The male connectors provide space for labelling and can be coded.

General ordering data

Delivery status	Available until	Type	Order No.	Version	GTIN (EAN)	Qty.
Discontinued	2014-05-20T00:00:00+02:00	S2L-SMT 3.50/22/180G 3.5SN BK RL	1807860000	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, No. of poles: 22, 180°, Solder pin length (l): 3.5 mm, tinned, Black, Tape (Ø 330 mm); Rs = 10 ⁹ - 10 ¹² Ω	4032248279562	175 pc(s)

S2L-SMT 3.50/180 Box


High-temperature-resistant, double-row pin header for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. Solder pin 3.2 mm long, suitable for reflow and wave soldering. The male connectors provide space for labelling and can be coded.

General ordering data

Delivery status	Available until	Type	Order No.	Version	GTIN (EAN)	Qty.
Discontinued	2014-05-20T00:00:00+02:00	S2L-SMT 3.50/22/180 3.5SN BK BX	1794770000	PCB plug-in connector, male header, open side, THT/THR solder connection, 3.50 mm, No. of poles: 22, 180°, Solder pin length (l): 3.5 mm, tinned, Black, Box	4032248231959	20 pc(s)

**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
B2L 3.50/22/180 SN BK BX**

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Mating connector (fully pluggable)
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.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
S2L	1727910000	PCB plug-in connector, male	403224803940	1 42 pc(s).	IEC: 250 V / 10 A UL: 150 V / 10 A	Box
3.50/22/90G		header, closed side, THT				
3.5SN OR BX		solder connection, 3.50 mm, No. of poles: 22, 90°, Solder pin length (l): 3.5 mm, tinned, Orange, Box				

S2L-SMT 3.50/90G Tape


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.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
S2L-SMT	1807550000	PCB plug-in connector, male	4032248278848	235 pc(s).	IEC: 160 V / 10 A UL: 150 V / 10 A	Tape
3.50/22/90G		header, closed side, THT/				(Ø
3.2SN BK RL		THR solder connection,				330
		3.50 mm, No. of poles: 22,				mm);
		90°, Solder pin length (l):				Rs
		3.2 mm, tinned, Black, Tape				=
		(Ø 330 mm); Rs = 10 ⁹ -				10 ⁹
		10 ¹² Ω				-
						10 ¹²
						Ω

Data sheet

**OMNIMATE Signal - series B2L/S2L 3.50 - 2-row
B2L 3.50/22/180 SN BK 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	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
B2L/S2L 3.50 KO OR BX	1849730000	PCB plug-in connector, Accessories, Coding element, Orange, No. of poles: 1	4032248378197	100 pc(s).	UL:	Box
B2L/S2L 3.50 KO BK BX	1849740000	PCB plug-in connector, Accessories, Coding element, Black, No. of poles: 1	4032248378203	100 pc(s).	UL:	Box

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Accessories

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

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
B2L 3.50	1781640000	PCB plug-in connector,	4032248172696	10 pc(s).	UL:	Box
AH22 BK BX		Accessories, Cover hood, Black, No. of poles: 22				

