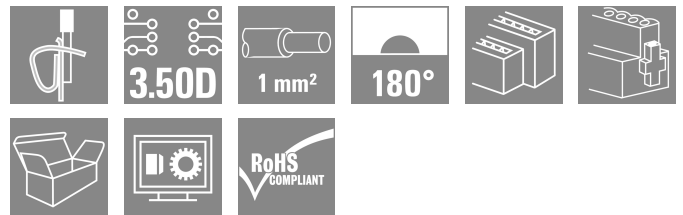
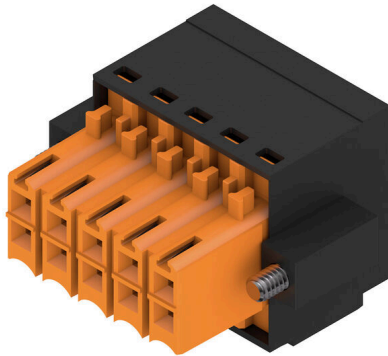


B2L 3.50/10/180FQV5 SN BK BX

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 26
 D-32758 Detmold
 Germany

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Product image



Female connector with integral cross-connection and clear printing for uninterrupted relaying of potential at full current-carrying capacity with the maximum cable cross-section. The cross-connection is positioned vertically between the poles of rows directly on top of each other. Conductor connection with tension clamp system with straight outlet and 3.5 mm pitch. Flange and release lever available. Packed in cardboard box.

General ordering data

Version	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 10, 180°, Tension-clamp connection, Clamping range, max. : 1 mm ² , Box
Order No.	1944690000
Type	B2L 3.50/10/180FQV5 SN BK BX
GTIN (EAN)	4032248619627
Qty.	72 items
Product data	IEC: 200 V / 10.6 A / 0.2 - 1 mm ² UL: 150 V / 7 A / AWG 28 - AWG 18
Packaging	Box

B2L 3.50/10/180FQV5 SN BK BX

Weidmüller Interface GmbH & Co. KG

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Technical data**Approvals**

Approvals



ROHS Conform

UL File Number Search [UL Website](#)

Certificate No. (UR) E60693

Dimensions and weights

Depth	20.6 mm	Depth (inches)	0.811 inch
Height	15.7 mm	Height (inches)	0.6181 inch
Width	24.3 mm	Width (inches)	0.9567 inch
Net weight	4.14 g		

Environmental Product Compliance

RoHS Compliance Status Compliant without exemption

REACH SVHC No SVHC above 0.1 wt%

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)	3.50 mm		
Pitch in inches (P)	0.138 "		
Conductor outlet direction	180°		
Number of poles	10		
L1 in mm	14.00 mm		
L1 in inches	0.551 "		
Number of rows	1		
Pin series quantity	2		
Rated cross-section	1 mm ²		
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch		
Touch-safe protection acc. to DIN VDE 0470	IP20 plugged/ IP10 unplugged		
Protection degree	IP20, when fully mounted		
Can be coded	Yes		
Stripping length	7 mm		
Screwdriver blade	0.4 x 2.5		
Screwdriver blade standard	DIN 5264		
Plugging cycles	25		
Plugging force/pole, max.	5 N		
Pulling force/pole, max.	4 N		
Tightening torque	Torque type	Screw flange	
	Usage information	Tightening torque	min. 0.15 Nm max. 0.2 Nm

Material data

Insulating material	PBT	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa

B2L 3.50/10/180FQV5 SN BK BX

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Technical data

Comparative Tracking Index (CTI)	≥ 200	Moisture Level (MSL)	
UL 94 flammability rating	V-0	Contact material	Cu-alloy
Contact surface	tinned	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	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, min.	0.08 mm ²			
Clamping range, 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.	0.14 mm ²			
w. plastic collar ferrule, DIN 46228 pt 4, max.	0.34 mm ²			
w. wire end ferrule, DIN 46228 pt 1, min.	0.14 mm ²			
w. wire end ferrule, DIN 46228 pt 1, max.	0.34 mm ²			
Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.14 mm ²	
	wire end ferrule	Stripping length	nominal	10 mm
		Recommended wire-end ferrule	HO.14/12 GR SV	
		Cross-section for conductor connection	Type	fine-wired
	nominal		0.25 mm ²	
	wire end ferrule	Stripping length	nominal	10 mm
		Recommended wire-end ferrule	HO.25/12 HBL	

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.

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	10.6 A
Rated current, max. number of poles (Tu=20°C)	8.2 A	Rated current, min. number of poles (Tu=40°C)	9.1 A
Rated current, max. number of poles (Tu=40°C)	7 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	1.5 kV	Short-time withstand current resistance	3 x 1s with 77 A

Rated data acc. to CSA

Institute (CSA)	CSA	Certificate No. (CSA)	200039-1488444
Rated voltage (Use group B / CSA)	300 V	Rated current (Use group B / CSA)	7 A

B2L 3.50/10/180FQV5 SN BK BX

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Technical data

Wire cross-section, AWG, min.	AWG 28	Wire cross-section, AWG, max.	AWG 18
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Rated data acc. to UL 1059

Institute (UR)	UR	Certificate No. (UR)	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)	7 A	Rated current (Use group C / UL 1059)	7 A
Wire cross-section, AWG, min.	AWG 28	Wire cross-section, AWG, max.	AWG 18
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Packing

Packaging	Box	VPE length	348.00 mm
VPE width	138.00 mm	VPE height	31.00 mm

Type tests

Test: Durability of markings	Standard	DIN EN 61984 section 7.3.2 / 09.02 taking pattern from DIN EN 60068-2-70 / 07.96		
	Test	mark of origin, type identification, rated cross-section, type of material		
	Evaluation	available		
	Test	durability		
Test: Misengagement (Non-interchangeability)	Evaluation	passed		
	Standard	DIN EN 61984 section 6.3 and 6.9.1 / 09.02, DIN IEC 60512-7 section 5 / 05.94		
	Test	180° turned without coding elements		
	Evaluation	passed		
Test: Clampable cross section	Standard	DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.02		
	Conductor type	Type of conductor and conductor cross-section	solid 0.2 mm ²	
		Type of conductor and conductor cross-section	stranded 0.2 mm ²	
		Type of conductor and conductor cross-section	solid 1.0 mm ²	
		Type of conductor and conductor cross-section	stranded 1.0 mm ²	
		Type of conductor and conductor cross-section	AWG 28/1	
		Type of conductor and conductor cross-section	AWG 28/19	
		Type of conductor and conductor cross-section	AWG 18/1	
		Type of conductor and conductor cross-section	AWG 18/19	
	Evaluation	passed		

B2L 3.50/10/180FQV5 SN BK BX

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Technical data

Test for damage to and accidental loosening of conductors	Standard	DIN EN 60999-1 section 9.4 / 12.00	
	Requirement	0.2 kg	
	Conductor type	Type of conductor and conductor cross-section	AWG 28/1
		Type of conductor and conductor cross-section	AWG 28/19
	Evaluation	passed	
	Requirement	0.3 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm ²
		Type of conductor and conductor cross-section	stranded 0.5 mm ²
	Evaluation	passed	
	Requirement	0.4 kg	
Conductor type	Type of conductor and conductor cross-section	solid 1.0 mm ²	
	Type of conductor and conductor cross-section	stranded 1.0 mm ²	
	Type of conductor and conductor cross-section	AWG 18/1	
	Type of conductor and conductor cross-section	AWG 18/19	
Evaluation	passed		
Pull-out test	Standard	DIN EN 60999-1 section 9.4 / 12.00	
	Requirement	≥5 N	
	Conductor type	Type of conductor and conductor cross-section	AWG 28/1
		Type of conductor and conductor cross-section	AWG 28/19
	Requirement	≥20 N	
	Conductor type	Type of conductor and conductor cross-section	H05V-U0.5
		Type of conductor and conductor cross-section	H05V-K0.5
	Requirement	≥35 N	
	Conductor type	Type of conductor and conductor cross-section	H05V-U1
		Type of conductor and conductor cross-section	H05V-K1
Type of conductor and conductor cross-section		AWG 18/1	
Type of conductor and conductor cross-section		AWG 18/19	
Requirement	≥30 N		
Conductor type	Type of conductor and conductor cross-section	AWG 18/1	

B2L 3.50/10/180FQV5 SN BK BX

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Technical data

Type of conductor and conductor cross-section	AWG 18/19
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Important note

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.

- Notes**
- Additional variants 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
 - 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.
 - 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.
 - In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load
 - Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

Classifications

ETIM 8.0	EC002638	ETIM 9.0	EC002638
ETIM 10.0	EC002638	ECLASS 14.0	27-46-02-02
ECLASS 15.0	27-46-02-02		

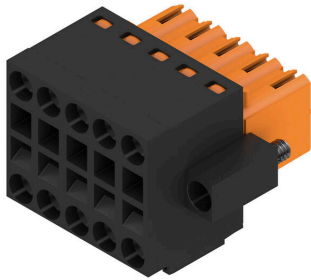
B2L 3.50/10/180FQV5 SN BK BX

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Drawings

Product image



Dimensional drawing



Graph



B2L 3.50/10/180FQV5 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	B2L/S2L 3.50 KO BK BX	Version
Order No.	1849740000	PCB plug-in connector, Accessories, Coding element, black, Number of poles: 1
GTIN (EAN)	4032248378203	
Qty.	100 ST	
Type	B2L/S2L 3.50 KO OR BX	Version
Order No.	1849730000	PCB plug-in connector, Accessories, Coding element, orange, Number of poles: 1
GTIN (EAN)	4032248378197	
Qty.	100 ST	

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

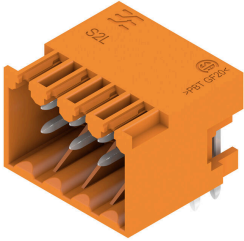
Type	B2L 3.50 AH10 BK BX	Version
Order No.	1781580000	PCB plug-in connector, Accessories, Hood, black, Number of poles: 10
GTIN (EAN)	4032248172634	
Qty.	10 ST	

B2L 3.50/10/180FQV5 SN BK BX

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Counterpart

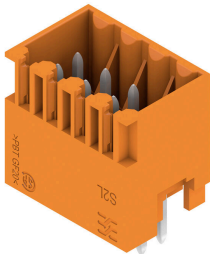
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S2L 3.50/90G

Angled, two-tier pin header available as closed-sided or with flange (open-sided pin headers on request). Pin headers with 3.5 mm 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	S2L 3.50/10/90G 3.5SN O...	Version
Order No.	1727850000	PCB plug-in connector, male header, closed side, THT solder
GTIN (EAN)	4032248039364	connection, 3.50 mm, Number of poles: 10, 90°, Solder pin length (l):
Qty.	96 ST	3.5 mm, tinned, orange, Box
Type	S2L 3.50/10/90G 3.5SN B...	Version
Order No.	1728010000	PCB plug-in connector, male header, closed side, THT solder
GTIN (EAN)	4032248039500	connection, 3.50 mm, Number of poles: 10, 90°, Solder pin length (l):
Qty.	96 ST	3.5 mm, tinned, black, Box

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 3.5 mm 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	S2L 3.50/10/180G 3.5SN ...	Version
Order No.	1728810000	PCB plug-in connector, male header, closed side, THT solder
GTIN (EAN)	4032248040261	connection, 3.50 mm, Number of poles: 10, 180°, Solder pin length
Qty.	96 ST	(l): 3.5 mm, tinned, orange, Box
Type	S2L 3.50/10/180G 3.5SN ...	Version
Order No.	1728970000	PCB plug-in connector, male header, closed side, THT solder
GTIN (EAN)	4032248040407	connection, 3.50 mm, Number of poles: 10, 180°, Solder pin length
Qty.	96 ST	(l): 3.5 mm, tinned, black, Box

B2L 3.50/10/180FQV5 SN BK BX

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Counterpart

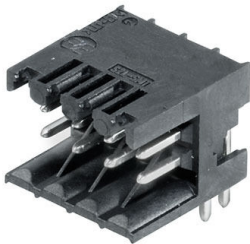
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S2L-SMT 3.50/180G Tape

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

Type	S2L-SMT 3.50/10/180G 3...	Version
Order No.	1807800000	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 10, 180°, Solder pin length
GTIN (EAN)	4032248279500	(l): 3.5 mm, tinned, black, Tape
Qty.	175 ST	

S2L-SMT 3.50/90 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	S2L-SMT 3.50/10/90 3.2S...	Version
Order No.	1807390000	PCB plug-in connector, male header, open side, THT/THR solder connection, 3.50 mm, Number of poles: 10, 90°, Solder pin length (l):
GTIN (EAN)	4032248278688	3.2 mm, tinned, black, Tape
Qty.	235 ST	

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	S2L-SMT 3.50/10/90G 3.2...	Version
Order No.	1807490000	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 10, 90°, Solder pin length (l):
GTIN (EAN)	4032248278787	3.2 mm, tinned, black, Tape
Qty.	235 ST	

B2L 3.50/10/180FQV5 SN BK BX

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Counterpart

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	S2L-SMT 3.50/10/180G 3...	Version
Order No.	1794550000	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 10, 180°, Solder pin length
GTIN (EAN)	4032248231737	(l): 3.5 mm, tinned, black, Box
Qty.	96 ST	

S2L-SMT 3.50/90G Box

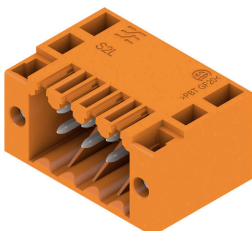


High-temperature-resistant, straight, 2-tier male connector for all common soldering methods. Optimised for automatic assembly. Packed in box or tape. 3.2 mm solder pin suitable for reflow and wave soldering. These male connectors can be labelled and coded.

General ordering data

Type	S2L-SMT 3.50/10/90G 3.2...	Version
Order No.	1794230000	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 10, 90°, Solder pin length (l):
GTIN (EAN)	4032248231270	3.2 mm, tinned, black, Box
Qty.	96 ST	

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	S2L 3.50/10/90F 3.5SN O...	Version
Order No.	1728490000	PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, Number of poles: 10, 90°, Solder pin length (l): 3.5 mm,
GTIN (EAN)	4032248039975	tinned, orange, Box
Qty.	72 ST	

B2L 3.50/10/180FQV5 SN BK BX

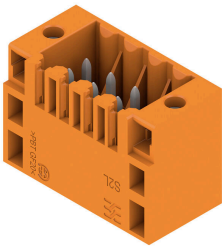
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Counterpart

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Type	S2L 3.50/10/90F 3.5SN B...	Version
Order No.	1728650000	PCB plug-in connector, male header, Flange, THT solder connection,
GTIN (EAN)	4032248040117	3.50 mm, Number of poles: 10, 90°, Solder pin length (l): 3.5 mm,
Qty.	72 ST	tinned, black, Box

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	S2L 3.50/10/180F 3.5SN ...	Version
Order No.	1729450000	PCB plug-in connector, male header, Flange, THT solder connection,
GTIN (EAN)	4032248040872	3.50 mm, Number of poles: 10, 180°, Solder pin length (l): 3.5 mm,
Qty.	72 ST	tinned, orange, Box
Type	S2L 3.50/10/180F 3.5SN ...	Version
Order No.	1729610000	PCB plug-in connector, male header, Flange, THT solder connection,
GTIN (EAN)	4032248041015	3.50 mm, Number of poles: 10, 180°, Solder pin length (l): 3.5 mm,
Qty.	72 ST	tinned, black, Box

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	S2L-SMT 3.50/10/180LF 3...	Version
Order No.	1795220000	PCB plug-in connector, male header, Solder flange, THT/THR solder
GTIN (EAN)	4032248232734	connection, 3.50 mm, Number of poles: 10, 180°, Solder pin length
Qty.	72 ST	(l): 3.5 mm, tinned, black, Box

B2L 3.50/10/180FQV5 SN BK BX

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Counterpart

S2L-SMT 3.50/90LF 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	S2L-SMT 3.50/10/90LF 3...	Version
Order No.	1807580000	PCB plug-in connector, male header, Solder flange, THT/THR solder connection, 3.50 mm, Number of poles: 10, 90°, Solder pin length (l):
GTIN (EAN)	4032248278879	3.2 mm, tinned, black, Tape
Qty.	235 ST	

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	S2L-SMT 3.50/10/90LF 3...	Version
Order No.	1794880000	PCB plug-in connector, male header, Solder flange, THT/THR solder connection, 3.50 mm, Number of poles: 10, 90°, Solder pin length (l):
GTIN (EAN)	4032248232338	3.2 mm, tinned, black, Box
Qty.	72 ST	

S2L-SMT 3.50/180LF 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

Type	S2L-SMT 3.50/10/180LF 3...	Version
Order No.	1807890000	PCB plug-in connector, male header, Solder flange, THT/THR solder connection, 3.50 mm, Number of poles: 10, 180°, Solder pin length (l):
GTIN (EAN)	4032248279593	3.5 mm, tinned, black, Tape
Qty.	175 ST	