



Klingenbergstraße 26 D-32758 Detmold Germany

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## **Product image**















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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 sepa-
- 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**

Version	PCB plug-in connector, female plug, 3.50 mm,
	Number of poles: 24, 180°, PUSH IN with actua-
	tor, Clamping range, max.: 1.5 mm², Box
Order No.	1372870000
Туре	B2CF 3.50/24/180LH SN BK BX
GTIN (EAN)	4050118174700
Qty.	36 items
Product data	IEC: 320 V / 13.4 A / 0.14 - 1.5 mm <sup>2</sup>
	UL: 300 V / 9.5 A / AWG 30 - AWG 16
Packaging	Box





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# **Technical data**

## **Approvals**

Approvals



ROHS	Conform
UL File Number Search	<u>UL Website</u>
Certificate No. (cURus)	E60693

## **Dimensions and weights**

Depth	29.9 mm	Depth (inches)	1.1772 inch
Height	17.25 mm	Height (inches)	0.6791 inch
Width	48.9 mm	Width (inches)	1.9252 inch
Net weight	16.49 g		

#### **Environmental Product Compliance**

RoHS Compliance Status	Compliant without exemption	
REACH SVHC	No SVHC above 0.1 wt%	
Product Carbon Footprint	Cradle to gate	0.408 kg CO2eq.

#### **System Parameters**

Product family	OMNIMATE Signal - series B2C/S2C 3.50 - 2-row	Type of connection	Field connection
Wire connection method	PUSH IN with actuator	Pitch in mm (P)	3.50 mm
Pitch in inches (P)	0.138 "	Conductor outlet direction	180°
Number of poles	24	L1 in mm	38.50 mm
L1 in inches	1.516 "	Number of rows	1
Pin series quantity	2	Rated cross-section	15 mm²
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch	Touch-safe protection acc. to DIN VDE 0470	IP20 plugged
Protection degree	IP20, when fully mounted	Can be coded	Yes
Stripping length	10 mm	Screwdriver blade	0.4 x 2.5
Screwdriver blade standard	DIN 5264	Plugging cycles	25
Plugging force/pole, max.	3.5 N	Pulling force/pole, max.	3.5 N

## **Material data**

Insulating material	PA 66 GF 30	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 600	Insulation resistance	≥ 108 Ω
Moisture Level (MSL)		UL 94 flammability rating	V-0
Contact material	Copper alloy	Contact surface	tinned
Layer structure of plug contact	25 µm Sn hot-dip tinned	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	Operating temperature, min.	-50 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-40 °C
Temperature range, installation, max.	120 °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,	AWG 30
min.	

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Wire connection cross section AWG,	AWG 16		
max.			
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, 0.14 mm²		
min.			
w. plastic collar ferrule, DIN 46228 pt 4 max.	4, 1 mm²		
w. wire end ferrule, DIN 46228 pt 1, min.	0.14 mm²		
w. wire end ferrule, DIN 46228 pt 1, max.	1.5 mm <sup>2</sup>		
Clampable conductor	Cross-section for conductor connection	nominal	0.14 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire- end ferrule	H0,14/12 GR SV
	Cross-section for conductor connection	nominal	0.25 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-	H0,25/12 HBL SV
		end ferrule	
	Cross-section for conductor connection	nominal	0.34 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire- end ferrule	H0,34/12 TK SV
	Cross-section for conductor connection	nominal	0.5 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire- end ferrule	H0,5/16 OR SV
		Stripping length	nominal 10 mm
		Recommended wire- end ferrule	H0,5/10
	Cross-section for conductor connection	nominal	0.75 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire- end ferrule	H0,75/16 W SV
		Stripping length	nominal 10 mm
		Recommended wire- end ferrule	H0,75/10
	Cross-section for conductor connection	nominal	1
	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-	H1,0/16 GE SV
		end ferrule	· ——
		Stripping length	nominal 10 mm
		Recommended wire- end ferrule	H1,0/10
	Cross-section for conductor connection	nominal	1.5 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-	H1,5/10
		end ferrule	

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)	13.4 A
Rated current, max. number of poles (Tu=20°C)	10 A	Rated current, min. number of poles (Tu=40°C)	12 A

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# **Technical data**

Rated current, max. number of poles 9 A (Tu=40°C)	Rated voltage for surge voltage class / 320 V pollution degree II/2
Rated voltage for surge voltage class / 160 V pollution degree III/2	Rated voltage for surge voltage class / 160 V pollution degree III/3
Rated impulse voltage for surge voltage 2.5 kV class/ pollution degree II/2	Rated impulse voltage for surge voltage 2.5 kV class/ pollution degree III/2
Rated impulse voltage for surge voltage 2.5 kV class/ contamination degree III/3	Short-time withstand current resistance 3 x 1s with 80 A

#### Rated data acc. to CSA

Institute (CSA)	CSA	Certificate No. (CSA)	200039-1121690
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)	9.5 A
Rated current (Use group C / CSA)	9.5 A	Rated current (Use group D / CSA)	9.5 A
Wire cross-section, AWG, min.	AWG 30	Wire cross-section, AWG, max.	AWG 16
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

## Rated data acc. to UL 1059

Institute (cURus)	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 B / UL 1059)	9.5 A
Rated current (Use group C / UL 1059)	9.5 A	Rated current (Use group D / UL 1059)	9.5 A
Wire cross-section, AWG, min.	AWG 30	Wire cross-section, AWG, max.	AWG 16
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

# **Packing**

Packaging	Box	VPE length	351.00 mm
VPE width	136.00 mm	VPE height	38.00 mm

## Type tests

Test: Durability of markings	Standard	IEC 61984 section 6.2 and 7.3.2 / 10.11 taking pattern from IEC 60068-2-70 / 12.95
	Test	mark of origin, type identification, pitch, type of material, date clock, approval marking UL, approval marking cULus
	Evaluation	available
	Test	durability
	Evaluation	passed
Test: Misengagement (Non- interchangeability)	Standard	IEC 61984 section 6.3 and 6.9.1 / 10.11, IEC 60512-13-5 / 02.06
	Test	180° turned without coding elements
	Evaluation	passed
	Test	180° turned with coding elements
	Evaluation	passed
	Test	visual examination
	Evaluation	passed
Test: Clampable cross section	Standard	IEC 60999-1 section 7 and 9.1 / 11.99, IEC 60947-1 section 8.2.4.5.1 / 03.11
	Conductor type	Type of conductor solid 0.14 mm <sup>2</sup> and conductor cross-section

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# **Technical data**

		Type of conductor stranded 0.14 mr and conductor cross-section	m²
		Type of conductor solid 1.5 mm <sup>2</sup> and conductor cross-section	
		Type of conductor stranded 1.5 mm and conductor cross-section	2
		Type of conductor AWG 26/1 and conductor cross-section	
		Type of conductor AWG 26/19 and conductor cross-section	
		Type of conductor AWG 16/1 and conductor cross-section	
		Type of conductor AWG 16/19 and conductor cross-section	
	Evaluation	passed	
est for damage to and accidental	Standard	IEC 60999-1 section 9.4 / 11.99	
posening of conductors	Requirement	0.2 kg	
	Conductor type	Type of conductor AWG 26/1 and conductor cross-section	
		Type of conductor AWG 26/19 and conductor cross-section	
	Evaluation	passed	
	Requirement	0.3 kg	
	Conductor type	Type of conductor H05V-U0.75 and conductor cross- section	
		Type of conductor H05V-K0.75 and conductor cross-section	
	Evaluation	passed	
	Requirement	0.4 kg	
	Conductor type	Type of conductor H07V-U1.5 and conductor cross-section	
		Type of conductor H07V-K1.5 and conductor cross-section	
		Type of conductor AWG 16/1 and conductor cross-section	
		Type of conductor AWG 16/19 and conductor cross-section	
	Evaluation	passed	
Pull-out test	Standard	IEC 60999-1 section 9.5 / 11.99	
	Requirement	≥10 N	
	Conductor type	Type of conductor AWG 26/1 and conductor cross-section	
		Type of conductor AWG 26/19 and conductor cross-section	
	Evaluation	passed	





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# **Technical data**

Conductor type	Type of conductor H05V-U0.75 and conductor cross-section	
	Type of conductor H05V-K0.75 and conductor cross-section	
Evaluation	passed	
Requirement	≥40 N	
Conductor type	Type of conductor H07V-U1.5 and conductor cross-section	
	Type of conductor H07V-K1.5 and conductor cross-section	
	Type of conductor AWG 16/1 and conductor cross-section	
	Type of conductor AWG 16/19 and conductor cross-section	
Evaluation	passed	

#### 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.
- 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.
- 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.
- Max. outer diameter of the conductor 2.6 mm
- 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 6.0	EC002638	ETIM 7.0	EC002638
ETIM 8.0	EC002638	ETIM 9.0	EC002638
ETIM 10.0	EC002638	ECLASS 9.0	27-44-03-09
ECLASS 9.1	27-44-03-09	ECLASS 10.0	27-44-03-09
ECLASS 11.0	27-46-02-02	ECLASS 12.0	27-46-02-02
ECLASS 13.0	27-46-02-02	ECLASS 14.0	27-46-02-02
ECLASS 15.0	27-46-02-02		



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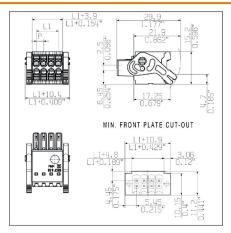
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# **Drawings**

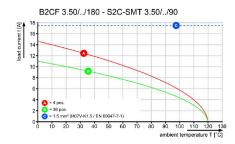
## **Product image**



## **Dimensional drawing**



## Graph



#### **Product benefits**



Solid PUSH IN contactSafe and durable



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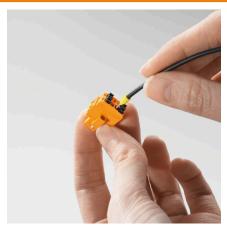
# **Drawings**

#### **Product benefits**



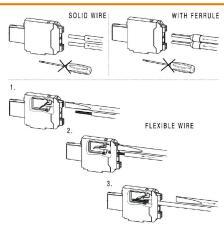
Large connection cross-sectionUp to 1.5 mm possible with ease

### **Product benefits**



Fast PUSH IN connectionTool-free and touch-safe

# Example of use





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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**

Туре	B2L/S2L 3.50 KO BK BX	Version
Order No.	<u>1849740000</u>	PCB plug-in connector, Accessories, Coding element, black, Number
GTIN (EAN)	4032248378203	of poles: 1
Qty.	100 ST	
T		
Туре	B2L/S2L 3.50 KO OR BX	Version
Order No.	1849730000	Version PCB plug-in connector, Accessories, Coding element, orange, Number
	'	



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# Counterpart

#### **S2C-SMT 3.50/180LF Box**



High-temperature-resistant pin header.

- touch-safe
- can be plugged into B2CF 3.50 PUSH IN female plug
- Plug-in direction is perpendicular or parallel to the circuit board (180° / 90°)
- Housing variants: closed (G) and with solder flange (LF)
- Box packaging (BX) or, anti-static, tape-on-reel (RL)
- Suitable for reflow and wave soldering applications
- Pin length of either 1.5 mm or 3.5 mm

#### General ordering data

 Type
 S2C-SMT 3.50/24/180LF 3...
 Version

 Order No.
 1290330000
 PCB plug-in connector, male header, Solder flange, THT/THR solder

 GTIN (EAN)
 4050118082821
 connection, 3.50 mm, Number of poles: 24, 180°, Solder pin length

 Qty.
 36 ST
 (I): 3.5 mm, tinned, black, Box

#### **S2C-SMT 3.50/90LF Box**



High-temperature-resistant male header

- Finger-safe
- Can be plugged into female plug B2CF 3.50 PUSH IN
- Plug-in direction is perpendicular or parallel to the circuit board (180° / 90°)
- Housing variants: closed (G) and with solder flange (LF)
- Packed either in a box (BX) or on anti-static tape-on-reel (RL)
- · Suitable for reflow and wave soldering
- applications
- Pin length of either 1.5 mm or 3.2 mm

#### General ordering data

Туре	S2C-SMT 3.50/24/90LF 1	Version
Order No.	<u>1289960000</u>	PCB plug-in connector, male header, Solder flange, THT/THR solder
GTIN (EAN)	4050118082753	connection, 3.50 mm, Number of poles: 24, 90°, Solder pin length (I):
Qty.	36 ST	1.5 mm, tinned, black, Box
Туре	S2C-SMT 3.50/24/90LF 3	Version
Order No.	<u>1289550000</u>	PCB plug-in connector, male header, Solder flange, THT/THR solder
GTIN (EAN)	4050118082272	connection, 3.50 mm, Number of poles: 24, 90°, Solder pin length (I):
Qty.	36 ST	3.2 mm, 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.



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# Counterpart

## **General ordering data**

Type	S2L 3.50/24/180F 3.5SN	Version
Order No.	<u>1729680000</u>	PCB plug-in connector, male header, Flange, THT solder connection,
GTIN (EAN)	4032248041084	3.50 mm, Number of poles: 24, 180°, Solder pin length (I): 3.5 mm,
Qty.	36 ST	tinned, black, Box
Туре	S2L 3.50/24/180F 3.5SN	Version
Type Order No.	S2L 3.50/24/180F 3.5SN 1729520000	Version PCB plug-in connector, male header, Flange, THT solder connection,
	, ,	

## 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**

Tumo	S2L 3.50/24/90F 3.5SN B	Version
Туре	52L 3.50/24/90F 3.55N B	version
Order No.	<u>1728720000</u>	PCB plug-in connector, male header, Flange, THT solder connection,
GTIN (EAN)	4032248040186	3.50 mm, Number of poles: 24, 90°, Solder pin length (I): 3.5 mm,
Qty.	36 ST	tinned, black, Box
Туре	S2L 3.50/24/90F 3.5SN O	Version
Type Order No.	S2L 3.50/24/90F 3.5SN O 1728560000	Version PCB plug-in connector, male header, Flange, THT solder connection,
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