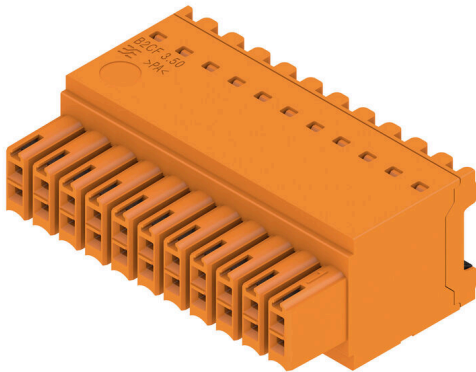


## B2CF 3.50/22/180 SN OR BX

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

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### Product image



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

Version	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 22, 180°, PUSH IN with push button, Clamping range, max. : 1.5 mm², Box
Order No.	<a href="#">1277370000</a>
Type	B2CF 3.50/22/180 SN OR BX
GTIN (EAN)	4050118067330
Qty.	48 items
Product data	IEC: 320 V / 13.4 A / 0.14 - 1.5 mm² 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	<a href="#">UL Website</a>
Certificate No. (cURus)	E60693

### Dimensions and weights

Depth	25.25 mm	Depth (inches)	0.9941 inch
Height	15.2 mm	Height (inches)	0.5984 inch
Width	38.5 mm	Width (inches)	1.5157 inch
Net weight	11.54 g		

### Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption		
REACH SVHC	No SVHC above 0.1 wt%		
Product Carbon Footprint	Cradle to gate	0.324 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 push button	Pitch in mm (P)	3.50 mm
Pitch in inches (P)	0.138 "	Conductor outlet direction	180°
Number of poles	22	L1 in mm	35.00 mm
L1 in inches	1.378 "	Number of rows	1
Pin series quantity	2	Rated cross-section	15 mm <sup>2</sup>
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	orange
Colour of operational elements	black	Colour chart (similar)	RAL 2000
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	2...5 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, min.	AWG 30

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## Technical data

Wire connection cross section AWG, max.	AWG 16
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, min.	0.14 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4, max.	1 mm <sup>2</sup>
w. wire end ferrule, DIN 46228 pt 1, min.	0.14 mm <sup>2</sup>
w. wire end ferrule, DIN 46228 pt 1, max.	1.5 mm <sup>2</sup>

Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.14 mm <sup>2</sup>
wire end ferrule	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0,14/12 GR SV</a>
Cross-section for conductor connection	Cross-section for conductor connection	Type	fine-wired
		nominal	0.25 mm <sup>2</sup>
wire end ferrule	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0,25/12 HBL SV</a>
Cross-section for conductor connection	Cross-section for conductor connection	Type	fine-wired
		nominal	0.34 mm <sup>2</sup>
wire end ferrule	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0,34/12 TK SV</a>
Cross-section for conductor connection	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm <sup>2</sup>
wire end ferrule	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-end ferrule	<a href="#">H0,5/16 OR SV</a>
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0,5/10</a>
Cross-section for conductor connection	Cross-section for conductor connection	nominal	0.75 mm <sup>2</sup>
		wire end ferrule	Stripping length nominal 12 mm
wire end ferrule	wire end ferrule	Recommended wire-end ferrule	<a href="#">H0,75/16 W SV</a>
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0,75/10</a>
Cross-section for conductor connection	Cross-section for conductor connection	nominal	1
		wire end ferrule	Stripping length nominal 12 mm
wire end ferrule	wire end ferrule	Recommended wire-end ferrule	<a href="#">H1,0/16 GE SV</a>
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H1,0/10</a>
Cross-section for conductor connection	Cross-section for conductor connection	nominal	1.5 mm <sup>2</sup>
		wire end ferrule	Stripping length nominal 10 mm
wire end ferrule	wire end ferrule	Recommended wire-end ferrule	<a href="#">H1,5/10</a>
		Stripping length	nominal 10 mm

**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.

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## Technical data

## 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
Rated current, max. number of poles (Tu=40°C)	9 A	Rated voltage for surge voltage class / pollution degree II/2	320 V
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated voltage for surge voltage class / pollution degree III/3	160 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 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	350.00 mm
VPE width	141.00 mm	VPE height	32.00 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

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**Technical data**

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

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## Technical data

	Type of conductor and conductor cross-section	AWG 26/19
Evaluation	passed	
Requirement	≥20 N	
Conductor type	Type of conductor and conductor cross-section	H05V-U0.75
	Type of conductor and conductor cross-section	H05V-K0.75
Evaluation	passed	
Requirement	≥40 N	
Conductor type	Type of conductor and conductor cross-section	H07V-U1.5
	Type of conductor and conductor cross-section	H07V-K1.5
	Type of conductor and conductor cross-section	AWG 16/1
	Type of conductor and conductor cross-section	AWG 16/19
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 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		

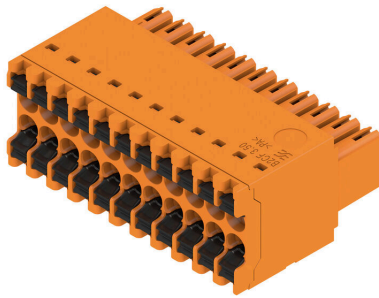
## B2CF 3.50/22/180 SN OR BX

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# Drawings

[www.weidmueller.com](http://www.weidmueller.com)

## Product image



## Graph



## Product benefits



Solid PUSH IN contact Safe and durable

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**Drawings**

**Product benefits**



Large connection cross-section Up to 1.5 mm possible with ease

**Product benefits**



Fast PUSH IN connection Tool-free and touch-safe

**Example of use**



## B2CF 3.50/22/180 SN OR BX

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# Accessories

## Coding elements



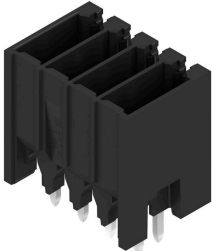
Only connects what is supposed to be connected: the right connection at the right place.  
 Coding elements and locking devices clearly assign connecting elements during the manufacturing process and operation  
 The coding elements and locking devices are inserted prior to assembly or during the cable 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.	<a href="#">1849740000</a>	PCB plug-in connector, Accessories, Coding element, black, Number
GTIN (EAN)	4032248378203	of poles: 1
Qty.	100 ST	
Type	B2L/S2L 3.50 KO OR BX	Version
Order No.	<a href="#">1849730000</a>	PCB plug-in connector, Accessories, Coding element, orange, Number
GTIN (EAN)	4032248378197	of poles: 1
Qty.	100 ST	

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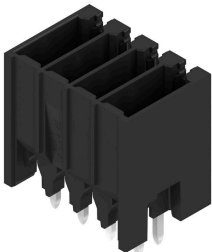
**Counterpart****S2C-SMT 3.50/180G Box**

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 3.50/22/180G 3...	Version
Order No.	<a href="#">1290130000</a>	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 22, 180°, Solder pin length
GTIN (EAN)	4050118082692	
Qty.	42 ST	(l): 3.5 mm, tinned, black, Box
Type	S2C-SMT 3.50/22/180G 1...	Version
Order No.	<a href="#">1290510000</a>	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 22, 180°, Solder pin length
GTIN (EAN)	4050118083279	
Qty.	42 ST	(l): 1.5 mm, tinned, black, Box

**S2C-SMT 3.50/180G Tape**

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 3.50/22/180G 1...	Version
Order No.	<a href="#">1359040000</a>	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 22, 180°, Solder pin length
GTIN (EAN)	4050118162202	
Qty.	175 ST	(l): 1.5 mm, tinned, black, Tape
Type	S2C-SMT 3.50/22/180G 3...	Version
Order No.	<a href="#">1358840000</a>	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 22, 180°, Solder pin length
GTIN (EAN)	4050118162103	
Qty.	175 ST	(l): 3.5 mm, tinned, black, Tape

**B2CF 3.50/22/180 SN OR BX**

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**Counterpart****S2C-SMT 3.50/90G 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**

Type	S2C-SMT 3.50/22/90G 1.5...	Version
Order No.	<a href="#">1289740000</a>	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 22, 90°, Solder pin length (l):
GTIN (EAN)	4050118082432	1.5 mm, tinned, black, Box
Qty.	42 ST	
Type	S2C-SMT 3.50/22/90G 3.2...	Version
Order No.	<a href="#">1289350000</a>	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 22, 90°, Solder pin length (l):
GTIN (EAN)	4050118081862	3.2 mm, tinned, black, Box
Qty.	42 ST	

**S2C-SMT 3.50/90G Tape**

- 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**

Type	S2C-SMT 3.50/22/90G 1.5...	Version
Order No.	<a href="#">1359680000</a>	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 22, 90°, Solder pin length (l):
GTIN (EAN)	4050118163025	1.5 mm, tinned, black, Tape
Qty.	235 ST	
Type	S2C-SMT 3.50/22/90G 3.2...	Version
Order No.	<a href="#">1359560000</a>	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, Number of poles: 22, 90°, Solder pin length (l):
GTIN (EAN)	4050118162813	3.2 mm, tinned, black, Tape
Qty.	235 ST	