

B2CF 3.50/10/180FZE SN BK BX SO

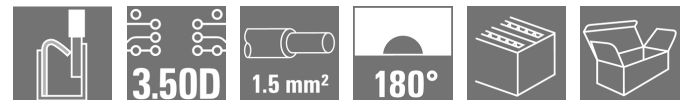
Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



The new generation of compact installations: The established standard for connecting signals is leading the pack.

Maximum connection density in the smallest of spaces – the 2-row B2CF is the trend setter when connecting typical sensor cables of up to 1.5 mm² in the field. It bridges the gap between insufficient space and increased functionality.

The result is a connectivity solution for standard industrial cables in 1.75 pitch that is 30% smaller than a similar solution in 2.5 pitch – and which features 100% of the ruggedness found in the 3.5 mm pitch.

Compact and safe:

A reliable wire connection method: **No servicing required with PUSH IN**

Safe male header: **Finger-touch safe**

A reliable connection for use under extreme conditions:

Release latch

Future-proof: **Halogen-free insulation materials**

Reliable labelling: **Large pin marker**

Safe installation: **Convenient coding**

The main advantages for your application:

Efficiency – the highest density of components on the circuit board.

Suitable for industrial use – minimum size with maximum strength.

Process-optimised – automatic assembly and reflow soldering; rapid connections.

Easy to use – secure attachment and wire connect with no tools required.

Application-oriented: easy labelling and reliable coding despite compact dimensions.

Miniaturisation is more than just greater functional density in a smaller space:

every millimetre of reduced size means less space requirements and also less installation costs for the customer.

General ordering data

Version	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 10, 180°, PUSH IN, Spring connection, Clamping range, max.: 1.5 mm ² , Box
Order No.	2509160000
Type	B2CF 3.50/10/180FZE SN BK BX SO
GTIN (EAN)	4050118526110
Qty.	72 pc(s).
Product data	IEC: 320 V / 13.4 A / 0.14 - 1.5 mm ² UL: 300 V / 9.5 A / AWG 26 - AWG 16
Packaging	Box

Creation date April 15, 2021 11:10:50 PM CEST

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Technical data**Dimensions and weights**

Depth	26.25 mm	Depth (inches)	1.033 inch
Height	16.55 mm	Height (inches)	0.652 inch
Net weight	8.515 g	Width	24.5 mm
Width (inches)	0.965 inch		

System Parameters

Product family	OMNIMATE Signal - series B2C/S2C 3.50 - 2-row		
Type of connection	Field connection		
Wire connection method	PUSH IN, Spring connection		
Pitch in mm (P)	3.5 mm		
Pitch in inches (P)	0.138 inch		
Conductor outlet direction	180°		
Number of poles	10		
L1 in mm	14 mm		
L1 in inches	0.551 inch		
Number of rows	1		
Pin series quantity	2		
Rated cross-section	1.5 mm ²		
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	10 mm		
Screwdriver blade	0.4 x 2.5		
Screwdriver blade standard	DIN 5264		
Plugging force/pole, max.	5 N		
Pulling force/pole, max.	5 N		
Tightening torque	Torque type	Screw flange	
	Usage information	Tightening torque	min. 0.15 Nm max. 0.2 Nm

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 strength	≥ 10 ⁸ Ω
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 ²
Clamping range, max.	1.5 mm ²
Solid, min. H05(07) V-U	0.14 mm ²
Solid, max. H05(07) V-U	1.5 mm ²
Flexible, min. H05(07) V-K	0.14 mm ²
Flexible, max. H05(07) V-K	1.5 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, 0.14 mm ² min.	

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Technical dataw. plastic collar ferrule, DIN 46228 pt 4, 1 mm²
max.w. wire end ferrule, DIN 46228 pt 1,
min. 0.14 mm²w. wire end ferrule, DIN 46228 pt 1,
max. 1.5 mm²

Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.5 mm ²	
	wire end ferrule	Stripping length	nominal	12 mm
		Recommended wire-end ferrule	H0.5/16 OR	
		Stripping length	nominal	10 mm
		Recommended wire-end ferrule	H0.5/10	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.75 mm ²	
	wire end ferrule	Stripping length	nominal	14 mm
		Recommended wire-end ferrule	H0.75/18 W	
		Stripping length	nominal	10 mm
		Recommended wire-end ferrule	H0.75/10	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	1 mm ²	
	wire end ferrule	Stripping length	nominal	15 mm
		Recommended wire-end ferrule	H1.0/18D R	
		Stripping length	nominal	10 mm
		Recommended wire-end ferrule	H1.0/10	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	1.5 mm ²	
	wire end ferrule	Stripping length	nominal	10 mm
		Recommended wire-end ferrule	H1.5/10	

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

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

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 26	Wire cross-section, AWG, max.	AWG 16

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Technical data**Rated data acc. to UL 1059**

Institute (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 26

Wire cross-section, AWG, max. AWG 16

Reference to approval values

Specifications are maximum values, details - see approval certificate.

Packing

Packaging	Box	VPE length	338 mm
VPE width	130 mm	VPE height	54 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 ²
		Type of conductor and conductor cross-section	stranded 0.14 mm ²
		Type of conductor and conductor cross-section	solid 1.5 mm ²
		Type of conductor and conductor cross-section	stranded 1.5 mm ²
		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	

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Technical data

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	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	

Classifications

ETIM 6.0	EC002638	ETIM 7.0	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

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	Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

Approvals

Approvals



UL File Number Search	E60693
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Downloads

Brochure/Catalogue	Catalogues in PDF-format
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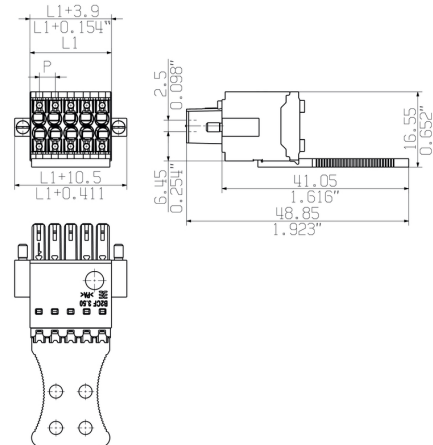
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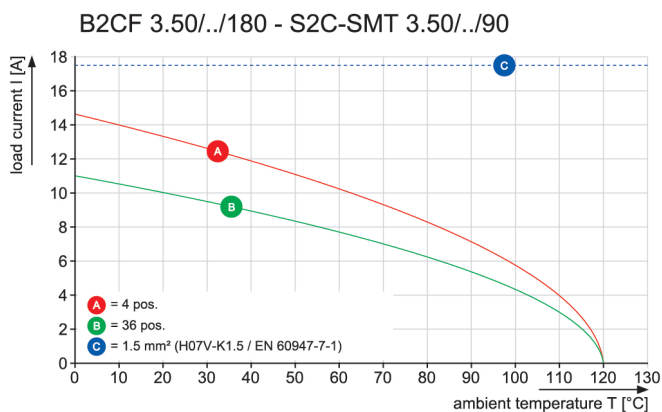
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Drawings

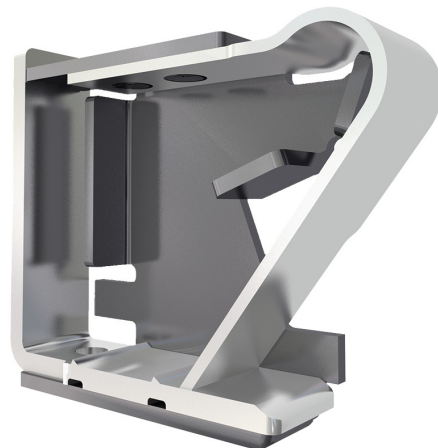
Dimensional drawing



Graph

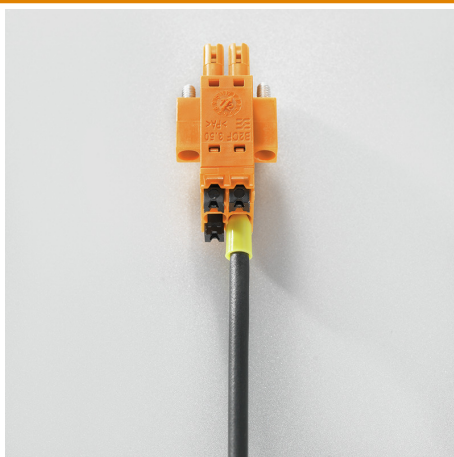


Product benefits



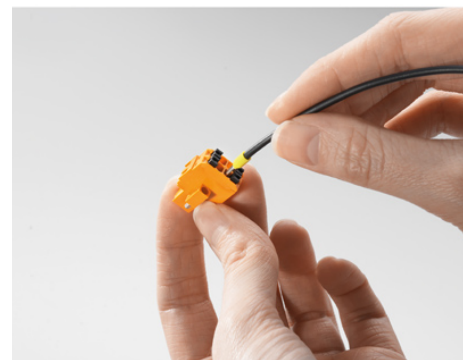
Solid PUSH IN contact
Safe and durable

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

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Drawings

Product benefits



Clear marking
Unique designation

Example of use

