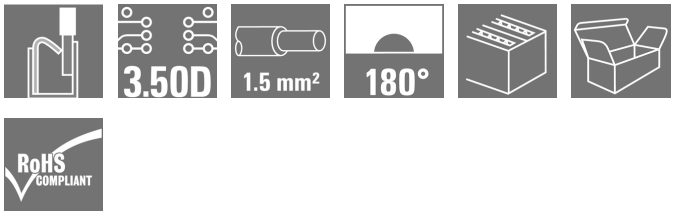
B2CF 3.50/32/180LRZE SN OR BX

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 – minumum 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: 32, 180°, PUSH IN, Spring connection, Clamping range, max. : 1.5 mm², Box
Order No.	2054700000
Type	B2CF 3.50/32/180LRZE SN OR BX
GTIN (EAN)	4050118412383
Qty.	30 pc(s).
Product data	IEC: 320 V / 13.4 A / 0.14 - 1.5 mm² UL: 300 V / 9.5 A / AWG 26 - AWG 16
Packaging	Box

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Technical data

Dimensions and weights

Depth	29.9 mm	Depth (inches)	1.177 inch
Net weight	21.896 g		

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	32	Number of rows	1
Pin series quantity	2	Rated cross-section	1.5 mm²
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
Plugging force/pole, max.	5 N	Pulling force/pole, max.	5 N

Material data

Insulating material	PA 66 GF 30	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	II
Comparative Tracking Index (CTI)	≥ 600	Insulation strength	≥ 10^8 Ω
UL 94 flammability rating	V-0	Contact material	Copper alloy
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 mm²
Clamping range, max.	1.5 mm²
Solid, min. H05(07) V-U	0.14 mm²
Solid, max. H05(07) V-U	1.5 mm²
Flexible, min. H05(07) V-K	0.14 mm²
Flexible, max. H05(07) V-K	1.5 mm²
w. plastic collar ferrule, DIN 46228 pt 4, min.	0.14 mm²
w. plastic collar ferrule, DIN 46228 pt 4, max.	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 mm²

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Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.5 mm²	
	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 mm²	
	wire end ferrule	Stripping length	nominal	12 mm
		Recommended wire-end ferrule	H0,75/16 W	
		Stripping length	nominal	10 mm
		Recommended wire-end ferrule	H0,75/10	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	1 mm²	
	wire end ferrule	Stripping length	nominal	12 mm
		Recommended wire-end ferrule	H1,0/16D R	
		Stripping length	nominal	10 mm
		Recommended wire-end ferrule	H1,0/10	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	1.5 mm²	
	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	0
VPE width	0	VPE height	0

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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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 mm²
		Type of conductor and conductor cross-section	stranded 0.14 mm²
		Type of conductor and conductor cross-section	solid 1.5 mm²
		Type of conductor and conductor cross-section	stranded 1.5 mm²
		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	c UL us
ROHS	Conform
UL File Number Search	E60693

Downloads

Engineering Data	STEP
Product Change Notification	Change of Material LR 3.50 - DE Change of Material LR 3.50 - EN

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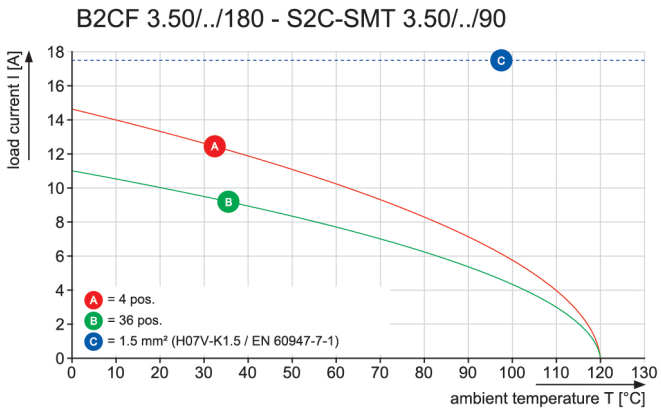
Drawings

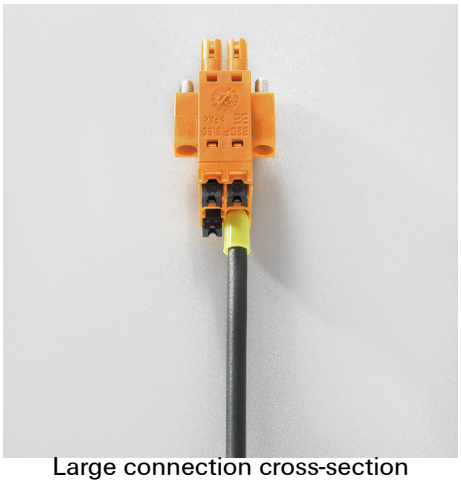
Graph



Product benefits

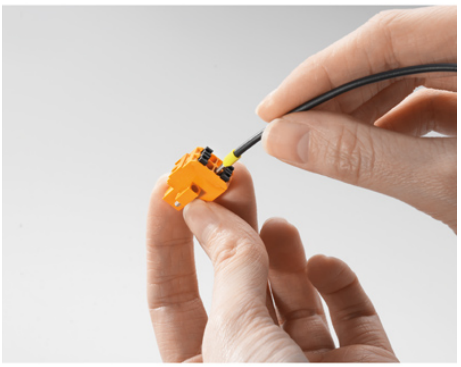
Solid PUSH IN contact
Safe and durable

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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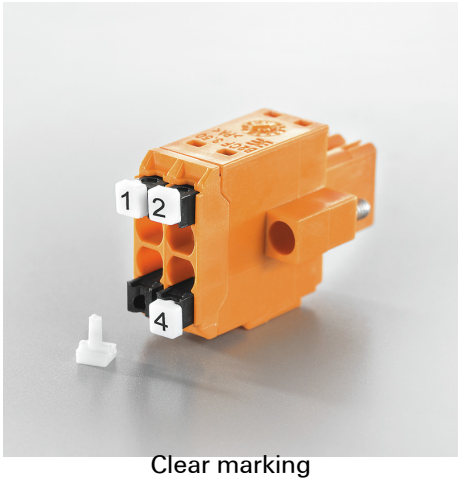

Clear marking
Unique designation

Example of use