

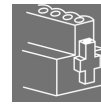
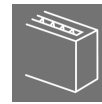
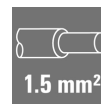
**BL-I/O 3.50/10F CJC AU BK BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

Connect efficiently - in a small space: female header with spring connection (PUSH IN) as a plug-in connection level; used together with male headers in 3.50 mm pitch.

**General ordering data**

Version	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 10, 180°, PUSH IN with actuator, Clamping range, max. : 1.5 mm², Box
Order No.	<a href="#">2471390000</a>
Type	BL-I/O 3.50/10F CJC AU BK BX
GTIN (EAN)	4050118585599
Qty.	20 pc(s).
Product data	IEC: 200 V / 2.2 A / 0.2 - 1.5 mm² UL: 50 V / 5 A / AWG 24 - AWG 16
Packaging	Box

Creation date July 3, 2024 4:20:13 PM CEST

Catalogue status 29.06.2024 / We reserve the right to make technical changes.

## BL-I/O 3.50/10F CJC AU BK BX

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## Technical data

## Dimensions and weights

Height	10.3 mm	Height (inches)	0.406 inch
Width	42 mm	Width (inches)	1.654 inch
Net weight	11.548 g		

## System Parameters

Product family	OMNIMATE Signal - series BL/SL 3.50		
Type of connection	Field connection		
Wire connection method	PUSH IN with actuator		
Pitch in mm (P)	3.5 mm		
Pitch in inches (P)	0.138 "		
Conductor outlet direction	180°		
Number of poles	10		
L1 in mm	31.5 mm		
L1 in inches	1.24 "		
Pin series quantity	2		
Rated cross-section	1 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/ IP10 unplugged		
Volume resistance	≤5 mΩ		
Can be coded	Yes		
Stripping length	8 mm		
Screwdriver blade	0.4 x 2.5		
Screwdriver blade standard	DIN 5264		
Plugging cycles	25		
Plugging force/pole, max.	6 N		
Pulling force/pole, max.	6 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	UL 94 flammability rating	V-0
Contact base material	Cu-alloy	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.	75 °C		

## Conductors suitable for connection

Clamping range, min.	0.2 mm <sup>2</sup>
Clamping range, max.	1.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 24
Wire connection cross section AWG, max.	AWG 16
Solid, min. H05(07) V-U	0.2 mm <sup>2</sup>
Solid, max. H05(07) V-U	1.5 mm <sup>2</sup>
Flexible, min. H05(07) V-K	0.2 mm <sup>2</sup>
Flexible, max. H05(07) V-K	1.5 mm <sup>2</sup>

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## Technical data

w. plastic collar ferrule, DIN 46228 pt 4, 0.2 mm<sup>2</sup> min.w. plastic collar ferrule, DIN 46228 pt 4, 0.75 mm<sup>2</sup> max.w. wire end ferrule, DIN 46228 pt 1, 0.2 mm<sup>2</sup> min.w. wire end ferrule, DIN 46228 pt 1, 1 mm<sup>2</sup> max.

Plug gauge in accordance with EN 60999 a x b; ø 2.4 mm x 1.5 mm; 1.9mm


Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.25 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0.25/12 HBL</a>
	Cross-section for conductor connection	Type	fine-wired
		nominal	0.34 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0.34/12 TK</a>
	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0.5/14 OR</a>
	Cross-section for conductor connection	Type	fine-wired
		nominal	0.75 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0.75/14T HBL</a>

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)	2.2 A
Rated current, max. number of poles (Tu=20°C)	2 A	Rated current, min. number of poles (Tu=40°C)	2.2 A
Rated current, max. number of poles (Tu=40°C)	2 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	50 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	2,500 V	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	0.8 kV	Short-time withstand current resistance	3 x 1s with 120 A

## Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	200039-1202189
Rated voltage (Use group B / CSA)	50 V	Rated voltage (Use group D / CSA)	50 V
Rated current (Use group B / CSA)	5 A	Rated current (Use group D / CSA)	5 A
Wire cross-section, AWG, min.	AWG 22	Wire cross-section, AWG, max.	AWG 16
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

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

Institute (UR)



Certificate No. (UR)

E60693

Rated voltage (Use group B / UL 1059) 50 V

Rated voltage (Use group D / UL 1059) 50 V

Rated current (Use group B / UL 1059) 5 A

Rated current (Use group D / UL 1059) 5 A

Wire cross-section, AWG, min. AWG 24

Wire cross-section, AWG, max. AWG 16

Reference to approval values  
Specifications are maximum values, details - see approval certificate.**Packing**

Packaging Box

VPE length 168 mm

VPE width 96 mm

VPE height 43 mm

**Resistance parameters**R<sub>25</sub> 10 kΩ

Temperature coefficient (+25 °C) -4.4 %/°C

Thermistor beta, β (0 to +50 °C) 3,892 K

Power loss 2 mW / °C

**Type tests**

Test: Durability of markings

Standard

draft DIN VDE 0627 section 6.2.2 / 09.91

Test

mark of origin, type identification, pitch, type of material

Evaluation

available

Test

durability

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 / 12.99

Conductor type

Type of conductor and solid 0.2 mm<sup>2</sup> conductor cross-sectionType of conductor and stranded 0.2 mm<sup>2</sup> conductor cross-sectionType of conductor and solid 1.5 mm<sup>2</sup> conductor cross-sectionType of conductor and stranded 1.5 mm<sup>2</sup> conductor cross-section

Type of conductor and AWG 24/1 conductor cross-section

Type of conductor and AWG 24/19 conductor cross-section

Type of conductor and AWG 16/1 conductor cross-section

Type of conductor and AWG 16/19 conductor cross-section

Evaluation

passed

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**Technical data**

Test for damage to and accidental loosening of conductors	Standard	DIN EN 60999 section 8.4 / 04.94
	Requirement	0.2 kg
	Conductor type	Type of conductor and stranded 0.05 mm <sup>2</sup> conductor cross-section
	Evaluation	passed
	Requirement	0.3 kg
	Conductor type	Type of conductor and solid 0.5 mm <sup>2</sup> conductor cross-section
		Type of conductor and AWG 24/1 conductor cross-section
		Type of conductor and AWG 24/19 conductor cross-section
	Evaluation	passed
	Requirement	0.4 kg
	Conductor type	Type of conductor and solid 1.5 mm <sup>2</sup> conductor cross-section
		Type of conductor and stranded 1.5 mm <sup>2</sup> conductor cross-section
		Type of conductor and AWG 16/1 conductor cross-section
Pull-out test		Type of conductor and AWG 16/19 conductor cross-section
	Evaluation	passed
	Standard	DIN EN 60999 section 8.5 / 04.94
	Requirement	≥10 N
	Conductor type	Type of conductor and AWG 24/1 conductor cross-section
		Type of conductor and AWG 24/19 conductor cross-section
	Evaluation	passed
	Requirement	≥30 N
	Conductor type	Type of conductor and H05V-U0.5 conductor cross-section
		Type of conductor and H05V-K0.5 conductor cross-section
	Evaluation	passed
	Requirement	≥40 N
	Conductor type	Type of conductor and H05V-U1.5 conductor cross-section
		Type of conductor and H05V-K1.5 conductor cross-section
	Evaluation	passed

## BL-I/O 3.50/10F CJC AU BK BX

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## Technical data

## Classifications

ETIM 6.0	EC002638	ETIM 7.0	EC002638
ETIM 8.0	EC002638	ETIM 9.0	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

## Environmental Product Compliance

REACH SVHC

/

## 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

- 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.
- P on drawing = pitch
- Crimp form A for wire end ferrules with PZ 6/5 crimping tool are recommended for the largest cable sizes.
- Total load-carrying capacity of the potential bridges when feeding with 1.5 mm<sup>2</sup> is max. 17.5 A (so the capacity is 2.18 A for poles 2 through 9)
- Wire end ferrule without plastic collar to DIN 46228/1
- Wire end ferrule with plastic collar to DIN 46228/4
- Conductor < 0.2 mm<sup>2</sup> tinned
- Max. outer diameter of the conductor: 2.9 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

## Approvals

Approvals



ROHS

Conform

UL File Number Search

UL Website

Certificate No. (UR)

E60693

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## Technical data

### Downloads

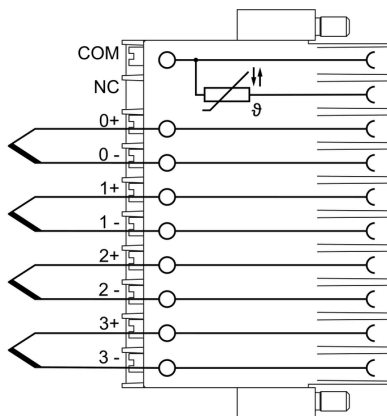
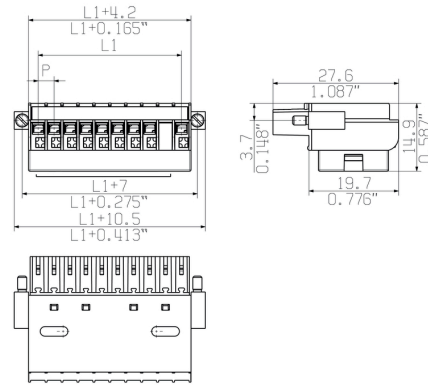
Approval/Certificate/Document of Conformity	<a href="#">Konformitätserklärung BL I/O</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>

## BL-I/O 3.50/10F CJC AU BK BX

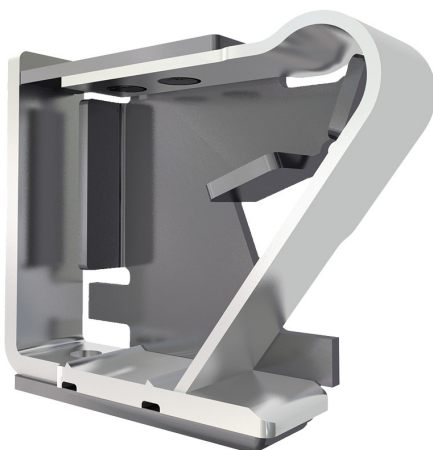
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## Drawings

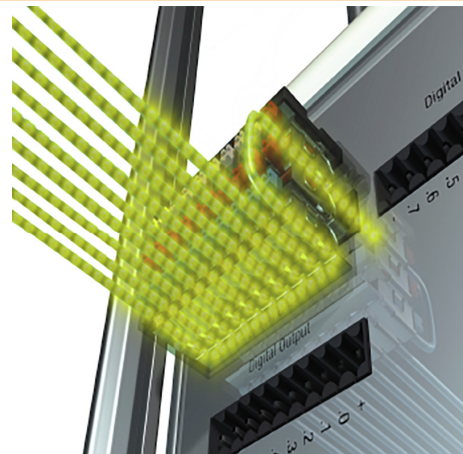


## Product benefits



Solid PUSH IN contact  
Safe and durable

## Product benefits



Multiplies the potential  
Low wiring costs



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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Slotted screwdriver**

VDE insulated slot-head screwdriver, SDI DIN 7437, ISO 2380/2, drive output acc. to DIN 5264, ISO 2380/1. SoftFinish grip

**General ordering data**

Type	SDIS 0.4X2.5X75	Version
Order No.	<a href="#">2749790000</a>	Screwdriver, Blade width (B): 2.5 mm, Blade length: 75 mm, Blade
GTIN (EAN)	4050118896534	thickness (A): 0.4 mm
Qty.	1 pc(s).	

**Crimping tools****Crimping tools for wire end ferrules, with and without plastic collars**

- Ratchet guarantees precise crimping
- Release option in the event of incorrect operation

**General ordering data**

Type	PZ 6/5	Version
Order No.	<a href="#">9011460000</a>	Pressing tool, Crimping tool for wire-end ferrules, 0.25mm <sup>2</sup> , 6mm <sup>2</sup> ,
GTIN (EAN)	4008190165352	Trapezoidal indentation crimp
Qty.	1 pc(s).	
Type	PZ 1.5	Version
Order No.	<a href="#">9005990000</a>	Pressing tool, Crimping tool for wire-end ferrules, 0.14mm <sup>2</sup> , 1.5mm <sup>2</sup> ,
GTIN (EAN)	4008190085964	Trapezoidal crimp
Qty.	1 pc(s).	

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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	BL SL 3.5 KO OR	Version	Product data	Packaging
Order No.	<a href="#">1693430000</a>	PCB plug-in connector, Accessories, Coding element, orange, Number		Box
GTIN (EAN)	4008190867447	of poles: 1		
Qty.	100 pc(s).			
Type	BL SL 3.5 KO SW	Version	Product data	Packaging
Order No.	<a href="#">1610100000</a>	PCB plug-in connector, Accessories, Coding element, black, Number		Box
GTIN (EAN)	4008190187637	of poles: 1		
Qty.	100 pc(s).			

## Slotted screwdriver



Slotted screwdriver with rounded blade SD DIN 5265, ISO 2380/2, output to DIN 5264, ISO 2380/1. ChromTop tip, SoftFinish grip

## General ordering data

Type	SDS 0.4X2.5X75	Version
Order No.	<a href="#">2749320000</a>	Screwdriver, Blade width (B): 2.5 mm, Blade length: 75 mm, Blade
GTIN (EAN)	4050118895544	thickness (A): 0.4 mm
Qty.	1 pc(s).	

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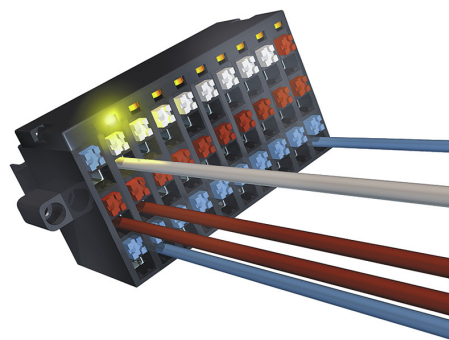
## Drawings

### Product benefits



PUSH IN - fast and secure  
Invented by Weidmüller

### Product benefits



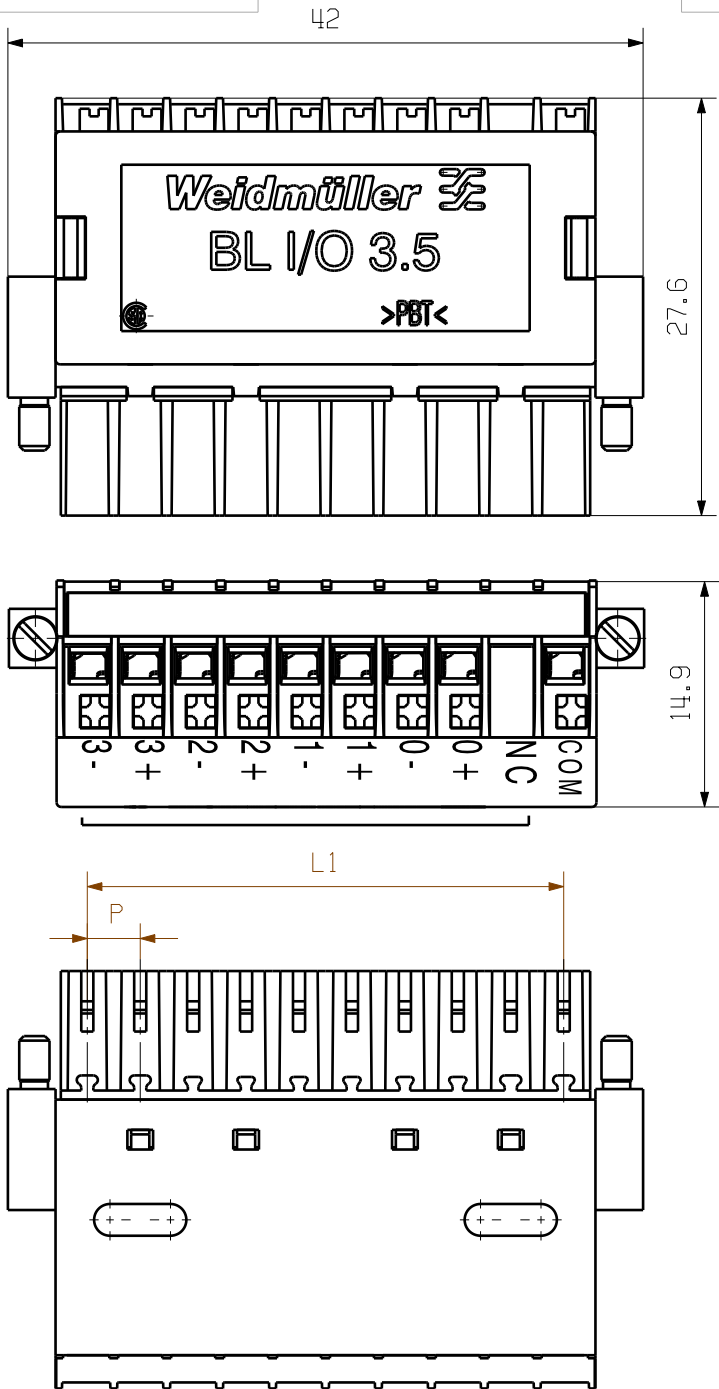
Integrated electronics  
For more space on the circuit board

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Dimensions without tolerances are no check dimensions

The English version is binding



For the mounting of PCBs, it should be noted that the rated data given in the catalogue relates only to the connection elements. The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to VDE 0110. The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmueller connectors are tested to the DIN VDE 0627 standard, and are valid for its field of application. Provided that the connectors are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

P = 3.50 Raster Pitch  
L1 = 31.5

General tolerance: DIN ISO 2768-mK		Cat.no.: 2471390000	
	92897/5 22.03.17 HELIS_MA 00		
	Modification		
	Date	Name	BL I/O 3.50/10F CJC BUCHSENSTECKER FEMALE PLUG
	Drawn	15.08.2016 AMANN_A	
	Responsible	AMANN_A	
	Checked	29.03.2017 HELIS_MA	
Supersedes: .	Approved	LANG_T	Product file: BL-I/O 3.50 7366
		Sheet 01 of 01 sheets	
		4 63899 01	
		Drawing no. Issue no.	