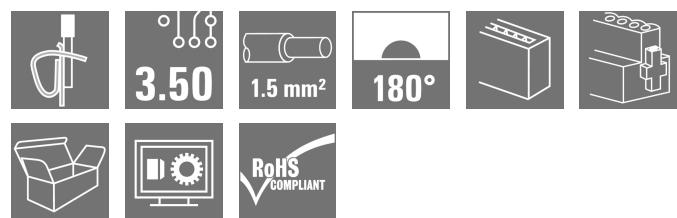
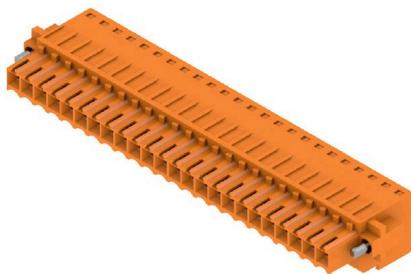


**BLZF 3.50/24/180F SN OR BX**

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

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

**Do not use product for  
new developments**

**Product image**

Female connectors with tension clamp system for connecting cables in 3.50 pitch. They provide space for labelling and can be coded.

**General ordering data**

Version	PCB plug-in connector, female plug, 3.50 mm, Number of poles: 24, 180°, Tension-clamp connection, Clamping range, max. : 1.5 mm <sup>2</sup> , Box
Order No.	<a href="#">1691100000</a>
Type	BLZF 3.50/24/180F SN OR BX
GTIN (EAN)	4008190329617
Qty.	20 items
Product data	IEC: 320 V / 14.5 A / 0.2 - 1.5 mm <sup>2</sup> UL: 300 V / 10 A / AWG 26 - AWG 14
Packaging	Box
Delivery status	This article will no longer be available in the future.
Available until	2025-09-30T00:00:00+02:00
Alternative product	<a href="#">BLF 3.50/24/180F SN OR BX</a>

Creation date 03.10.2025 01:23:27 MEZ

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## Technical data

## Approvals

Approvals



ROHS	Conform
UL File Number Search	<a href="#">UL Website</a>
Certificate No. (UR)	E60693

## Dimensions and weights

Depth	21.9 mm	Depth (inches)	0.8622 inch
Height	13 mm	Height (inches)	0.5118 inch
Width	91 mm	Width (inches)	3.5827 inch
Net weight	23.19 g		

## Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption
REACH SVHC	No SVHC above 0.1 wt%

## System Parameters

Product family	OMNIMATE Signal - series BL/SL 3.50		
Type of connection	Field connection		
Wire connection method	Tension-clamp connection		
Pitch in mm (P)	3.50 mm		
Pitch in inches (P)	0.138 "		
Conductor outlet direction	180°		
Number of poles	24		
L1 in mm	80.50 mm		
L1 in inches	3.169 "		
Number of rows	1		
Pin series quantity	1		
Rated cross-section	1.5 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		
Protection degree	IP20, when fully mounted		
Volume resistance	≤5 mΩ		
Can be coded	Yes		
Stripping length	10 mm		
Tightening torque for screw flange, min.	0.15 Nm		
Tightening torque for screw flange, max.	0.2 Nm		
Screwdriver blade	0.4 x 2.5		
Screwdriver blade standard	DIN 5264-A		
Plugging cycles	25		
Plugging force/pole, max.	7 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

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## Technical data

## Material data

Insulating material	PBT	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	Moisture Level (MSL)	
UL 94 flammability rating	V-0	Contact material	Cu-alloy
Contact surface	tinned	Layer structure of plug contact	4...8 µm Sn hot-dip tinned
Storage temperature, min.	-40 °C	Storage temperature, max.	70 °C
Operating temperature, min.	-50 °C	Operating temperature, max.	100 °C
Temperature range, installation, min.	-30 °C	Temperature range, installation, max.	100 °C

## Conductors suitable for connection

Clamping range, min.	0.13 mm <sup>2</sup>
Clamping range, max.	1.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 28
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>
w. plastic collar ferrule, DIN 46228 pt 4, 0.2 mm <sup>2</sup> min.	
w. plastic collar ferrule, DIN 46228 pt 4, 1 mm <sup>2</sup> max.	
w. wire end ferrule, DIN 46228 pt 1, min.	0.2 mm <sup>2</sup>
w. wire end ferrule, DIN 46228 pt 1, max.	1.5 mm <sup>2</sup>
Outer diameter of insulation, max.	2.90 mm
Plug gauge in accordance with EN 60999 a x b; ø	2.4 mm x 1.5 mm

Clampable conductor	Cross-section for conductor connection	Type	fine-wired
	nominal	0.5 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-end ferrule	<a href="#">H0.5/16 OR</a>
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0.5/10</a>
	Cross-section for conductor connection	Type	fine-wired
	nominal	0.75 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal 12 mm

Clampable conductor		Recommended wire-end ferrule	<a href="#">H0.75/16 W</a>
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H0.75/10</a>
	Cross-section for conductor connection	Type	fine-wired
	nominal	1 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal 12 mm
		Recommended wire-end ferrule	<a href="#">H1.0/16D R</a>
		Stripping length	nominal 10 mm
		Recommended wire-end ferrule	<a href="#">H1.0/10</a>

Clampable conductor	Cross-section for conductor connection	Type	fine-wired
	nominal	1.5 mm <sup>2</sup>	

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## Technical data

wire end ferrule	Stripping length Recommended wire-end ferrule	nominal <a href="#">H1.5/10</a>	10 mm
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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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## Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	14.5 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)	8 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 100 A

## Rated data acc. to CSA

Institute (CSA)	CSA	Certificate No. (CSA)	200039-1461395
Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group D / CSA)	300 V
Rated current (Use group B / CSA)	10 A	Rated current (Use group D / CSA)	10 A
Wire cross-section, AWG, min.	AWG 26	Wire cross-section, AWG, max.	AWG 14
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

## Rated data acc. to UL 1059

Institute (UR)	UR	Certificate No. (UR)	E60693
Rated voltage (Use group B / UL 1059)	300 V	Rated voltage (Use group D / UL 1059)	300 V
Rated current (Use group B / UL 1059)	10 A	Rated current (Use group D / UL 1059)	10 A
Wire cross-section, AWG, min.	AWG 26	Wire cross-section, AWG, max.	AWG 14
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

## Packing

Packaging	Box	VPE length	130.00 mm
VPE width	105.00 mm	VPE height	67.00 mm

## Type tests

Test: Durability of markings	Standard	DIN EN 61984 section 7.3.2 / 09.02 taking pattern from DIN EN 60068-2-70 / 07.96
	Test	mark of origin, type identification, rated voltage, rated cross-section, pitch, type of material, approval marking SEV, approval marking CSA
	Evaluation	available
	Test	approval marking UL
	Evaluation	on packaging label
	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

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## Technical data

Test for damage to and accidental loosening of conductors	Conductor type	Type of conductor and conductor cross-section	solid 0.2 mm <sup>2</sup>
	Conductor type	Type of conductor and conductor cross-section	stranded 0.5 mm <sup>2</sup>
	Conductor type	Type of conductor and conductor cross-section	solid 1.5 mm <sup>2</sup>
	Conductor type	Type of conductor and conductor cross-section	stranded 1.5 mm <sup>2</sup>
	Conductor type	Type of conductor and conductor cross-section	AWG 28/1
	Conductor type	Type of conductor and conductor cross-section	AWG 28/19
	Conductor type	Type of conductor and conductor cross-section	AWG 16/1
	Conductor type	Type of conductor and conductor cross-section	AWG 16/19
	Evaluation	passed	
	Standard	DIN EN 60999-1 section 9.4 / 12.00	
Pull-out test	Requirement	0.2 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 0.2 mm <sup>2</sup>
	Conductor type	Type of conductor and conductor cross-section	AWG 28/1
	Conductor type	Type of conductor and conductor cross-section	AWG 28/19
	Evaluation	passed	
	Requirement	0.3 kg	
	Conductor type	Type of conductor and conductor cross-section	stranded 0.5 mm <sup>2</sup>
	Evaluation	passed	
	Requirement	0.4 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 1.5 mm <sup>2</sup>
Pull-out test	Conductor type	Type of conductor and conductor cross-section	stranded 1.5 mm <sup>2</sup>
	Conductor type	Type of conductor and conductor cross-section	AWG 16/1
	Conductor type	Type of conductor and conductor cross-section	AWG 16/19
	Evaluation	passed	
	Standard	DIN EN 60999-1 section 9.5 / 12.00	
	Requirement	≥5 N	
	Conductor type	Type of conductor and conductor cross-section	AWG 28/1
	Conductor type	Type of conductor and conductor cross-section	AWG 28/19

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## Technical data

Evaluation	passed	
Requirement	$\geq 10$ N	
Conductor type	Type of conductor and conductor cross-section	H05V-U0.2
Evaluation	passed	
Requirement	$\geq 20$ N	
Conductor type	Type of conductor and conductor cross-section	H05V-U0.5
Evaluation	passed	
Requirement	$\geq 40$ N	
Conductor type	Type of conductor and conductor cross-section	H05V-U1.5
	Type of conductor and conductor cross-section	H05V-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

- 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.
- Gold-plated contact surfaces on request
- Rated current related to rated cross-section & min. No. of poles.
- Max. outer diameter of the conductor: 2.9 mm
- Wire end ferrule without plastic collar to DIN 46228/1
- Wire end ferrule with plastic collar to DIN 46228/4
- 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
- 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		

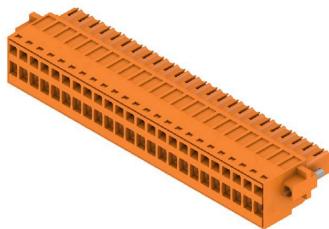
## **BLZF 3.50/24/180F SN OR BX**

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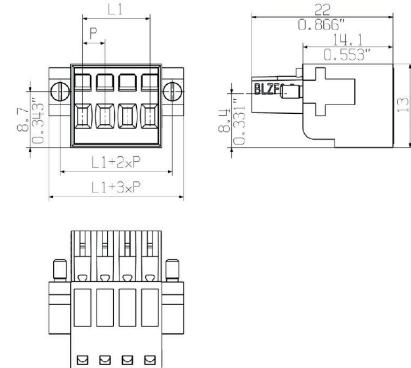
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## Drawings

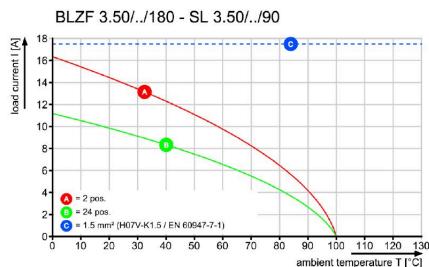
## Product image



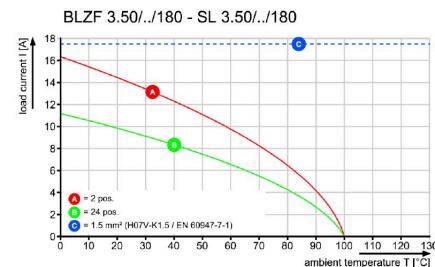
## Dimensional drawing



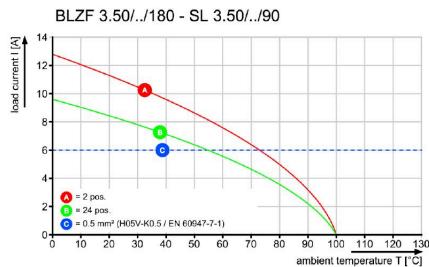
## Graph



## Graph



## Graph



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## Accessories



## Strain reliefs

For frequent load changes: the "trailer coupling" for plug-in connectors.

The strain relief can do more than just relieve the strain on conductors:

Simply clip onto the plug and

- bundle conductors
- guide cables
- use as a connection and disconnection aid

No damage to the connecting points, clear, tidy wiring and easy to handle.

User advantages: permanent heavy-duty connections for harsh industrial environments and convenient operation ensure improved system availability.

## General ordering data

Type	BL 3.50 ZE03 BK BX	Version
Order No.	<a href="#">1627820000</a>	PCB plug-in connector, Accessories, Strain relief, black, Number of
GTIN (EAN)	4008190202552	poles: 3
Qty.	50 ST	
Type	BL 3.50 ZE08 BK BX	Version
Order No.	<a href="#">1627830000</a>	PCB plug-in connector, Accessories, Strain relief, black, Number of
GTIN (EAN)	4008190202576	poles: 8
Qty.	50 ST	
Type	BL 3.50 ZE03 OR BX	Version
Order No.	<a href="#">1629680000</a>	PCB plug-in connector, Accessories, Strain relief, orange, Number of
GTIN (EAN)	4008190202569	poles: 3
Qty.	50 ST	
Type	BL 3.50 ZE08 OR BX	Version
Order No.	<a href="#">1629690000</a>	PCB plug-in connector, Accessories, Strain relief, orange, Number of
GTIN (EAN)	4008190202583	poles: 8
Qty.	50 ST	

## 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
Order No.	<a href="#">1693430000</a>	PCB plug-in connector, Accessories, Coding element, orange, Number
GTIN (EAN)	4008190867447	of poles: 1
Qty.	100 ST	

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**Accessories**

Type	BL SL 3.5 KO SW	Version
Order No.	<a href="#">1610100000</a>	PCB plug-in connector, Accessories, Coding element, black, Number
GTIN (EAN)	4008190187637	of poles: 1
Qty.	100 ST	

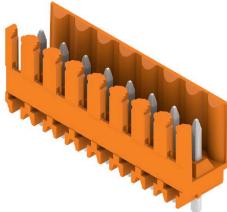
## BLZF 3.50/24/180F SN OR BX

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## Counterpart

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## SL 3.50/180



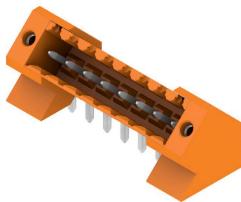
Pin headers for wave soldering in 3.50 mm pitch

- Plugging direction is parallel (90°), straight 180° or angled (135°) to the PCB
- Housing variant: screw flange (F)
- Packed in a cardboard box (BX)
- Pin header can be coded

## General ordering data

Type	SL 3.50/24/180 3.2SN OR...	Version
Order No.	<a href="#">1621470000</a>	PCB plug-in connector, male header, open side, THT solder
GTIN (EAN)	4008190173890	connection, 3.50 mm, Number of poles: 24, 180°, Solder pin length
Qty.	20 ST	(l): 3.2 mm, tinned, orange, Box

## SL 3.50/135F



Pin headers for wave soldering in 3.50 mm pitch

- Plugging direction is parallel (90°), straight 180° or angled (135°) to the PCB
- Housing variant: screw flange (F)
- Packed in a cardboard box (BX)
- Pin header can be coded

## General ordering data

Type	SL 3.50/24/135F 3.2SN O...	Version
Order No.	<a href="#">1643550000</a>	PCB plug-in connector, male header, Flange, THT solder connection,
GTIN (EAN)	4008190282318	3.50 mm, Number of poles: 24, 135°, Solder pin length (l): 3.2 mm,
Qty.	18 ST	tinned, orange, Box