

**BLT 5.08HC/20/180LR SN OR BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

Female plugs with TOP screw connection system for connecting wires with straight wire outlet and release latch mechanism. The female connectors provide space for labelling and can be coded. HC = High Current.

**General ordering data**

Version	PCB plug-in connector, female plug, 5.08 mm, Number of poles: 20, 180°, TOP connection, Clamping range, max. : 2.5 mm², Box
Order No.	<a href="#">1890400000</a>
Type	BLT 5.08HC/20/180LR SN OR BX
GTIN (EAN)	4032248498888
Qty.	12 pc(s).
Product data	IEC: 400 V / 27 A / 0.2 - 2.5 mm² UL: 300 V / 17 A / AWG 26 - AWG 14
Packaging	Box

Creation date July 3, 2024 9:37:55 AM CEST

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

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## Technical data

## Dimensions and weights

Depth	31.8 mm	Depth (inches)	1.252 inch
Height	15.1 mm	Height (inches)	0.594 inch
Width	111.42 mm	Width (inches)	4.387 inch
Net weight	65.083 g		

## System Parameters

Product family	OMNIMATE Signal - series BL/SL 5.08		
Type of connection	Field connection		
Wire connection method	TOP connection		
Pitch in mm (P)	5.08 mm		
Pitch in inches (P)	0.2 "		
Conductor outlet direction	180°		
Number of poles	20		
L1 in mm	96.52 mm		
L1 in inches	3.8 "		
Number of rows	1		
Pin series quantity	1		
Rated cross-section	2.5 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		
Volume resistance	≤5 mΩ		
Can be coded	Yes		
Stripping length	13 mm		
Clamping screw	M 2.5		
Screwdriver blade	0.6 x 3.5		
Screwdriver blade standard	DIN 5264		
Plugging cycles	25		
Plugging force/pole, max.	8 N		
Pulling force/pole, max.	7 N		
Tightening torque	Torque type	Wire connection	
	Usage information	Tightening torque	<div>min. 0.4 Nm</div> <div>max. 0.5 Nm</div>

## Material data

Insulating material	PBT	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	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.	-25 °C
Temperature range, installation, max.	100 °C		

## Conductors suitable for connection

Clamping range, min.	0.13 mm <sup>2</sup>
Clamping range, max.	2.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 28

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Wire connection cross section AWG, max.	AWG 14		
Solid, min. H05(07) V-U	0.2 mm <sup>2</sup>		
Solid, max. H05(07) V-U	2.5 mm <sup>2</sup>		
Flexible, min. H05(07) V-K	0.2 mm <sup>2</sup>		
Flexible, max. H05(07) V-K	2.5 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, 1.5 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>		
Plug gauge in accordance with EN 60999 a x b; ø	2.4 mm x 1.5 mm ; 2.4 mm		
Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 14 mm
		Recommended wire-end ferrule	<a href="#">H0.5/18 OR</a>
	Cross-section for conductor connection	Type	fine-wired
		nominal	1 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 15 mm
		Recommended wire-end ferrule	<a href="#">H1.0/18 GE</a>
	Cross-section for conductor connection	Type	fine-wired
		nominal	1.5 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 15 mm
		Recommended wire-end ferrule	<a href="#">H1.5/18D SW</a>
		Stripping length	nominal 12 mm
Recommended wire-end ferrule		<a href="#">H1.5/12</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)	27 A
Rated current, max. number of poles (Tu=20°C)	19 A	Rated current, min. number of poles (Tu=40°C)	24 A
Rated current, max. number of poles (Tu=40°C)	16 A	Rated voltage for surge voltage class / pollution degree II/2	400 V
Rated voltage for surge voltage class / pollution degree III/2	320 V	Rated voltage for surge voltage class / pollution degree III/3	250 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	4 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	4 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	4 kV	Short-time withstand current resistance	3 x 1s with 100 A

**Rated data acc. to CSA**

Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group D / CSA)	300 V
Rated current (Use group B / CSA)	15 A	Rated current (Use group D / CSA)	15 A
Wire cross-section, AWG, min.	AWG 26	Wire cross-section, AWG, max.	AWG 14

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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 current (Use group B / UL 1059) 17 A

Wire cross-section, AWG, min. AWG 26

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

Rated voltage (Use group D / UL 1059) 300 V

Rated current (Use group D / UL 1059) 10 A

Wire cross-section, AWG, max. AWG 14

## Packing

Packaging	Box	VPE length	352 mm
VPE width	140 mm	VPE height	39 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 of material, date clock
	Evaluation	available
	Test	durability
Test: Misengagement (Non-interchangeability)	Evaluation	passed
	Standard	DIN EN 61984 section 6.3 and 6.9.1 / 09.02, DIN EN 60512-13-5 / 11.06
	Test	180° turned with coding elements
	Evaluation	passed
Test: Misengagement (Non-interchangeability)	Test	visual examination
	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 / 12.02
	Conductor type	Type of conductor and solid 0.08 mm <sup>2</sup> conductor cross-section
		Type of conductor and stranded 0.08 mm <sup>2</sup> conductor cross-section
		Type of conductor and solid 2.5 mm <sup>2</sup> conductor cross-section
		Type of conductor and stranded 2.5 mm <sup>2</sup> conductor cross-section
		Type of conductor and AWG 26/1 conductor cross-section
		Type of conductor and AWG 26/19 conductor cross-section
		Type of conductor and AWG 14/1 conductor cross-section
		Type of conductor and AWG 14/19 conductor cross-section
	Evaluation	passed

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Test for damage to and accidental loosening of conductors

Standard	DIN EN 60999-1 section 9.4 / 12.00
Requirement	0.2 kg
Conductor type	Type of conductor and AWG 28/1 conductor cross-section
	Type of conductor and AWG 26/19 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 stranded 0.5 mm <sup>2</sup> conductor cross-section
Evaluation	passed
Requirement	0.7 kg
Conductor type	Type of conductor and solid 2.5 mm <sup>2</sup> conductor cross-section
	Type of conductor and stranded 2.5 mm <sup>2</sup> conductor cross-section
	Type of conductor and AWG 14/1 conductor cross-section
	Type of conductor and AWG 14/19 conductor cross-section
Evaluation	passed

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**Technical data**

Pull-out test	Standard	DIN EN 60999-1 section 9.5 / 12.00
	Requirement	≥5 N
	Conductor type	Type of conductor and AWG 28/1 conductor cross-section
	Evaluation	passed
	Requirement	≥10 N
	Conductor type	Type of conductor and AWG 26/19 conductor cross-section
	Evaluation	passed
	Requirement	≥20 N
	Conductor type	Type of conductor and solid 0.5 mm <sup>2</sup> conductor cross-section
		Type of conductor and stranded 0.5 mm <sup>2</sup> conductor cross-section
	Evaluation	passed
	Requirement	≥40 N
	Conductor type	Type of conductor and AWG 14/1 conductor cross-section
		Type of conductor and AWG 14/19 conductor cross-section
	Evaluation	passed
	Requirement	≥50 N
	Conductor type	Type of conductor and solid 2.5 mm <sup>2</sup> conductor cross-section
		Type of conductor and stranded 2.5 mm <sup>2</sup> conductor cross-section
	Evaluation	passed

**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	/
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## 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	<ul style="list-style-type: none"><li>• Additional variants on request</li><li>• Gold-plated contact surfaces on request</li><li>• Rated current related to rated cross-section &amp; min. No. of poles.</li><li>• Wire end ferrule without plastic collar to DIN 46228/1</li><li>• Wire end ferrule with plastic collar to DIN 46228/4</li><li>• Crimp form A for wire end ferrules with PZ 6/5 crimping tool are recommended for the largest cable sizes.</li><li>• P on drawing = pitch</li><li>• 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.</li><li>• 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</li><li>• Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li></ul>

## Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E60693

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# Technical data

## Downloads

Approval/Certificate/Document of Conformity	<a href="#">CB Certificate</a>
	<a href="#">CB Testreport</a>
	<a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">FL DRIVES EN</a>
	<a href="#">MB DEVICE MANUF. EN</a>
	<a href="#">FL DRIVES DE</a>
	<a href="#">FL BUILDING SAFETY EN</a>
	<a href="#">FL APPL LED LIGHTING EN</a>
	<a href="#">FL INDUSTR.CONTROLS EN</a>
	<a href="#">FL MACHINE SAFETY EN</a>
	<a href="#">FL HEATING ELECTR EN</a>
	<a href="#">FL APPL INVERTER EN</a>
	<a href="#">FL_BASE_STATION_EN</a>
	<a href="#">FL ELEVATOR EN</a>
	<a href="#">FL POWER SUPPLY EN</a>
	<a href="#">FL 72H SAMPLE SER EN</a>
	<a href="#">PO OMNIMATE EN</a>
	<a href="#">PO OMNIMATE EN</a>



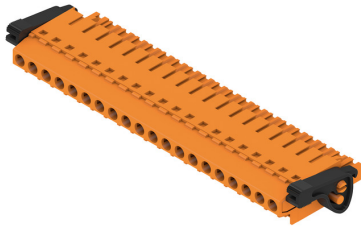
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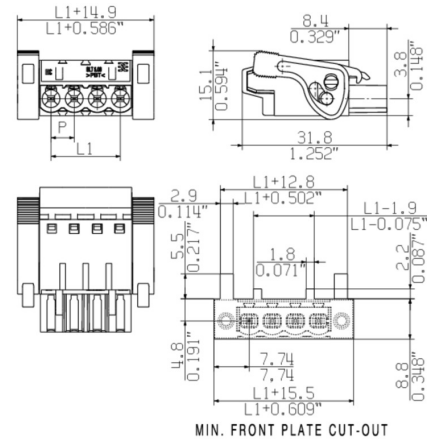
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## Drawings

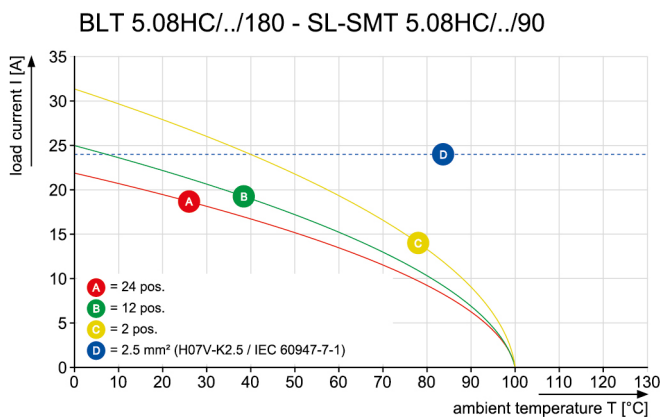
### Product image



### Dimensional drawing



### Graph

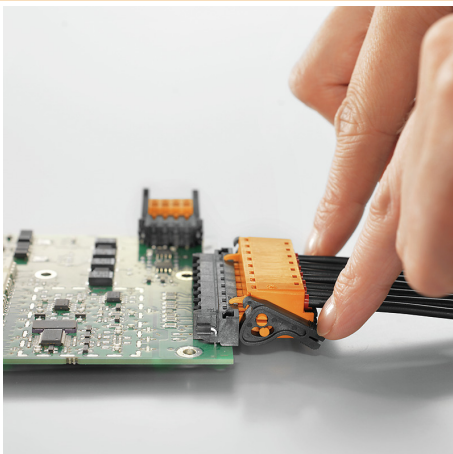


### Product benefits



Self-locking  
Immediately on plugging in

### Product benefits



Gentle unlocking  
Low mechanical stress

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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	BLZ/SL KO OR BX	Version	Product data	Packaging
Order No.	<a href="#">1573010000</a>	PCB plug-in connector, Accessories, Coding element, orange, Number		Box
GTIN (EAN)	4008190048396	of poles: 1		
Qty.	100 pc(s).			
Type	BLZ/SL KO BK BX	Version	Product data	Packaging
Order No.	<a href="#">1545710000</a>	PCB plug-in connector, Accessories, Coding element, black, Number		Box
GTIN (EAN)	4008190087142	of poles: 1		
Qty.	50 pc(s).			

## 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

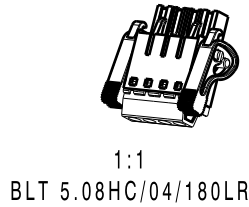
Type	BLAT ZE08 OR BX	Version	Product data	Packaging
Order No.	<a href="#">1578010000</a>	PCB plug-in connector, Accessories, Strain relief, orange, Number of		Box
GTIN (EAN)	4008190003753	poles: 8		
Qty.	50 pc(s).			
Type	BLAT ZE04 OR BX	Version	Product data	Packaging
Order No.	<a href="#">1577980000</a>	PCB plug-in connector, Accessories, Strain relief, orange, Number of		Box
GTIN (EAN)	4008190078249	poles: 4		
Qty.	50 pc(s).			

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MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE  
DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

DIE DEUTSCHE VERSION IST VERBINDLICH  
THE GERMAN VERSION IS BINDING



24	106.84	4.600
23	111.76	4.400
22	106.68	4.200
21	101.60	4.000
20	96.52	3.800
19	91.44	3.600
18	86.36	3.400
17	81.28	3.200
16	76.20	3.000
15	71.12	2.800
14	66.04	2.600
13	60.96	2.400
12	55.88	2.200
11	50.80	2.000
10	45.72	1.800
9	40.64	1.600
8	35.56	1.400
7	30.48	1.200
6	25.40	1.000
5	20.32	0.800
4	15.24	0.600
3	10.16	0.400
2	5.08	0.200

P=PITCH

P = 5.08 RASTER/PITCH

SHOWN: BLT 5.08HC/04/180LR AND BLT 5.08HC/04/180LH

n = POLZAHL/NO OF POLES

n	POLZAHL POLES	L1 [mm]	L1 [inch]
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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.

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

	78309/4 01.04.15 HERTEL_S 01		CAT.NO.: .	
	GENERAL TOLERANCE: DIN ISO 2768-m		MODIFICATION	
	DRAWN	10.07.2003	NAME	BLT 5.08HC/.. /180... BUCHSENLEISTE SOCKET BLOCK
	RESPONSIBLE		HERTEL_S	
SCALE: 2/1	CHECKED	01.04.2015	HELIS_MA	
SUPERSEDES: .	APPROVED		LANG_T	PRODUCT FILE: BLT 5.08

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DRAWING NO. SHEET 02 OF 02 SHEETS

ISSUE NO.

7143