

BLT 5.08HC/21/180LR 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: 21, 180°, TOP connection, Clamping range, max. : 2.5 mm ² , Box
Order No.	1890410000
Type	BLT 5.08HC/21/180LR SN OR BX
GTIN (EAN)	4032248498895
Qty.	12 items
Product data	IEC: 400 V / 27 A / 0.2 - 2.5 mm ² UL: 300 V / 17 A / AWG 26 - AWG 14
Packaging	Box

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Technical data

Approvals

Approvals



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

Dimensions and weights

Depth	31.8 mm	Depth (inches)	1.252 inch
Height	15.1 mm	Height (inches)	0.5945 inch
Width	116.5 mm	Width (inches)	4.5866 inch
Net weight	66.33 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 5.08		
Type of connection	Field connection		
Wire connection method	TOP connection		
Pitch in mm (P)	5.08 mm		
Pitch in inches (P)	0.200 "		
Conductor outlet direction	180°		
Number of poles	21		
L1 in mm	101.60 mm		
L1 in inches	4.000 "		
Number of rows	1		
Pin series quantity	1		
Rated cross-section	2.5 mm ²		
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	min. 0.4 Nm max. 0.5 Nm

Material data

Insulating material	PBT	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	IIIa

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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.	-25 °C	Temperature range, installation, max.	100 °C

Conductors suitable for connection

Clamping range, min.	0.13 mm ²
Clamping range, max.	2.5 mm ²
Wire connection cross section AWG, min.	AWG 28
Wire connection cross section AWG, max.	AWG 14
Solid, min. H05(07) V-U	0.2 mm ²
Solid, max. H05(07) V-U	2.5 mm ²
Flexible, min. H05(07) V-K	0.2 mm ²
Flexible, max. H05(07) V-K	2.5 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, min.	0.2 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, max.	1.5 mm ²
w. wire end ferrule, DIN 46228 pt 1, min.	0.2 mm ²
w. wire end ferrule, DIN 46228 pt 1, max.	1.5 mm ²
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 ²
wire end ferrule	wire end ferrule	Stripping length	nominal 14 mm
		Recommended wire-end ferrule	H0.5/18 OR
Cross-section for conductor connection	wire end ferrule	Type	fine-wired
		nominal	1 mm ²
wire end ferrule	wire end ferrule	Stripping length	nominal 15 mm
		Recommended wire-end ferrule	H1.0/18 GE
Cross-section for conductor connection	wire end ferrule	Type	fine-wired
		nominal	1.5 mm ²
wire end ferrule	wire end ferrule	Stripping length	nominal 15 mm
		Recommended wire-end ferrule	H1.5/18D SW
		Stripping length	nominal 12 mm
		Recommended wire-end ferrule	H1.5/12

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

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Rated impulse voltage for surge voltage class/ pollution degree II/2 4 kV

Rated impulse voltage for surge voltage class/ contamination degree III/3 4 kV

Rated impulse voltage for surge voltage class/ pollution degree III/2 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 current (Use group B / CSA) 15 A

Wire cross-section, AWG, min. AWG 26

Rated voltage (Use group D / CSA) 300 V

Rated current (Use group D / CSA) 15 A

Wire cross-section, AWG, max. AWG 14

Rated data acc. to UL 1059

Institute (cURus) CURUS

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.

Certificate No. (cURus) E60693

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 338.00 mm

VPE width 130.00 mm VPE height 33.00 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 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: 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 conductor cross-section	solid 0.08 mm ²
		Type of conductor and conductor cross-section	stranded 0.08 mm ²
		Type of conductor and conductor cross-section	solid 2.5 mm ²
		Type of conductor and conductor cross-section	stranded 2.5 mm ²
		Type of conductor and conductor cross-section	AWG 26/1
		Type of conductor and conductor cross-section	AWG 26/19

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Test for damage to and accidental loosening of conductors		Type of conductor and conductor cross-section	AWG 14/1
		Type of conductor and conductor cross-section	AWG 14/19
	Evaluation	passed	
	Standard	DIN EN 60999-1 section 9.4 / 12.00	
	Requirement	0.2 kg	
	Conductor type	Type of conductor and conductor cross-section	AWG 28/1
		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	solid 0.5 mm ²
Type of conductor and conductor cross-section		stranded 0.5 mm ²	
Evaluation	passed		
Requirement	0.7 kg		
Conductor type	Type of conductor and conductor cross-section	solid 2.5 mm ²	
	Type of conductor and conductor cross-section	stranded 2.5 mm ²	
	Type of conductor and conductor cross-section	AWG 14/1	
	Type of conductor and conductor cross-section	AWG 14/19	
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	
Evaluation	passed		
Requirement	≥10 N		
Conductor type	Type of conductor and conductor cross-section	AWG 26/19	
Evaluation	passed		
Requirement	≥20 N		
Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm ²	
	Type of conductor and conductor cross-section	stranded 0.5 mm ²	
Evaluation	passed		
Requirement	≥40 N		
Conductor type	Type of conductor and conductor cross-section	AWG 14/1	

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Technical data

	Type of conductor and conductor cross-section	AWG 14/19
Evaluation	passed	
Requirement	≥50 N	
Conductor type	Type of conductor and conductor cross-section	solid 2.5 mm ²
	Type of conductor and conductor cross-section	stranded 2.5 mm ²
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	<ul style="list-style-type: none"> • Additional variants on request • Gold-plated contact surfaces on request • Rated current related to rated cross-section & min. No. of poles. • Wire end ferrule without plastic collar to DIN 46228/1 • Wire end ferrule with plastic collar to DIN 46228/4 • Crimp form A for wire end ferrules with PZ 6/5 crimping tool are recommended for the largest cable sizes. • P on drawing = pitch • 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. • 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 8.0	EC002638	ETIM 9.0	EC002638
ETIM 10.0	EC002638	ECLASS 14.0	27-46-02-02
ECLASS 15.0	27-46-02-02		

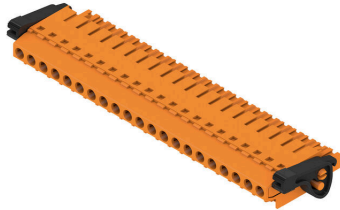
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Drawings

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 BK BX	Version
Order No.	1545710000	PCB plug-in connector, Accessories, Coding element, black, Number of poles: 1
GTIN (EAN)	4008190087142	
Qty.	50 ST	

Type	BLZ/SL KO OR BX	Version
Order No.	1573010000	PCB plug-in connector, Accessories, Coding element, orange, Number of poles: 1
GTIN (EAN)	4008190048396	
Qty.	100 ST	

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 ZE04 OR BX	Version
Order No.	1577980000	PCB plug-in connector, Accessories, Strain relief, orange, Number of poles: 4
GTIN (EAN)	4008190078249	
Qty.	50 ST	

Type	BLAT ZE08 OR BX	Version
Order No.	1578010000	PCB plug-in connector, Accessories, Strain relief, orange, Number of poles: 8
GTIN (EAN)	4008190003753	
Qty.	50 ST	

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Counterpart

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SL 5.08HC/180F



Pin headers in glass-fibre-reinforced plastic with straight wire outlet; optimised for wave soldering. The flange variant (F) can be screwed onto the respective counter piece or the circuit board. There is no need for an extra screw to connect the circuit board when the solder flange (LF) version is used. This also protects the solder points from mechanical strain. All pin headers can be manually coded or ordered pre-coded. HC = High Current.

General ordering data

Type	SL 5.08HC/21/180F 3.2SN...	Version
Order No.	1149090000	PCB plug-in connector, male header, Flange, THT solder connection,
GTIN (EAN)	4032248932320	5.08 mm, Number of poles: 21, 180°, Solder pin length (l): 3.2 mm,
Qty.	12 ST	tinned, black, Box
Type	SL 5.08HC/21/180F 3.2SN...	Version
Order No.	1147750000	PCB plug-in connector, male header, Flange, THT solder connection,
GTIN (EAN)	4032248931682	5.08 mm, Number of poles: 21, 180°, Solder pin length (l): 3.2 mm,
Qty.	12 ST	tinned, orange, Box

SL 5.08HC/180LF



Pin headers in glass-fibre-reinforced plastic with straight wire outlet; optimised for wave soldering. The flange variant (F) can be screwed onto the respective counter piece or the circuit board. There is no need for an extra screw to connect the circuit board when the solder flange (LF) version is used. This also protects the solder points from mechanical strain. All pin headers can be manually coded or ordered pre-coded. HC = High Current.

General ordering data

Type	SL 5.08HC/21/180LF 3.2S...	Version
Order No.	1149850000	PCB plug-in connector, male header, Solder flange, THT solder
GTIN (EAN)	4032248933068	connection, 5.08 mm, Number of poles: 21, 180°, Solder pin length
Qty.	12 ST	(l): 3.2 mm, tinned, black, Box
Type	SL 5.08HC/21/180LF 3.2S...	Version
Order No.	1148400000	PCB plug-in connector, male header, Solder flange, THT solder
GTIN (EAN)	4032248931866	connection, 5.08 mm, Number of poles: 21, 180°, Solder pin length
Qty.	12 ST	(l): 3.2 mm, tinned, orange, Box

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Counterpart

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SL 5.08HC/90F



Pin headers made from glass-fibre-reinforced plastic with 90° wire outlet; optimised for wave soldering. The flange variant (F) can be screwed onto the respective counter piece or the circuit board. There is no need for an extra screw to connect the circuit board when the solder flange (LF) version is used. This also protects the solder points from mechanical strain. All pin headers can be manually coded or ordered pre-coded. HC = High Current.

General ordering data

Type	SL 5.08HC/21/90F 3.2SN ...	Version
Order No.	1150300000	PCB plug-in connector, male header, Flange, THT solder connection,
GTIN (EAN)	4032248936861	5.08 mm, Number of poles: 21, 90°, Solder pin length (l): 3.2 mm,
Qty.	12 ST	tinned, black, Box
Type	SL 5.08HC/21/90F 3.2SN ...	Version
Order No.	1149240000	PCB plug-in connector, male header, Flange, THT solder connection,
GTIN (EAN)	4032248936625	5.08 mm, Number of poles: 21, 90°, Solder pin length (l): 3.2 mm,
Qty.	12 ST	tinned, orange, Box

SL 5.08HC/90LF



Pin headers made from glass-fibre-reinforced plastic with 90° wire outlet; optimised for wave soldering. The flange variant (F) can be screwed onto the respective counter piece or the circuit board. There is no need for an extra screw to connect the circuit board when the solder flange (LF) version is used. This also protects the solder points from mechanical strain. All pin headers can be manually coded or ordered pre-coded. HC = High Current.

General ordering data

Type	SL 5.08HC/21/90LF 3.2SN...	Version
Order No.	1150550000	PCB plug-in connector, male header, Solder flange, THT solder
GTIN (EAN)	4032248937240	connection, 5.08 mm, Number of poles: 21, 90°, Solder pin length (l):
Qty.	12 ST	3.2 mm, tinned, black, Box
Type	SL 5.08HC/21/90LF 3.2SN...	Version
Order No.	1150000000	PCB plug-in connector, male header, Solder flange, THT solder
GTIN (EAN)	4032248936786	connection, 5.08 mm, Number of poles: 21, 90°, Solder pin length (l):
Qty.	12 ST	3.2 mm, tinned, orange, Box

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Counterpart

SL-SMT 5.08/180F Box



High-temperature-resistant pin header, packed in box or tape. On tape, with 1.5 mm solder pin, optimised for automatic assembly. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded. HC = High Current.

General ordering data

Type	SL-SMT 5.08HC/21/180F 3...	Version
Order No.	1837940000	PCB plug-in connector, male header, Flange, THT/THR solder
GTIN (EAN)	4032248347759	connection, 5.08 mm, Number of poles: 21, 180°, Solder pin length
Qty.	12 ST	(l): 3.2 mm, tinned, black, Box

SL-SMT 5.08/180LF Box



High-temperature-resistant pin header, packed in box or tape. On tape, with 1.5 mm solder pin, optimised for automatic assembly. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded. HC = High Current.

General ordering data

Type	SL-SMT 5.08HC/21/180LF ...	Version
Order No.	1838630000	PCB plug-in connector, male header, Solder flange, THT/THR solder
GTIN (EAN)	4032248348695	connection, 5.08 mm, Number of poles: 21, 180°, Solder pin length
Qty.	12 ST	(l): 3.2 mm, tinned, black, Box

SL-SMT 5.08HC/90F Box



High-temperature-resistant pin header, packed in box or tape. On tape, with 1.5 mm solder pin, optimised for automatic assembly. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded. HC = High Current.

General ordering data

Type	SL-SMT 5.08HC/21/90F 3...	Version
Order No.	1837820000	PCB plug-in connector, male header, Flange, THT/THR solder
GTIN (EAN)	4032248347636	connection, 5.08 mm, Number of poles: 21, 90°, Solder pin length (l):
Qty.	12 ST	3.2 mm, tinned, black, Box

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SL-SMT 5.08HC/90LF Box



High-temperature-resistant pin header, packed in box or tape. On tape, with 1.5 mm solder pin, optimised for automatic assembly. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded. HC = High Current.

General ordering data

Type	SL-SMT 5.08HC/21/90LF 3...	Version
Order No.	1780620000	PCB plug-in connector, male header, Solder flange, THT/THR solder
GTIN (EAN)	4032248165926	connection, 5.08 mm, Number of poles: 21, 90°, Solder pin length (l):
Qty.	12 ST	3.2 mm, tinned, black, Box

SLDV-THR 5.08/180F



High-temperature resistant, double level, laterally offset, male connector with flange or solder flange. 1.5 mm solder pin is suitable for reflow soldering. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded.

General ordering data

Type	SLDV-THR 5.08/42/180F 1...	Version
Order No.	1881430000	PCB plug-in connector, male header, Flange, THT/THR solder
GTIN (EAN)	4032248482689	connection, 5.08 mm, Number of poles: 42, 180°, Solder pin length
Qty.	8 ST	(l): 1.5 mm, tinned, black, Box
Type	SLDV-THR 5.08/42/180F 3...	Version
Order No.	1889400000	PCB plug-in connector, male header, Flange, THT/THR solder
GTIN (EAN)	4032248495740	connection, 5.08 mm, Number of poles: 42, 180°, Solder pin length
Qty.	8 ST	(l): 3.2 mm, tinned, black, Box

SLDV-THR 5.08/180FLF



High-temperature resistant, double level, laterally offset, male connector with flange or solder flange. 1.5 mm solder pin is suitable for reflow soldering. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded.

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General ordering data

Type	SLDV-THR 5.08/42/180FLF...	Version
Order No.	1889300000	PCB plug-in connector, male header, Flange / Solder flange, THT/THR
GTIN (EAN)	4032248495641	solder connection, 5.08 mm, Number of poles: 42, 180°, Solder pin
Qty.	8 ST	length (l): 3.2 mm, tinned, black, Box