

## BLF 5.00HC/09/90 SN OR BX

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

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

### Product image



Just as reliable as the millionfold proven original and featuring innovative details:

The BLF 5.00HC PUSH IN version of the BLZ 5.00HC female connector features a new connection system and a more compact design. Weidmüller's innovative PUSH IN spring connection system stands for the future of easy and tool-free wire connection. HC = High Current. In terms of versatility, the BLF 5.00HC offers just as much as the older versions:

- 3 tested-and-proven wire outlet directions provide the usual flexibility for application-specific design
- 4 flange variations and the patented release latch allow the locking concept to be based on the requirements of the user

### General ordering data

Version	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 9, 90°, PUSH IN with actuator, Clamping range, max.: 3.31 mm², Box
Order No.	<a href="#">1980240000</a>
Type	BLF 5.00HC/09/90 SN OR BX
GTIN (EAN)	4032248675326
Qty.	36 items
Product data	IEC: 400 V / 24 A / 0.2 - 2.5 mm² UL: 300 V / 18.5 A / AWG 26 - AWG 12
Packaging	Box

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## Technical data

## Approvals

Approvals



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

## Dimensions and weights

Depth	26.2 mm	Depth (inches)	1.0315 inch
Height	20.8 mm	Height (inches)	0.8189 inch
Width	45 mm	Width (inches)	1.7716 inch
Net weight	17.48 g		

## Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption		
REACH SVHC	No SVHC above 0.1 wt%		
Product Carbon Footprint	Cradle to gate	0,635 kg CO2 eq.	

## System Parameters

Product family	OMNIMATE Signal - series BL/SL 5.00	Type of connection	Field connection
Wire connection method	PUSH IN with actuator	Pitch in mm (P)	5.00 mm
Pitch in inches (P)	0.197 "	Conductor outlet direction	90°
Number of poles	9	L1 in mm	40.00 mm
L1 in inches	1.576 "	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 back-of-hand 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	10 mm
Screwdriver blade	0.6 x 3.5	Screwdriver blade standard	DIN 5264
Plugging cycles	25	Plugging force/pole, max.	7 N
Pulling force/pole, max.	5.5 N		

## Material data

Insulating material	PBT	Colour	orange
Colour of operational elements	black	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.	3.31 mm <sup>2</sup>

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## Technical data

Wire connection cross section AWG, min.	AWG 26
Wire connection cross section AWG, max.	AWG 12
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, min.	0.25 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4, max.	2.5 mm <sup>2</sup>
w. wire end ferrule, DIN 46228 pt 1, min.	0.25 mm <sup>2</sup>
w. wire end ferrule, DIN 46228 pt 1, max.	2.5 mm <sup>2</sup>
Plug gauge in accordance with EN 60999 a x b; ø	2.8 mm x 2.0 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
		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>	
Cross-section for conductor connection		Type	fine-wired	
		nominal	1.5 mm <sup>2</sup>	
wire end ferrule		Stripping length	nominal	10 mm
		Recommended wire-end ferrule	<a href="#">H1.5/10</a>	
		Stripping length	nominal	12 mm
		Recommended wire-end ferrule	<a href="#">H1.5/16 R</a>	
Cross-section for conductor connection		Type	fine-wired	
		nominal	2.5 mm <sup>2</sup>	
wire end ferrule		Stripping length	nominal	10 mm
		Recommended wire-end ferrule	<a href="#">H2.5/10</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.

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**Technical data**

**Rated data acc. to IEC**

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	24 A
Rated current, max. number of poles (Tu=20°C)	19 A	Rated current, min. number of poles (Tu=40°C)	21 A
Rated current, max. number of poles (Tu=40°C)	16.5 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 120 A

**Rated data acc. to CSA**

Institute (CSA)	CSA	Certificate No. (CSA)	200039-1121690
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 12	Wire cross-section, AWG, max.	AWG 26
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

**Rated data acc. to UL 1059**

Institute (cURus)	CURUS	Certificate No. (cURus)	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)	18.5 A	Rated current (Use group D / UL 1059)	10 A
Wire cross-section, AWG, min.	AWG 26	Wire cross-section, AWG, max.	AWG 12
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

**Packing**

Packaging	Box	VPE length	349.00 mm
VPE width	135.00 mm	VPE height	32.00 mm

**Type tests**

Test: Durability of markings	Standard	IEC 61984 section 6.2 and 7.3.2 / 10.08 taking pattern from IEC 60068-2-70 / 12.95
	Test	mark of origin, type identification, pitch, type of material, date clock
	Evaluation	available
	Test	durability
Test: Misengagement (Non-interchangeability)	Standard	IEC 61984 section 6.3 and 6.9.1 / 10.08, IEC 60512-13-5 / 02.06
	Test	180° turned with coding elements
	Evaluation	passed
	Test	visual examination
Test: Clampable cross section	Evaluation	passed
	Standard	IEC 60999-1 section 7 and 9.1 / 11.99, IEC 60947-1 section 8.2.4.5.1 / 06.07
	Conductor type	Type of conductor solid 0.2 mm <sup>2</sup> and conductor cross-section

**Technical data**

		Type of conductor and conductor cross-section	stranded 0.2 mm <sup>2</sup>
		Type of conductor and conductor cross-section	solid 2.5 mm <sup>2</sup>
		Type of conductor and conductor cross-section	stranded 2.5 mm <sup>2</sup>
		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 14/1
		Type of conductor and conductor cross-section	AWG 14/19
	Evaluation	passed	
	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-U0.5
		Type of conductor and conductor cross-section	H05V-K0.5
	Evaluation	passed	
	Requirement	0.7 kg	
	Conductor type	Type of conductor and conductor cross-section	H07V-U2.5
		Type of conductor and conductor cross-section	H07V-K2.5
		Type of conductor and conductor cross-section	AWG 14/1
		Type of conductor and conductor cross-section	AWG 14/19
	Evaluation	passed	
	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	
Test for damage to and accidental loosening of conductors			
Pull-out test			

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**Technical data**

Conductor type	Type of conductor and conductor cross-section	H05V-U0.5
	Type of conductor and conductor cross-section	H05V-K0.5
Evaluation	passed	
Requirement	≥50 N	
Conductor type	Type of conductor and conductor cross-section	H07V-U2.5
	Type of conductor and conductor cross-section	H07V-K2.5
	Type of conductor and conductor cross-section	AWG 14/1
	Type of conductor and conductor cross-section	AWG 14/19
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.

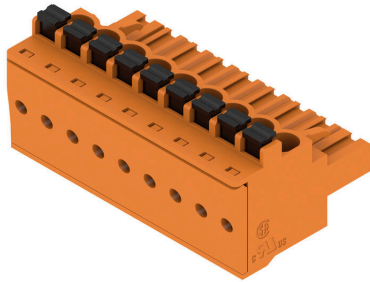
- Notes**
- Additional variants on request
  - Gold-plated contact surfaces on request
  - Rated current related to rated cross-section & min. No. of poles.
  - Wire end ferrule without plastic collar to DIN 46228/1
  - Wire end ferrule with plastic collar to DIN 46228/4
  - P on drawing = pitch
  - Crimping shape "A" for wire end ferrules with PZ 6/5 crimping tool recommended.
  - The test point can only be used as potential-pickup point.
  - 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		

**Drawings**

**Product image**



**Dimensional drawing**



**Product benefits**



Uncompromising functionality High vibration resistance

**Product benefits**



Solid PUSH IN contact Safe and durable

**Drawings**

**Product benefits**



Cost-effective wiring Quick and intuitive operation

**Product benefits**



Wide clamping range Tool-free wire connection

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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.	<a href="#">1545710000</a>	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.	<a href="#">1573010000</a>	PCB plug-in connector, Accessories, Coding element, orange, Number of poles: 1
GTIN (EAN)	4008190048396	
Qty.	100 ST	

## 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 0.6X3.5X100	Version
Order No.	<a href="#">2749340000</a>	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade thickness (A): 0.6 mm
GTIN (EAN)	4050118895568	
Qty.	1 ST	
Type	SDS 0.6X3.5X200	Version
Order No.	<a href="#">9010110000</a>	Screwdriver, Screwdriver
GTIN (EAN)	4032248300754	
Qty.	1 ST	
Type	SDIS 0.6X3.5X100	Version
Order No.	<a href="#">2749810000</a>	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade thickness (A): 0.6 mm
GTIN (EAN)	4050118897012	
Qty.	1 ST	

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## Counterpart

## SL 5.00/135



Male connectors with 135° outlet direction. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

## General ordering data

Type	SL 5.00/09/135 3.2SN OR...	Version
Order No.	<a href="#">1630320000</a>	PCB plug-in connector, male header, open side, THT solder
GTIN (EAN)	4008190203740	connection, 5.00 mm, Number of poles: 9, 135°, Solder pin length (l):
Qty.	50 ST	3.2 mm, tinned, orange, Box

## SL 5.00/135B



Male connectors with 135° outlet direction. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

## General ordering data

Type	SL 5.00/09/135B 3.2SN O...	Version
Order No.	<a href="#">1630550000</a>	PCB plug-in connector, male header, Dovetails for fixing blocks, THT
GTIN (EAN)	4008190203979	solder connection, 5.00 mm, Number of poles: 9, 135°, Solder pin
Qty.	50 ST	length (l): 3.2 mm, tinned, orange, Box

## SL 5.00/180



Male connectors with straight outlet direction. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

## General ordering data

Type	SL 5.00/09/180 3.2SN OR...	Version
Order No.	<a href="#">1581390000</a>	PCB plug-in connector, male header, open side, THT solder
GTIN (EAN)	4008190022839	connection, 5.00 mm, Number of poles: 9, 180°, Solder pin length (l):
Qty.	50 ST	3.2 mm, tinned, orange, Box

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**Counterpart**

**SL 5.00/180B**



Male connectors with straight outlet direction. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

**General ordering data**

Type	SL 5.00/09/180B 3.2SN O...	Version
Order No.	<a href="#">1581850000</a>	PCB plug-in connector, male header, Dovetails for fixing blocks, THT
GTIN (EAN)	4008190089474	solder connection, 5.00 mm, Number of poles: 9, 180°, Solder pin
Qty.	50 ST	length (l): 3.2 mm, tinned, orange, Box

**SL 5.00/90**



Male connectors with 90° outlet direction. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

**General ordering data**

Type	SL 5.00/09/90 3.2SN OR ...	Version
Order No.	<a href="#">1571200000</a>	PCB plug-in connector, male header, open side, THT solder
GTIN (EAN)	4008190012571	connection, 5.00 mm, Number of poles: 9, 90°, Solder pin length (l):
Qty.	50 ST	3.2 mm, tinned, orange, Box
Type	SL 5.00/09/90 4.5SN BK ...	Version
Order No.	<a href="#">1626050000</a>	PCB plug-in connector, male header, open side, THT solder
GTIN (EAN)	4008190197353	connection, 5.00 mm, Number of poles: 9, 90°, Solder pin length (l):
Qty.	50 ST	4.5 mm, tinned, black, Box

**SL 5.00/90B**



Male connectors with 90° outlet direction. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

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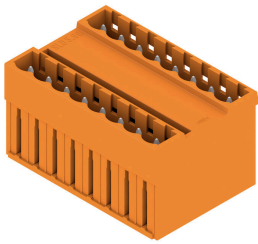
## Counterpart

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## General ordering data

Type	SL 5.00/09/90B 3.2SN OR...	Version
Order No.	<a href="#">1580930000</a>	PCB plug-in connector, male header, Dovetails for fixing blocks, THT
GTIN (EAN)	4008190143671	solder connection, 5.00 mm, Number of poles: 9, 90°, Solder pin
Qty.	50 ST	length (l): 3.2 mm, tinned, orange, Box

## SLD 5.00/180G

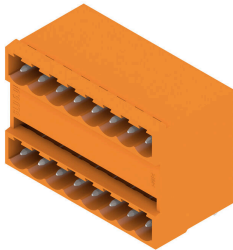


2-tier male header with parallel pin arrangement. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

## General ordering data

Type	SLD 5.00/18/180G 3.2SN ...	Version
Order No.	<a href="#">1614880000</a>	PCB plug-in connector, male header, closed side, THT solder
GTIN (EAN)	4008190039578	connection, 5.00 mm, Number of poles: 18, 180°, Solder pin length
Qty.	20 ST	(l): 3.2 mm, tinned, orange, Box

## SLD 5.00/90G



2-tier male header with parallel pin arrangement. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

## General ordering data

Type	SLD 5.00/18/90G 3.2 SN ...	Version
Order No.	<a href="#">1614420000</a>	PCB plug-in connector, male header, closed side, THT solder
GTIN (EAN)	4008190030216	connection, 5.00 mm, Number of poles: 18, 90°, Solder pin length (l):
Qty.	20 ST	3.2 mm, tinned, orange, Box

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## Counterpart

## SL-SMT 5.00HC/180 Box



High-temperature-resistant, straight, open pin header. Packed in box or tape. On tape and 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 5.00HC/09/180 3...	Version
Order No.	<a href="#">1840990000</a>	PCB plug-in connector, male header, open side, THT/THR solder
GTIN (EAN)	4032248351886	connection, 5.00 mm, Number of poles: 9, 180°, Solder pin length (l):
Qty.	50 ST	3.2 mm, tinned, black, Box

## SL-SMT 5.00HC/180G 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 5.00HC/09/180G 3...	Version
Order No.	<a href="#">1841230000</a>	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4032248352128	connection, 5.00 mm, Number of poles: 9, 180°, Solder pin length (l):
Qty.	50 ST	3.2 mm, tinned, black, Box

## SL-SMT 5.00HC/90 Box



High-temperature-resistant, 90° angled, open male 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 5.00HC/09/90 3.2...	Version
Order No.	<a href="#">1839960000</a>	PCB plug-in connector, male header, open side, THT/THR solder
GTIN (EAN)	4032248350605	connection, 5.00 mm, Number of poles: 9, 90°, Solder pin length (l):
Qty.	50 ST	3.2 mm, tinned, black, Box

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## Counterpart

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### SL-SMT 5.00HC/90G 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 5.00HC/09/90G 3...	Version
Order No.	<a href="#">1840190000</a>	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4032248350933	connection, 5.00 mm, Number of poles: 9, 90°, Solder pin length (l):
Qty.	50 ST	3.2 mm, tinned, black, Box