

## BLF 5.00HC/12/180 SN BK BX

Weidmüller Interface GmbH & Co. KG

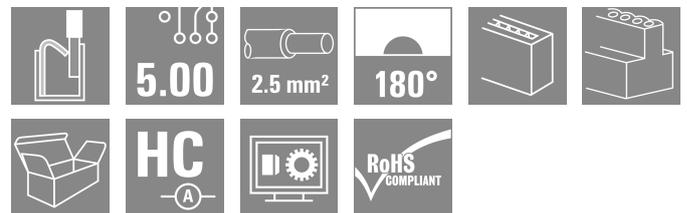
Klingenbergstraße 26

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: 12, 180°, PUSH IN with actuator, Clamping range, max. : 3.31 mm², Box
Order No.	<a href="#">1017780000</a>
Type	BLF 5.00HC/12/180 SN BK BX
GTIN (EAN)	4032248728749
Qty.	30 items
Product data	IEC: 400 V / 23 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	27.6 mm	Depth (inches)	1.0866 inch
Height	14.2 mm	Height (inches)	0.5591 inch
Width	60 mm	Width (inches)	2.3622 inch
Net weight	23.33 g		

## Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption		
REACH SVHC	No SVHC above 0.1 wt%		
Product Carbon Footprint	Cradle to gate	1,682 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	180°
Number of poles	12	L1 in mm	55.00 mm
L1 in inches	2.167 "	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	black
Colour chart (similar)	RAL 9011	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>
Wire connection cross section AWG, min.	AWG 26

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

### Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	23 A
Rated current, max. number of poles (Tu=20°C)	18 A	Rated current, min. number of poles (Tu=40°C)	21 A

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### Technical data

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 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	351.00 mm
VPE width	134.00 mm	VPE height	38.00 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)	Evaluation	passed	
	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: Clampable cross section	Test	visual examination	
	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 and conductor cross-section	solid 0.2 mm <sup>2</sup>
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>	

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**Technical data**

		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	
Test for damage to and accidental loosening of conductors	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	
Pull-out test	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		
Conductor type	Type of conductor and conductor cross-section	H05V-U0.5	
	Type of conductor and conductor cross-section	H05V-K0.5	

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## Technical data

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		

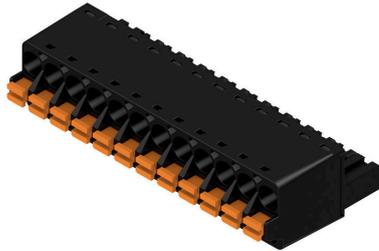
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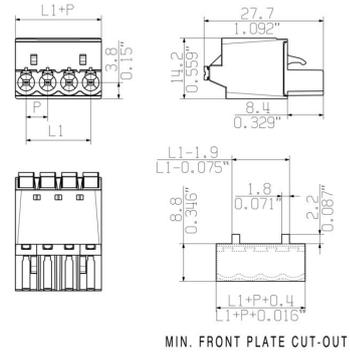
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Drawings

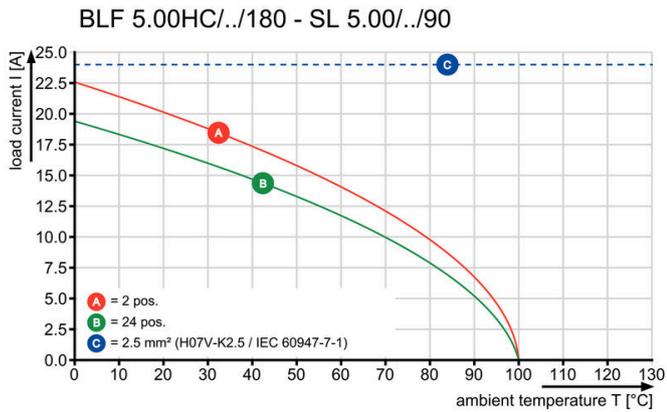
Product image



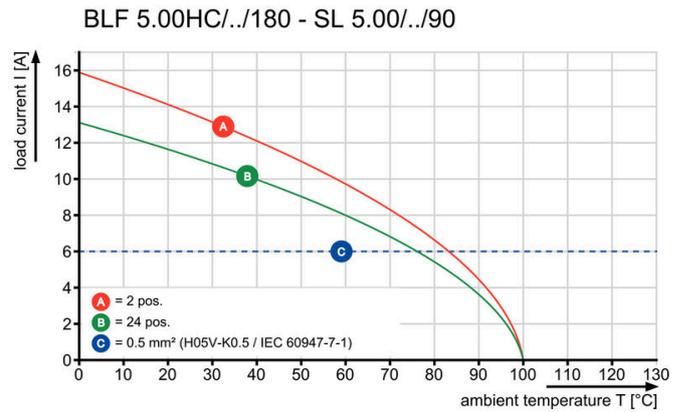
Dimensional drawing



Graph



Graph



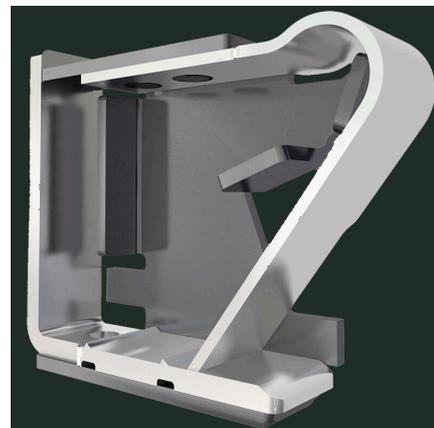
Uncompromising functionality High vibration resistance

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

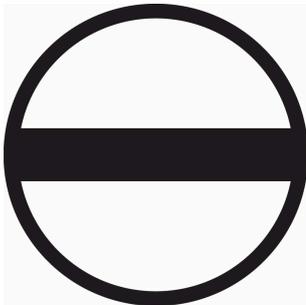


Only connects what is supposed to be connected: the right connection at the right place.  
 Coding elements and locking devices clearly assign connecting elements during the manufacturing process and operation  
 The coding elements and locking devices are inserted prior to assembly or during the cable 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="#">9008330000</a>	Screwdriver, Screwdriver
GTIN (EAN)	4032248056286	
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="#">9008390000</a>	Screwdriver, Screwdriver
GTIN (EAN)	4032248056354	
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 5.00/12/135 3.2SN OR...	Version
Order No.	<a href="#">1630350000</a>	PCB plug-in connector, male header, open side, THT solder
GTIN (EAN)	4008190203771	connection, 5.00 mm, Number of poles: 12, 135°, Solder pin length
Qty.	50 ST	(l): 3.2 mm, tinned, orange, Box

### SL 5.00/135B

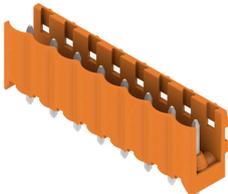


Male connectors with 135° outlet direction. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

#### General ordering data

Type	SL 5.00/12/135B 3.2SN O...	Version
Order No.	<a href="#">1630580000</a>	PCB plug-in connector, male header, Dovetails for fixing blocks, THT
GTIN (EAN)	4008190204006	solder connection, 5.00 mm, Number of poles: 12, 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 5.00/12/180 3.2SN OR...	Version
Order No.	<a href="#">1581420000</a>	PCB plug-in connector, male header, open side, THT solder
GTIN (EAN)	4008190133863	connection, 5.00 mm, Number of poles: 12, 180°, Solder pin length
Qty.	50 ST	(l): 3.2 mm, tinned, orange, Box

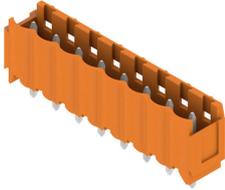
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## Counterpart

### 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 5.00/12/180B 3.2SN O...	Version
Order No.	<a href="#">1581880000</a>	PCB plug-in connector, male header, Dovetails for fixing blocks, THT
GTIN (EAN)	4008190185947	solder connection, 5.00 mm, Number of poles: 12, 180°, Solder pin
Qty.	50 ST	length (l): 3.2 mm, tinned, orange, Box

### SL 5.00/90

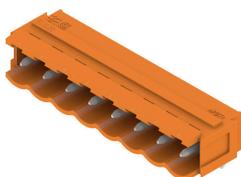


Male connectors with 90° outlet direction. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

#### General ordering data

Type	SL 5.00/12/90 3.2SN OR ...	Version
Order No.	<a href="#">1571110000</a>	PCB plug-in connector, male header, open side, THT solder
GTIN (EAN)	4008190140106	connection, 5.00 mm, Number of poles: 12, 90°, Solder pin length (l):
Qty.	50 ST	3.2 mm, tinned, orange, Box
Type	SL 5.00/12/90 4.5SN BK ...	Version
Order No.	<a href="#">1626080000</a>	PCB plug-in connector, male header, open side, THT solder
GTIN (EAN)	4008190197384	connection, 5.00 mm, Number of poles: 12, 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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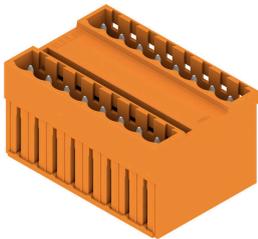
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## Counterpart

## General ordering data

Type	SL 5.00/12/90B 3.2SN OR...	Version
Order No.	<a href="#">1580960000</a>	PCB plug-in connector, male header, Dovetails for fixing blocks, THT
GTIN (EAN)	4008190071851	solder connection, 5.00 mm, Number of poles: 12, 90°, Solder pin
Qty.	50 ST	length (l): 3.2 mm, tinned, orange, Box

## SLD 5.00/180G

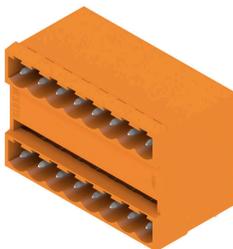


2-tier male header with parallel pin arrangement. The solder pin length is optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

## General ordering data

Type	SLD 5.00/24/180G 3.2SN ...	Version
Order No.	<a href="#">1614910000</a>	PCB plug-in connector, male header, closed side, THT solder
GTIN (EAN)	4008190040222	connection, 5.00 mm, Number of poles: 24, 180°, Solder pin length
Qty.	10 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 5.00/24/90G 3.2 SN ...	Version
Order No.	<a href="#">1614450000</a>	PCB plug-in connector, male header, closed side, THT solder
GTIN (EAN)	4008190030780	connection, 5.00 mm, Number of poles: 24, 90°, Solder pin length (l):
Qty.	10 ST	3.2 mm, tinned, orange, Box

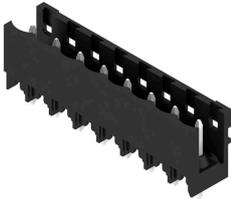
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## Counterpart

## SL-SMT 5.00HC/180 Box

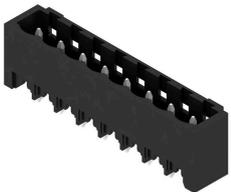


High-temperature-resistant, straight, open pin header. Packed in box or tape. On tape and with 1.5 mm solder pin, optimised for automatic assembly. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded. HC = High Current.

## General ordering data

Type	SL-SMT 5.00HC/12/180 3...	Version
Order No.	<a href="#">1841030000</a>	PCB plug-in connector, male header, open side, THT/THR solder
GTIN (EAN)	4032248351916	connection, 5.00 mm, Number of poles: 12, 180°, Solder pin length
Qty.	50 ST	(l): 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/12/180G 3...	Version
Order No.	<a href="#">1841260000</a>	PCB plug-in connector, male header, closed side, THT/THR solder
GTIN (EAN)	4032248352166	connection, 5.00 mm, Number of poles: 12, 180°, Solder pin length
Qty.	50 ST	(l): 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/12/90 3.2...	Version
Order No.	<a href="#">1839990000</a>	PCB plug-in connector, male header, open side, THT/THR solder
GTIN (EAN)	4032248350735	connection, 5.00 mm, Number of poles: 12, 90°, Solder pin length (l):
Qty.	50 ST	3.2 mm, tinned, black, Box

## BLF 5.00HC/12/180 SN BK BX

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

## Counterpart

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

### 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/12/90G 3...	Version
Order No.	<a href="#">1840220000</a>	PCB plug-in connector, male header, closed side, THT/THR solder connection, 5.00 mm, Number of poles: 12, 90°, Solder pin length (l):
GTIN (EAN)	4032248350964	
Qty.	50 ST	3.2 mm, tinned, black, Box