

**CH20M45 SET 33/33 BK/OR****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**Superior efficiency, flexibility and design - the "standard tailor-made fit"**

When selecting a housing design, flexibility is a key factor. Other important criteria are: scalability, customised design, innovative functionality and cost efficiency. You need a choice which offers the maximum performance with the minimum overhead.

The CH20M45 modular electronics housings come in an integrated extra-large assortment. It is suited for those electronics applications that require more space, such as compact controllers and power supplies.

The entire system is characterized by excellence: outstanding scalability and flexibility, a high security level, innovative application functionality and a variety of practical details.

- **Quicker installation** with features such as "Wire ready" the universal multi-tool screw head
- **User-friendly operations:** with clear and permanent labelling and extra marking possibilities, integrated release clip or transparent cover
- **Maximum interference immunity** with EMC-compliant construction featuring deeply overlapping module joint edges made from high-performance plastic
- **High operational reliability** with the unique Auto-Set coding system and featuring double-sided touch protection on the pin header and socket blocks

CH20M - a compact name for the most flexible system available on the market. It doesn't just stand for "Component Housing IP20 Modular".

CH20M also stands for efficiency and innovation throughout design, production and use.

**General ordering data**

Version	Electronics housing sample, OMNIMATE Housing - series CH20M black, Sample kit for developers, consisting of individual parts incl. female plug, Complete enclosure, Connection technology, Width: 45 mm
Order No.	<a href="#">1519520000</a>
Type	CH20M45 SET 33/33 BK/OR
GTIN (EAN)	4050118327212
Qty.	1 pc(s).

## CH20M45 SET 33/33 BK/OR

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## Technical data

## Dimensions and weights

Depth	113.6 mm	Depth (inches)	4.472 inch
Height	117.2 mm	Height (inches)	4.614 inch
Width	45 mm	Width (inches)	1.772 inch
Length	113.6 mm	Length (inches)	4.472 inch
Net weight	240 g		

## Temperatures

Installation temperature	-25 °C...85 °C	Humidity	5 - 93% rel. humidity, Tu = 40°C, no condensation
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## Rated data acc. to IEC

Rated current, max. number of poles (Tu=20°C)	10 A	Rated current, max. number of poles (Tu=40°C)	9 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

## Material data

Comparative Tracking Index (CTI)	400 ≤ CTI <600	Insulating material	PA 66 GF 30
Insulating material group	II	UL 94 flammability rating	V-0

## General data

Colour	black	Colour chart (similar)	RAL 9011
Encapsulation option	No	Protection degree	IP20 in installed state
Rail	TS 35		

## Design - IN requirements

PCB thickness	1.6 mm	Tolerance for the PCB shape	±0.1 mm
Tolerance of circuit board thickness	±0.15 mm		

## Assembly properties

Number of connection levels	3	Number of ventilation openings	0
Number of poles	4	Cross-connection	No
Type of contact to PCB	Solder connection, direct	Type of connection	pluggable

## Housing properties

Flip cover mountable	Yes	Marker integrateable	Yes
Cut out as preperation for functional port integrated	No	Color of clip-on foot	orange

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## Technical data

## Connectable conducteurs

Wire connection method	Clamping yoke connection	Stripping length	8 mm
Tightening torque, min.	0.4 Nm	Tightening torque, max.	0.5 Nm
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 26	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>
Stranded, max. H07V-R	2.5 mm <sup>2</sup>	Flexible, min. H05(07) V-K	0.2 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>
Max. clamping range	2.5 mm <sup>2</sup>		

## Classifications

ETIM 7.0	EC001031	ETIM 8.0	EC001031
ETIM 9.0	EC001031	ECLASS 11.0	27-18-27-02
ECLASS 12.0	27-18-27-02	ECLASS 13.0	27-19-05-01

## Environmental Product Compliance

REACH SVHC /

## Approvals

ROHS Conform

## Downloads

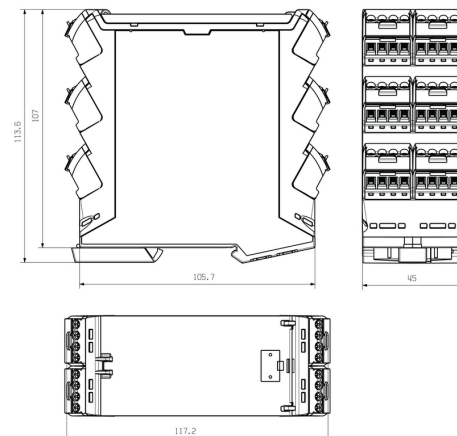
Engineering Data	<a href="#">CAD data – PCB_position_50882_LP-POSITION_45MM</a> <a href="#">CAD data – Pin_header_pin_length_CH20M_A_OV_PCB-SHL_70315</a> <a href="#">CAD data – STEP</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">FL ANALO.SIGN.CONV. EN</a> <a href="#">MB DEVICE MANUF. EN</a> <a href="#">FL MACHINE SAFETY EN</a> <a href="#">FL 72H SAMPLE SER EN</a> <a href="#">PO OMNIMATE EN</a>

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## Drawings



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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Custom printing**

ESG is the tried-and-tested marker in MultiCard format for use on many well-known electrical devices. The result is high-quality device marking with a high-contrast appearance.

Various types are available for devices from manufacturers like Siemens, ABB, Beckhoff etc.

Advantages at a glance:

- Tags for universal usage, self-adhesive or clip-on tags, depending on type
- For aligned equipment, e.g. circuit breakers, we supply ESG markers for clipping onto tag rails
- Individual laser-quality printing according to specifications

**For custom printing:** Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

**General ordering data**

Type	ESG 8/13.5/43.3 SAI SDR	Version
Order No.	<a href="#">1038860000</a>	ESG, Device markers x 13.5 mm, PA 66, Colour: To customer
GTIN (EAN)	4032248768110	specification
Qty.	1 pc(s).	

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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Blank**

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- Individual laser-quality printing according to specifications

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**General ordering data**

Type	ESG 6.6/20 BHZ 5.00/04	Version
Order No.	<a href="#">1082540000</a>	ESG, Device markers x 20 mm, PA 66, Colour: white
GTIN (EAN)	4032248845439	
Qty.	200 pc(s).	

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- Individual laser-quality printing according to specifications

**For custom printing:** Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

**General ordering data**

Type	ESG 6.6/20 BHZ 5.00 SDR	Version
Order No.	<a href="#">1221520000</a>	ESG, Device markers x 20 mm, PA 66, Colour: To customer
GTIN (EAN)	4050118005066	specification
Qty.	40 pc(s).	

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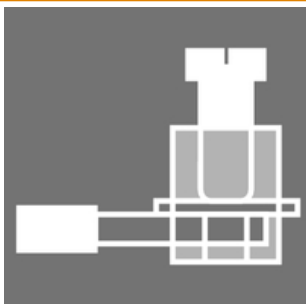
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## Accessories

## Female plugs - Clamping yoke screw connection

**Naturally, the CH20M system also shows its perfection in the peripheral interface.**

When considering design options, processing, usability, reliability and security, the PCB terminals or pin headers and connectors are just as important in the practice as the entire system.

In every sector, the connection technology is at the top of its class.

- **100% non-interchangeable** Together with the captive, unique "Auto-Set" encoding, the uniquely detectable markers on the plug connection and in the front ensure misconnection-proof assignment of the connections. Both markers can be printed as cards in a PrintJet and then permanently snapped on.
- **100% intuitive** Quick and easy operation by means of an integrated colour-coded release lever with grip tab and including a screwdriver pocket.
- **100% safe** Touch protection for the male and female header on both sides
- **100% efficient** All PCB connection elements are reflow compatible
- **100% time and cost savings** During the installation: the quick all-purpose "Multi-Tool" screw head ensures a secure contact, user-friendly operation and less complexity. Additional features, such as the "Wire ready" technology, enable you to minimize wiring costs and increase customer satisfaction.

Simple, component-friendly unplugging of the female plug using the integrated release lever.

## General ordering data

Type	BHZ 5.00/04/90LH BK/GGY	Version	Product data	Packaging
Order No.	<a href="#">1421750000</a>	PCB plug-in connector BHZ 5.00/04/90LH SN BK/GGY BX cod. 02	IEC: 400 V / 10 A / 0.2 - 2.5 mm <sup>2</sup>	Box
GTIN (EAN)	4050118225518		UL: 300 V / 10 A / AWG 26 - AWG 12	
Qty.	78 pc(s).			
Type	BHZ 5.00/04/90LH BK/BL	Version	Product data	Packaging
Order No.	<a href="#">1069380000</a>	PCB plug-in connector Blue release lever cod. 02	IEC: 400 V / 10 A / 0.2 - 2.5 mm <sup>2</sup>	Box
GTIN (EAN)	4032248825028		UL: 300 V / 10 A / AWG 26 - AWG 12	
Qty.	78 pc(s).			
Type	BHZ 5.00/04/90LH BK/BK	Version	Product data	Packaging
Order No.	<a href="#">1069350000</a>	PCB plug-in connector Black release lever cod. 02	IEC: 400 V / 10 A / 0.2 - 2.5 mm <sup>2</sup>	Box
GTIN (EAN)	4032248825011		UL: 300 V / 10 A / AWG 26 - AWG 12	
Qty.	78 pc(s).			
Type	BHZ 5.00/04/90LH BK/OR	Version	Product data	Packaging
Order No.	<a href="#">1063280000</a>	PCB plug-in connector Orange release lever cod. 02	IEC: 400 V / 10 A / 0.2 - 2.5 mm <sup>2</sup>	Box
GTIN (EAN)	4032248814947		UL: 300 V / 10 A / AWG 26 - AWG 12	
Qty.	78 pc(s).			
Type	BHZ 5.00/04/90LH GGY/BL	Version	Product data	Packaging
Order No.	<a href="#">1372580000</a>	PCB plug-in connector Blue release lever BHZ 5.00/04/90LH SN	IEC: 400 V / 10 A / 0.2 - 2.5 mm <sup>2</sup>	Box
GTIN (EAN)	4050118174625	GGY/BL BX cod. 02	UL: 300 V / 10 A / AWG 26 - AWG 12	
Qty.	78 pc(s).			



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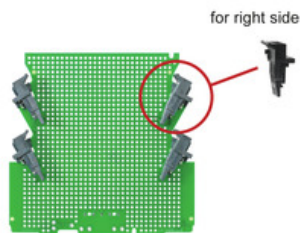
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## Accessories

Type	BHZ 5.00/04/90LH GGY/GGY	Version	Product data	Packaging
Order No.	<a href="#">1372520000</a>	PCB plug-in connector BHZ 5.00/04/90LH SN GGY/GGY BX cod. 02	IEC: 400 V / 10 A / 0.2 - 2.5 mm <sup>2</sup>	Box
GTIN (EAN)	4050118174229		UL: 300 V / 10 A / AWG 26 - AWG 12	
Qty.	78 pc(s).			

## SHL-SMT 5.00/04GR - right connection side

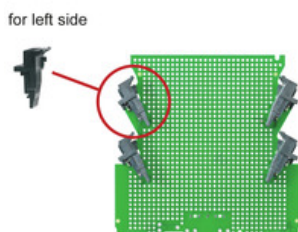


Male connectors with solder pin length optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

## General ordering data

Type	SHL-SMT 5.00/04GR 5.9BX	Version	Product data	Packaging
Order No.	<a href="#">1069710000</a>	PCB plug-in connector, Connection element, right, male header, open	IEC: 400 V	Box
GTIN (EAN)	4032248825073	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	108 pc(s).	Solder pin length (l): 5.9 mm, tinned, black, Box		
Type	SHL-SMT 5.00/04GR 5.9RL	Version	Product data	Packaging
Order No.	<a href="#">1069740000</a>	PCB plug-in connector, Connection element, right, male header, open	IEC: 400 V	Tape
GTIN (EAN)	4032248825066	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	130 pc(s).	Solder pin length (l): 5.9 mm, tinned, black, Tape		

## SHL-SMT 5.00/04GL - left connection side



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

## General ordering data

Type	SHL-SMT 5.00/04GL 5.9BX	Version	Product data	Packaging
Order No.	<a href="#">1069770000</a>	PCB plug-in connector, Connection element, left, male header, open	IEC: 400 V	Box
GTIN (EAN)	4032248825097	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	108 pc(s).	Solder pin length (l): 5.9 mm, tinned, black, Box		
Type	SHL-SMT 5.00/04GL 5.9RL	Version	Product data	Packaging
Order No.	<a href="#">1069810000</a>	PCB plug-in connector, Connection element, left, male header, open	IEC: 400 V	Tape
GTIN (EAN)	4032248824694	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	130 pc(s).	Solder pin length (l): 5.9 mm, tinned, black, Tape		

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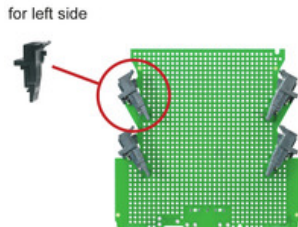
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## Accessories

## SHL-SMT 5.00/04GL - left connection side

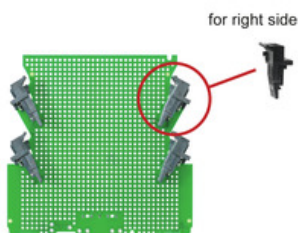


High-temperature-resistant, straight, open pin header. Packed in box or tape. On tape and with 1.5 mm solder pin, optimised for automatic assembly. 3.2 mm solder pin suitable for reflow and wave soldering. The pin headers provide space for labelling and can be coded. HC = High Current.

## General ordering data

Type	SHL-SMT 5.00/04GL 1.5BX	Version	Product data	Packaging
Order No.	<a href="#">1063220000</a>	PCB plug-in connector, Connection element, left, male header, open	IEC: 400 V	Box
GTIN (EAN)	4032248814886	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°, UL: 300 V / 9 A / AWG 26 - AWG 12		
Qty.	108 pc(s).	Solder pin length (l): 1.5 mm, tinned, black, Box		
Type	SHL-SMT 5.00/04GL 4.2RL	Version	Product data	Packaging
Order No.	<a href="#">1069670000</a>	PCB plug-in connector, Connection element, left, male header, open	IEC: 400 V	Tape
GTIN (EAN)	4032248825172	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°, UL: 300 V / 9 A / AWG 26 - AWG 12		
Qty.	130 pc(s).	Solder pin length (l): 4.2 mm, tinned, black, Tape		
Type	SHL-SMT 5.00/04GL 1.5RL	Version	Product data	Packaging
Order No.	<a href="#">1063250000</a>	PCB plug-in connector, Connection element, left, male header, open	IEC: 400 V	Tape
GTIN (EAN)	4032248814916	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°, UL: 300 V / 9 A / AWG 26 - AWG 12		
Qty.	130 pc(s).	Solder pin length (l): 1.5 mm, tinned, black, Tape		
Type	SHL-SMT 5.00/04GL 4.2BX	Version	Product data	Packaging
Order No.	<a href="#">1069640000</a>	PCB plug-in connector, Connection element, left, male header, open	IEC: 400 V	Box
GTIN (EAN)	4032248825080	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°, UL: 300 V / 9 A / AWG 26 - AWG 12		
Qty.	108 pc(s).	Solder pin length (l): 4.2 mm, tinned, black, Box		

## SHL-SMT 5.00/04GR - right connection side



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	SHL-SMT 5.00/04GR 4.2RL	Version	Product data	Packaging
Order No.	<a href="#">1069610000</a>	PCB plug-in connector, Connection element, right, male header, open	IEC: 400 V	Tape
GTIN (EAN)	4032248825059	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°, UL: 300 V / 9 A / AWG 26 - AWG 12		
Qty.	130 pc(s).	Solder pin length (l): 4.2 mm, tinned, black, Tape		
Type	SHL-SMT 5.00/04GR 4.2BX	Version	Product data	Packaging
Order No.	<a href="#">1069570000</a>	PCB plug-in connector, Connection element, right, male header, open	IEC: 400 V	Box
GTIN (EAN)	4032248825165	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°, UL: 300 V / 9 A / AWG 26 - AWG 12		
Qty.	108 pc(s).	Solder pin length (l): 4.2 mm, tinned, black, Box		

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## Accessories

Type	SHL-SMT 5.00/04GR 1.5BX	Version	Product data	Packaging
Order No.	<a href="#">1063150000</a>	PCB plug-in connector, Connection element, right, male header, open	IEC: 400 V	Box
GTIN (EAN)	4032248876471	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	108 pc(s).	Solder pin length (l): 1.5 mm, tinned, black, Box		
Type	SHL-SMT 5.00/04GR 1.5RL	Version	Product data	Packaging
Order No.	<a href="#">1063180000</a>	PCB plug-in connector, Connection element, right, male header, open	IEC: 400 V	Tape
GTIN (EAN)	4032248814855	side, THT/THR solder connection, 5.00 mm, Number of poles: 4, 90°	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	130 pc(s).	Solder pin length (l): 1.5 mm, tinned, black, Tape		

## Blank



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- Tags for universal usage, self-adhesive or clip-on tags, depending on type
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## General ordering data

Type	ESG 8/13.5/43.3 SAI AU	Version
Order No.	<a href="#">1912130000</a>	ESG, Device markers x 13.5 mm, PA 66, Colour: Transparent
GTIN (EAN)	4032248541164	
Qty.	5 pc(s).	

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## Accessories

## CH20M AD SHL 5.00/04 - Side element cover for CH20M22, CH20M45, CH20M67

**The perfect platform for function and innovation:**

Innovative function electronics require intelligent "packages" in order to integrate perfectly in the system environment.

The ongoing development and consistent expansion of the Weidmüller electronics housing portfolio provides a secure platform for future electronics applications whatever the design or intended use. CAD data for PCBs is provided for all enclosures. Screw and tension clamp terminals are available for all connections.

The consistent synergy between design, connection system and functionality lays the perfect foundation stone for electronics systems designed in line with market and application requirements.

Function, shape and manufacturing quality combine into a single logical unit that provides maximum reliability and operating comfort for the user.

**General ordering data**

Type	CH20M AD SHL 5.00/04 GG ...	Version
Order No.	<a href="#">1413740000</a>	Hood, OMNIMATE Housing - series CH20M Graphite grey, Side
GTIN (EAN)	4050118241648	element cover, Width: 22.5 mm
Qty.	50 pc(s).	
Type	CH20M AD SHL 5.00/04 BK ...	Version
Order No.	<a href="#">1221310000</a>	Hood, OMNIMATE Housing - series CH20M black, Side element cover,
GTIN (EAN)	4050118004830	Width: 22.5 mm
Qty.	50 pc(s).	
Type	CH20M AD SHL 5.00/04 AG ...	Version
Order No.	<a href="#">1472830000</a>	Hood, OMNIMATE Housing - series CH20M Agate grey, Side element
GTIN (EAN)	4050118279429	cover, Width: 22.5 mm
Qty.	50 pc(s).	
Type	CH20M AD SHL 5.00/04 LG ...	Version
Order No.	<a href="#">1432890000</a>	Hood, OMNIMATE Housing - series CH20M Light Grey, Side element
GTIN (EAN)	4050118237641	cover, Width: 22.5 mm
Qty.	50 pc(s).	

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## Accessories

## Female plugs - PUSH IN spring connection

**Naturally, the CH20M system also shows its perfection in the peripheral interface.**

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In every sector, the connection technology is at the top of its class.

- **100% non-interchangeable** Together with the captive, unique "Auto-Set" encoding, the uniquely detectable markers on the plug connection and in the front ensure misconnection-proof assignment of the connections. Both markers can be printed as cards in a PrintJet and then permanently snapped on.
- **100% intuitive** Quick and easy operation by means of an integrated colour-coded release lever with grip tab and including a screwdriver pocket.
- **100% safe** Touch protection for the male and female header on both sides
- **100% efficient** All PCB connection elements are reflow compatible
- **100% time and cost savings** During the installation: the quick all-purpose "Multi-Tool" screw head ensures a secure contact, user-friendly operation and less complexity. Additional features, such as the "Wire ready" technology, enable you to minimize wiring costs and increase customer satisfaction.

Simple, component-friendly unplugging of the female plug using the integrated release lever.

## General ordering data

Type	BHF 5.00/04/180LH BK/BL	Version	Product data	Packaging
Order No.	<a href="#">1989090000</a>	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 4,	IEC: 400 V / 10 A / 0.2 - 2.5 mm <sup>2</sup>	Box
GTIN (EAN)	4050118533453	180°, PUSH IN with actuator, Tension-clamp connection, Box	UL: 300 V / 10 A / AWG 26 - AWG 14	
Qty.	78 pc(s).			
Type	BHF 5.00/04/180LH BK/OR	Version	Product data	Packaging
Order No.	<a href="#">1989190000</a>	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 4,	IEC: 400 V / 10 A / 0.2 - 2.5 mm <sup>2</sup>	Box
GTIN (EAN)	4050118373820	180°, PUSH IN with actuator, Tension-clamp connection, Box	UL: 300 V / 10 A / AWG 26 - AWG 14	
Qty.	78 pc(s).			
Type	BHF 5.00/04/180LH BK/BK	Version	Product data	Packaging
Order No.	<a href="#">1497500000</a>	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 4,	IEC: 400 V / 10 A / 0.2 - 2.5 mm <sup>2</sup>	Box
GTIN (EAN)	4050118306828	180°, PUSH IN with actuator, Tension-clamp connection, Box	UL: 300 V / 10 A / AWG 26 - AWG 14	
Qty.	78 pc(s).			