CH20M12 SET 2/3 BK/OR

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

www.weidmueller.com

Product image

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, customized design, innovative functionality and cost efficiency. You need a choice which offers the maximum performance with the minimum overhead.
The CH20M12 modular electronics housing is the "small" option amongst the "large" housing solutions for compact electronics applications.
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: 12.5 mm
Order No.	1519270000
Type	CH20M12 SET 2/3 BK/OR
GTIN (EAN)	4050118326888
Qty.	1 pc(s).

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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	12.5 mm	Width (inches)	0.492 inch
Length	113.6 mm	Length (inches)	4.472 inch
Net weight	92 g		

Temperatures

Installation temperature	-25 °C...85 °C	Humidity	5 - 93% rel. humidity, Tu = 40°C, no condensation

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	1
Number of poles	2	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 coducteurs

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 mm²	Clamping range, max.	2.5 mm²
Wire connection cross section AWG, min.	AWG 26	Wire connection cross section AWG, max.	AWG 14
Solid, min. H05(07) V-U	0.2 mm²	Solid, max. H05(07) V-U	2.5 mm²
Stranded, max. H07V-R	2.5 mm²	Flexible, min. H05(07) V-K	0.2 mm²
w. plastic collar ferrule, DIN 46228 pt 4, min.	0.25 mm²	w. plastic collar ferrule, DIN 46228 pt 4, max.	2.5 mm²
w. wire end ferrule, DIN 46228 pt 1, min.	0.25 mm²	w. wire end ferrule, DIN 46228 pt 1, max.	2.5 mm²
Max. clamping range	2.5 mm²		

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

Important note

Product information	Circuit board contour, restricted zones, and other information for the design in of the circuit board can be found in the category connection technology under the corresponding male headers in the downloads.

Approvals

ROHS	Conform

Downloads

Engineering Data	CAD data – PCB_position_50880_LP-POSITION_12MM CAD data – Pin_header_pin_length_CH20M_A_OV_PCB-SHL_70315 CAD data – STEP
Catalogues	Catalogues in PDF-format
Brochures	FL ANALO.SIGN.CONV. EN MB DEVICE MANUF. EN FL MACHINE SAFETY EN FL 72H SAMPLE SER EN PO OMNIMATE EN

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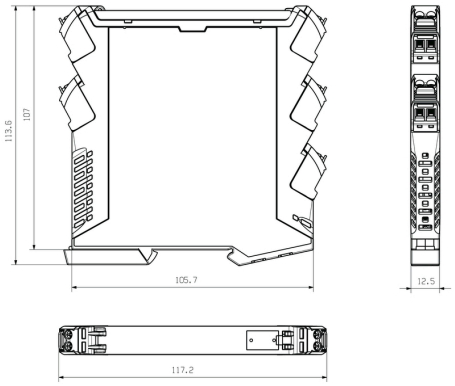
Drawings

Product image

Product image

Product image

Dimensioned drawing



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Accessories

Blank

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 6.6/11 BHZ 5.00/02	Version
Order No.	1082490000	ESG, Device markers x 11 mm, PA 66, Colour: white
GTIN (EAN)	4032248845330	
Qty.	200 pc(s).	

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General ordering data

Type	ESG 8/13.5/43.3 SAI AU	Version
Order No.	1912130000	ESG, Device markers x 13.5 mm, PA 66, Colour: Transparent
GTIN (EAN)	4032248541164	
Qty.	5 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.
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	BHF 5.00/02/180LH BK/BL	Version	Product data	Packaging
Order No.	1989220000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 2,	IEC: 400 V / 10 A / 0.2 - 2.5 mm²	Box
GTIN (EAN)	4050118373721	180°, PUSH IN with actuator, Tension-clamp connection, Box	UL: 300 V / 10 A / AWG 26 - AWG 14	
Qty.	150 pc(s).			
Type	BHF 5.00/02/180LH BK/BK	Version	Product data	Packaging
Order No.	1497740000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 2,	IEC: 400 V / 10 A / 0.2 - 2.5 mm²	Box
GTIN (EAN)	4050118306835	180°, PUSH IN with actuator, Tension-clamp connection, Box	UL: 300 V / 10 A / AWG 26 - AWG 14	
Qty.	150 pc(s).			
Type	BHF 5.00/02/180LH BK/OR	Version	Product data	Packaging
Order No.	1988380000	PCB plug-in connector, female plug, 5.00 mm, Number of poles: 2,	IEC: 400 V / 10 A / 0.2 - 2.5 mm²	Box
GTIN (EAN)	4050118534955	180°, PUSH IN with actuator, Tension-clamp connection, Box	UL: 300 V / 10 A / AWG 26 - AWG 14	
Qty.	150 pc(s).			

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Accessories

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General ordering data

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

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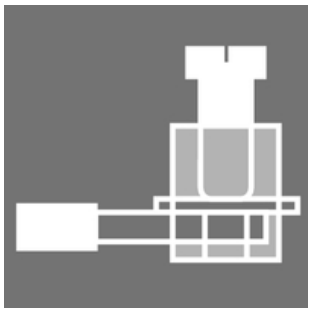
Accessories

Female plugs - Clamping yoke screw connection



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

General ordering data

Type	BHZ 5.00/02/90LH BK/BK	Version	Product data	Packaging
Order No.	1069330000	PCB plug-in connector Screw connection, Black release lever cod. 02	IEC: 400 V / 10 A / 0.2 - 2.5 mm²	Box
GTIN (EAN)	4032248824939		UL: 300 V / 10 A / AWG 26 - AWG 12	
Qty.	150 pc(s).			
Type	BHZ 5.00/02/90LH BK/BL	Version	Product data	Packaging
Order No.	1069360000	PCB plug-in connector Blue release lever cod. 02	IEC: 400 V / 10 A / 0.2 - 2.5 mm²	Box
GTIN (EAN)	4032248824625		UL: 300 V / 10 A / AWG 26 - AWG 12	
Qty.	150 pc(s).			
Type	BHZ 5.00/02/90LH BK/OR	Version	Product data	Packaging
Order No.	1063260000	PCB plug-in connector Orange release lever cod. 02	IEC: 400 V / 10 A / 0.2 - 2.5 mm²	Box
GTIN (EAN)	4032248814923		UL: 300 V / 10 A / AWG 26 - AWG 12	
Qty.	150 pc(s).			

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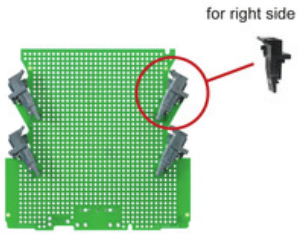
Accessories

SHL-SMT 5.00/02GR - 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 5.00/02GR 5.9BX	Version	Product data	Packaging
Order No.	1069680000	PCB plug-in connector, Connection element, right, male header, open	IEC: 400 V	Box
GTIN (EAN)	4032248825257	side, THT/THR solder connection, 5.00 mm, Number of poles: 2, 90°,	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	150 pc(s).	Solder pin length (l): 3.2 mm, tinned, black, Box		
Type	SHL-SMT 5.00/02GR 5.9RL	Version	Product data	Packaging
Order No.	1069720000	PCB plug-in connector, Connection element, right, male header, open	IEC: 400 V	Tape
GTIN (EAN)	4032248825134	side, THT/THR solder connection, 5.00 mm, Number of poles: 2, 90°,	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	260 pc(s).	Solder pin length (l): 3.2 mm, tinned, black, Tape		

Custom printing

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General ordering data

Type	ESG 6.6/11 BHZ 5.00 SDR	Version
Order No.	1346330000	ESG, Device markers x 11 mm, PA 66, Colour: To customer
GTIN (EAN)	4050118151206	specification
Qty.	200 pc(s).	

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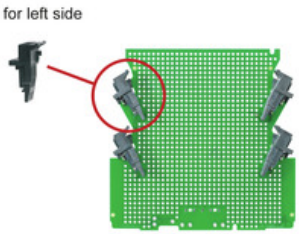
Accessories

SHL-SMT 5.00/02GL - left connection side

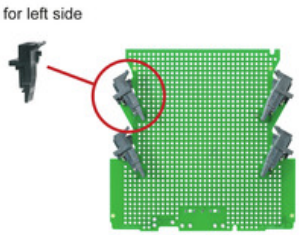


Male connectors with solder pin length optimised for wave flow soldering. The pin headers provide space for labelling and can be coded.

General ordering data

Type	SHL-SMT 5.00/02GL 5.9RL	Version	Product data	Packaging
Order No.	1069780000	PCB plug-in connector, Connection element, left, male header, open	IEC: 400 V	Tape
GTIN (EAN)	4032248825233	side, THT/THR solder connection, 5.00 mm, Number of poles: 2, 90°,	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	260 pc(s).	Solder pin length (l): 3.2 mm, tinned, black, Tape		
Type	SHL-SMT 5.00/02GL 5.9BX	Version	Product data	Packaging
Order No.	1069750000	PCB plug-in connector, Connection element, left, male header, open	IEC: 400 V	Box
GTIN (EAN)	4032248825189	side, THT/THR solder connection, 5.00 mm, Number of poles: 2, 90°,	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	150 pc(s).	Solder pin length (l): 3.2 mm, tinned, black, Box		

SHL-SMT 5.00/02GL - 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 5.00/02GL 4.2RL	Version	Product data	Packaging
Order No.	1069650000	PCB plug-in connector, Connection element, left, male header, open	IEC: 400 V	Tape
GTIN (EAN)	4032248825103	side, THT/THR solder connection, 5.00 mm, Number of poles: 2, 90°,	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	260 pc(s).	Solder pin length (l): 1.5 mm, tinned, black, Tape		
Type	SHL-SMT 5.00/02GL 4.2BX	Version	Product data	Packaging
Order No.	1069620000	PCB plug-in connector, Connection element, left, male header, open	IEC: 400 V	Box
GTIN (EAN)	4032248825158	side, THT/THR solder connection, 5.00 mm, Number of poles: 2, 90°,	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	150 pc(s).	Solder pin length (l): 1.5 mm, tinned, black, Box		

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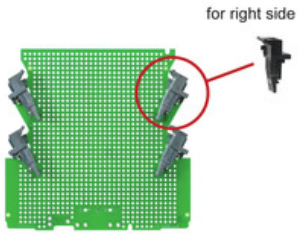
Accessories

SHL-SMT 5.00/02GR - 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 5.00/02GR 4.2BX	Version	Product data	Packaging
Order No.	1069550000	PCB plug-in connector, Connection element, right, male header, open	IEC: 400 V	Box
GTIN (EAN)	4032248825110	side, THT/THR solder connection, 5.00 mm, Number of poles: 2, 90°,	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	150 pc(s).	Solder pin length (l): 1.5 mm, tinned, black, Box		
Type	SHL-SMT 5.00/02GR 4.2RL	Version	Product data	Packaging
Order No.	1069580000	PCB plug-in connector, Connection element, right, male header, open	IEC: 400 V	Tape
GTIN (EAN)	4032248824687	side, THT/THR solder connection, 5.00 mm, Number of poles: 2, 90°,	UL: 300 V / 9 A / AWG 26 - AWG 12	
Qty.	260 pc(s).	Solder pin length (l): 1.5 mm, tinned, black, Tape		