

**CH20M22 B BUS FE BK/BK 2010**

**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, customised design, innovative functionality and cost efficiency. You need a choice which offers the maximum performance with the minimum overhead.

The CH20M22 modular electronics housing is the standard format from amongst the different housing widths. It has the optimal width for most typical 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 ESD-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	Modular housing, OMNIMATE Housing - series CH20M black, Base element, Recess in detent foot area for BUS contact, Recess in the detent foot area for FE contact, Width: 22.5 mm
Order No.	<a href="#">1384030000</a>
Type	CH20M22 B BUS FE BK/BK 2010
GTIN (EAN)	4050118271829
Qty.	10 pc(s).

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## Technical data

### Dimensions and weights

Depth	107.4 mm	Depth (inches)	4.228 inch
Height	109.3 mm	Height (inches)	4.303 inch
Width	22.5 mm	Width (inches)	0.886 inch
Net weight	39.4 g		

### Temperatures

Operating temperature range	-40 °C...120 °C	Humidity	5 - 93% rel. humidity, Tu = 40°C, no condensation
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### Material data

Comparative Tracking Index (CTI)	600 ≤ CTI	Insulating material	PA 66 GF 30
Insulating material group	I	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		

### Assembly properties

Number of slots for female connectors of the mounted assembly, max.	6	Number of PCBs, max.	1
Number of connection levels, max.	3	Number of poles, max.	24
Height of components on the PCB, max.	16.1 mm	Type of assembly of the PCB	double-sided

### Mechanical tests

According to Standard	DIN EN 61373:1999 (shock and vibration)		
Test conditions	five housings installed in a row, 200g additional weight on the PCB		
Proved axles	X, Y, Z		
Shock test	General test advices	All mechanical tests were tested on exemplary setup, or in view of depending regulation. The specified results do not replace approval relevant tests. They are just orientation values.	
	Test category	1	
	Number of shocks per axle	3 in positive and negative direction	
	Shock duration	30 ms	
	Acceleration horizontal	30 m/s <sup>2</sup>	
	Acceleration vertical	30 m/s <sup>2</sup>	
Vibration test	Acceleration longitudinal	50 m/s <sup>2</sup>	
	Effective acceleration	7.9 m/s <sup>2</sup>	
	Test category	1B	
	Test duration	5 hours per axle	

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## Technical data

### Thermal tests

Thermal tests	General test advices	All thermal tests were tested on exemplary set-up, or in view of depending regulation. The specified results do not replace approval relevant tests. They are just orientation values.	
	Test conditions	three housings installed in a row - no spacing	
	Test axles	horizontal	
	Ambient temperature	70 °C	
	Power dissipation, max.	1.9 W	
	Ambient temperature	60 °C	
	Power dissipation, max.	2.35 W	
	Ambient temperature	40 °C	
	Power dissipation, max.	3.4 W	
	Ambient temperature	20 °C	
Power dissipation, max.	4.5 W		

### Component properties

Color of clip-on foot	black	Cut out in clip-on foot area as preparation for	BUS-contact, FE contact, contact not included!
Number of connection levels, max.	3		

### Design - IN requirements

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

### Individualization options

Customer specific labelling possible	Yes	Customer specific order process	See guideline under downloads
Processing possibilities	Laser processing		

### Classifications

ETIM 8.0	EC001031	ETIM 9.0	EC001031
ECLASS 11.0	27-18-27-92	ECLASS 12.0	27-18-27-92
ECLASS 13.0	27-19-06-01		

### 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.
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### Approvals

ROHS	Conform
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## Technical data

### Downloads

Engineering Data	<a href="#">CAD data – Pin_header_pin_length_CH20M_A_OV_PCB-SHL_70315</a> <a href="#">CAD data – STEP</a>
Technical Documentation	<a href="#">PCB_position_50881_LP-POSITION_22MM</a>
User Documentation	<a href="#">Guideline customerspecific housings</a> <a href="#">Guideline kundenspezifische Gehäuse</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

Product image

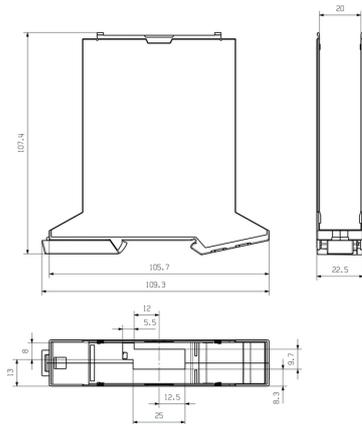


Product benefits



Base element including BUS and FE cut-out

Dimensioned drawing



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## Accessories

## Bus contact block - Solder flange



### The integrated rail bus for the modular electronics housing system

When supplying, connecting or distributing within modular applications, the rail bus can replace the tedious individual wiring process with a flexible and uninterrupted system-wide solution.

The system bus is securely integrated within the 35-mm standard mounting rail. The SMD-bus contact block can be reflow-soldered so that it can be completely automatically processed during the component assembly. The resistant, gold-plated contact surfaces ensure a permanent and reliable contact for all housing widths.

- **Unlimited scalability** The integrated connection solution covers all system widths: from the 6-mm slice to the 67-mm large-area housing.
- **Easy to service during installation** It's easy to replace a module, even in existing modules groups – without any influence on the neighbouring modules.
- **Universal integration** The uninterrupted system bus is securely integrated within the 35-mm standard mounting rail.
- **Maximum availability** Five fully-galvanized and partially gold-plated twin-arched contacts are used to establish a permanent contact to the rail bus. THR solder flanges ensure that the connection to the circuit board is stable.

### General ordering data

Type	SR-SMD 4.50/05/90LF 1.5 ...	Version	Product data	Packaging
Order No.	<a href="#">1155890000</a>	PCB plug-in connector, Bus-contact block for CH20M12-67, Solder	UL: 300 V / 5 A	Box
GTIN (EAN)	4032248942527	flange, THT/THR solder connection, Number of poles: 5, 180°, Solder		
Qty.	78 pc(s).	pin length (l): 1.5 mm, Gold-plated, black		
Type	SR-SMD 4.50/05/90LF 1.5 ...	Version	Product data	Packaging
Order No.	<a href="#">1155900000</a>	PCB plug-in connector, Bus-contact block for CH20M12-67, Solder	IEC: 160 V	Tape
GTIN (EAN)	4032248942381	flange, THT/THR solder connection, Number of poles: 5, 180°, Solder	UL: 300 V / 5 A	
Qty.	300 pc(s).	pin length (l): 1.5 mm, Gold-plated, black		

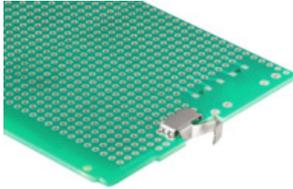
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## Accessories

## FE Contact - CH20M



## FE contact

**Functional reliability - either fully integrated or simply mounted**

The optional "CH20M FE" connection optimally protects your system with a mounting rail contact for the functional earth.

- The functional earth contact pre-assembled in the 6 mm housing enables permanent and reliable connection of electronic shields for the electronic circuit to the mounting rail (e.g. "CH20M6 BP 4P-4P FE BK", 1164650000)
- A functional earth contact, which can be processed fully automatically using the reflow method together with the male connectors and an optional bus contact, is available for housings from 12.5 to 67.5 mm. The position of the PCB in the housing specifies the pin length of 1.5 mm / 3.2 mm

## General ordering data

Type	CH20M FE 12-67 1.5SN RL	Version	Product data	Packaging
Order No.	<a href="#">1189370000</a>	Electronics housings, Accessories, THT/THR solder connection, 5.00	UL:	Tape
GTIN (EAN)	4032248972715	mm, Number of poles: 1, Solder pin length (l): 1.5 mm, tinned, Silver		
Qty.	750 pc(s).	grey, Tape		
Type	CH20M FE 12-67 3.2SN RL	Version	Product data	Packaging
Order No.	<a href="#">1264240000</a>	Electronics housings, Accessories, THT/THR solder connection, 5.00	UL:	Tape
GTIN (EAN)	4050118073997	mm, Number of poles: 1, Solder pin length (l): 3.2 mm, tinned, Silver		
Qty.	750 pc(s).	grey, Tape		

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## Accessories

### Bus contact block - Middle solder flange



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#### General ordering data

Type	SR-SMD 4.50/05/90LFM 3. ...	Version	Product data	Packaging
Order No.	<a href="#">1155870000</a>	PCB plug-in connector, Bus-contact block for CH20M12-67, Middle	UL: 300 V / 5 A	Box
GTIN (EAN)	4032248942510	solder flange, THT/THR solder connection, Number of poles: 5, 180°.		
Qty.	78 pc(s).	Solder pin length (l): 3.2 mm, Gold-plated, black		
Type	SR-SMD 4.50/05/90LFM 3. ...	Version	Product data	Packaging
Order No.	<a href="#">1155880000</a>	PCB plug-in connector, Bus-contact block for CH20M12-67, Middle	IEC: 160 V	Tape
GTIN (EAN)	4032248942305	solder flange, THT/THR solder connection, Number of poles: 5, 180°.	UL: 300 V / 5 A	
Qty.	300 pc(s).	Solder pin length (l): 3.2 mm, Gold-plated, black		