

CH20M22 B BUS BK/OR 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, Width: 22.5 mm |
| Order No. | 1177000000 |
| Type | CH20M22 B BUS BK/OR 2010 |
| GTIN (EAN) | 4032248970360 |
| 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 g | | |

Temperatures

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

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 axes | 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 ² | |
| | Acceleration vertical | 30 m/s ² | |
| | Acceleration longitudinal | 50 m/s ² | |
| Vibration test | Test category | 1B | |
| | Effective acceleration | 7.9 m/s ² | |
| | Test duration | 5 hours per axle | |

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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 | orange | Cut out in clip-on foot area as preparation for | BUS-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

| | | | |
|---------------------------------|-------------------------------|--------------------------------------|------------------|
| Alternative colours | More on request | 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 | | |

Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | / |
|------------|---|

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 |
|------|---------|

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Technical data

Downloads

| | |
|-------------------------|---|
| Engineering Data | CAD data – STEP CAD data – Pin_header_pin_length_CH20M_A_OV_PCB-SHL_70315 |
| Technical Documentation | PCB_position_50881_LP-POSITION_22MM |
| User Documentation | Guideline customerspecific housings Guideline kundenspezifische Gehäuse |
| 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 PO OMNIMATE EN |

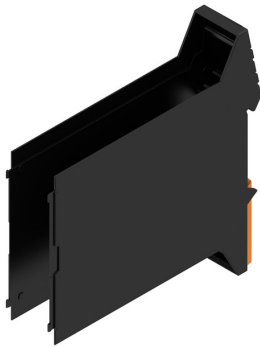
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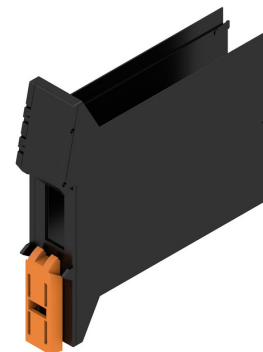
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Drawings

Product image

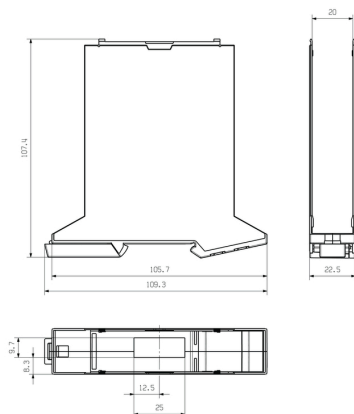


Product benefits



Base element including BUS 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. | 1155900000 | 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 | | |
| Type | SR-SMD 4.50/05/90LF 1.5 ... | Version | Product data | Packaging |
| Order No. | 1155890000 | 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 | | |

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Accessories

Bus contact block - Middle solder flange

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

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- **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 4.50/05/90LFM 3. ... | Version | Product data | Packaging |
|------------|-----------------------------|--|-----------------|-----------|
| Order No. | 1155880000 | 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 | | |
| Type | SR-SMD 4.50/05/90LFM 3. ... | Version | Product data | Packaging |
| Order No. | 1155870000 | 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 | | |