

Modulostar® CMS22

Modular fuse-holders

IEC Cylindrical Fuse Holders

The innovative and comprehensive Modulostar® range of Mersen fuse-holders. Modular fuse-holders are finger-safe under IEC standards to an IP20 grade of protection, including fuse changing (with the flick of a finger). Modular fuse-holders are available in 1, 2, 3 or 4 poles, with or without visual blown fuse indicator, in IEC version or IEC + UL version. Multi-pole units can also be field assembled by ordering pin-ties assembly kit. In size 14 or 22, the range also offers the possibility to use microswitches (supplied with the holders or ordered separately) to allow remote indication. Modulostar® range is made of tough and durable thermoplastic or thermoset material.

Features Benefits

- Finger safe
- Degree of protection: IP20
- Optional visual blown fuse indicator
- DIN rail mounting
- Modular design
- Lockable
- Multi-pole assembly kit available
- Sealable in closed and open position
- Plastic material UL94V2 mini
- Flame retardant materials with glow wire flammability index to 960°C

Applications

- All circuits up to 690V for protection of motors, transformers, low voltage distribution, control circuits.
- Non-load operation.

Technical data overview

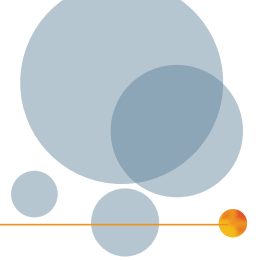
| | |
|---------------------------------|--|
| Voltage AC | 690 VAC |
| Voltage DC | 690 VDC |
| Amper (A) | 125 A |
| Rated operational current I_e | < / = 125A |
| SCCR | 100kA |
| Mounting | Installation on to DIN rails to EN 60715 |
| Product Size | for cylindrical fuse links 22x58 |
| Number of Poles | 1 to 4 poles |



Standards

IEC 60269-2 and IEC 60947-3
Compliance
RoHS Compliant
Plastic material: NF 16101 & 16102
Requirement 2 Compliant
Shock and vibration tested for marine and railway applications





Product range



CMS221



CMS222



CMS223



CMS223N



CMS2211

Modulostar® fuse-holders for 22x58 fuse-links, without indicator

| Catalog number | Reference number | Number of poles/ phases | Design | Weight | Package |
|----------------|------------------|-------------------------|---------------------------------------|---------|---------|
| CMS22N | K331094 | N | CMS22 neutral conductor | 218 g | 6 |
| CMS221 | T331079 | 1 | CMS22 single pole | 218 g | 6 |
| CMS221N | H331092 | 1 + N | CMS22 single pole + neutral conductor | 466.6 g | 3 |
| CMS222 | Q331122 | 2 | CMS22 double pole | 440 g | 3 |
| CMS223 | E331135 | 3 | CMS22 triple pole | 660 g | 2 |
| CMS223N | A331108 | 3 + N | CMS22 triple pole + neutral conductor | 930 g | 1 |
| CMS224 | Q331099 | 4 | CMS22 quadruple pole | 880 g | 1 |

Modulostar® fuse-holders for 22x58 fuse-links, with indicator

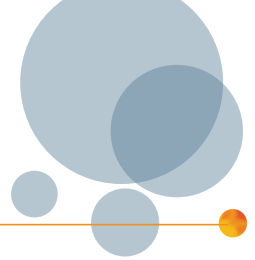
| Catalog number | Reference number | Number of poles/ phases | Design | Weight | Package |
|----------------|------------------|-------------------------|---------------------------------------|---------|---------|
| CMS221I | B331086 | 1 | CMS22 single pole | 218 g | 6 |
| CMS221NI | W1001462 | 1 + N | CMS22 single pole + neutral conductor | 466.6 g | 3 |
| CMS222I | D331134 | 2 | CMS22 double pole | 428.3 g | 3 |
| CMS223I | L331095 | 3 | CMS22 triple pole | 660 g | 2 |
| CMS223NI | N1001455 | 3 + N | CMS22 triple pole + neutral conductor | 920 g | 1 |

Modulostar® fuse-holders for 22x58 fuse-links, for installation of indicator and/or auxiliary microswitch

| Catalog number | Reference number | Number of poles/ phases | Design | Package |
|----------------|------------------|-------------------------|---------------------------------------|---------|
| CMS221P | Y331083 | 1 | CMS22 single pole | 6 |
| CMS223NP | M331073 | 3 + N | CMS22 triple pole + neutral conductor | 1 |
| CMS223P | V331126 | 3 | CMS22 triple pole | 2 |

Modulostar® fuse-holders for 22x58 fuse-links, with auxiliary microswitch

| Catalog number | Reference number | Number of poles/ phases | Design | Weight | Package |
|----------------|------------------|-------------------------|--|---------|---------|
| CMS221M | S331078 | 1 | CMS22 single pole | 218 g | 6 |
| CMS221NM | W1016642 | 1 + N | CMS22 single pole + neutral conductor | - | 3 |
| CMS222M | V331080 | 2 | CMS22 double pole, two auxiliary microswitches | 466.6 g | 3 |
| CMS223M | B331109 | 3 | CMS22 triple pole | 660 g | 2 |
| CMS223M2 | C331087 | 3 | CMS22 triple pole, two auxiliary microswitches | - | 2 |
| CMS223NM | T331102 | 3 + N | CMS22 triple pole + neutral conductor | 861 g | 1 |



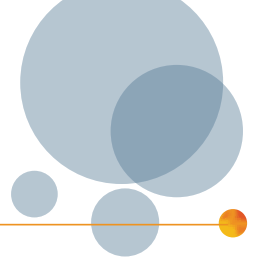
Product range

Modulostar® fuse-holders for 22x58 fuse-links, with indicator and auxiliary microswitch

| Catalog number | Reference number | Number of poles/phases | Design | Weight | Package |
|----------------|------------------|------------------------|--|---------|---------|
| CMS221MI | N331074 | 1 | CMS22 single pole | 228.3 g | 6 |
| CMS221NMI | N1016589 | 1 + N | CMS22 single pole + neutral conductor | - | 3 |
| CMS222MI | P331098 | 2 | CMS22 double pole, two auxiliary microswitches | 455 g | 3 |
| CMS223MI | E331112 | 3 | CMS22 triple pole | 660 g | 2 |
| CMS223M2I | Q331076 | 3 | CMS22 triple pole, two auxiliary microswitches | - | 2 |
| CMS223NMI | W331104 | 3 + N | CMS22 triple pole + neutral conductor | 930 g | 1 |

Technical Data

| | CMS22 | CMS22I | CMS22P | CMS22M | CMS22MI |
|--|---|---|---|---|---|
| Size | 22x58 | 22x58 | 22x58 | 22x58 | 22x58 |
| Number of poles/phases | 1, 1+N, 2, 3, 3+N, 4 | 1, 1+N, 2, 3, 3+N | 1, 3+N, 3 | 1, 1+N, 2, 3, 3+N | 1, 1+N, 2, 3, 3+N |
| Conventional free air thermal current with fuse links I_{th} | 125 A | 125 A | 125 A | 125 A | 125 A |
| Power dissipation at I_{th} | 9.5 W | 9.5 W | 9.5 W | 9.5 W | 9.5 W |
| Utilisation category | AC20B/DC20B | AC20B/DC20B | AC20B/DC20B | AC20B/DC20B | AC20B/DC20B |
| Rated insulation voltage U_i | 690 V | 690 V | 690 V | 690 V | 690 V |
| SCCR | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA |
| Rated impulse withstand voltage U_{imp} | 8 kV | 8 kV | 8 kV | 8 kV | 8 kV |
| Degree of protection | IP 20 | IP 20 | IP 20 | IP 20 | IP 20 |
| Voltage limit for blown fuse indicator | - | 230 to 690V AC/DC | - | - | 230 to 690V AC/DC |
| Indication System | - | with indicator | - | with auxiliary microswitch | with indicator and auxiliary microswitch |
| Connection | Max. tightening torque: 4Nm (35lbs.-in) Rigid wire = 1.5-50mm ² (16-1AWG) Multistrand wire = 35mm ² (3AWG) PZZ or flat 6.5x1.2mm screw drivers recommended (max. diameter 7mm) | Max. tightening torque: 4Nm (35lbs.-in) Rigid wire = 1.5-50mm ² (16-1AWG) Multistrand wire = 35mm ² (3AWG) PZZ or flat 6.5x1.2mm screw drivers recommended (max. diameter 7mm) | Max. tightening torque: 4Nm (35lbs.-in) Rigid wire = 1.5-50mm ² (16-1AWG) Multistrand wire = 35mm ² (3AWG) PZZ or flat 6.5x1.2mm screw drivers recommended (max. diameter 7mm) | Max. tightening torque: 4Nm (35lbs.-in) Rigid wire = 1.5-50mm ² (16-1AWG) Multistrand wire = 35mm ² (3AWG) PZZ or flat 6.5x1.2mm screw drivers recommended (max. diameter 7mm) | Max. tightening torque: 4Nm (35lbs.-in) Rigid wire = 1.5-50mm ² (16-1AWG) Multistrand wire = 35mm ² (3AWG) PZZ or flat 6.5x1.2mm screw drivers recommended (max. diameter 7mm) |
| Operating temperature | -25°C to 60°C | -25°C to 60°C | -25°C to 60°C | -25°C to 60°C | -25°C to 60°C |



Technical Data

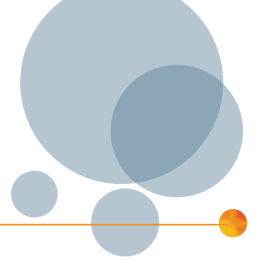
| | CMS22 | CMS22I | CMS22P | CMS22M | CMS22MI |
|---------------------|--|--|--|--|--|
| Storage temperature | -25°C to 80°C | -25°C to 80°C | -25°C to 80°C | -25°C to 80°C | -25°C to 80°C |
| Vibration | Withstand on the 3 main axis*: Sinusoidal vibration testing according to IEC 60068-2-6 2 to 13Hz x= 1 mm peak 13 to 100Hz y= 0.7g peak according to french marine application Random vibration testing according to IEC 61373 Category 1 Class B | Withstand on the 3 main axis*: Sinusoidal vibration testing according to IEC 60068-2-6 2 to 13Hz x= 1 mm peak 13 to 100Hz y= 0.7g peak according to french marine application Random vibration testing according to IEC 61373 Category 1 Class B | Withstand on the 3 main axis*: Sinusoidal vibration testing according to IEC 60068-2-6 2 to 13Hz x= 1 mm peak 13 to 100Hz y= 0.7g peak according to french marine application Random vibration testing according to IEC 61373 Category 1 Class B | Withstand on the 3 main axis*: Sinusoidal vibration testing according to IEC 60068-2-6 2 to 13Hz x= 1 mm peak 13 to 100Hz y= 0.7g peak according to french marine application Random vibration testing according to IEC 61373 Category 1 Class B | Withstand on the 3 main axis*: Sinusoidal vibration testing according to IEC 60068-2-6 2 to 13Hz x= 1 mm peak 13 to 100Hz y= 0.7g peak according to french marine application Random vibration testing according to IEC 61373 Category 1 Class B |
| Shock | Shock testing according to IEC 61373 Category 1 Class B Shock testing according to IEC 60068-2-27 15g/11ms/18 shocks * for specific usage please contact us | Shock testing according to IEC 61373 Category 1 Class B Shock testing according to IEC 60068-2-27 15g/11ms/18 shocks * for specific usage please contact us | Shock testing according to IEC 61373 Category 1 Class B Shock testing according to IEC 60068-2-27 15g/11ms/18 shocks * for specific usage please contact us | Shock testing according to IEC 61373 Category 1 Class B Shock testing according to IEC 60068-2-27 15g/11ms/18 shocks * for specific usage please contact us | Shock testing according to IEC 61373 Category 1 Class B Shock testing according to IEC 60068-2-27 15g/11ms/18 shocks * for specific usage please contact us |

Specific usage conditions

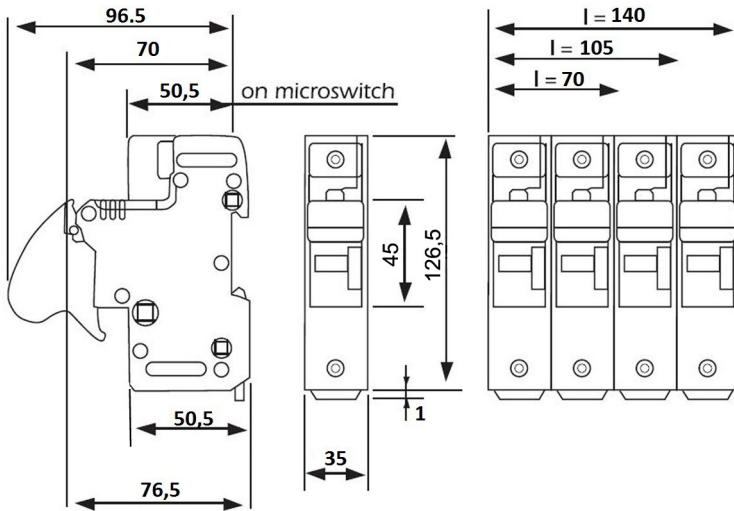
| | | | | | |
|-----------------------------------|-------|------|------|------|------|
| Ambient temperature | >20°C | 30°C | 40°C | 50°C | 60°C |
| Derating factor (I _e) | 1 | 0.95 | 0.9 | 0.8 | 0.7 |

| | | | |
|---|--------|--------|------|
| No of poles (side by side) | 1 to 3 | 4 to 6 | >= 7 |
| Derating factor of current (I _{th}) | 1 | 0.95 | 0.9 |

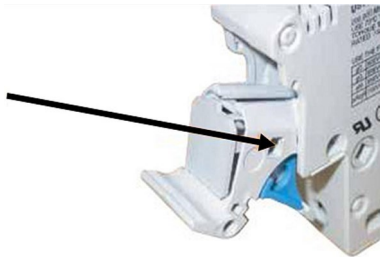
| | | | | | | |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Nominal current of fuse-link gR | 50 A | 63 A | 80 A | 100 A | 125 A | 135 A |
| Max. operational current in fuse-holder | 47 A | 54 A | 70 A | 83 A | 91 A | 96 A |
| Cable wire section | 10 mm ² | 16 mm ² | 25 mm ² | 35 mm ² | 50 mm ² | 50 mm ² |



Dimensions



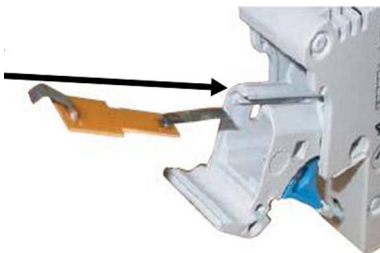
Functions



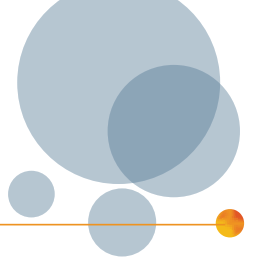
Indicator light kit for CMS22

With the indicator light a blown fuse can be quickly located if power is still on.

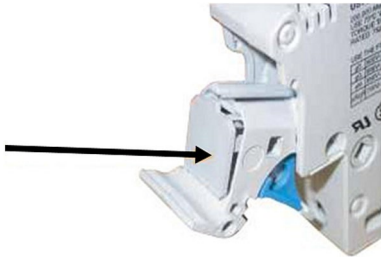
1. Carefully remove the cover with 2 screw drivers.



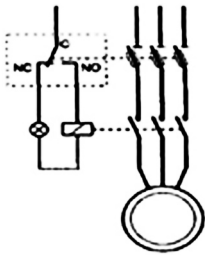
2. Slip the indicator light's to insert into the rails, being careful not to twist the contact tabs.



Functions



3. Put the cover back on.

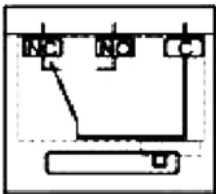


Auxiliary microswitch functions

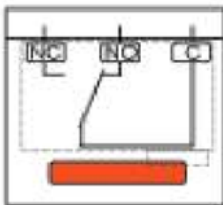
Fuse melting: a fuse-holder containing a fuse with a striker sends out a signal when the fuse element melts.

Pre-isolation: when opening the fuse-holder, the microswitch sends a signal before the opening of the main contacts.

Presence: sends a signal when the holder is closed with no fuse in it.



With the fuse in the handle closed state



No fuse - Fuse blown handle open

Characteristics

Rated insulation voltage: 250VAC

Rated operational current following IEC 60947-5 & -1

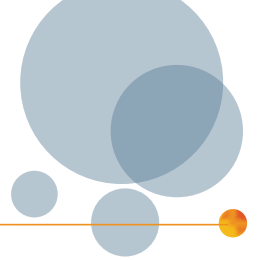
Utilization category AC15: 4A/24V, 4A/48V, 3A/127V, 2.5A/240V

Utilization category DC13: 3A/24V, 1A/48V, 0.2A/127V, 0.1A/240V

Minimum operational current and voltage: 1mA/4V AC or DC

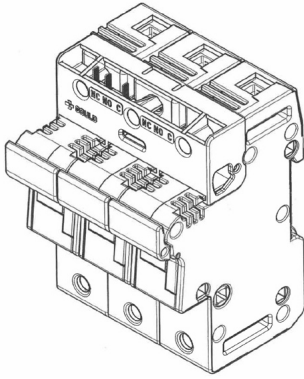
Auxiliary microswitch is designed to operate equally well on dual-current (1mA 4V minimum) or medium-current (5A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life.

Connection: Faston lugs

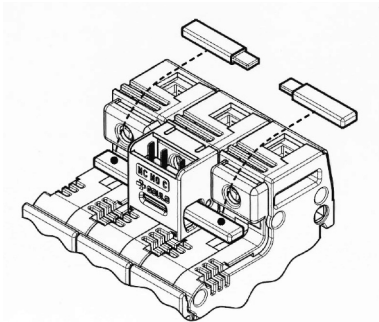


Functions

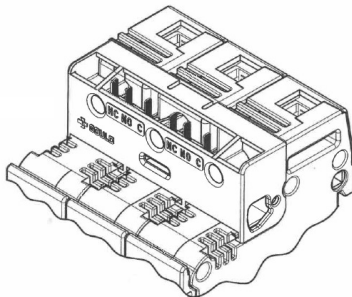
Auxiliary microswitch can only be mounted on previously prepared fuse disconnectors. Use of the auxiliary microswitch for fuse melting requires the use of fuses with strikers.



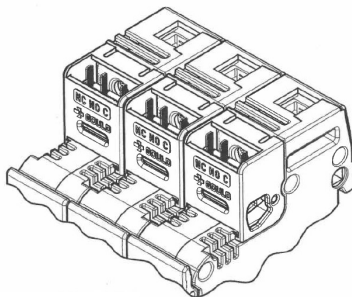
1 auxiliary microswitch
CMS22W2



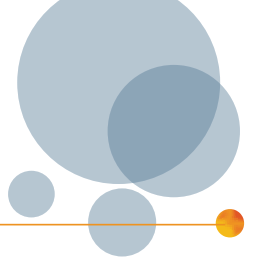
CMS22W1 + CMS1422BP



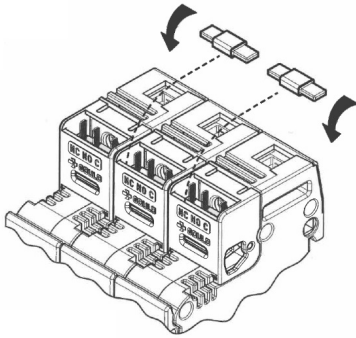
2 auxiliary microswitches
CMS22W3



3 auxiliary microswitches
3 x CMS22W1

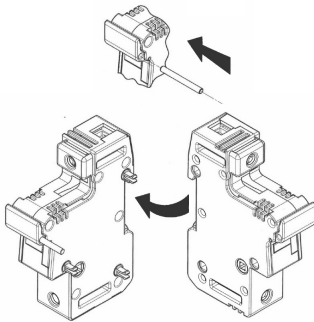


Functions



3 x CMS22W1 + 2 x CMS1422PTH

Accessories



Assembly kit

Kit for multi phase connection

| Catalog number | Reference number | Description | Weight kg ¹⁾ | Package |
|----------------|------------------|---|-------------------------|---------|
| CMS1422PAK | Z218223 | links for connection of multipole units | 0,0021 | 10 |

Auxiliary Switches

| Catalog number | Reference number | Description | Package |
|----------------|------------------|---|---------|
| CMS22W1 | E211581 | Auxiliary microswitch kit 1 pole CMS22 | 1 |
| CMS22W2 | B331201 | Auxiliary microswitch kit 3 poles CMS22 | 1 |
| CMS22W3 | N331189 | 2 Auxiliary microswitches kit 3 poles CMS22 | 1 |
| CMS1422PTH | J214138 | Auxiliary microswitch assembly pin (between 2 kits) | 10 |
| CMS1422BP | F213629 | Enlargement pin for auxiliary microswitch | 10 |

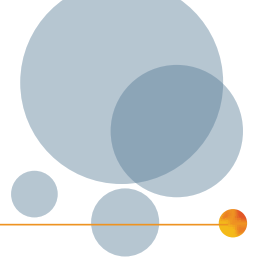


LOCK

Locking devices

| Catalog number | Reference number | Description | Weight kg ¹⁾ | Package |
|----------------|------------------|-------------------------------|-------------------------|---------|
| LOCK | M223525 | Padlock | 0.042 | 1 |
| TAGLOCKCMS22 | V1015928 | Locking kit (Tag and lockout) | - | 1 |

1) weight in kg per piece or set including package



Accessories



TBB1A



TBB1C



TBB23A



TBB23C



Power supply

| Catalog number | Reference number | Description | Application | Weight kg ¹⁾ | Package |
|----------------|------------------|--|----------------------|-------------------------|---------|
| TBB1A | D210315 | 1 phase axial incoming power supply | Max. rms current 90A | 0.010 | 50 |
| TBB1C | E210316 | 1 phase lateral incoming power supply | Max. rms current 90A | 0.010 | 50 |
| TBB23A | F210317 | 2 & 3 phases axial incoming power supply | Max. rms current 90A | 0.023 | 50 |
| TBB23C | G210318 | 2 & 3 phases lateral incoming power supply | Max. rms current 90A | 0.023 | 50 |

Wiring bars / Insulated bus bars

| Catalog number | Reference number | Design | Application | Weight kg ¹⁾ | Package |
|----------------|------------------|-------------|--|-------------------------|---------|
| CMS22BB2F6 | C2100314 | double pole | Max. rms current 150A, for installation of 6 modules | - | 5 |
| CMS22BB1F12 | B210313 | single pole | Max. rms current 90A, for installation of 12 modules | - | 5 |

Indication facilities

| Catalog number | Reference number | Description | Package |
|----------------|------------------|---------------------|---------|
| CMS1422LHI | A225653 | Indicator light kit | 1 |

1) weight in kg per piece or set including package