

# Modulostar® CMS22

Modular fuse-holders

## FUSE HOLDERS, FUSE BASES AND SUPPORTS

### 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.

### 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

### 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
- Shock and vibration tested for marine and railway applications

### APPLICATIONS

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

### STANDARDS

- IEC 60269-2 and IEC 60947-3 Compliance
- RoHS Compliant
- Plastic material: NF 16101 & 16102 Requirement 2 Compliant



## PRODUCT RANGE



CMS222



CMS223



CMS223N



CMS221I



CMS223P



CMS223NM

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

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
CMS22N	K331094	N	CMS22 neutral conductor	6	0.22 kg
CMS221	T331079	1	CMS22 single pole	6	0.22 kg
CMS221N	H331092	1 + N	CMS22 single pole + neutral conductor	3	0.47 kg
CMS222	Q331122	2	CMS22 double pole	3	0.44 kg
CMS223	E331135	3	CMS22 triple pole	2	0.66 kg
CMS223N	A331108	3 + N	CMS22 triple pole + neutral conductor	1	0.93 kg
CMS224	Q331099	4	CMS22 quadruple pole	1	0.88 kg

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

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
CMS221I	B331086	1	CMS22 single pole	6	0.20 kg
CMS221NI	W1001462	1 + N	CMS22 single pole + neutral conductor	3	0.41 kg
CMS222I	D331134	2	CMS22 double pole	3	0.43 kg
CMS223I	L331095	3	CMS22 triple pole	2	0.66 kg
CMS223NI	N1001455	3 + N	CMS22 triple pole + neutral conductor	1	0.92 kg

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

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
CMS221P	Y331083	1	CMS22 single pole	6	0.22 kg
CMS223P	V331126	3	CMS22 triple pole	2	0.64 kg
CMS223NP	M331073	3 + N	CMS22 triple pole + neutral conductor	1	0.92 kg

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

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
CMS221M	S331078	1	CMS22 single pole	6	0.22 kg
CMS221NM	W1016642	1 + N	CMS22 single pole + neutral conductor	3	0.43 kg
CMS222M	V331080	2	CMS22 double pole, two auxiliary microswitches	3	0.47 kg
CMS223M	B331109	3	CMS22 triple pole	2	0.66 kg
CMS223M2	C331087	3	CMS22 triple pole, two auxiliary microswitches	2	0.68 kg
CMS223NM	T331102	3 + N	CMS22 triple pole + neutral conductor	1	0.86 kg

## PRODUCT RANGE

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

Catalog number	Item number	Number of poles/ phases	Design	Package	Weight
CMS221MI	N331074	1	CMS22 single pole	6	0.23 kg
CMS221NMI	N1016589	1 + N	CMS22 single pole + neutral conductor	3	0.5 kg
CMS222MI	P331098	2	CMS22 double pole, two auxiliary microswitches	3	0.46 kg
CMS223MI	E331112	3	CMS22 triple pole	2	0.66 kg
CMS223M2I	Q331076	3	CMS22 triple pole, two auxiliary microswitches	2	0.94 kg
CMS223NMI	W331104	3 + N	CMS22 triple pole + neutral conductor	1	0.93 kg

## 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 <sub>th</sub>	125 A	125 A	125 A	125 A	125 A
Power dissipation at I <sub>th</sub>	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 <sub>i</sub>	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 <sub>imp</sub>	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 micro-switch	with indicator and auxiliary micro-switch
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
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
Connection	Max. tightening torque: 4Nm (35lbs.-in) Rigid wire = 1.5-50mm <sup>2</sup> (16-1AWG) Multistrand wire = 35mm <sup>2</sup> (3AWG) PZ2 or flat 6.5x1.2mm screw drivers recommended (max. diameter 7mm)	Max. tightening torque: 4Nm (35lbs.-in) Rigid wire = 1.5-50mm <sup>2</sup> (16-1AWG) Multistrand wire = 35mm <sup>2</sup> (3AWG) PZ2 or flat 6.5x1.2mm screw drivers recommended (max. diameter 7mm)	Max. tightening torque: 4Nm (35lbs.-in) Rigid wire = 1.5-50mm <sup>2</sup> (16-1AWG) Multistrand wire = 35mm <sup>2</sup> (3AWG) PZ2 or flat 6.5x1.2mm screw drivers recommended (max. diameter 7mm)	Max. tightening torque: 4Nm (35lbs.-in) Rigid wire = 1.5-50mm <sup>2</sup> (16-1AWG) Multistrand wire = 35mm <sup>2</sup> (3AWG) PZ2 or flat 6.5x1.2mm screw drivers recommended (max. diameter 7mm)	Max. tightening torque: 4Nm (35lbs.-in) Rigid wire = 1.5-50mm <sup>2</sup> (16-1AWG) Multistrand wire = 35mm <sup>2</sup> (3AWG) PZ2 or flat 6.5x1.2mm screw drivers recommended (max. diameter 7mm)
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

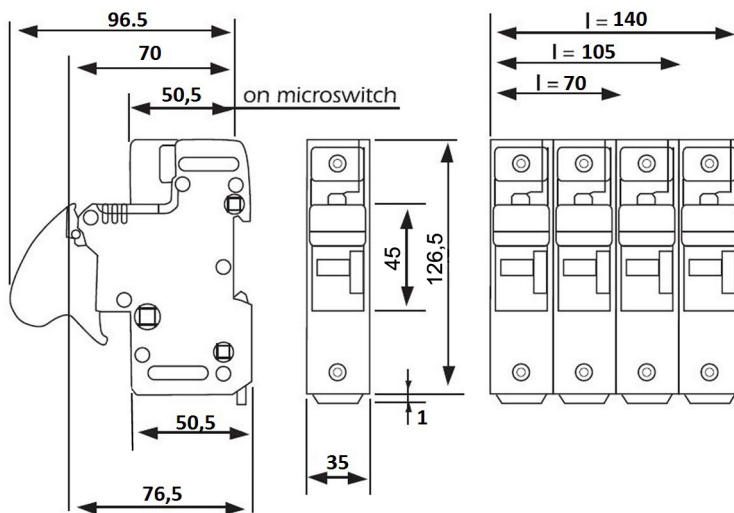
Ambient temperature	>20°C	30°C	40°C	50°C	60°C
Derating factor ( $I_e$ )	1	0.95	0.9	0.8	0.7

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 <sup>2</sup>	16 mm <sup>2</sup>	25 mm <sup>2</sup>	35 mm <sup>2</sup>	50 mm <sup>2</sup>	50 mm <sup>2</sup>

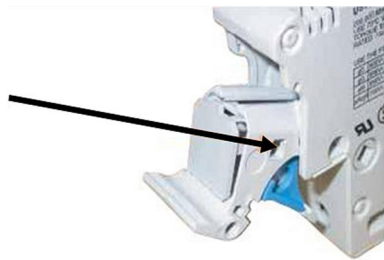
## DIMENSIONS

### Modulostar<sup>®</sup> CMS22 fuse-holders for cylindrical fuse-links class 22x58mm



Dimensions in mm

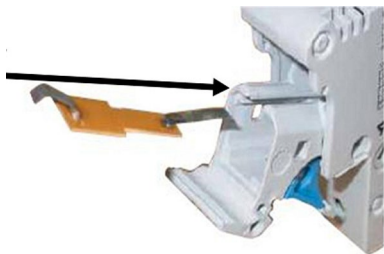
## FUNCTIONS



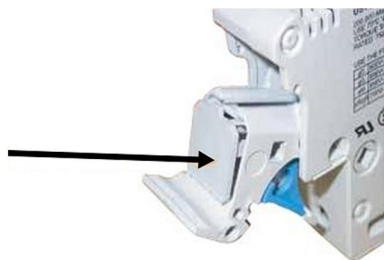
### Indicator light kit for CMS22

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

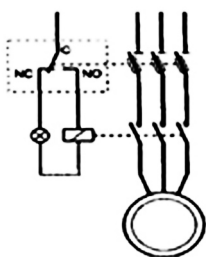
1. Carefully remove the cover with 2 screw drivers.



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



3. Put the cover back on.



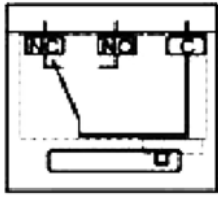
### Auxiliary microswitch functions

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

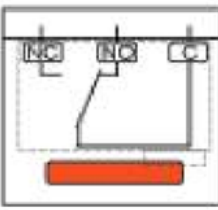
Pre-isolation: when opening the fuse-holder, the microswitch sends a signal before the opening of the main contacts.

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

## FUNCTIONS



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

**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.**

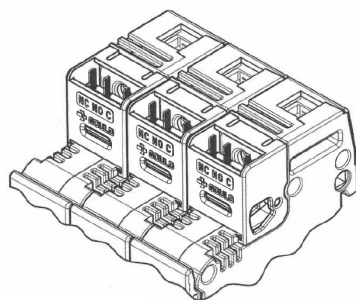
### 1 auxiliary microswitch

CMS22W2

CMS22W1 + CMS1422BP

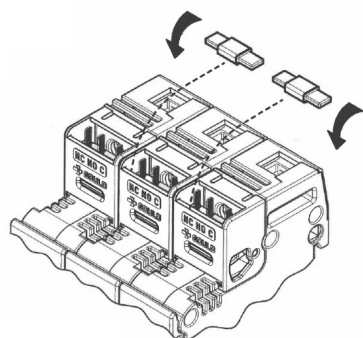
### 2 auxiliary microswitches

CMS22W3



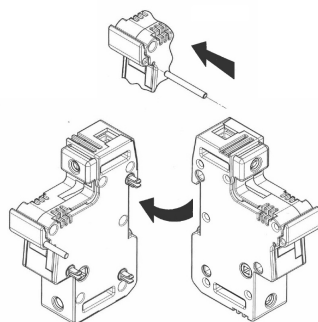
### 3 auxiliary microswitches

3 x CMS22W1



3 x CMS22W1 + 2 x CMS1422PTH

## ACCESSORIES



Assembly kit

### Kit for multi phase connection

Catalog number	Item number	Features	Package	Weight
CMS1422PAK	Z218223	links for connection of multipole units	10	2.1 g

### Auxiliary Switches

Catalog number	Item number	Design	Features	Package	Weight
CMS22W1	CMS22W1	-	Auxiliary microswitch kit 1 pole CMS22	1	20 g
CMS22W2	CMS22W2	Auxiliary microswitch kit 3 poles CMS22	-	1	32 g
CMS22W3	CMS22W3	2 Auxiliary microswitches kit 3 poles CMS22	-	1	35 g
CMS1422PTH	CMS1422PTH	-	Auxiliary microswitch assembly pin (between 2 kits)	10	0.5 g
CMS1422BP	CMS1422BP	-	Enlargement pin for auxiliary microswitch	10	1.5 g



## ACCESSORIES



LOCK

### Locking devices

Catalog number	Item number	Features	Package	Weight
LOCK	M223525	Padlock	1	0.48 kg
TAGLOCKCMS22	V1015928	Locking kit (Tag and lockout)	1	25 g



TBB1A



TBB1C



TBB23A



TBB23C

### Power supply

Catalog number	Item number	Application	Features	Package	Weight
TBB1A	D210315	Max. rms current 90A	1 phase axial incoming power supply	50	10.1 g
TBB1C	E210316	Max. rms current 90A	1 phase lateral incoming power supply	50	10 g
TBB23A	F210317	Max. rms current 90A	2 & 3 phases axial incoming power supply	50	23.3 g
TBB23C	G210318	Max. rms current 90A	2 & 3 phases lateral incoming power supply	50	23.1 g



### Wiring bars / Insulated bus bars

Catalog number	Item number	Design	Application	Package	Weight
CMS22BB2F6	C210314	double pole	Max. rms current 150A, for installation of 6 modules	5	0.30 kg
CMS22BB1F12	B210313	single pole	Max. rms current 90A, for installation of 12 modules	5	81 g

### Indication facilities

Catalog number	Item number	Features	Package	Weight
CMS1422LHI	A225653	Indicator light kit	1	10 g