

# Modulostar® CMC8

## 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. Multi-pole units can also be field assembled by ordering pin-ties assembly kit. Modulostar® range is made of tough and durable thermoplastic or thermoset material.

### TECHNICAL DATA OVERVIEW

Voltage AC	400 VAC
Amper (A)	25 A
Mounting	Installation on to DIN rails to EN 60715
Product Size	For cylindrical fuse links 8x32 aM, gG
Number of poles	1 to 4 poles

### FEATURES & BENEFITS

- Modular design
- Compact design for space saving
- DIN rail mounting
- Degree of protection: IP20
- Finger safe
- Easy access to the fuse
- Lockable without accessory
- Sealable in closed and open position
- Optional visual blown fuse indicator
- Multi-pole assembly kit available
- Plastic material UL94V2 mini
- Plastic material R22HL2 for railway application
- 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 500VAC for protection of motors, transformers, low voltage distribution, control circuits, metering
- Non-load operation

### STANDARDS

- IEC 60269-2 and IEC 60947-3 Compliance
- RoHS REACH Compliant
- Marine certificates



MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

## PRODUCT RANGE



CMC81



CMC83N



CMC81I



CMC83NI

### Modulostar® fuse-holders for 8.5x31.5 fuse-links, without indicator

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
CMC810N	W1062688	N	CMC8 CMC10 neutral conductor	12	48 g
CMC81	V1062687	1	CMC8 single pole	12	45 g
CMC81N	P1062682	1+N	CMC8 single pole + neutral conductor	6	95 g
CMC82	Q1062683	2	CMC8 double pole	6	92 g
CMC83	M1062680	3	CMC8 triple pole	4	0.14 kg
CMC83N	H1062676	3+N	CMC8 triple pole + neutral conductor	3	0.19 kg
CMC84	J1062677	4	CMC8 quadruple pole	3	0.19 kg

### Modulostar® fuse-holders for 8.5x31.5 fuse-links, with standard indicator

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
CMC81I	X1062689	1	CMC8 single pole	12	49 g
CMC81NI	R1062684	1 + N	CMC8 single pole + neutral conductor	6	95 g
CMC82I	S1062685	2	CMC8 double pole	6	93 g
CMC83I	N1062681	3	CMC8 triple pole	4	0.14 kg
CMC83NI	K1062678	3 + N	CMC8 triple pole + neutral conductor	3	0.19 kg
CMC84I	L1062679	4	CMC8 quadruple pole	3	0.19 kg

## TECHNICAL DATA

	CMC8	CMC8I
Size	8.5x31.5	8.5x31.5
Number of poles/phases	1, 1+N, 2, 3, 3+N, 4	1, 1+N, 2, 3, 3+N, 4
Conventional free air thermal current with fuse links $I_{th}$	25 A	25 A
Max. power dissipation of fuse links $P_n$	2,5 W	2,5 W
Power dissipation of fuse-holder	0.4 W	0.4 W
Utilisation category	AC20B/DC20B	AC20B/DC20B
Rated insulation voltage $U_i$	690 V	690 V
Rated impulse withstand voltage $U_{imp}$	6 kV	6 kV
Degree of protection	IP 20	IP 20
Voltage limit for blown fuse indicator	-	220 to 700V AC/DC
Indication System	-	with indicator
Operating temperature	-40°C to 70°C with carrier operation -50°C to 90°C without carrier operation	-40°C to 70°C with carrier operation -50°C to 90°C without carrier operation
Storage temperature	-40°C to 70°C	-40°C to 70°C
Connection	Max. tightening torque: 2Nm (17.7lbs.-in) Rigid / Multistrand wire = 1-16mm <sup>2</sup> (16-6AWG) Max. 2x6mm <sup>2</sup> PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)	Max. tightening torque: 2Nm (17.7lbs.-in) Rigid / Multistrand wire = 1-16mm <sup>2</sup> (16-6AWG) Max. 2x6mm <sup>2</sup> PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)

## SPECIFIC USAGE CONDITIONS

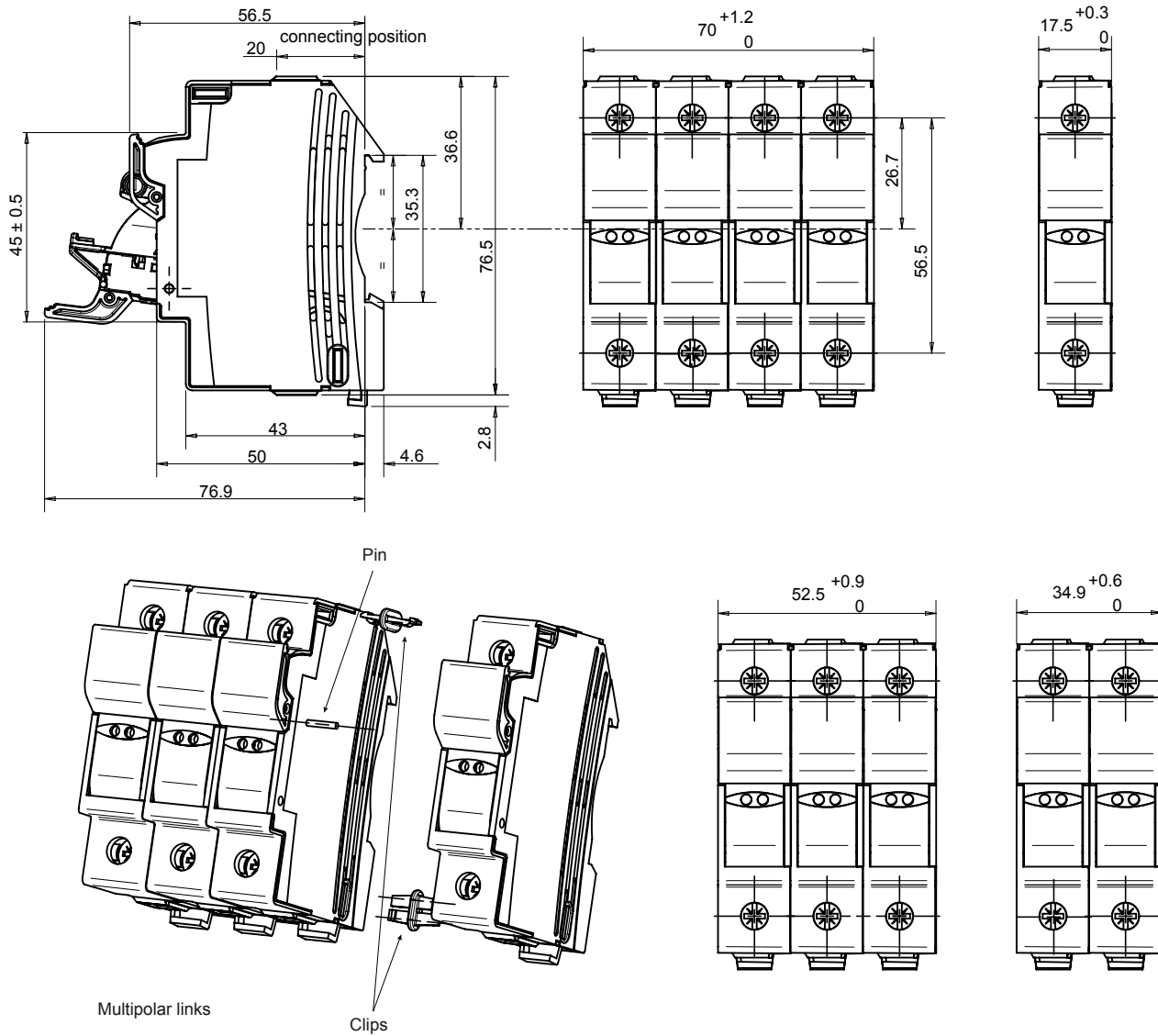
Ambient temperature	-40°C to 20°C	30°C	40°C	50°C	60°C	70°C	80°C	90°C
Derating factor ( $I_e$ )	1	1	1	0.92	0.83	0.73	0.62	
Humidity	95%	90%	80%	50%	-	-	-	-
Dampness derating	1	0.95	0.90	-	-	-	-	-

No of poles (side by side)	1 to 3	>= 4
Derating factor of current ( $I_{th}$ )	1	0.9

# Modulostar® CMC8

## DIMENSIONS

Modulostar® CMC8 fuse-holders for cylindrical fuse-links class 8.5x31.5mm



Dimensions in mm

## ACCESSORIES



CMS810PAK

### Kit for multi phase connection

Catalog number	Item number	Features	Package	Weight
CMS810PAK	Z233725	Links for connection of multipole units	12	0.5 g

## ACCESSORIES



LOCK

### Locking devices

Catalog number	Item number	Features	Package	Weight
LOCK	M223525	Padlock	1	0.48 kg



TBB1AL



TBB1CL



TBB23A

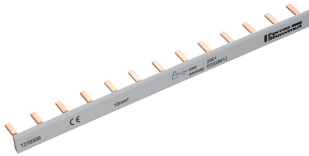


TBB23C

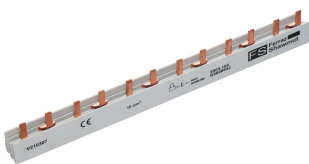
### Power supply

Catalog number	Item number	Application	Features	Package	Weight
TBB1AL	X1068370	Max. rms current 90A	1 phase axial incoming power supply	50	10.1 g
TBB1CL	Y1068371	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



CMS810BB1F13



CMS810BB2F6

Catalog number	Item number	Application	Features	Package	Weight
CMS810BB1F13	T210306	Max. rms current 63A, for installation of 13 modules	single pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	10	33.5 g
CMS810BB2F6	V210307	Max. rms current 63A, for installation of 6 modules	double pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	10	80 g
CMS810BB3F4	W210308	Max. rms current 100A, for installation of 4 modules	triple pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	10	84 g
CMS810BB4F3	X210309	Max. rms current 100A, for installation of 3 modules	quadruple pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	10	0.12 kg

# Modulostar® CMC10

## 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. Multi-pole units can also be field assembled by ordering pin-ties assembly kit. 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)	32 A
SCCR	200kA
Mounting	Installation on to DIN rails to EN 60715
Product Size	For cylindrical fuse links 10x38 aM, gG and 10x38 Mersen Protistor®
Number of poles	1 to 4 poles

### FEATURES & BENEFITS

- Modular design
- Compact design for space saving
- DIN rail mounting
- Degree of protection: IP20
- Finger safe
- Easy access to the fuse
- Lockable without accessory
- Sealable in closed & open position
- Optional visual blown fuse indicator
- Multi-pole assembly kit available
- Plastic material UL94V2 mini
- Plastic material R22HL2 for railway application
- Flame retardant materials with glow wire flammability index to 960°C
- Schock and vibration tested for marine and railway applications

### APPLICATIONS

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

### STANDARDS

- IEC 60269-2 and IEC 60947-3 Compliance
- RoHS, Reach compliant
- Marine certificates



## PRODUCT RANGE



CMC102



CMC103N

### Modulostar® compact fuse-holders for 10.3x38.1 fuse-links, without indicator

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
CMC101	P1062705	1	CMC10 single pole	12	45 g
CMC101N	G1062698	1 + N	CMC10 single pole + neutral conductor	6	95 g
CMC102	H1062699	2	CMC10 double pole	6	92 g
CMC103	E1062696	3	CMC10 triple pole	4	0.14 kg
CMC103N	Y1062690	3 + N	CMC10 triple pole + neutral conductor	3	0.19 kg
CMC104	Z1062691	4	CMC10 quadruple pole	3	0.19 kg
CMC810N	W1062688	N	CMC8 CMC10 neutral conductor	12	48 g



CMC1011



CMC1031

### Modulostar® compact fuse-holders for 10.3x38.1 fuse-links, with standard indicator

Catalog number	Item number	Number of poles/phases	Design	Voltage limit for blown fuse indicator	Package	Weight
CMC101I	S1062708	1	CMC10 single pole	-	12	46 g
CMC101NI	J1062700	1 + N	CMC10 single pole + neutral conductor	-	6	95 g
CMC102I	L1062702	2	CMC10 double pole	-	6	93 g
CMC103I	F1062697	3	CMC10 triple pole	-	4	0.14 kg
CMC103NI	A1062692	3 + N	CMC10 triple pole + neutral conductor	-	3	0.19 kg
CMC104I	B1062693	4	CMC10 quadruple pole	-	3	0.19 kg
-	on demand	-	Version with special indicator	Standard: 50V-700V AC/DC Very low: 20V-50V AC/DC	-	-

## TECHNICAL DATA

	CMC10	CMC10I
Size	10x38	10x38
Number of poles/phases	1, 1+N, 2, 3, 3+N, 4	1, 1+N, 2, 3, 3+N, 4
Conventional free air thermal current with fuse links $I_{th}$	32 A	32 A
Max. power dissipation of fuse links $P_n$	3W	3W
Max. power dissipation	4 W	4 W
Power dissipation of fuse-holder	0.4 W	0.4 W
Utilisation category	AC20B/DC20B	AC20B/DC20B
Rated insulation voltage $U_i$	1000 V	1000 V
SCCR	200 kA	200 kA
Rated impulse withstand voltage $U_{imp}$	6 kV	6 kV
Degree of protection	IP 20	IP 20
Voltage limit for blown fuse indicator	-	220V to 700VAC/DC
Indication System	-	with indicator
Operating temperature	-40°C to 70°C with carrier operation -50°C to 90°C without carrier operation	
Storage temperature	-40°C to 70°C	-40°C to 70°C
Connection	Max. tightening torque: 2Nm (17.7lbs.-in) Rigid / Stranded wire = 1-16mm <sup>2</sup> (16-AWG) Max. 2x6mm <sup>2</sup> PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)	
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	
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	

## SPECIFIC USAGE CONDITIONS

Ambient temperature	-40° to 20°C	30°C	40°C	50°C	60°C	70°C	80°C	90°C
Derating factor ( $I_e$ )	1	1	1	0.92	0.83	0.73	0.62	0.48
Humidity	95%	90%	80%	50%	-	-	-	-
Dampness derating	1	0.95	0.90	-	-	-	-	-

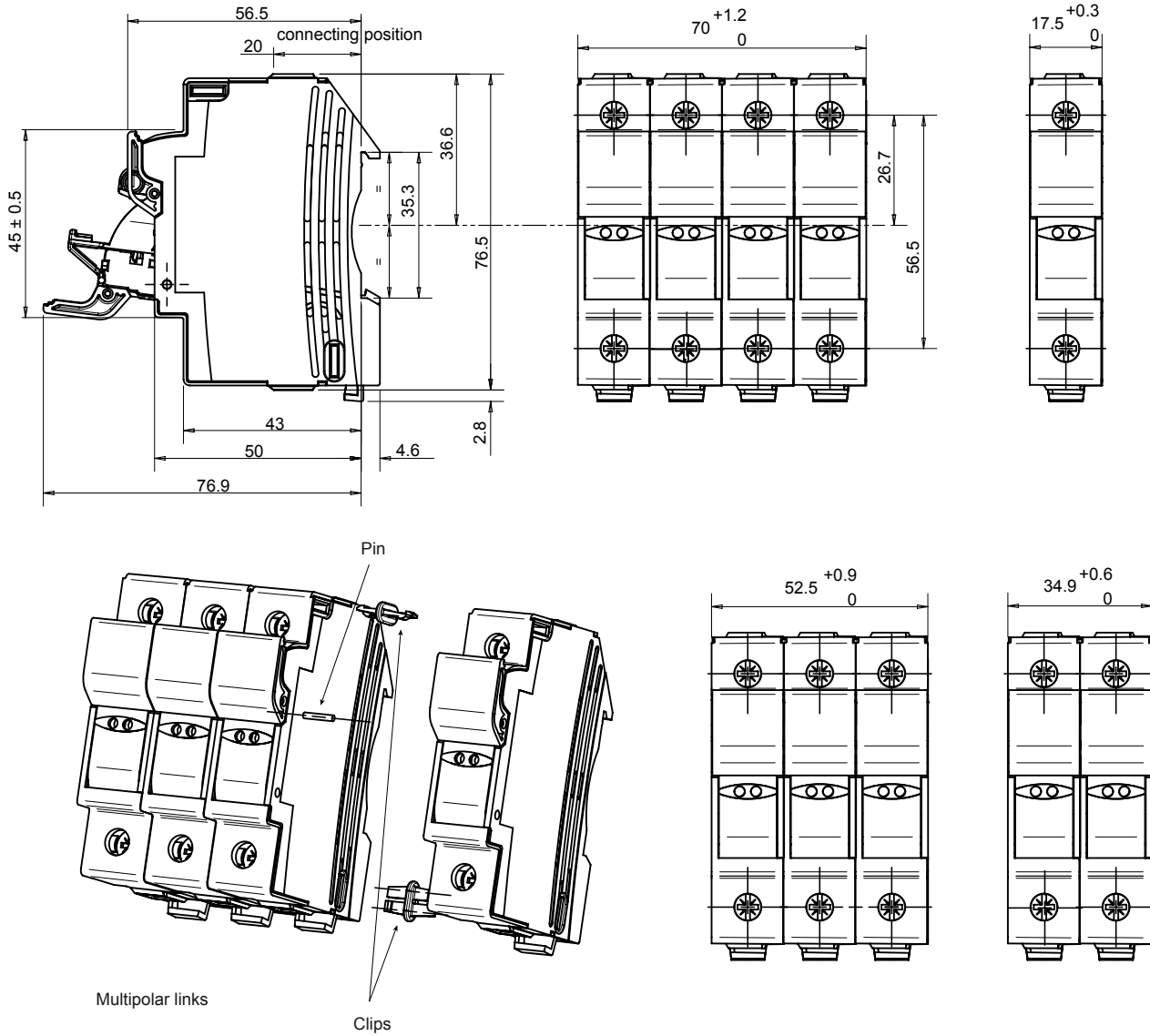
No of poles (side by side)	1 to 3	>= 4
Derating factor of current ( $I_{th}$ )	1	0.9



# Modulostar® CMC10

## DIMENSIONS

### MODULOSTAR® CMC10 fuse-holders for cylindrical fuse-links class 10x38mm



Dimensions in mm

## ACCESSORIES



CMS810PAK

### Kit for multi phase connection

Catalog number	Item number	Features	Package	Weight
CMS810PAK	Z233725	Links for connection of multipole units	12	0.5 g

## ACCESSORIES



LOCK

### Locking devices

Catalog number	Item number	Features	Package	Weight
LOCK	M223525	Padlock	1	0.48 kg



TBB1AL



TBB1CL



TBB23A

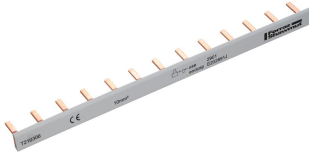


TBB23C

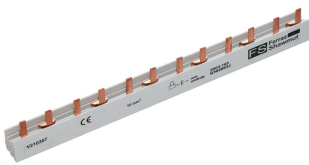
### Power supply

Catalog number	Item number	Application	Features	Package	Weight
TBB1AL	X1068370	Max. rms current 90A	1 phase axial incoming power supply	50	10.1 g
TBB1CL	Y1068371	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



CMS810BB1F13



CMS810BB2F6

Catalog number	Item number	Application	Features	Package	Weight
<b>Wiring bars / Insulated Busbars</b>					
CMS810BB1F13	T210306	Max. rms current 63A, for installation of 13 modules	single pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	10	33.5 g
CMS810BB2F6	V210307	Max. rms current 63A, for installation of 6 modules	double pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	10	80 g
CMS810BB3F4	W210308	Max. rms current 100A, for installation of 4 modules	triple pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	10	84 g
CMS810BB4F3	X210309	Max. rms current 100A, for installation of 3 modules	quadruple pole, 10 mm <sup>2</sup> , partition 17,5 mm (distance of poles), peg design, L-shaped	10	0.12 kg

# Modulostar® CMS14

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)	50 A
Rated operational current I <sub>e</sub>	<math>\leq 50A</math>
SCCR	100kA
Mounting	Installation on to DIN rails to EN 60715
Product Size	For cylindrical fuse links 14x51 aM, gG and 14x51 Mersen Protistor® fuse-links
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, drive protection
- Non-load operation

## STANDARDS

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



## PRODUCT RANGE



CMS142



CMS143N



CMS141I



CMS143NM

### Modulostar® fuse-holders for 14x51 fuse-links, without indicator

Catalog number	Item number	Number of poles/phases	Standard compliance	Package	Weight
CMS14N	T331056	N	CMS 14 neutral conductor	6	0.14 kg
CMS141	A331016	1	CMS 14 single pole	6	0.14 kg
CMS141N	T331010	1 + N	CMS 14 single pole + neutral conductor	3	0.29 kg
CMS142	R331031	2	CMS 14 double pole	3	0.27 kg
CMS143	S331032	3	CMS 14 triple pole	2	0.42 kg
CMS143N	D331042	3 + N	CMS 14 triple pole + neutral conductor	1	0.56 kg
CMS144	F331021	4	CMS 14 quadruple pole	1	0.57 kg

### Modulostar® fuse-holders for 14x51 fuse-links, with indicator

Catalog number	Item number	Number of poles/phases	Standard compliance	Package	Weight
CMS141I	L331049	1	CMS 14 single pole	6	0.14 kg
CMS141NI	M331050	1 + N	CMS 14 single pole + neutral conductor	3	0.30 kg
CMS142I	M331004	2	CMS 14 double pole	3	0.29 kg
CMS143I	K331071	3	CMS 14 triple pole	2	0.43 kg
CMS143NI	Q331007	3 + N	CMS 14 triple pole + neutral conductor	1	0.57 kg

### Modulostar® fuse-holders for 14x51 fuse-links, for installation of indicator and/or auxiliary micro switch

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
CMS141P	W331058	1	CMS14 single pole	6	0.14 kg
CMS141NP	X331059	1 + N	CMS14 single pole + neutral conductor	3	0.30 kg
CMS142P	G331022	2	CMS14 double pole, two auxiliary microswitches	3	0.29 kg
CMS143P	R331054	3	CMS14 triple pole	2	0.43 kg
CMS143NP	Z331015	3 + N	CMS14 triple pole + neutral conductor	1	0.56 kg

### Modulostar® fuse-holders for 14x51 fuse-links, with auxiliary microswitch

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
CMS141M	Z331038	1	CMS14 single pole	6	0.15 kg
CMS141NM	L331026	1 + N	CMS14 single pole + neutral conductor	3	0.31 kg
CMS142M	A331062	2	CMS14 double pole, two auxiliary microswitches	3	0.29 kg
CMS143M	F331067	3	CMS14 triple pole	2	0.43 kg
CMS143M2	H331069	3	CMS14 triple pole, two auxiliary microswitches	2	0.43 kg
CMS143NM	E331043	3 + N	CMS14 triple pole + neutral conductor	1	0.61 kg

### Modulostar® fuse-holders for 14x51 fuse-links, with indicator and auxiliary microswitch

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
CMS141MI	S331055	1	CMS14 single pole	6	0.16 kg
CMS141NMI	Q331030	1 + N	CMS14 single pole + neutral conductor	3	0.30 kg
CMS142MI	X331036	2	CMS14 double pole, two auxiliary microswitches	3	0.29 kg
CMS143MI	P331006	3	CMS14 triple pole	2	0.45 kg
CMS143M2I	Y331037	3	CMS14 triple pole, two auxiliary microswitches	2	0.43 kg
CMS143NMI	H331000	3 + N	CMS14 triple pole + neutral conductor	1	0.57 kg

## TECHNICAL DATA

	CMS14	CMS14I	CMS14P	CMS14M	CMS14MI
Size	14x51	14x51	14x51	14x51	14x51
Number of poles/phases	1, 1+N, 2, 3, 3+N, 4	1, 1+N, 2, 3, 3+N	1, 1+N, 2, 3, 3+N	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>	50 A	50 A	50 A	50 A	50 A
Power dissipation at I <sub>th</sub>	5 W	5 W	5 W	5 W	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	Can receive an indicator and/or an auxiliary microswitch	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: 3.5Nm (30lbs.-in) Rigid wire = 1.5-35mm <sup>2</sup> (16-3AWG) Stranded wire = 1.5-25mm <sup>2</sup> (16-4AWG) PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)	Max. tightening torque: 3.5Nm (30lbs.-in) Rigid wire = 1.5-35mm <sup>2</sup> (16-3AWG) Stranded wire = 1.5-25mm <sup>2</sup> (16-4AWG) PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)	Max. tightening torque: 3.5Nm (30lbs.-in) Rigid wire = 1.5-35mm <sup>2</sup> (16-3AWG) Stranded wire = 1.5-25mm <sup>2</sup> (16-4AWG) PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)	Max. tightening torque: 3.5Nm (30lbs.-in) Rigid wire = 1.5-35mm <sup>2</sup> (16-3AWG) Stranded wire = 1.5-25mm <sup>2</sup> (16-4AWG) PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)	Max. tightening torque: 3.5Nm (30lbs.-in) Rigid wire = 1.5-35mm <sup>2</sup> (16-3AWG) Stranded wire = 1.5-25mm <sup>2</sup> (16-4AWG) PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)
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

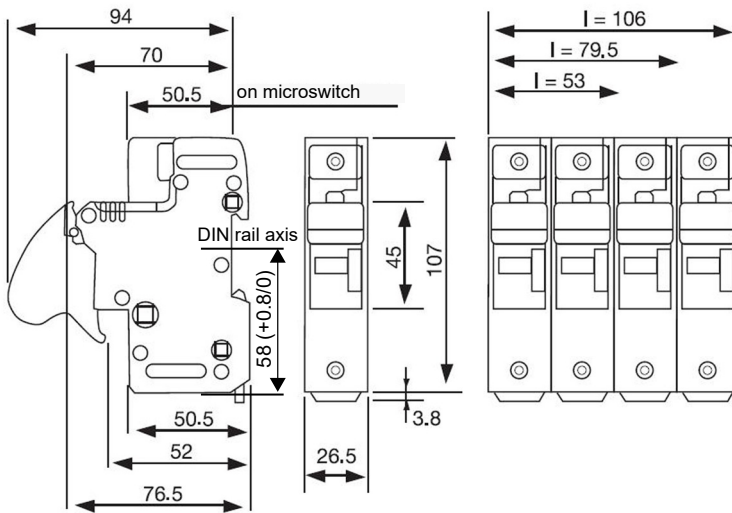
Ambient temperature	>20°C	30°C	40°C	50°C	60°C
Derating factor (I <sub>e</sub> )	1	0.95	0.9	0.8	0.7

No of poles (side by side)	1 to 3	4 to 6	>= 7
Derating factor of current (I <sub>th</sub> )	1	0.95	0.9

Nominal current of fuse-link gR	25 A	32 A	40 A	50 A	63 A
Max. operational current in fuse-holder	23 A	28 A	34 A	40 A	46 A
Cable wire section	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>

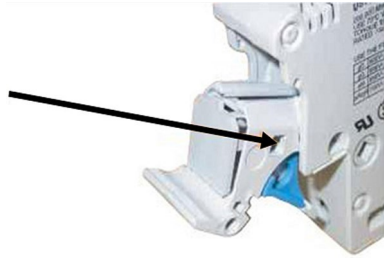
## DIMENSIONS

### Modulostar<sup>®</sup> CMS14 fuse-holders for cylindrical fuse-links class 14x51mm



Dimensions in mm

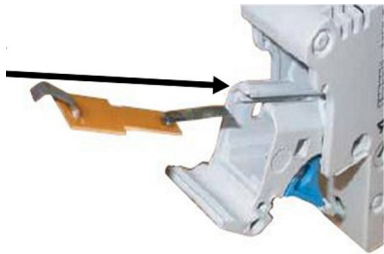
## FUNCTIONS



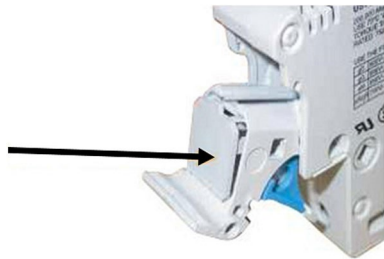
### Indicator light kit for CMS14

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

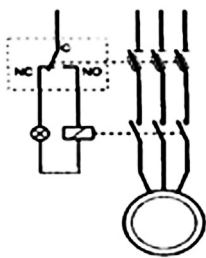
1. Carefully remove the cover with 2 screw drivers.



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.



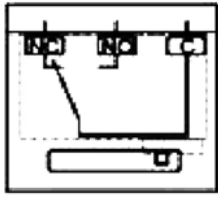
### Auxiliary microswitch functions

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

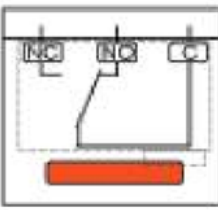
Pre-isolation: when opening the fuse-holder, the microswitch sends a signal before the opening of the main contacts.

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

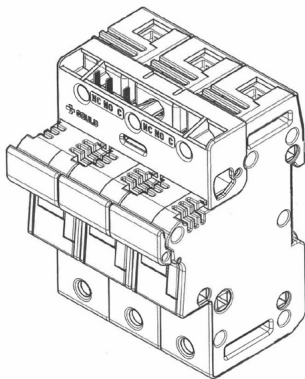
Auxiliary microswitch is designed to operate equally well on dual-current (1mA 4V minimum) or medium-current (5A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life.

Connection: Faston lugs

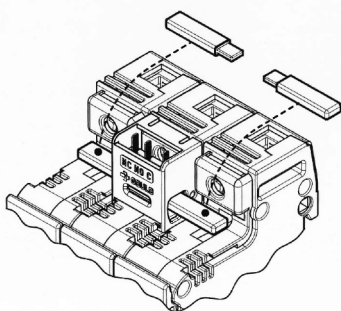
**Auxiliary microswitch can only be mounted on previously prepared fuse disconnectors. Use of the auxiliary microswitch for fuse melting requires the use of fuses with strikers.**

### 1 auxiliary microswitch

CMS14W2

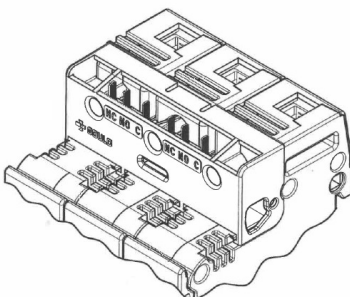


CMS14W1 + CMS1422BP

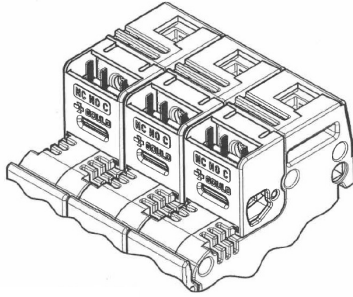


### 2 auxiliary microswitches

CMS14W3

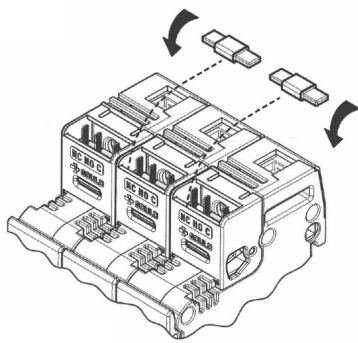






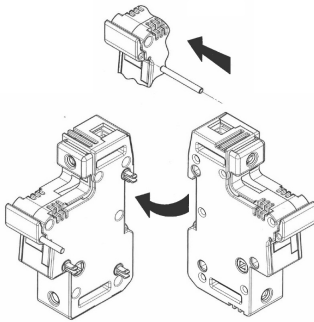
### 3 auxiliary microswitches

Independent  
3 x CMS14W1



Mechanically interconnected  
3 x CMS14W1 + 2 X CMS1422PTH

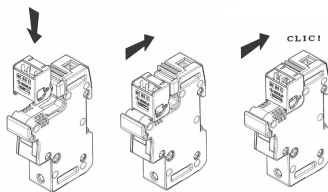
## ACCESSORIES



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	Features	Design	Package	Weight
CMS1422BP	CMS1422BP	Enlargement pin for auxiliary microswitch	-	10	1.5 g
CMS1422PTH	CMS1422PTH	Auxiliary microswitch assembly pin (between 2 kits)	2 kits de contact auxiliaire 3 pôles US22	10	0.5 g
CMS14W1	CMS14W1	Auxiliary microswitch kit 1 pole CMS14	Kit 2 contacts auxiliaires 3 pôles CMS22	1	20 g
CMS14W2	CMS14W2	Auxiliary microswitch kit 3 poles CMS14	-	1	25 g
CMS14W3	CMS14W3	2 Auxiliary microswitches kit 3 poles CMS14	-	1	29 g

## ACCESSORIES



LOCK

### Locking devices

Catalog number	Item number	Features	Package	Weight
LOCK	M223525	Padlock	1	0.48 kg



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	Application	Design	Package	Weight
<b>Wiring bars / Insulated Busbars</b>					
CMS14BB1F12	Y210310	Max. rms current 63A, for installation of 12 modules	single poledeux pôles	5	47.4 g
CMS14BB2F6	Z210311	Max. rms current 63A, for installation of 6 modules	double poletrois pôles	5	0.1 kg
CMS14BB3F4	A210312	Max. rms current 100A, for installation of 4 modules	triple pole	5	0.12 kg

### Indication facilities

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

# 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 <sub>e</sub>	< / = 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<sup>®</sup> 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

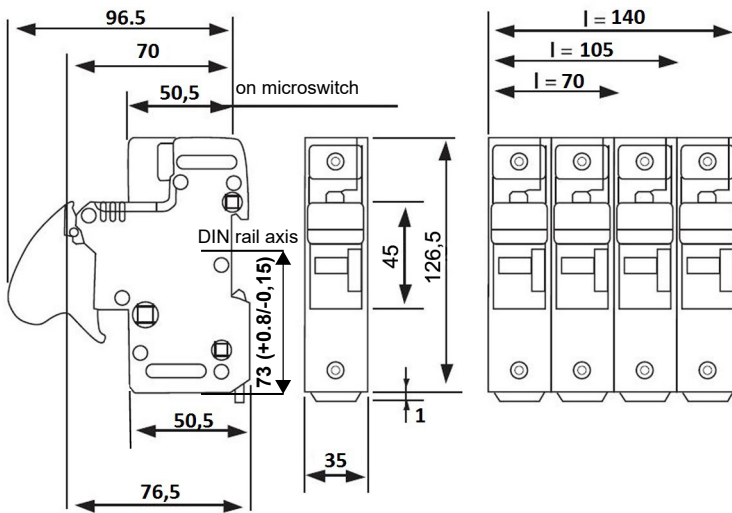
Ambient temperature	>20°C	30°C	40°C	50°C	60°C
Derating factor (I <sub>e</sub> )	1	0.95	0.9	0.8	0.7

No of poles (side by side)	1 to 3	4 to 6	>= 7
Derating factor of current (I <sub>th</sub> )	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>

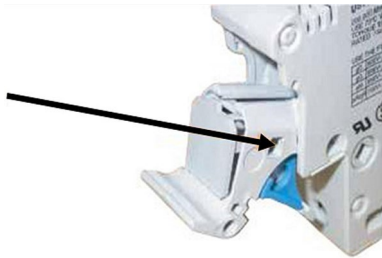
## DIMENSIONS

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



Dimensions in mm

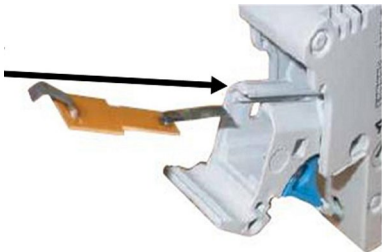
## FUNCTIONS



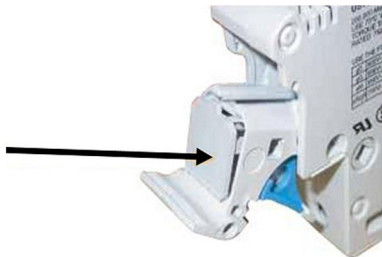
### Indicator light kit for CMS22

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

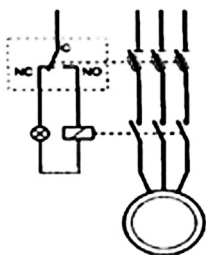
1. Carefully remove the cover with 2 screw drivers.



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

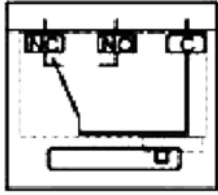
Fuse melting: a fuse-holder containing a fuse with a striker sends out a signal when the fuse element melts.

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

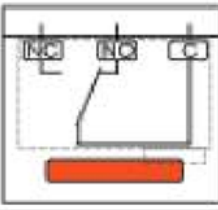
Presence: sends a signal when the holder is closed with no fuse in it.



## 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

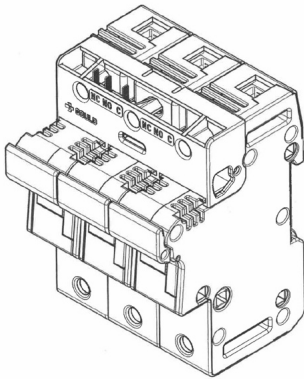
Auxiliary microswitch is designed to operate equally well on dual-current (1mA 4V minimum) or medium-current (5A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life.

Connection: Faston lugs

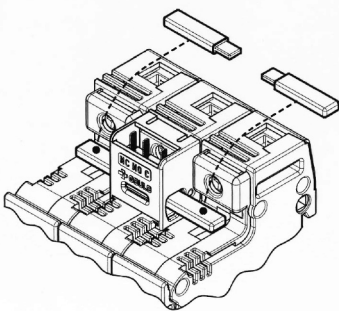
**Auxiliary microswitch can only be mounted on previously prepared fuse disconnectors. Use of the auxiliary microswitch for fuse melting requires the use of fuses with strikers.**

### 1 auxiliary microswitch

CMS22W2

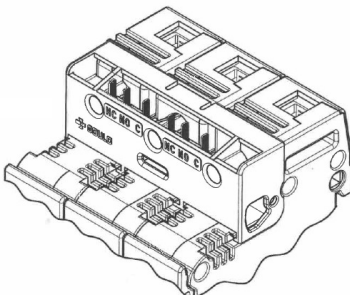


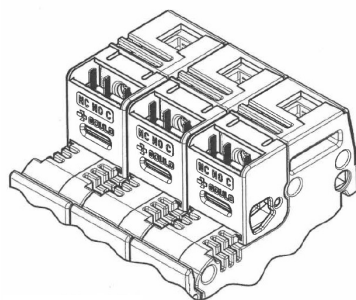
CMS22W1 + CMS1422BP



### 2 auxiliary microswitches

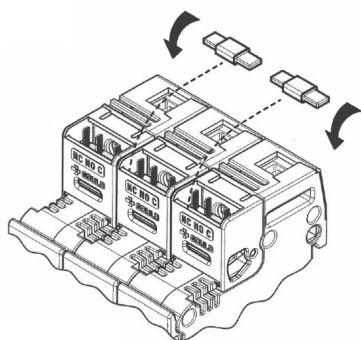
CMS22W3





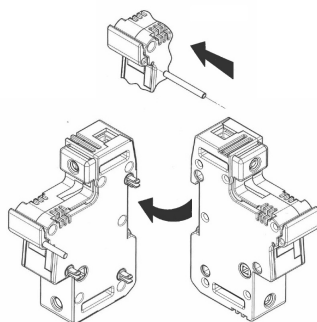
### 3 auxiliary microswitches

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

## ACCESSORIES

### Auxiliary Switches

Catalog number	Item number	Features	Design	Package	Weight
CMS1422BP	CMS1422BP	Enlargement pin for auxiliary microswitch	-	10	1.5 g
CMS1422PTH	CMS1422PTH	Auxiliary microswitch assembly pin (between 2 kits)	2 kits de contact auxiliaire 3 pôles US22	10	0.5 g
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 CMS22Kit contact auxiliaire 3 pôles CMS22	1	35 g



LOCK

### Locking devices

Catalog number	Item number	Features	Package	Weight
LOCK	M223525	Padlock	1	0.48 kg



TBB1A



TBB1C



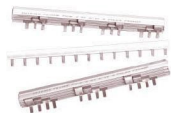
TBB23A



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	Application	Design	Package	Weight
<b>Wiring bars / Insulated Busbars</b>					
CMS22BB1F12	B210313	Max. rms current 90A, for installation of 12 modules	single pole2 pôles	5	81 g
CMS22BB2F6	C210314	Max. rms current 150A, for installation of 6 modules	double poleun pôle	5	0.30 kg

### Indication facilities

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