



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses Clips



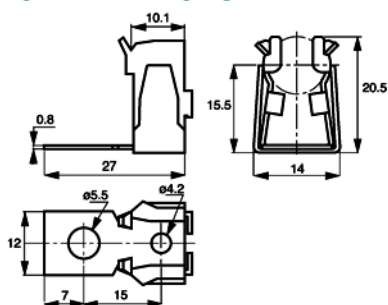
For Ferrule style Fuses
Ø 10 - 14 - 22 - 27 - 36

- SILVER-PLATED COPPER CLIPS: EXTREMELY HIGH THERMAL AND ELECTRIC CONDUCTIVITY
- MOUNTING TYPE:
 - SCREWING ON ISOLATORS
 - SCREWING ON BARS OR INSULATED BARS
 - WELDING ON P.C.B. (MR 10 CI)
- STAINLESS STEEL PRESSURE SPRINGS: HIGHLY RESISTANT TO SALT SPRAY

Main Characteristics

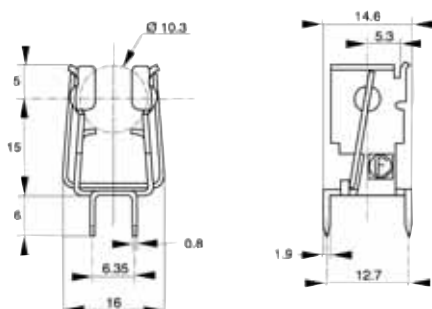
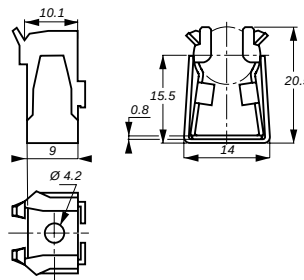
Designation	Current rating IN(A)	Maximum R.M.S continuous current through IN - rated current fuses (A)	Recommended copper cable section (mm ²)
MR 10	32	32	4
MR 10 CI	32	32	4
MR 14	63	63	10
MR 20	125	125	35
MR 22	135	135	35
MR 27	250	250	120
MR 36	250	250	120

MR 10 - MR 10 CI



Catalog Number	Designation	Ref. Number	Weight (g)	Packaging
MR10RESSORT	MR 10	B098004	7	20 pieces

Catalog Number	Designation	Ref. Number	Weight (g)	Packaging
MR10RESSORTSP	MR 10 without connection	C098994	5,7	20 pieces



Catalog Number	Designation	Ref. Number	Weight (g)	Packaging
MR10RESSORTCI	MR 10 CI	Y098507	4,5	200 pieces



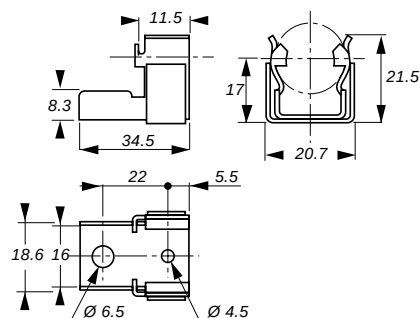
IEC General Purpose Fuses Ferrule Fuses Clips



For Ferrule style Fuses
Ø 10 - 14 - 22 - 27 - 36

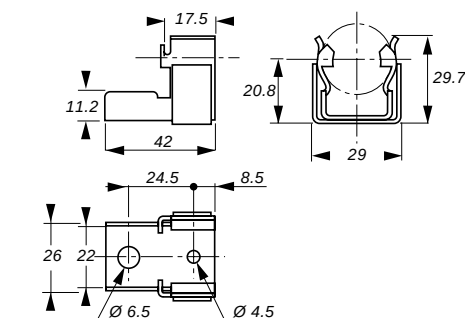
MR 14

Catalog Number	Designation	Ref. Number	Weight (g)	Packaging
MR14SPRING	MR 14	G098170	16	10 pieces



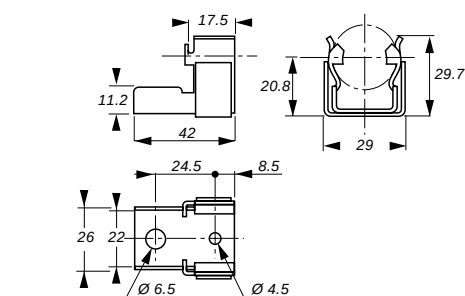
MR 20.6

Catalog Number	Designation	Ref. Number	Weight (g)	Packaging
MR20RESSORT	MR 20.6	H099988	40	20 pieces



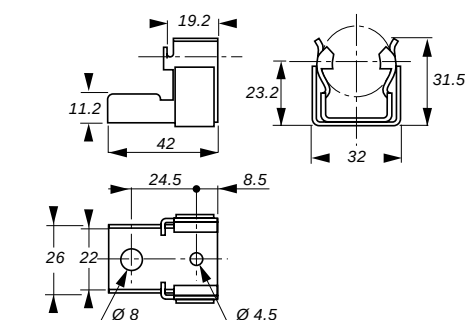
MR 22

Catalog Number	Designation	Ref. Number	Weight (g)	Packaging
MR22SPRING	MR 22	K098909	40	10 pieces



MR 27

Catalog Number	Designation	Ref. Number	Weight (g)	Packaging
MR27RESSORT	MR 27	Y092734	50	20 pieces



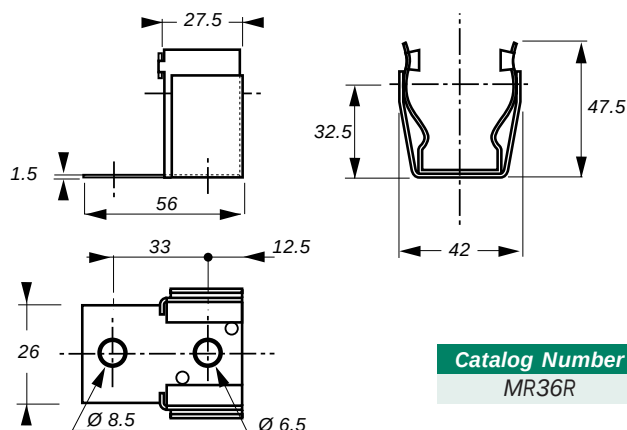


Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses Clips



MR 36

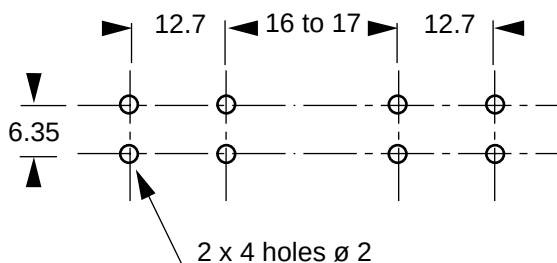


Catalog Number	Designation	Ref. Number	Weight (g)	Packaging
MR36R	MR 36	M091275	85	1 piece

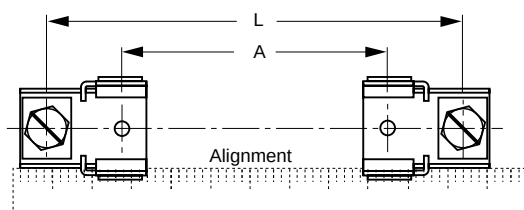
All clips silver-plated copper with stainless steel springs.

Mounting Instructions

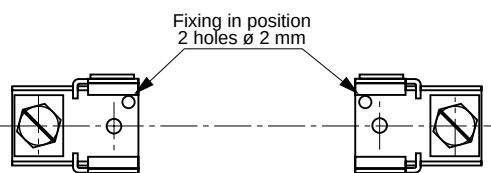
P.C.B. Drilling for MR10 CI clip (10 X 38 Size Fuse)



Clip Mounting



Fuse size	A	L
10 x 38	31	61
14 x 51	42	86
22 x 58	42	91
20 x 51	36	85
20 x 127	113	162
20 x 190	175	224
27 x 60	41	91
36 x 127	100	148
36 x 190	165	231

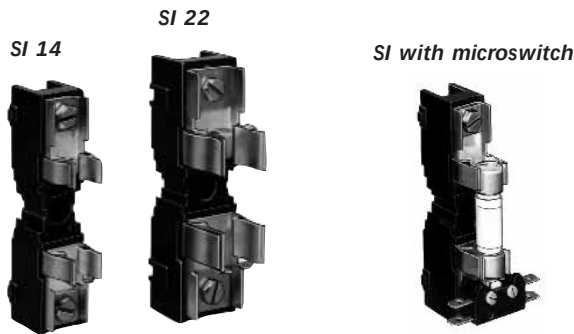


Mounting of two elastic stop pins of 2 mm dia. for fixing clips in position



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses SI Bases for 14x51, 22x58



For Ferrules-type fuses Ø 14 - 22

- SHOCK-PROOF MODULAR ASSEMBLY COMPLIANT WITH IEC 60269-1 AND NF C 63130
- BASE MOUNTING WITH OR WITHOUT MICROSWITCH AND ISOLATING PARTITION
- PHENOLIC RESIN FOR BASIC APPLICATIONS (BASIC MODEL)
- SELF-EXTINGUISHABLE FIBERGLASS POLYESTER FOR TRACTION AND CORROSIVE ATMOSPHERE APPLICATIONS (SALT SPRAY-PROOF MODEL)

Main Characteristics

Model	Thermal current rating (Ith)	Maximum power losses	Rated insulation voltage Ui AC or DC according VDE 0110:565 - group C withstand	Dielectric withstand tests	
				R.M.S. voltage 1mn 50-60 Hz	Voltage shock 1.2/50µs Uimp : impulse voltage as per IEC 60947-1
Phenolic resin (standard) SI 14 SI 22	63 A 135 A	16 W per phase 26 W per phase	750 V	8 kV between phase and mass	between phase and mass
Salt-spray proof fiber glass polyester SKI 14 SKI 22	63 A 135 A	16 W per phase 26 W per phase	750 V	3 kV between phases and microswitch	between phases and microswitch

Tests according to IEC 60060 and 60944 and NF C 64010 Dry atmosphere and new fusegear

Connecting with 16 mm max. width, 5mm max. thick terminal for SI 14 and 22 mm max. for SI 22

* Only for the base. Accessories (partitions and microswitches) are not classified due to their lightness.

Basic model

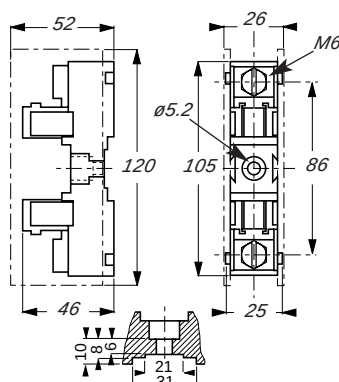
Max. temperature (°C)/Relative Humidity (%): 20 °C/95% - 40°C/80% - 50°C/50%

If Holder must be kept off, a heating system fed during stop periods must be used. Purpose is to keep the temperature of cubicle at a level slightly higher than outdoor.

Salt spray-proof model

Moist tropical and equatorial climate. Corrosive atmosphere.

SI 14 and Partition wall



For direct mounting, screw tightening torque = 0.24 mdaN

Designation	Ref. Number	Catalog Number	Weight (g)
SI 14	V 097124	SI14	85
SKI 14	B 097130	SKI14	100

Pack: 3 pieces

SI: basic model - SK salt spray-proof model

Partition wall

Designation	Ref. Number	Catalog Number	Weight (g)
E 14 - 22	B 097107	E14-22	13

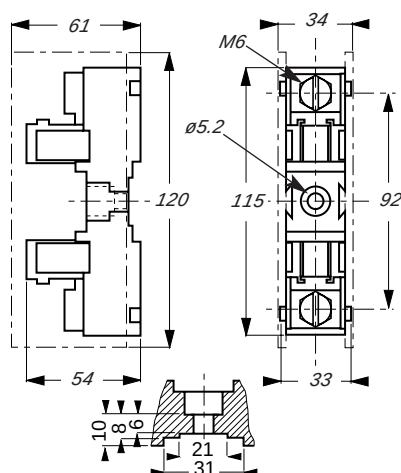
Pack: 2 pieces



IEC General Purpose Fuses Ferrule Fuses SI Bases for 14x51, 22x58

For Ferrules-type fuses Ø 14 - 22

SI 22 and Partition wall



For direct mounting, screw tightening torque = 0.3 mdaN

Designation	Ref. Number	Catalog Number	Weight (g)
SI 22	W097125	SI22	160
SKI 22	C097131	SKI22	190

Pack: 3 pieces

SI: basic model - SK salt spray-proof model

Partition wall

Designation	Ref. Number	Catalog Number	Weight (g)
E 14 - 22	B 097107	E14-22	13

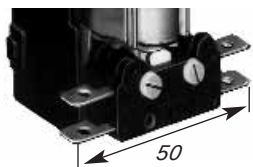
Pack: 2 pieces

Remote sensing microswitch

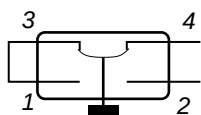
Microswitch type for SI 14	Code	Ref. Number	Catalog Number	Weight (g)
Basic single microswitch	MC 1-5 14 FL 1-5	D 096051	-	20
salt spray-proof single microswitch	MCK 1-5 14 FL 1-5	T 097215	-	20
Basic twin microswitch	MC 1-5 14 FL 1-9	P 096061	-	40

Microswitch type for SI 22	Code	Ref. Number	Catalog Number	Weight (g)
Basic single microswitch	MC 1-5 22 FL 1-5	H096055		24
salt spray-proof single microswitch	MCK 1-5 22 FL 1-5	R097213		22
Basic twin microswitch	MC 1-5 22 FL 1-9	T096065		40

Pack: 1 piece



POSSIBLE ASSEMBLING AFTER CONNECTING ON MODEL WITHOUT PARTITION WALL



- With manual reset reversing style microswitch
10A - 250V ~ @ cos φ = 0.3
- #1 and 3 terminals must always be connected.

Adapters for DIN-rail mounting

Rail style	Designation	Ref. Number	Cat. Number	Top part	Bottom part	Color	Weight (g)	Pkg.
Asymmetrical DIN EN 50035	EF 4	L 097047	EF4	vis M 4		blue	4	100
	EF 35	G 097043	EF35	vis M 3	vis M 5	cream	4	100
	EF 46	K 097046	EF46	vis M 4	vis M 6	white	4	100
Symmetrical DIN EN 50022	Fixoméga FM4	B 092093	MIFIXOMEGA FM4	M 4 center screw		stainless steel	4.4	10



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses CC, CCR

For Ferrule-type Fuses Ø 8-10-14-22

CC 8x31 fuse holder I_{th} max. 25A - Un 400V

for 8x31 fuses with or without blown-fuse indicator



Nb of Poles	Model with no indicator light screw-on		Model with no indicator light rail mounting		Nb Mod	Pckg
	Ref.Number	Cat. Number	Ref.Number	Cat. Number		
N	Y214634	CC8N	C217697	CC8NR	1	12
1	E215146	CC81	M218212	CC81R	1	12
1+N	G215654	CC81N	Q219250	CC81NR	2	6
2	L216164	CC82	R219780	CC82R	2	6
3	L216670	CC83	C222458	CC83R	3	4
3+N	Z217188	CC83N	V222980	CC83NR	4	3

CC 10x38 fuse holder I_{th} max. 32A - Un 500V

for 10x38 fuses with or without blown-fuse indicator or striker



Nb of Poles	Model with no indicator light screw-on		Model with no indicator light rail mounting		Nb Mod	Pckg
	Ref.Number	Cat. Number	Ref.Number	Cat. Number		
N	Y211046	CC10N	W214126	CC10NR	1	12
1	S211570	CC101	F215147	CC101R	1	12
1+N	Y212081	CC101N	M216165	CC101NR	2	6
2	N212601	CC102	M216671	CC102R	2	6
3	A213118	CC103	A217189	CC103R	3	4
3+N	S213617	CC103N	D217698	CC103NR	4	3

CC 14x51 fuse holder I_{th} max. 50A - Un 690V

for 14x51 fuses with or without blown-fuse indicator or striker



Nb of Poles	Model with no indicator light screw-on		Model with no indicator light rail mounting		Nb Mod	Pckg
	Ref.Number	Cat. Number	Ref.Number	Cat. Number		
N	R219251	CC14N	C201827	CC14NR	1,5	12
1	S219781	CC141	Z211047	CC141R	1,5	12
1+N	D222459	CC141N	T211571	CC141NR	3	6
2	W222981	CC142	Z212082	CC142R	3	6
3	D200770	CC143	P212602	CC143R	4,5	4
3+N	V201314	CC143N	B213119	CC143NR	6	3

IEC General Purpose Fuses Ferrule Fuses CC, CCR



For Ferrule-type Fuses Ø 8-10-14-22

I_{th} max. 125A - Un 690V

for 22x58 fuses with or without blown-fuse indicator or stiker

Nb of Poles	Model with no indicator light screw-on		Model with no indicator light rail mounting		Nb Mod	Pckg
	Ref. Number	Cat. Number	Ref. Number	Cat. Number		
N	T213618	CC22N	N216672	CC22NR	2	6
1	X214127	CC221	B217190	CC221R	2	6
1+N	A214636	CC221N	E217699	CC221NR	4	3
2	G215148	CC222	P218214	CC222R	4	3
3	J215656	CC223	C218732	CC223R	6	2
3+N	N216166	CC223N	S219252	CC223NR	8	1



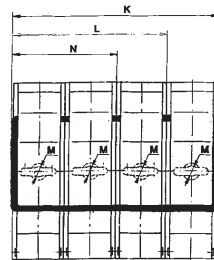
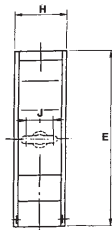
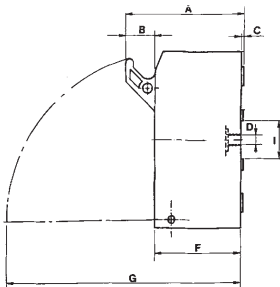
Multi-pole assembly accessories

Nb. of Poles	CC8x31 and CC10x38		CC14x51		CC22x58		Pckg
	Ref. Number	Cat. Number	Ref. Number	Cat. Number	Ref. Number	Cat. Number	
2	E200771	CC810ROASS2	C213120	CC14ROASS2	P216167	CC22ROASS2	10*
3	W201315	CC810ROASS3	V213619	CC14ROASS3	P216673	CC22ROASS3	10*
4	D201828	CC810ROASS4	Y214128	CC14ROASS4	C217191	CC22ROASS4	10*
Adapter for symmetrical rail	A211048	ADAP-RSCC810	F217700	ADAPCC1422	F217700	ADAPCC1422	10*



D201828

Dimensions



	CC8/10	CC.14	CC.22
A	40	62	71
B	9	15,5	16
C	2	1	1
D	5,5	7,25	7,25
E	77,5	94	106
F	33	45,5	55
G	100	127	148
H	7,5	27	34
I	46	20,3	20,3
J	-	15,2	18
K	77,5	112	139
L	60	85	105
M	42,5	6	6
N	-	58	71

- Mounting on symmetrical DIN rail with adapter.
- Wiring cross sections
 - CC8/CC10; 1x10 mm²
 - CC14; 1x25 mm²
 - CC22; 1x50 mm²
- Screw-on mounting in back of panel
- Neutral tubes are systematically built in

- **Weight of a single-pole model**
 - 8x31 ; 56 g
 - 10x38 ; 48 g
 - 14x51 ; 130 g
 - 22x58 ; 190 g



IEC General Purpose Fuses Ferrule Fuses CC, CCR



For Ferrule-type Fuses Ø 8-10

CC 8x31 fuse holder I_{th} max. 25A - Un 400V

for 8x31 fuses, with or without blown-fuse indicator



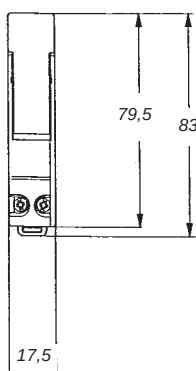
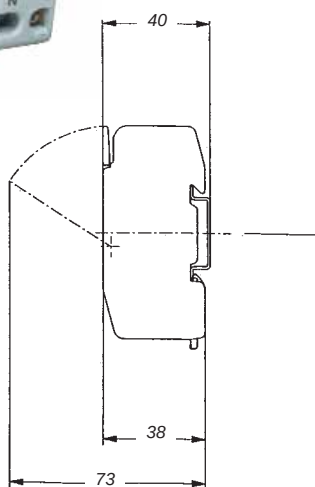
Nb. of Poles	Model with no indicator light			
	Ref. Number	Cat. Number	Nb Mod	Pckg
N	Z214635	CCR810N	1	12
1	C200769	CCR81	1	12
1+N	A218730	CCR81N	1	12
2	V233721	CCR82	2	6
3	W233722	CCR83	3	4

CC 10x38 fuse holder I_{th} max. 32A - Un 500V

for 10x38 fuses, with or without indicator or striker



Nb. of Poles	Model with no indicator light			
	Ref. Number	Cat. Number	Nb Mod	Pckg
N	Z214635	CCR810N	1	12
1	N218213	CCR101	1	12
1+N	H215655	CCR1N1M	1	12
2	X233723	CCR102	2	6
3	Y233724	CCR103	3	4



- Direct mounting on symmetrical DIN rail
- Wire cross sections: 1 x 10mm².
- Compact footprint.
- Insulated to IP 20 standard
- Single-pole weight
 - 8x31 ; 58g
 - 10x38 ; 63g
- Neutral tubes are systematically built in

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

Assembly accessory

Accessories	Ref. Number	Cat. Number	Pckg
CCR multi-pole assembly kit	Z233725	CMS810PAK	12*

* 12 per bag



IEC General Purpose Fuses Ferrule Fuses MSC 8, MSC 10, USM, USCC



For Ferrule-type Fuses Ø 8 with or without blown-fuse indicator

MSC 8 fuse holder

I_{th} max. 25A - Un 400V

Nb of Poles	Model without blown fuse indicator light		Model with blown fuse indicator light		Nb Mod	Pckg
	Ref. Numbrer	Cat. Number	Ref. Numbrer	Cat. Number		
N	Q218215	MSC810N			1	12
1	T219253	MSC81	F222461	MSC81I	1	12
1+N	B211049	MSC81N			2	6
2	R212604	MSC82			2	6
3	W213620	MSC83			3	4
3+N	C214638	MSC83N			4	3
4	Q216168	MSC84			4	3



MSC 8 fuse holder Phase + Neutral (1 mod.)

I_{th} max. 25A - Un 400V

Nb. of Poles	Model without blown fuse indicator light		Nb Mod	Pckg
	Ref. Numbrer	Cat. Numbrer		
1+N	F200772	MSC81N1M	1	12
3+N	J215150	MSC83N3M	3	4



Assembly accessories	Ref. Numbrer	Cat. Numbrer	Pckg
2-pole pin	G215125	MSCMSDMAASS2	10*
3-pole pin	Q216145	MSCMSDMAASS3	10*
4-pole pin	A217166	MSCMSDMAASS4	10*

* 10 per bag



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses MSC 8, MSC 10, USM, USCC

For Ferrule-type Fuses Ø 10 with or without blown-fuse indicator or striker

MSC 10 fuse holder – no accessories

I_{th} max. 32A - Un 690V



Nb. of Poles	Model without blown fuse indicator light		Model with blown fuse indicator light		Nb Mod	Pckg
	Ref.number	Cat. Number	Ref. Number	Cat. Number		
N	Q218215	MSC810N			1	12
1	Q216674	MSC101	W219784	MSC101I	1	12
1+N	C212085	MSC101N	D232602	MSC101NI	2	6
2	E213122	MSC102	K215151	MSC102I	2	6
3	M215659	MSC103	R226611	MSC103I	3	4
3+N	E217193	MSC103N	E232603	MSC103NI	4	3
4	F218735	MSC104			4	3

MSC 10 fuse holder Phase + Neutral (1 mod.)

I_{th} max. 32A - Un 690V

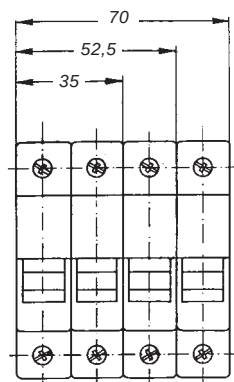
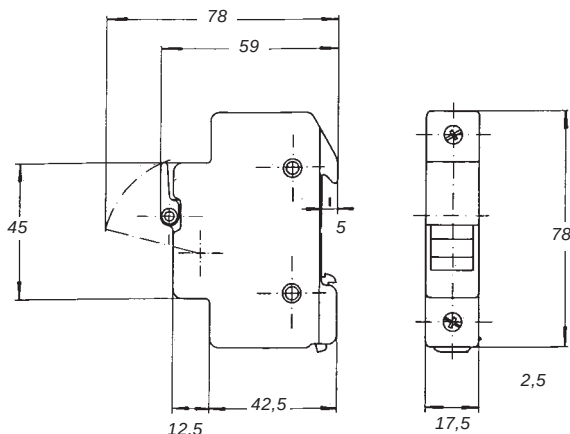


Nb. of Poles	Model without blown fuse indicator light		Model with blown fuse indicator light		Nb Mod	Pckg
	Ref.number	Cat. Number	Ref. Number	Cat. Number		
1+N	Y201317	MSC101N1M	C211050	MSC101N1MI	1	12
3+N	S218217	MSC103N3M	S226612	MSC103N3MI	3	4

Assembly accessories	Ref. Number	Cat. Number	Pckg
2-pole pin	G215125	MSCMSDMAASS2	10*
3-pole pin	Q216145	MSCMSDMAASS3	10*
4-pole pin	A217166	MSCMSDMAASS4	10*

* 10 per bag

Dimensions



• Direct mounting on symmetrical DIN rail

- Indicator light (120/690V)*
- Wiring cross sections:
 - single-pole: 1 x 16mm²
 - single-pole + neutral: 1 x 10 mm²
- Insulated to IP 20 standard

- Single-pole weight
 - 8x31 ; 63 g
 - 8x31 - Ph + N1M ; 63 g
 - 10x38 ; 63 g
 - 10x38 - Ph + N1M ; 68 g

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

Gears & Fuse Gears



IEC General Purpose Fuses Ferrule Fuses MSC 8, MSC 10, USCC, USM

For Ferrule-type Fuses ClassCC or Midget

USCC fuse holder

I_{th} max. 30A - Un 600V

for CC class fuses



Nb. of Poles	Model without blown fuse indicator light		Model with blown fuse indicator light		Nb Mod	Pckg
	Ref. number	Cat. Number	Ref. Number	Cat. Number		
N	W201131	USN				12
1	B213441	USCC1	X213943	USCC1I	1	12
2	P216489	USCC2	D217008	USCC2I	2	6
3	M217522	USCC3	Y218038	USCC3I	3	4
3+N	G222048	USCC3N	N219593	USCC3IN	4	3
4	Q222792	USCC4	E223311	USCC4I	4	3



USM 10 fuse holders

I_{th} max. 32A - Un 800VAC - 1000VDC

for 10 x 38 Midget fuses (1-1/2" x 13/32")



Nb. of Poles	Model without blown fuse indicator light		Model with blown fuse indicator light		Nb Mod	Pckg
	Ref. number	Cat. Number	Ref. Number	Cat. Number		
N	W201131	USN				12
1	Y213944	USM1	L214462	USM1I	1	12
2	N217523	USM2	Z218039	USM2I	2	6
3	C218548	USM3	Y219073	USM3I	3	4
3+N	H222049	USM3N	P219594	USM3IN	4	3
4	R222793	USM4	F223312	USM4I	4	3

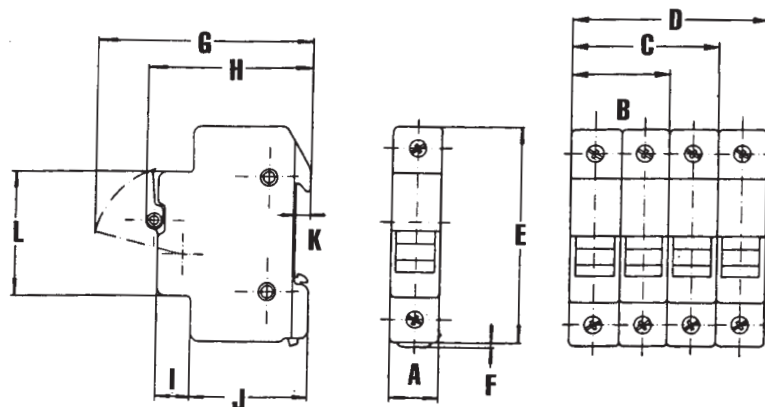
Assembly accessories	Ref. Number	Cat. Number	Pckg
2-pole pin	F201646	USPTH2	10*
3-pole pin	C205047	USPTH3	10*
4-pole pin	P211383	USPTH4	10*

* 10 per bag



Dimensions

DIMENSION	mm	In
A	17.5	0.69
B	35.0	1.38
C	52.5	2.07
D	70.0	2.76
E	78.0	3.07
F	2.5	0.10
G	78.0	3.07
H	59.0	2.32
I	12.5	0.49
J	42.5	1.67
K	5.0	0.20
L	45.0	1.77



- Direct mounting on symmetrical DIN rail
- Single-pole weight
 - USCC ; 58g
 - USM ; 63g

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



Gears & Fuse Gears



**MODULO
STAR**®

IEC General Purpose Fuses Ferrule Fuses Modulostar® Highlights

MODULOSTAR® Series

The brand-new innovative and comprehensive "MODULOSTAR®" range of Ferraz Shawmut Modular Fuseholders and Fuse disconnectors is global and designed to accommodate a multitude of fuses from around the world, including - IEC industrial Cylindrical (gG, aM, gD) - UL class CC, Midget - Special protection class (UR, gR, gD) in 5 sizes : 8x32, 10x38, 14x51, 22x58 and 27x60 mm. All MODULOSTAR® products are manufactured in accordance with IEC 60269-2, IEC 60947 - 1 & 3, UL512 and CSA 22-2 Standards.

General characteristics

- **Impulse withstand voltages :**
 - The range is tested at respectively $U_{imp} = 6KV$ and $8KV$ according to part 8.3.3.4.1 of IEC 60947-1 between neighboring poles, between phase and wires, between phase and microswitch. Insulation voltage rating $U_i = 690VAC$ and $800VAC$
 - The blown fuse light indicators are available for 24VDC to 700VDC and 110VAC to 690-700VAC
- **European RoHS Directive:**
Modulostar® product range is develop in accordance with European Directive 2002/95/CE dated 27 January 2003, as free of halogene (PBB, PBDE), chlorine, mercury, cadmium and lead.
- **Environmental aspects**
Modulostar® range is design following "ecoconception" method, with software tool EIME (Environmental Information & Management Explorer), which takes into account the following criteria: Water Toxicity, Water Eutrophication, Hazardous Waste Production, Raw Material Depletion, Energy Depletion, Water Depletion, Global Warming, Air Toxicity, Photochemical Ozone Creation, Air Acidification
- **Plastic material used are UL 94 V0 to V2 with UL Recognized Yellow card**
RTI (Relative Thermal Index) $> 120^{\circ}C$
CTI (Comparative Tracking Index) $> 350V$
Bodies are in Polyamide 6 with 20% reinforced material
Handles are in Polyamide 6.6 with 25% reinforced material or in Thermodur BMC
- **Homologations:** CB report according IEC 60269-2 and IEC 60947-3 standards
UL CSA Listed (600V AC) for class CC products ranges, UL CSA recognition (800V AC - 1000V DC) for Midget and IEC products
- **Vibration withstand:**
Tests with sine vibrations carried out at ambient temperature with scanning each of the three main axis of the holder .
Spectrum: 1st segment (2 to 16Hz) constant displacement $x=5mm$ peak
2nd segment (16 to 250 Hz) constant acceleration $\gamma=5g$ peak
Exponential scanning speed: 1 octave per minute.
Duration : 2 hours per axis.
- **Climatic usage conditions:** Modulostar® is designed for temperate climates . For more severe climates we recommend the following:

Maximum temperature	20°C	30°C	40°C	50°C
Maximum relative humidity	95%	90%	80%	50%
Curent derating	1	0.95	0.9	0.8



IEC General Purpose Fuses Ferrule Fuses Modulostar® Highlights

Fuse Overview



Fuse ranges used in Ferraz Shawmut fusegear

Class \ Size	10.3 x 38 / CC	14 x 51	22 x 58	27 x 60
600V Class J Time delay			AJT 1 to 30A	AJT 31 to 60A
600V Class J Fast acting			A4J 1 to 30A	A4J 31 to 60A
600V Midget fast acting	6JX, ATM, SBS 0.25 to 30A			
600V Class CC Time delay	ATDR, ATQR, ATMR 1/4 to 30A			
600V Class RK5 Time delay		TR 1 to 30A		
250V Class RK1 Fast acting		A2K 1 to 30A		
250V Class K-5		OT, OTN 1 to 30A		
250V Class RK1 Time delay		A2D, 1 to 30A		
500V Midget Time delay	ATQ 0.1 to 10A			
250V-300V Midget	OTM, TRM, A25Z-2 0.1 to 30A			
125V Midget Fast acting	GGU, GFN 3 to 30A			
aM	400V 25 to 32A 500V 0.16 to 20A 690V 0.16 to 12 or 20A*	500V 32 to 50A 690V 0.25 to 40A	500V 100 to 125A 690V 1 to 80A	
gG	400V 32A 500V 0.5 to 25A 690V 0.5 to 12 or 20A*	400V 50A 500V 32 to 40A 690V 1 to 32A	400V 125A 500V 100A 690V 4 to 80A	
60gD		600V 10 to 30A	600V 35 to 60A	600V 65 to 100A
gG with striker	400V 2 to 32A	400V 50A 500V 2 to 40A 690V 2 to 32A*	400V 125A 500V 80 to 100A 690V 4 to 80A*	690V 63 to 160A*
aM with striker	400V 2 to 32A	500V 1 to 15A 690V 10 to 40A*	500V 63 to 100A 690V 1 to 80A*	690V 63 to 160A*
UR	600V 0.1 to 0.8	690V 6 to 50A	690V 25 to 100A	
gR	690V 1 to 32A	690V 1 to 50A	690V 25 to 100A	
UR with striker	500V 1 to 30A	690V 6 to 50A	690V 25 to 100A	690V 63 to 250V 1000V 32 to 170A
gR with striker		690V 1 to 50A	690V 25 to 100A	800V 8 to 110A
I _n maxi	32A	50A	125A	170A

* development in progress



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS8 - CMS10 - US10



IEC fuse holders: CMS8

Electrical characteristics

Nominal Voltage Ui AC/DC	Voltage Isolation Uimp	Nominal Current	Max. power losses in the fuse links	Fuse links rating	Maxi RMS* Current for 1,2, 3 and 3+N poles with FS fuse links For 4, 5 and 6 poles x by 0.9 For 7, 8, 9 poles x 0.8 For ≥ 10 poles x by 0,7			Cable wire section (mm²) recommended
					gG	aM	gF / gG	
500V AC20B	6 kV	25 A	2.5 W	≤12	≤12	≤12	≤12	2.5
				16	16	16	16	2.5
				20	20	20	20	2.5
				25	25	25	25	4

* Datos for ambiente temperature = 20°C.

Wire range : Rigid wire = 1- 16 mm² (18 - 6 AWG) Multistrand wire = 0,75 - 10 mm² (18 - 8 AWG)

Ferraz Shawmut recommends to use screwdrivers PZ 2 or Flat 5.5 x 1 mm (maximum diameter 6 mm)

Maximum Tightening Torque : 2.5 Nm (22lb-in)

IR for fuses : 80KA @ 690V

MODULOSTAR® Fuse holders

for 8 x 32 fuse links



Nb of Pole	MODULOSTAR® Fuse holder without fuse light melting indicator			Nb of Mod. (17.5 mm)	Pckg box of
	Catalog Number	Ref Number	Description		
1	CMS810N	D305006	MODULOSTAR® CMS8/10 NEUTRE	1	12
1	CMS81	X305000	MODULOSTAR® CMS8 1P	1	12
2	CMS81N	Y305001	MODULOSTAR® CMS8 1P+N	2	6
2	CMS82	Z305002	MODULOSTAR® CMS8 2P	2	6
3	CMS83	A305003	MODULOSTAR® CMS8 3P	3	4
4	CMS83N	B305004	MODULOSTAR® CMS8 3P+N	4	3
4	CMS84	C305005	MODULOSTAR® CMS8 4P	4	3

Nb of Pole	MODULOSTAR® Fuse holder with fuse light melting indicator			Nb of Mod. (17.5 mm)	Pckg box of
	Catalog Number	Ref Number	Description		
1	CMS81I	E305007	MODULOSTAR® CMS8 1P C/I	1	12
2	CMS81NI	F305008	MODULOSTAR® CMS8 1P+N C/I	2	6
2	CMS82I	G305009	MODULOSTAR® CMS8 2P C/I	2	6
3	CMS83I	H305010	MODULOSTAR® CMS8 3P C/I	3	4
4	CMS83NI	J305011	MODULOSTAR® CMS8 3P+N C/I	4	3
4	CMS84I	K305012	MODULOSTAR® CMS8 4P C/I	4	3

Accessories

Description	Catalog Number	references Number	Nb of Mod. (17.5 mm)	Maxi. RMS current (A)	Number of poles	Pckg
Kit for Multi-Phase connection links	CMS810PAK	Z233725				12
Lock	LOCK	M223525				1
Tag and lockout	TAGLOCKCMS810	A235773				1
jumping bars 1 phase size 8/10 *	CMS810BB1F13	T210306	13	63	1	10
jumping bars 2 phases size 8/10 *	CMS810BB2F6	V210307	6	63	2	10
jumping bars 3 phases size 8/10 *	CMS810BB3F4	W210308	4	100	3	10
jumping bars 4 phases size 8/10 *	CMS810BB4F3	X210309	3	100	4	10
1 phase lateral incoming power supply	TBB1C	E210316		90		50
2 & 3 phases lateral incoming power supply	TBB23C	G210318		90		50
1 phase axial incoming power supply	TBB1A	D210315		90		50
2 & 3 phases axial incoming power supply	TBB23A	F210317		90		50

Note *: It is possible to use a rigid cable 16 mm² with a jumping bar 1.5 mm thick.



IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS8 - CMS10 - US10



IEC fuse holders: CMS10

Electrical characteristics

Nominal Voltage Ui AC/DC	Voltage Isolation Uimp	Nominal Current	Max. power losses in the fuse links	Fuse links rating	Maxi RMS* Current for 1, 2, 3 and 3+N poles with FS fuse links For 4, 5 and 6 poles x by 0.9 For 7, 8, 9 poles x 0.8 For ≥ 10 poles x by 0.7				Cable wire section (mm²) recommended
					gG	aM	URD / gRB	6JX	
690 V AC AC20B	6 kV	32 A	3 W	≤12	≤12	≤12	≤12	≤12	2.5
				16	16	16	16	16	2.5
				20	20	20	19	20	2.5
				25	25	25	22	25	4
				30			25	30	6
				32	32	32	26		6

* Datas for ambiente temperature = 20°C.

Wire range : Rigid wire = 1 - 16 mm² (18 - 6 AWG) Multistrand wire = 0,75 - 10 mm² (18 - 8 AWG)

Ferraz Shawmut recommends to use screwdrivers PZ 2 or Flat 5.5 x 1 mm (maximum diameter 6 mm)

Maximum Tightening Torque : 2.5 Nm (22lb-in)

IR for fuses : 120KA @ 500V - 80KA @ 690V

MODULOSTAR® Fuse holders

for 10 x 38 fuse links

Nb of Pole	MODULOSTAR® Fuse holder without fuse light melting indicator			Nb of Mod. (17.5 mm)	Pckg box of
	Catalog Number	Ref Number	Description		
1	CMS810N	D305006	MODULOSTAR® CMS8/10 NEUTRE	1	12
1	CMS101	T305020	MODULOSTAR® CMS10 1P	1	12
2	CMS101N	V305021	MODULOSTAR® CMS10 1P+N	2	6
2	CMS102	W305022	MODULOSTAR® CMS10 2P	2	6
3	CMS103	X305023	MODULOSTAR® CMS10 3P	3	4
4	CMS103N	Y305024	MODULOSTAR® CMS10 3P+N	4	3
4	CMS104	Z305025	MODULOSTAR® CMS10 4P	4	3

Nb of Pole	MODULOSTAR® Fuse holder with fuse light melting indicator			Nb of Mod. (17.5 mm)	Pckg box of
	Catalog Number	Ref Number	Description		
1	CMS101I	A305026	MODULOSTAR® CMS10 1P C/I	1	12
2	CMS101NI	B305027	MODULOSTAR® CMS10 1P+N C/I	2	6
2	CMS102I	C305028	MODULOSTAR® CMS10 2P C/I	2	6
3	CMS103I	D305029	MODULOSTAR® CMS10 3P C/I	3	4
4	CMS103NI	E305030	MODULOSTAR® CMS10 3P+N C/I	4	3
4	CMS104	F305031	MODULOSTAR® CMS10 4P C/I	4	3



Accessories

Description	Catalog Number	references Number	Nb of Mod. (17.5 mm)	Maxi. RMS current (A)	Number of poles	Pckg
Kit for Multi-Phase connection links	CMS810PAK	Z233725				12
Lock	LOCK	M223525				1
Tag and lockout	TAGLOCKCMS810	A235773				1
jumping bars 1 phase size 8/10 *	CMS810BB1F13	T210306	13	63	1	10
jumping bars 2 phases size 8/10 *	CMS810BB2F6	V210307	6	63	2	10
jumping bars 3 phases size 8/10 *	CMS810BB3F4	W210308	4	100	3	10
jumping bars 4 phases size 8/10 *	CMS810BB4F3	X210309	3	100	4	10
1 phase lateral incoming power supply	TBB1C	E210316		90		50
2 & 3 phases lateral incoming power supply	TBB23C	G210318		90		50
1 phase axial incoming power supply	TBB1A	D210315		90		50
2 & 3 phases axial incoming power supply	TBB23A	F210317		90		50

Note *: It is possible to use a rigid cable 16 mm² with a jumping bar 1.5 mm thick.



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS8 - CMS10 - US10

IEC fuse holders: US10

Electrical characteristics

Nominal Voltage Ui AC/DC	Voltage Isolation Uimp	Nominal Current	Max. power losses in the fuse links	Fuse links rating	Maxi RMS* Current for 1, 2, 3 and 3+N poles with FS fuse links For 4, 5 and 6 poles x by 0.9 For 7, 8, 9 poles x 0.8 For ≥ 10 poles x by 0,7				Cable wire section (mm²) recommended
					6JX	ATM, SBS, GNF, GGU	ATO, OTM, TMR	URD / gRB	
690V AC AC20B	6 kV	30 A	3 W	≤16	16	16	16	16	2.5
				20	20	20	20	19	2.5
				25	25	25	25	22	4
				30	30	30	30	25	6
				32				25	6

Note: UL recognized Voltage are 800V AC and 1000V DC
* Datas for ambiante temperature = 20°C.

Wire range : Rigid wire = 1- 16 mm² (18 - 6 AWG) Multistrand wire = 0,75 - 10 mm² (18 - 8 AWG)

Ferraz Shawmut recommends to use screwdrivers PZ 2 or Flat 5.5 x 1 mm (maximum diameter 6 mm)

Maximum Tightening Torque : 2.5 Nm (22lb-in)

IR for fuses : 120KA @ 500V IEC - 80KA @ 690V IEC - 80 KA @ 700V UL

MODULOSTAR® Fuse holders

for Midget and 10 x 38 fuse links



STAR® Fuse holder without fuse light melting indicator					Nb of Mod. (17.5 mm)	Pckg box of
Nb of Pole	Catalog Number	Ref Number	Description			
1	US10N	H305056	MODULOSTAR® US10 NEUTRE 		1	12
1	US101	B305050	MODULOSTAR® US10 1P 		1	12
2	US101N	C305051	MODULOSTAR® US10 1P+N 		2	6
2	US102	D305052	MODULOSTAR® US10 2P 		2	6
3	US103	E305053	MODULOSTAR® US10 3P 		3	4
4	US103N	F305054	MODULOSTAR® US10 3P+N 		4	3
4	US104	G305055	MODULOSTAR® US10 4P 		4	3

Nb of Pole	MODULOSTAR® Fuse holder with fuse light melting indicator			Nb of Mod. (17.5 mm)	Pckg box of
	Catalog Number	Ref Number	Description		
1	US101I	J305057	MODULOSTAR® US10 1P C/I 	1	12
2	US101NI	K305058	MODULOSTAR® US10 1P+N C/I 	2	6
2	US102I	L305059	MODULOSTAR® US10 2P C/I 	2	6
3	US103I	M305060	MODULOSTAR® US10 3P C/I 	3	4
4	US103NI	N305061	MODULOSTAR® US10 3P+N C/I 	4	3
4	US104I	P305062	MODULOSTAR® US10 4P C/I 	4	3

Accessories

Description	Catalog Number	references Number	Nb of Mod. (17.5 mm)	Maxi. RMS current (A)	Number of poles	Pckg
Kit for Multi-Phase connection links	US810PAK	Z233725				12
Lock	LOCK	M223525				1
Tag and lockout	TAGLOCKUS810	A235773				1
jumping bars 1 phase size 8/10 *	US810BB1F13	T210306	13	63	1	10
jumping bars 2 phases size 8/10 *	US810BB2F6	V210307	6	63	2	10
jumping bars 3 phases size 8/10 *	US810BB3F4	W210308	4	100	3	10
jumping bars 4 phases size 8/10 *	US810BB4F3	X210309	3	100	4	10
1 phase lateral incoming power supply	TBB1C	E210316		90		50
2 & 3 phases lateral incoming power supply	TBB23C	G210318		90		50
1 phase axial incoming power supply	TBB1A	D210315		90		50
2 & 3 phases axial incoming power supply	TBB23A	F210317		90		50

Note *: It is possible to use a rigid cable 16 mm² with a jumping bar 1.5 mm thick.

Gears & Fuse Gears



IEC General Purpose Fuses

Ferrule Fuses

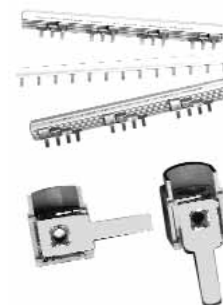
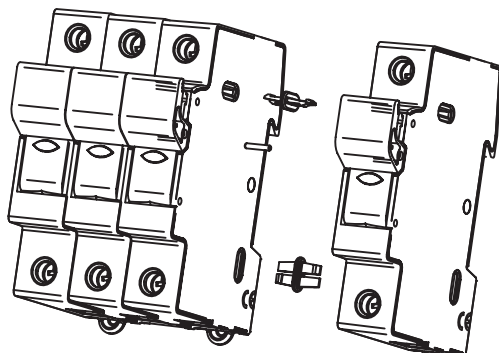
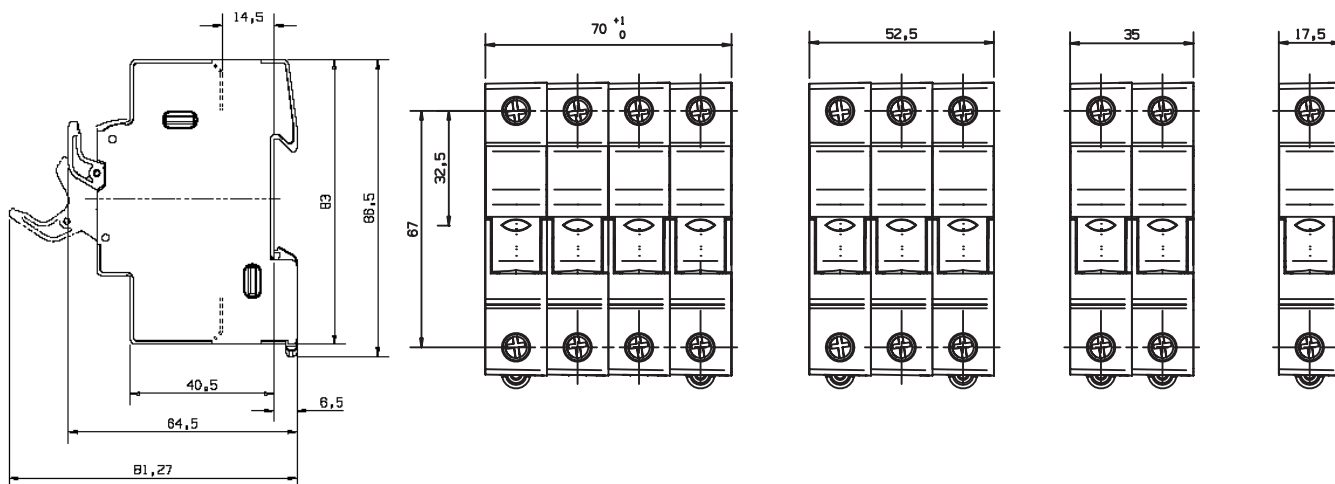
Modulostar® CMS8 - CMS10 - US10



CMS8 & 10, US10



Dimensions



Accessories

Description	Catalog Number	references Number	Nb of Mod. (17.5 mm)	Maxi. RMS current (A)	Number of poles	Pckg
Kit for Multi-Phase connection links	CMS810PAK	Z233725				12
Lock	LOCK	M223525				1
Tag and lockout	TAGLOCKCMS810	A235773				1
jumping bars 1 phase size 8/10 *	CMS810BB1F13	T210306	13	63	1	10
jumping bars 2 phases size 8/10 *	CMS810BB2F6	V210307	6	63	2	10
jumping bars 3 phases size 8/10 *	CMS810BB3F4	W210308	4	100	3	10
jumping bars 4 phases size 8/10 *	CMS810BB4F3	X210309	3	100	4	10
1 phase lateral incoming power supply	TBB1C	E210316		90		50
2 & 3 phases lateral incoming power supply	TBB23C	G210318		90		50
1 phase axial incoming power supply	TBB1A	D210315		90		50
2 & 3 phases axial incoming power supply	TBB23A	F210317		90		50

Note *: It is possible to use a rigid cable 16 mm² with a jumping bar 1.5 mm thick.



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses New USCC (UltraSafe)



UL fuse holders: USCC

Electrical characteristics

Nominal Voltage Ui AC/DC	Voltage Isolation Uimp	Nominal Current	Max. power losses in the fuse links	Fuse links rating	Maxi RMS* Current for 1,2, 3 and 3+N poles with FS fuse links For 4, 5 and 6 poles x by 0.9 For 7, 8, 9 poles x 0.8 For ≥ 10 poles x by 0,7			Cable wire section (mm²) recommended
					ATDR	ATM	ATMR	
600V AC	6 kV	30 A	3 W	≤20	20	20	20	2.5
				25	25	25	25	4
				30	30	30	30	6

Note: UL Listed 600V AC

* Datas for ambiente temperature = 20°C.

Wire range : Rigid wire = 1 - 16 mm² (18 - 6 AWG) Multistrand wire = 0,75 - 10 mm² (18 - 8 AWG)

Ferraz Shawmut recommends to use screwdrivers PZ 2 or Flat 5.5 x 1 mm (maximum diameter 6 mm)

Maximum Tightening Torque : 2.5 Nm (22lb-in)

IR with UL Class CC fuse links : 200KA @ 600V

ULTRASAFE Fuse holders

for Class CC fuse links



Nb of Pole	ULTRASAFE™ Fuse holder without fuse light melting indicator			Nb of Mod. (17.5 mm)	Pckg box of
	Catalog Number	Ref Number	Description		
1	USCC1	H305033	ULTRASAFE™ CC 1P	1	12
2	USCC2	K305035	ULTRASAFE™ CC 2P	2	6
3	USCC3	L305036	ULTRASAFE™ CC 3P	3	4
4	USCC4	N305038	ULTRASAFE™ CC 4P	4	3
2	USCC1N	J305034	ULTRASAFE™ CC 1P+N	2	6
4	USCC3N	M305037	ULTRASAFE™ CC 3P+N	4	3

Nb of Pole	ULTRASAFE™ Fuse holder with fuse light melting indicator			Nb of Mod. (17.5 mm)	Pckg box of
	Catalog Number	Ref Number	Description		
1	USCC1I	P305039	ULTRASAFE™ CC 1P C/I	1	12
2	USCC2I	R305041	ULTRASAFE™ CC 2P C/I	2	6
3	USCC3I	S305042	ULTRASAFE™ CC 3P C/I	3	4
4	USCC4I	V305044	ULTRASAFE™ CC 4P C/I	4	3
2	USCC1NI	Q305040	ULTRASAFE™ CC 1P+N C/I	2	6
4	USCC3NI	T305043	ULTRASAFE™ CC 3P+N C/I	4	3

Accessories

Description	Catalog Number	references Number	Nb of Mod. (17.5 mm)	Maxi. RMS current (A)	Number of poles	Pckg
Kit for Multi-Phase connection links	CMS810PAK	Z233725				12
Lock	LOCK	M223525				1
Tag and lockout	TAGLOCKCMS810	A235773				1
jumping bars 1 phase size 8/10 *	CMS810BB1F13	T210306	13	63	1	10
jumping bars 2 phases size 8/10 *	CMS810BB2F6	V210307	6	63	2	10
jumping bars 3 phases size 8/10 *	CMS810BB3F4	W210308	4	100	3	10
jumping bars 4 phases size 8/10 *	CMS810BB4F3	X210309	3	100	4	10
1 phase lateral incoming power supply	TBB1C	E210316		90		50
2 & 3 phases lateral incoming power supply	TBB23C	G210318		90		50
1 phase axial incoming power supply	TBB1A	D210315		90		50
2 & 3 phases axial incoming power supply	TBB23A	F210317		90		50

Note *: It is possible to use a rigid cable 16 mm² with a jumping bar 1.5 mm thick.

Gears & Fuse Gears



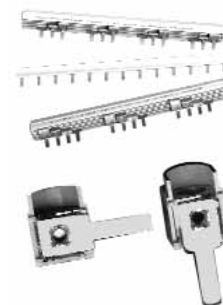
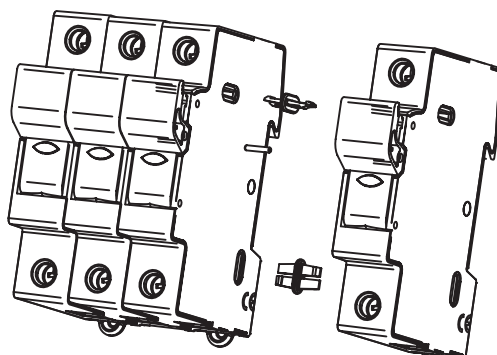
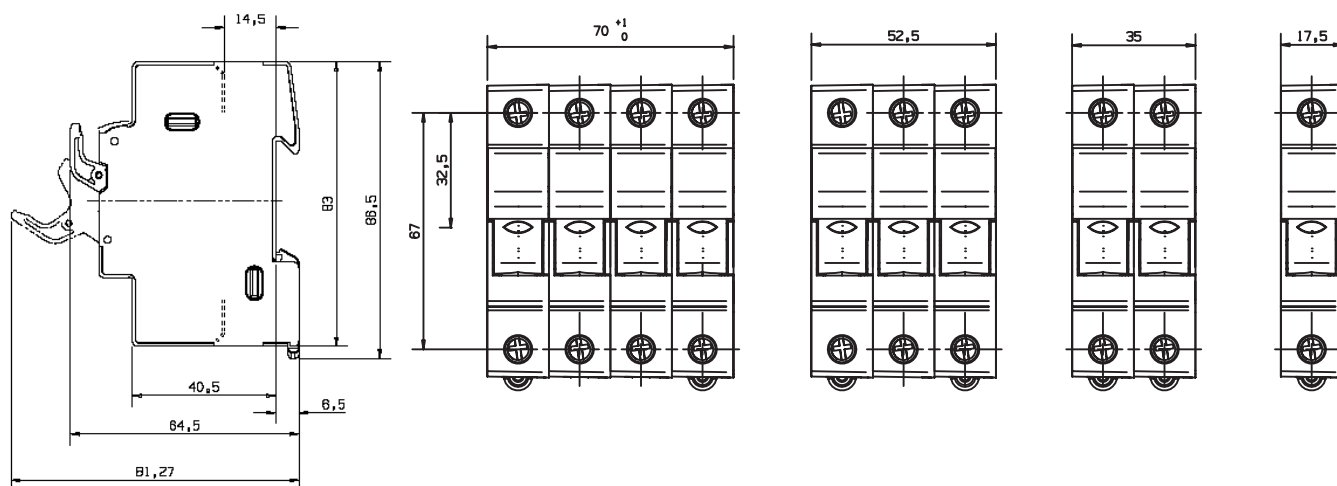
IEC General Purpose Fuses Ferrule Fuses New USCC (UltraSafe)



UL fuse holders: USCC



Dimensions



Accessories

Description	Catalog Number	references Number	Nb of Mod. (17.5 mm)	Maxi. RMS current (A)	Number of poles	Pckg
Kit for Multi-Phase connection links	CMS810PAK	Z233725				12
Lock	LOCK	M223525				1
Tag and lockout	TAGLOCKCMS810	A235773				1
jumping bars 1 phase size 8/10 *	CMS810BB1F13	T210306	13	63	1	10
jumping bars 2 phases size 8/10 *	CMS810BB2F6	V210307	6	63	2	10
jumping bars 3 phases size 8/10 *	CMS810BB3F4	W210308	4	100	3	10
jumping bars 4 phases size 8/10 *	CMS810BB4F3	X210309	3	100	4	10
1 phase lateral incoming power supply	TBB1C	E210316		90		50
2 & 3 phases lateral incoming power supply	TBB23C	G210318		90		50
1 phase axial incoming power supply	TBB1A	D210315		90		50
2 & 3 phases axial incoming power supply	TBB23A	F210317		90		50

Note *: It is possible to use a rigid cable 16 mm² with a jumping bar 1.5 mm thick.



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses Modulostar® USFM10, UltraSafe™ USFMM

Three poles fuse holders and fuse disconnectors: USFM10 / USFMM

Electrical characteristics

Nominal Voltage Ui AC/DC	Voltage Isolation Uimp	Nominal Current	Max. power losses in the fuse links	Fuse links rating	Maxi RMS* Current for 1 Three poles system with FS fuse links. For 2 to 7 Three poles systems x by 0.9				Cable wire section (mm²) recommended
					6JX	ATM, SBS, GNF, GGU	ATO, OTM, TMR	URD / gRB	
690 V IEC 600V UL AC20B	6 kV	32 A	3 W	≤12	≤12	≤12	≤12	≤12	2.5
				16	16	16	16	16	2.5
				20	20	20	20	19	2.5
				25	25	25	25	22	4
				30	30		26	25	6
				32		32	27	26	6

* Datos for ambiente temperature = 20°C.

Wire range : Rigid and Multistrand wire = 1- 4 mm² (18 - 10 AWG) - Multistrand wire 6 mm² (9 AWG) with strands repartition between each part of screw -

Maximum multistrand wire for each open lug = 2.6 mm² (12 AWG)

Maximum Tightening Torque : 1.5 Nm (13 lb-in)

Ferraz Shawmut recommends to use screwdrivers PZ 2 or Flat 5.5 x 0.8 mm (maximum diameter 6 mm)

IR with fuses : 120KA @ 500V IEC - 80KA @ 690V IEC - 80 KA @ 700V UL

MODULOSTAR® USFM10

for IEC 10x38 fuse links



Nb of Pole / Width	MODULOSTAR® USFM Fuse holder and Fuse disconnectors			Function	
	Catalog Number	Ref Number	Description	Fuse holder	Fuse disconnectors
3 poles system / 45 mm width	USFM10	S302765	USFM10 FUSE HOL 3P 690V 32A EU	w/o Indicator	
	USFM10M	T302766	USFM10M FUSEHOL+MC3P690V32A EU		w/o Indicator
	USFM10I	W302768	USFM10I FUS.HOL3P+V 690V32A EU	with Indicator	
	USFM10MI	V302767	USFM10MI FUS.HOL3P+MC+V690V EU		with Indicator

Pack: 1 piece

Fuse holder is without Prebreaking Microswitch (see accessories)

Fuse disconnectors is with mounted Prebreaking Microswitch

ULTRASAFE USFMM

for Midget and IEC 10x38 fuse links

Nb of Pole / Width	ULTRASAFE™ USFM Fuse holder and Fuse disconnectors			Function	
	Catalog Number	Ref Number	Description	Fuse holder	Fuse disconnectors
3 poles system / 45 mm width	USFMM	D302775	USFMM 3P 600V 30A UL	w/o Indicator	
	USFMMM	E302776	USFMMM 3P 600V 30A +MS UL		w/o Indicator
	USFMMI	G302778	USFMMI 3P 600V 30A +LIGHT UL	with Indicator	
	USFMMMI	F302777	USFMMMI 3P 600V 30A +LI+MS UL		with Indicator

Pack: 1 piece

Fuse holder is without Prebreaking Microswitch (see accessories)

Fuse disconnectors is with mounted Prebreaking Microswitch

Accessories

Description	Catalog Number	references Number	Number of systems interconnected	Maxi. RMS current (A)	Number of poles	Pckg
Lock	LOCK	M223525				1
Microswitch	USFMAC11	C302797	1		3	1
Additional Neutral			1			
jumping bars 3 phases			4		3	
Lateral incoming power supply	TBB23C	G210318		90		50
Axial incoming power supply	TBB23A	F210317		90		50
Interconnexion with SEI 30A Contactor			1		3	
Interconnexion with Rockwell 30A Contactor			1		3	
Interconnexion with SIEMENS 30A Contactor			1		3	
Interconnexion with ABB 30A Contactor			1		3	
Interconnexion with GE 30A Contactor			1		3	



IEC General Purpose Fuses

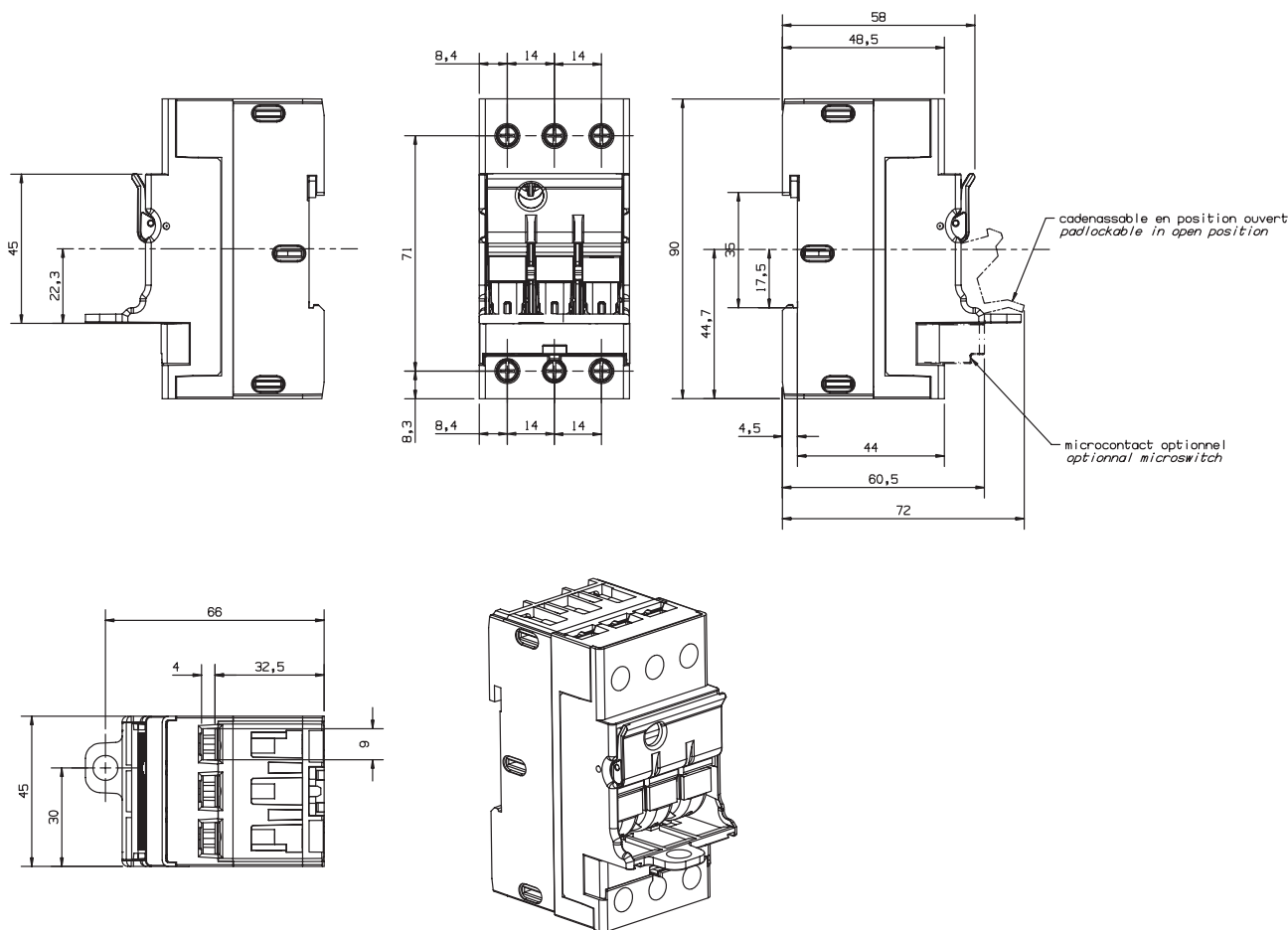
Ferrule Fuses

Modulostar® USFM10, UltraSafe™ USFMM



USFM 10 - USFMM

Dimensions



Accessories

Description	Catalog Number	references Number	Number of systems interconnected	Maxi. RMS current (A)	Number of poles	Pckg
Lock	LOCK	M223525				1
Microswitch	USFMAC11	C302797	1		3	1
Additional Neutral jumping bars 3 phases			1			
Lateral incoming power supply	TBB23C	G210318	2	90	3	50
Axial incoming power supply	TBB23A	F210317		90		50
Interconnexion with SEI 30A Contactor			1		3	
Interconnexion with Rockwell 30A Contactor			1		3	
Interconnexion with SIEMENS 30A Contactor			1		3	
Interconnexion with ABB 30A Contactor			1		3	
Interconnexion with GE 30A Contactor			1		3	



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses Modulostar® USFM10, UltraSafe™ USFMM

USFM10, USFMM

Ferraz Shawmut Fuse usable in USFM* for Motors protection

P . Motor	Motor Voltage	Ie Motor	AM IEC fuse links	CC UL listed	GD UL recognized	JTD UL Listed ≤ 60A
4 kW	400/415V	9A	50 aM 10.10*	CC 15*	60 gD 14.12	AJT17.5
	500V	7A	50 aM 10.8*	CC 12*	60 gD 14.10	AJT15
	690V	5A	69 aM 10.6,3*	---	---	AJT10
5.5 kW	400/415V	12	50 aM 10.16*	CC 20*	60 gD 14.18	AJT20
	500V	10	50 aM 10.12*	CC 17*	60 gD 14.15	AJT17.5
	690V	7	69 aM 10.8*	---	---	AJT15
7.5 kW	400/415V	16	50 aM 10.20*	CC 25*	60 gD 14.25	AJT25
	500V	14	50 aM 10.16*	CC 25*	60 gD 14.20	AJT20
	690V	9	69 aM 10.10*	---	---	AJT17.5
11 kW	400/415V	23	50 aM 10.25*		60 gD 14.30	AJT40
13 kW	500V	20	50 aM 10.25*	CC 30*	60 gD 14.28	AJT35
10 kW	690V	12	69 aM 14.12	---	---	AJT20
15 kW	400/415V	30	40 aM 10.32	---	60 gD 22.35	AJT60
	500V	25	50 aM 10.25	---	60 gD 14.30	AJT45
	690V	18	69 aM 14.20	---	---	AJT30
18 kW	400/415V	37	50 aM 14.40	---	60 gD 22.55	
to	500V	30	50 aM 14.32	---	60 gD 14.45	AJT60
20 kW	690V	21	69 aM 14.25	---	---	AJT335
22 kW	400/415V	43	50 aM 14.50	---	60 gD 22.60	---
25 kW	500V	38	50 aM 14.40	---	60 gD 22.50	---
22 kW	690V	25	69 aM 14.32	---	---	AJT45
28 kW	400/415V	54	50 aM 22.63	---	60 gD 27.80	---
32 kW	500V	47	50 aM 22.50	---	60 gD 22.60	---
28 kW	690V	30	69 aM 14.40	---	---	AJT60
32 kW	400/415V	60	50 aM 22.80	---	60 gD 27.100	---
37 kW	500V	55	50 aM 22.63	---	60 gD 27.80	---
32 kW	690V	34	69 aM 14.40	---	---	AJT60
40 kW	400/415V	72	50 aM 22.80	---	60 gD 27.100	---
45 kW	500V	67	50 aM 22.80	---	---	---
40 kW	690V	42	69 aM 14.50	---	---	---
45 kW	400/415V	85	50 aM 22.100	---	---	---
55 kW	500V	80	50 aM 22.100	---	---	---
55 kW	690V	49	69 aM 14.63	---	---	---

* Respectively in USFM10-USFCC



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses USFMCC (UltraSafe™)



UL three poles fuse holders: USFMCC

Electrical characteristics

Nominal Voltage Ui AC/DC	Voltage Isolation Uimp	Nominal Current	Max. power losses in the fuse links	Fuse links rating	Maxi RMS* Current for 1 USFM with FS fuse links For 2 to 7 USFM x by 0.9			Cable wire section (mm²) recommended
					ATDR	ATM	ATMR	
600V AC	8 kV	30 A	3 W	≤20	20	20	20	4 6
				25	25	25	25	
				30	30	30	30	

* Datas for ambiante temperature = 20°C.

Wire range : Rigid and Multistrand wire = 1- 4 mm² (18 - 10 AWG) - Multistrand wire 6 mm² (9 AWG) with strands repartition between each part of screw - Maximum multistrand wire for each open lug = 2.6 mm² (12 AWG)

Maximum Tightening Torque : 1.5 Nm (13 lb-in)

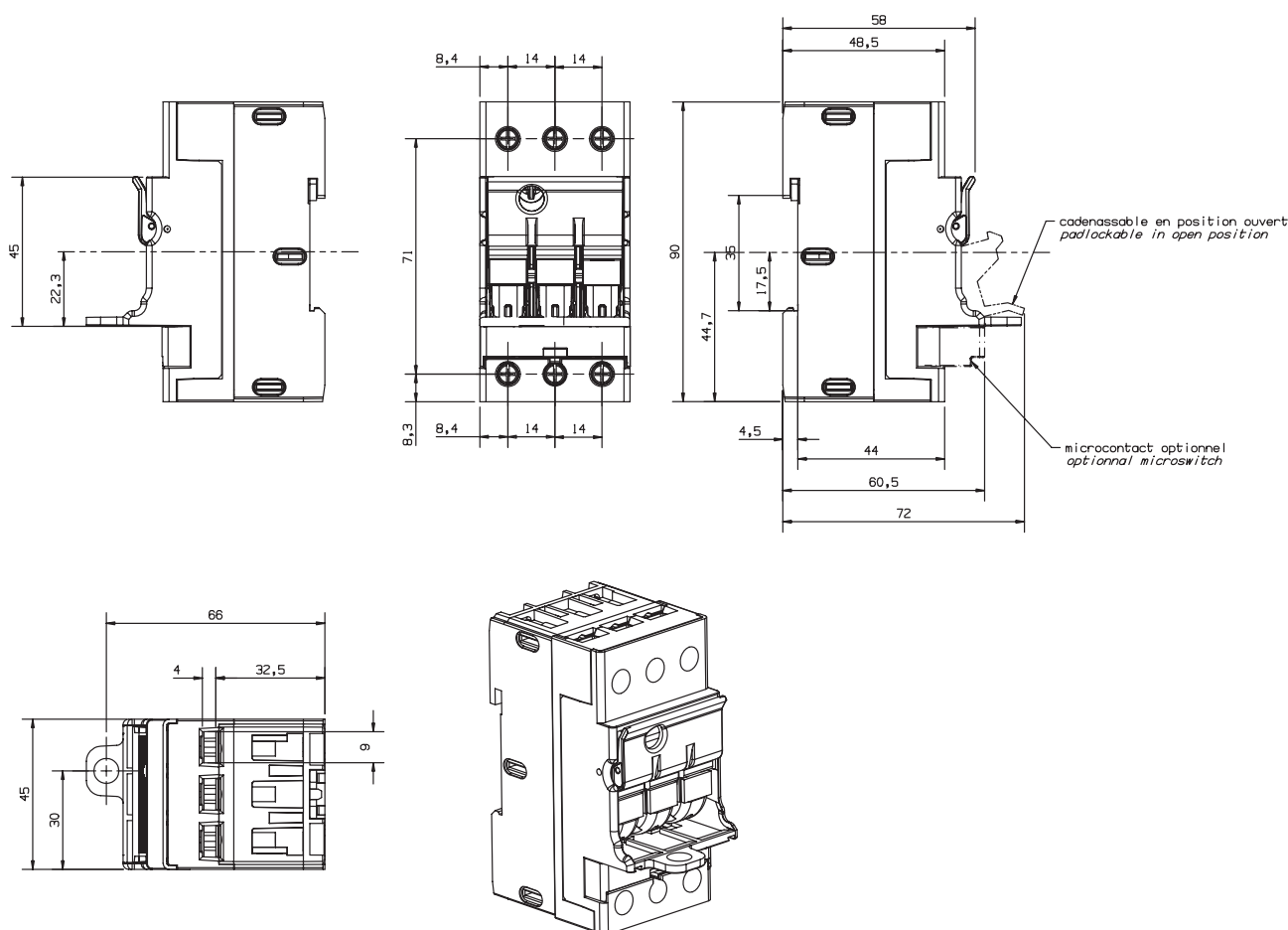
Ferraz Shawmut recommends to use screwdrivers PZ 2 or Flat 5.5 x 0.8 mm (maximum diameter 6 mm)

IR with UL Class CC fuse links : 200KA @ 600V

ULTRASAFE™ USFMCC  
for Class CC fuse links



Dimensions



Description	Catalog Number	references Number	Number of systems interconnected	Maxi. RMS current (A)	Number of poles	Pckg
Lock	LOCK	M223525				1
Microswitch	USFMAC11	C302797	1		3	1
Additional Neutral			1			
jumping bars 3 phases			2		3	
Lateral incoming power supply	TBB23C	G210318		90		50
Axial incoming power supply	TBB23A	F210317		90		50
Interconnexion with SEI 30A Contactor			1		3	
Interconnexion with Rockwell 30A Contactor			1		3	
Interconnexion with SIEMENS 30A Contactor			1		3	
Interconnexion with ABB 30A Contactor			1		3	
Interconnexion with GE 30A Contactor			1		3	



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses USFMCC (UltraSafe™)



USFMCC

Ferraz Shawmut Fuse usable in USFM* for Motors protection

P . Motor	Motor Voltage	Ie Motor	AM IEC fuse links	CC UL listed	GD UL recognized	JTD UL Listed ≤ 60A
4 kW	400/415V	9A	50 aM 10.10*	CC 15*	60 gD 14.12	AJT17.5
	500V	7A	50 aM 10.8*	CC 12*	60 gD 14.10	AJT15
	690V	5A	69 aM 10.6,3*	---	---	AJT10
5.5 kW	400/415V	12	50 aM 10.16*	CC 20*	60 gD 14.18	AJT20
	500V	10	50 aM 10.12*	CC 17*	60 gD 14.15	AJT17.5
	690V	7	69 aM 10.8*	---	---	AJT15
7.5 kW	400/415V	16	50 aM 10.20*	CC 25*	60 gD 14.25	AJT25
	500V	14	50 aM 10.16*	CC 25*	60 gD 14.20	AJT20
	690V	9	69 aM 10.10*	---	---	AJT17.5
11 kW	400/415V	23	50 aM 10.25*		60 gD 14.30	AJT40
13 kW	500V	20	50 aM 10.25*	CC 30*	60 gD 14.28	AJT35
10 kW	690V	12	69 aM 14.12	---	---	AJT20
15 kW	400/415V	30	40 aM 10.32	---	60 gD 22.35	AJT60
	500V	25	50 aM 10.25	---	60 gD 14.30	AJT45
	690V	18	69 aM 14.20	---	---	AJT30
18 kW	400/415V	37	50 aM 14.40	---	60 gD 22.55	
to	500V	30	50 aM 14.32	---	60 gD 14.45	AJT60
20 kW	690V	21	69 aM 14.25	---	---	AJT335
22 kW	400/415V	43	50 aM 14.50	---	60 gD 22.60	---
25 kW	500V	38	50 aM 14.40	---	60 gD 22.50	---
22 kW	690V	25	69 aM 14.32	---	---	AJT45
28 kW	400/415V	54	50 aM 22.63	---	60 gD 27.80	---
32 kW	500V	47	50 aM 22.50	---	60 gD 22.60	---
28 kW	690V	30	69 aM 14.40	---	---	AJT60
32 kW	400/415V	60	50 aM 22.80	---	60 gD 27.100	---
37 kW	500V	55	50 aM 22.63	---	60 gD 27.80	---
32 kW	690V	34	69 aM 14.40	---	---	AJT60
40 kW	400/415V	72	50 aM 22.80	---	60 gD 27.100	---
45 kW	500V	67	50 aM 22.80	---	---	---
40 kW	690V	42	69 aM 14.50	---	---	---
45 kW	400/415V	85	50 aM 22.100	---	---	---
55 kW	500V	80	50 aM 22.100	---	---	---
55 kW	690V	49	69 aM 14.63	---	---	---

* Respectively in USFM10-USFCC



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS14, CMS22

IEC fuse holders: CMS 14
IEC fuse disconnectors: CMS 14

Electrical characteristics

Rated insulation voltage Ui AC/DC	Rated impulse withstand voltage Uimp	Rated current	Max. power dissipation per fuse	Fuse rating	Maximum current in use for 1, 2, 3 et 3+N poles with FS-fuses. for 4, 5 and 6 poles, multiply by 0.8 for 7, 8, 9 x 0.7 and for ≥ 10 x 0.6						Recommended wire cross-section (mm²)
					gG	aM	URD - URC	URGA URGB	gRB	gLB	
690 V AC 20 B	8 kV	50 A	5 W	≤ 16	≤ 16	≤ 16	≤ 16	≤ 16	≤ 16	≤ 16	2.5
				20	20	20	18	18	18	20	2.5
				25	25	25	20	20	20	25	4
				32	32	32	25	25	25	32	6
				40	40	40	30	30	30	40	6
				50	50	50	35	35	35	45	10
				63			38				10

* Values shown for 20°C ambient temperature.

Wiring: Rigid wire = 1.5 - 35 mm² (16 - 3 AWG) - Multistrand wire: Maximum 25 mm² (4 AWG)

Tightening torque: 3.5 Nm max / 30 lbs.in

Ferraz Shawmut recommends to use screwdrivers PZ 2 or Flat 5.5 x 1 mm (maximum diameter 6 mm).

CMS 14 fuse holders

for 14x51 fuses with no striker or with indicator light



Fuse holders without indicator light				
Nb of Poles	Cat.Num	Ref.Num	Nb of Mod. (17.5 mm)	Pckg box of
N	CMS14N	N222468	1.5	6
1	CMS141	F222990	1.5	6
1 + N	CMS141N	E201323	3	3
2	CMS142	J211056	3	3
3	CMS143	J212091	4.5	2
3 + N	CMS143N	L213128	6	1
4	CMS144	G214136	6	1

Fuse holders without indicator light				
Nb of Poles	Cat.Num	Ref.Num	Nb of Mod. (17.5 mm)	Pckg box of
1	CMS141I	M200778	1.5	6
1 + N	CMS141NI	M201836	3	3
2	CMS142I	C211579	3	3
3	CMS143I	Z212611	4.5	2
3 + N	CMS143NI	D213627	6	1

for 14x51 fuses with striker

Nb of Pole	Standard ready for accessories Ref.Num	Cat.Num	Nb of Mod. (17.5 mm)	Pckg box of	Possible Functions
1	L223524	CMS141AC	1.5	6	Indicator light & blown fuse only

CMS 14 fuse disconnectors

for all types of 14x51 fuses

Nb of Pole	Model without indicator light ready for accessories		Model with indicator light ready for auxiliary microswitch		Model fitted with auxiliary microswitch		Model fitted with auxiliary microswitch & indicator light		Nb of Mod. (17.5 mm)	Pckg box of
	Cat.Num	Ref.Num	Ref.Num	Cat.Num	Cat.Num	Ref.Num	Cat.Num	Ref.Num		
N		N222468							1.5	6
1	CMS141P	P217708			CMS141M	K214645	CMS141MI	N201837	1.5	6
1 + N		P222469							3	3
2*	CMS142P	G222991			CMS142M	R215157	CMS142MI	K211057	3	3
3	CMS143P	N200779		consult us	CMS143M	T215665	CMS143MI	D211580	4.5	2
3*					CMS143M2	Y216681	CMS143M2I	K212092	4.5	2
3 + N	CMS143NP	F201324			CMS143NM	L217199	CMS143NMI	A212612	6	1
4									6	1

* Two auxiliary microswitches (see instructions for mounting) – The auxiliary microswitch function requires use of fuses with strikers.

Accessories

Description	Cat.Num	References	Nb of Mod. (17.5 mm)	Pckg
Auxiliary microswitch kit 1 pole CMS 14	CMS14W1	M218741	1.5	1
Auxiliary microswitch kit 3 poles CMS 14	CMS14W2	C219261	4.5	1
2 auxiliary microswitch kit 3 poles CMS 14	CMS14W3	D219791	4.5	1
Auxiliary microswitch assembly pin (between 2 kits)	CMS1422PTH	J214138		10*
Enlargement pin for auxiliary microswitch	CMS1422BP	F213629		10*
Multi-pole assembly kit	CMS1422PAK	Z218223		10*
Indicator light kit	CMS1422LHI	A225653		1
Lock	LOCK	M223525		1

* 10 per bag

Auxiliary microswitch kit
M218741



Enlargement pin for auxiliary microswitch - F213629



Auxiliary microswitch assembly pin
J214138

Gears & Fuse Gears



IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS14, CMS22

IEC fuse holders: CMS 22

IEC fuse disconnectors: CMS 22

Electrical characteristics

Rated insulation voltage Ui AC/DC	Rated impulse withstand voltage Uimp	Rated current	Max. power dissipation per fuse	Fuse rating	Maximum current in use for 1, 2, 3 et 3+N poles with FS-fuses. for 4, 5 and 6 poles, multiply by 0.8 for 7, 8, 9 x 0.7 and for ≥ 10 x 0.6						Recommended wire cross-section (mm²)
					gG	aM	URD - URC	URGA URGB	gRB	gLB	
690 V AC 20 B	8 kV	125 A	9.5 W	≤ 16	≤ 16	≤ 16	≤ 16	≤ 16	≤ 16	≤ 16	2.5
				20	20	20	20	20	20	20	46
				25	25	25	25	25	25	25	10
				32	32	32	29	29	29	32	10
				40	40	40	35	35	35	40	10
				50	50	50	40	40	40	50	16
				63	63	63	52	50	50	63	25
				80	80	80	63	60	65	75	35
				100	100	100	76	65	76	85	35
				125	110	125	85			125	

* Values shown for 20°C ambient temperature.

Wiring: Rigid wire = 1.5 - 50 mm² (16 - 1 AWG) - Multistrand wire: Maximum 35 mm² (3 AWG). Tightening torque: max. 4.5 Nm - 45 lbs.in

Ferraz Shawmut recommends to use screwdrivers PZ 2 or Flat 6.5 x 1.2 mm (maximum diameter 7 mm).

CMS 22 fuse holders

for 22x58 fuses with no striker or with indicator light

Fuse holders without indicator light				
Nb of Poles	Cat. Num	Ref. Num	Nb of Mod. (17.5 mm)	Pckg box of
N	CMS22N	M213129	1.5	6
1	CMS221	E213628	1.5	6
1 + N	CMS221N	L214646	3	3
2	CMS222	V215666	3	3
3	CMS223	Z216682	4.5	2
3 + N	CMS223N	Q217709	6	1
4	CMS224	N218742	6	1

Fuse holders without indicator light				
Nb of Poles	Cat. Num	Ref. Num	Nb of Mod. (17.5 mm)	Pckg box of
	CMS22NI			
1	CMS221I	H214137	2	6
1 + N	CMS221NI	S215158	4	3
2	CMS222I	Z216176	4	3
3	CMS223I	M217200	6	2
3 + N	CMS223NI	A218224	8	1
	CMS224I			



G201325

for 22x58 fuses with striker

Nb of Pole	Standard ready for accessories Cat. Num	Ref. Num	Nb of Mod. (17.5 mm)	Pckg box of	Possible Functions
1	CMS22AC	P201838	1.5	6	Indicator light & blown fuse only

CMS 22 fuse disconnectors

for all types of 22x58 fuses

Nb of Pole	Model without indicator light ready for accessories Cat. Num	Ref. Num	Model with indicator light ready for auxiliary microswitch Cat. Num	Ref. Num	Model fitted with auxiliary microswitch Cat. Num	Ref. Num	Model fitted with auxiliary microswitch & indicator light Cat. Num	Ref. Num	Nb of Mod. (17.5 mm)	Pckg box of
N	CMS22N	M213129							2	6
1	CMS221P	G201325			CMS221M	D219262		A216683	2	6
1 + N	CMS221NP	M214647					CMS221MI		4	3
2*	CMS222P	T215159			CMS222M	E219792		N217201	4	3
3	CMS223P	W215667		consult us	CMS223M	Q222470	CMS222MI	R217710	6	2
3*		W215667			CMS223M2	H222992	CMS223MI	B218225	6	2
3 + N	CMS223NP	A216177			CMS223NM	P200780	CMS223M2I	P218743	8	1
4							CMS223NMI		8	1

* Two auxiliary microswitches (see instructions for mounting) – The auxiliary microswitch function requires use of fuses with strikers.

Accessories

Description	Cat. Num	References	Nb of Mod. (17.5 mm)	Pckg
Auxiliary microswitch kit 1 pole CMS 22	CMS22W1	E211581	2	1
Auxiliary microswitch kit 3 poles CMS 22	CMS22W2	L212093	6	1
2 auxiliary microswitch kit 3 poles CMS 22	CMS22W3	B212613	6	1
Auxiliary microswitch assembly pin (between 2 kits)	CMS1422PTH	J214138		10*
Enlargement pin for auxiliary microswitch	CMS1422BP	F213629		10*
Multi-pole assembly kit	CMS1422PAK	Z218223		10*
Indicator light kit	CMS1422LHI	A225653		1
Lock	LOCK	M223525		1

* 10 per bag

12/04



D219262



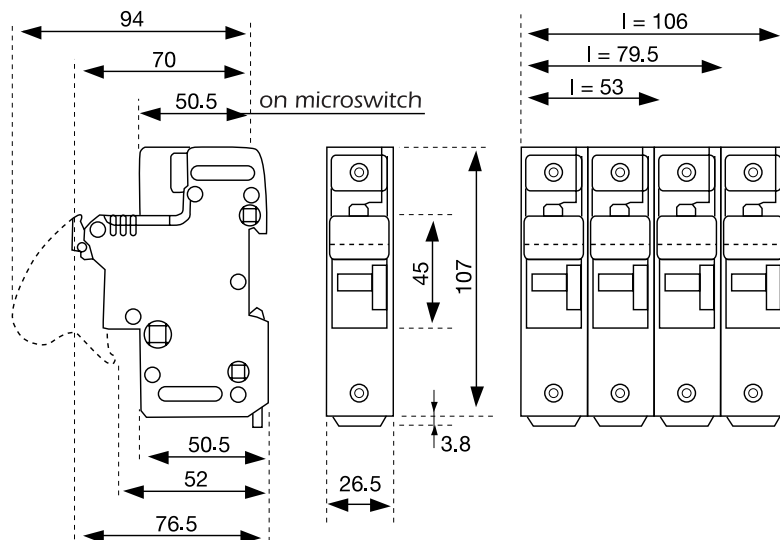


Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS14, CMS22

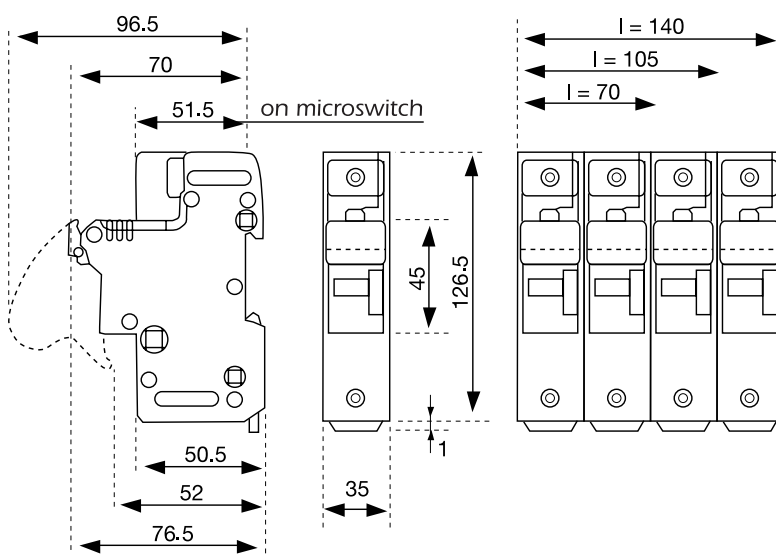
Mecanics for CMS 14 & 22

Dimensions of CMS 14 and US 14 products



Width depending on nb. of 17.5 mm modules	Nb poles	1	2	3	4	5	6
	Nb of modules	1.5	3	4.5	6	7.5	9
	mm	26.5	53	79.5	106	132.5	159

Dimensions of CMS 22 and US 22 products



Width depending on nb. of 17.5 mm modules	Nb poles	1	2	3	4	5	6
	Nb of modules	2	4	6	8	10	12
	mm	35	70	105	140	175	210

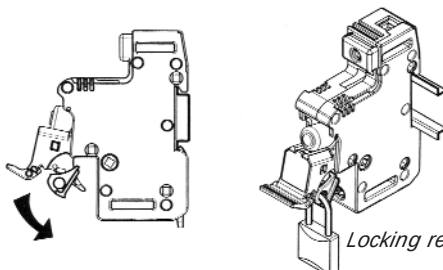
Gears & Fuse Gears



IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS14, CMS22

Mechanics for CMS 14 & 22

Locking system

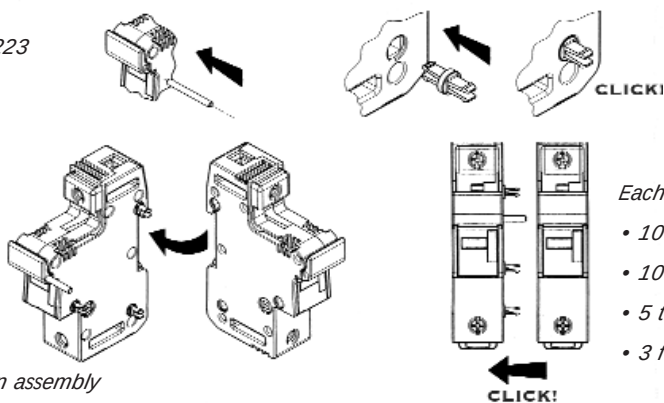


Locking reference: M223525

Multipole assembly

Assembly kit

CMS14 & CMS 22: Z218223



Assembly kit

US 14: X227927

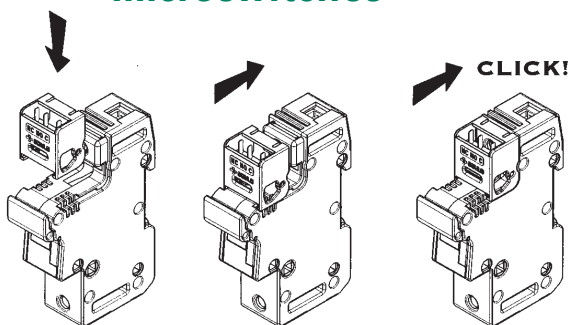
US 22: F227958

Each bag of kits is sufficient for:

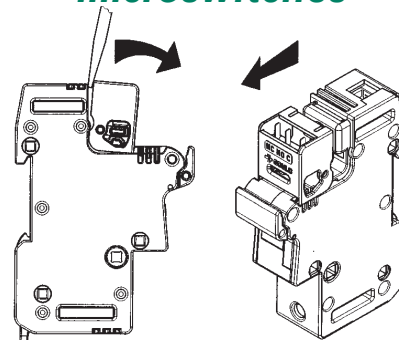
- 10 multipole assemblies
- 10 two-pole assemblies
- 5 three-pole assemblies
- 3 four-pole assemblies

NB: 6 poles maximum in an assembly

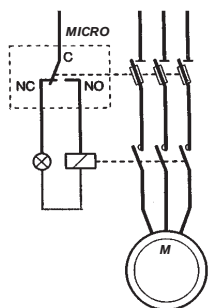
Mounting auxiliary microswitches



Dismounting auxiliary microswitches



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 the fuse holder opens

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

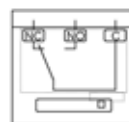
Characteristics of the auxiliary microswitch

Min. voltage and current for operation 10VAC-DC - 100mA

Rated current and breaking capacity (1) at 250V	6A	AC 12
	3A	AC 13
	0,3A	AC 14
	0,1A	DC 12/13/14

Rated current and breaking capacity (1) at 2 and 24 V	6A	DC 12/DC13
	5A	AC 13
	2A	AC 14/DC 13
	0,6A	DC 14

(1) as per standard IEC 947-5



With the fuse in the handle closed state.



No fuse
Fuse blown
Handle open



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS14, CMS22

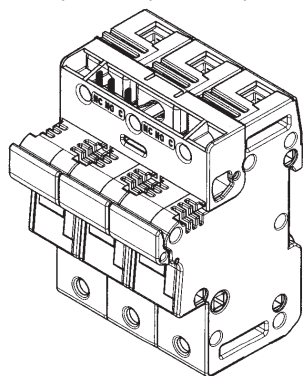
Mecanics for CMS 14 & 22

Microswitch options

Auxiliary microswitches 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

CMS 14 (C219261) - US14 (Z227929)
CMS 22 (L212093) - US 22 (H227960)

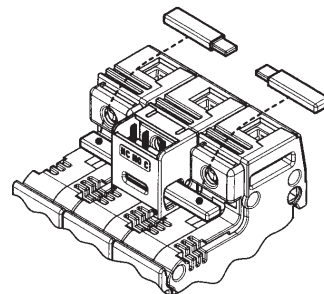


or

1 auxiliary microswitch

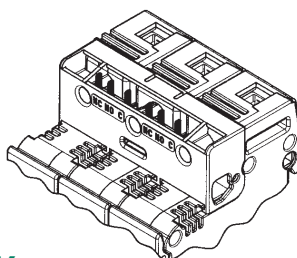
CMS 14 (M218741+F213629)
CMS 22 (E211581+F213629)

US 14 (Y227928+F213629)
US 22 (G229759+F213629)



2 auxiliary microswitches

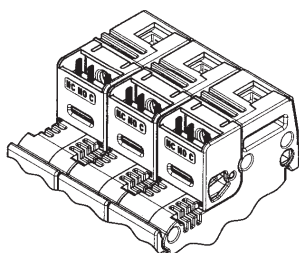
CMS 14 (D219791) - US14 (A227930)
CMS 22 (B212613) - US 22 (J227961)



3 independent auxiliary microswitches

CMS 14 (3 x M218741)
CMS 22 (3 x E211581)

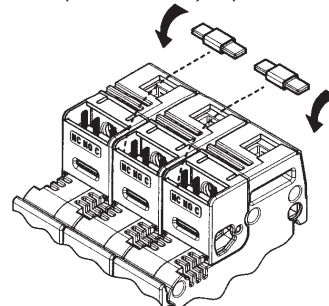
US 14 (3 x Y227928)
US 22 (3 x G227959)



3 mechanically interconnected auxiliary microswitches

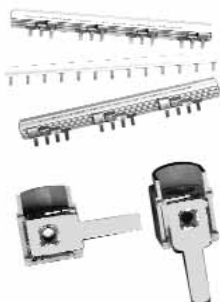
CMS 14 (3 x M218741+2 x J214138)
CMS 22 (3 x E211581+2 x J214138)

US 14 (3 x Y227928) + (2 x J214138)
US 22 (3 x G227959) + (2 x J214138)



NOTE: Do not fit with more than 3 microswitches

Supply wiring bars and terminals



Description	Cat.Number	Ref. Number	Maximum acceptable RMS current (A)	Pckg
jumping bar for 4 (CMS 14/US 14) 3 poles	CMS14BB3F4	A210312	100	5
jumping bar for 6 (CMS 14/US 14) 2 poles	CMS14BB2F6	Z210311	63	5
jumping bar for 12 (CMS 14/US 14) 1 pole	CMS14BB1F12	Y210310	63	5
jumping bar for 6 (CMS 22/US 22) 2 poles	CMS22BB2F6	C210314	150	5
jumping bar for 12 (CMS 22/US 22) 1 pole	CMS22BB1F12	B210313	90	5
Single-pole terminal, side	TBB1C	E210316	90	50
2/3-pole terminal, side	TBB23C	G210318	90	50
Single-pole terminal, axial	TBB1A	D210315	90	50
2/3-pole terminal, axial	TBB23A	F210317	90	50



IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS14, CMS22



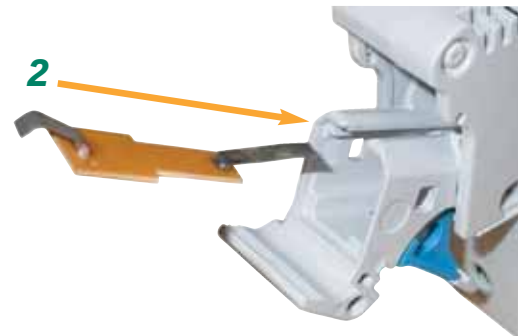
Indicator light kit

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 top insert into the rails, being careful not to twist the contact tabs.



3 Put the cover back on



Assembly precautions in multipole assemblies

When fuse holders are side by side or very near each other (less than one module apart), they must be derated again, in addition to derating for temperature

Number of 17.5 mm modules	Derating factor
1-2-3	None = 1
4-5-6	0.8
7-8-9	0.7
> 10	0.6



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses UltraSafe™ US14, US22

UL fuse holders: US 14

Electrical characteristics

Rated insulation voltage Ui AC/DC	Rated impulse withstand voltage Uimp	Rated current	Max. power dissipation per fuse	Fuse rating	Maximum current in use for 1, 2, 3 et 3+N poles with FS-fuses. for 4, 5 and 6 poles, multiply by 0.8 for 7, 8, 9 x 0.7 and for ≥ 10 x 0.6							Recommended wire cross-section (mm²)
					gG	60gD	aM	URD - URC	URGA URGB	gRB	gLB	
750 V	8 kV	50 A	4,7 W	≤ 20		20	≤ 20	18	18	18	≤ 16	≤ 16
				≤ 25		25	25	20	20	20	20	20
				≤ 30	≤ 20	30		18	18	18	25	25
				32	≤ 25		32	25	25	25	32	32
				40	≤ 30		40	30	30	30	40	40
				50			50	35	35	35	45	45
				63				38				45

* Values shown for 20°C ambient temperature.

Wiring: Rigid wire = 1.5 - 35 mm² (16 - 3 AWG) - Multistrand wire: Maximum 25 mm² (4 AWG)

Tightening torque: 3.5 Nm max / 30 lbs.in

Ferraz Shawmut recommends to use screwdrivers PZ 2 or Flat 5.5 x 1 mm (maximum diameter 6 mm).

ULTRASAFE™ US 14 fuse disconnectors

for 14x51 fuses with no striker, or with indicator light or with striker



X227904

Nb of Pole	Model without indicator light ready for accessories		Model with indicator light ready for auxiliary contact		Model fitted with auxiliary contact		Model fitted with auxiliary contact & indicator light		Nb of Mod. (17.5 mm)	Pckg box of
	Cat.Num	Ref.Num	Cat.Num	Ref.Num	Cat.Num	Ref.Num	Cat.Num	Ref.Num		
N	US14N	S227900							1.5	6
1	US141	T227901	US141I	V227902	US141M	W227903	US141MI	X227904	1.5	6
1 + N	US141N	Y227905	US141NI	Z227906	US141NM	A227907	US141NMI	B227908	3	3
2	US142	C227909	US142I	D227910	US142M	E227911	US142MI	F227912	3	3
2*					US142M2	G227913	US142M2I	H227914	3	3
3	US143	J227915	US143I	K227916	US143M	L227917	US143MI	M227918	4.5	2
3*					US143M2	N227919	US143M2I	P227920	4.5	2
3 + N	US143N	Q227921	US143NI	R227922	US143NM	S227923	US143NMI	T227924	6	1
3 + N*					US143NM2	V227925	US143NM2I	W227926	6	1
4	US144		US144I		US144M		US144MI		6	1
4*					US144M2		US144M2I		6	1

* Two auxiliary microswitches (see instructions for mounting) – The auxiliary microswitch function requires use of fuses with strikers

Accessories

Auxiliary contact kit
Y227928



Enlargement pin for
auxiliary contact - F213629



Auxiliary contact assembly pin
J214138

Description	Cat.Num	References	Nb of Mod. (17.5 mm)	Pckg
Auxiliary contact kit 1 pole US 14	USMSW1	Y227928	1.5	1
Auxiliary contact kit 3 poles US 14	USMSW2	Z227929	4.5	1
2 auxiliary contact kit 3 poles US 14	USMSW3	A227930	4.5	1
Auxiliary contact assembly pin (between 2 kits)	US1422PTH	J214138		10*
Enlargement pin for auxiliary contact	US1422BP	F213629		10*
Multi-pole assembly kit	US14PAK	X227927		10*
Indicator light kit	CMS1422LH	A225653		1
Lock	LOCK	M223525		1

* 10 per bag

Gears & Fuse Gears



IEC General Purpose Fuses Ferrule Fuses UltraSafe™ US14, US22



UL fuse holders: US 22



C227932

Electrical characteristics

Rated insulation voltage Ui AC/DC	Rated impulse withstand voltage Uimp	Rated current	Max. power dissipation per fuse	Fuse rating	Maximum current in use for 1, 2, 3 et 3+N poles with FS-fuses. for 4, 5 and 6 poles, multiply by 0.8 for 7, 8, 9 x 0.7 and for ≥ 10 x 0.6							Recommended wire cross-section (mm²)
					gG	60gD	aM	URD - URC	URGA URGB	gRB	gLB	
750 V	8 kV	125 A	9.5 W	≤ 16	≤ 16		≤ 16	≤ 16	≤ 16	≤ 16	≤ 16	2.5/12
				20	20		20	20	20	20	20	4/10
				25	25		25	25	25	25	25	6/10
				32-35	32	35	32	29	29	29	32	10/8
				40	40	40	40	35	35	35	40	10/8
				50	50	50	50	40	40	40	50	10/8
				60/63	60	60	63	52	51	52	63	16/6
				80			80	65	64	75	75	25/4
				100			100	76	74	76	85	35/2
				125			100	85				35/2

* Values shown for 20°C ambient temperature.

Wiring: Rigid wire = 1.5 - 50 mm² (16 - 1 AWG) - Multistrand wire: Maximum 35 mm² (3 AWG).

Tightening torque: max. 4.5 Nm - 45 lbs.in

Ferraz Shawmut recommends to use screwdrivers PZ 2 or Flat 6.5 x 1.2 mm (maximum diameter 7 mm).

ULTRASAFE™ US 22 fuse disconnectors

for 22x58 fuses with no striker, or with indicator light or with striker

Nb of Pole	Model without indicator light ready for accessories		Model with indicator light ready for auxiliary contact		Model fitted with auxiliary contact		Model fitted with auxiliary contact & indicator light		Nb of Mod. (17.5 mm)	Pckg box of
	Cat.Num	Ref.Num	Cat.Num	Ref.Num	Cat.Num	Ref.Num	Cat.Num	Ref.Num		
N	US22N	B227931							1.5	6
1	US221	C227932	US221I	D227933	US221M	E227934	US221MI	F227935	1.5	6
1 + N	US221N	G227936	US221NI	H227937	US221NM	J227938	US221NMI	K227939	3	3
2	US222	L227940	US222I	M227941	US222M	N227942	US222MI	P227943	3	3
2*					US222M2	Q227944	US222M2I	R227945	3	3
3	US223	S227946	US223I	T227947	US223M	V227948	US223MI	W227949	4.5	2
3*					US223M2	X227950	US223M2I	Y227951	4.5	2
3 + N	US223N	Z227952	US223NI	A227953	US223NM	B227954	US223NMI	C227955	6	1
3 + N*					US223NM2	D227956	US223NM2I	E227957	6	1
4	US224		US224I		US224M		US224MI		6	1
4*					US224M2		US224M2I		6	1

* Two auxiliary microswitches (see instructions for mounting) – The auxiliary microswitch function requires use of fuses with strikers

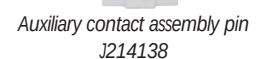
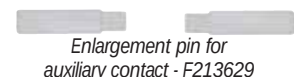


F227935

Accessories

Description	Cat.Num	References	Nb of Mod. (17.5 mm)	Pckg
Auxiliary contact kit 1 pole US 22	USMSW4	G227959	1.5	1
Auxiliary contact kit 3 poles US 22	USMSW5	H227960	4.5	1
2 auxiliary contact kit 3 poles US 22	USMSW6	J227961	4.5	1
Auxiliary contact assembly pin (between 2 kits)	US1422PTH	J214138		10*
Enlargement pin for auxiliary contact	US1422BP	F213629		10*
Multi-pole assembly kit	US22PAK	F227958		10*
Indicator light kit	CMS1422LHI	A225653		1
Lock	LOCK	M223525		1

* 10 per bag

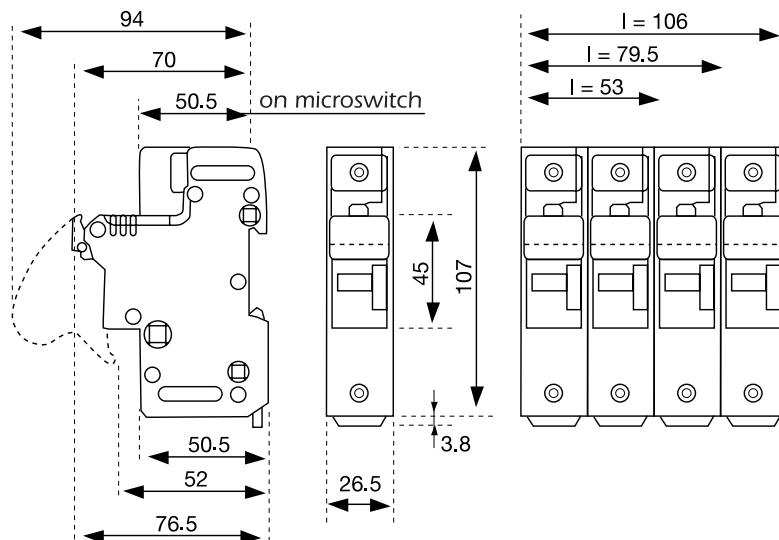




IEC General Purpose Fuses Ferrule Fuses UltraSafe™ US14, US22

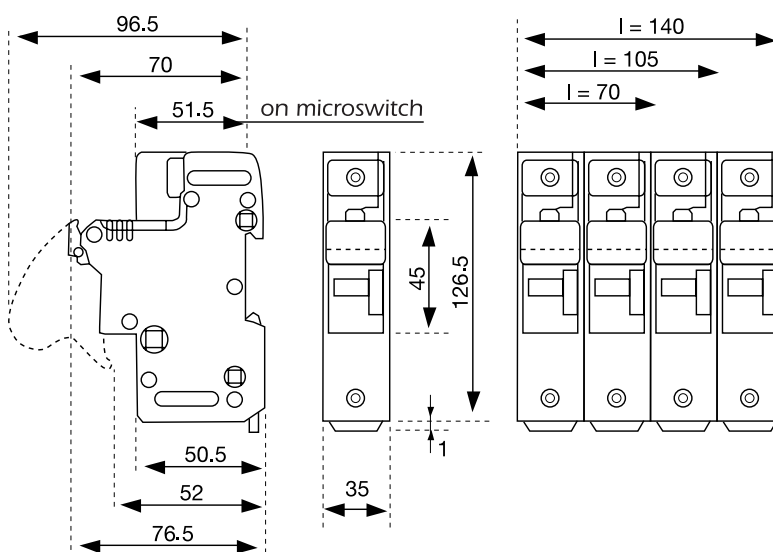
Mecanics for US 14 & 22

Dimensions of CMS 14 and US 14 products



Width depending on nb. of 17.5 mm modules	Nb poles	1	2	3	4	5	6
	Nb of modules	1.5	3	4.5	6	7.5	9
	mm	26.5	53	79.5	106	132.5	159

Dimensions of CMS 22 and US 22 products



Width depending on nb. of 17.5 mm modules	Nb poles	1	2	3	4	5	6
	Nb of modules	2	4	6	8	10	12
	mm	35	70	105	140	175	210

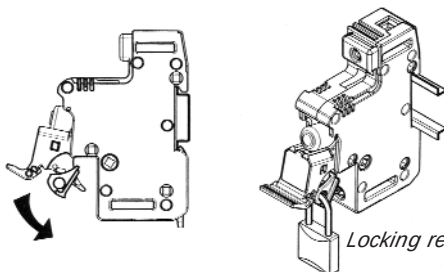
Gears & Fuse Gears



IEC General Purpose Fuses Ferrule Fuses UltraSafe™ US14, US22

Mechanics for US 14 & 22

Locking system

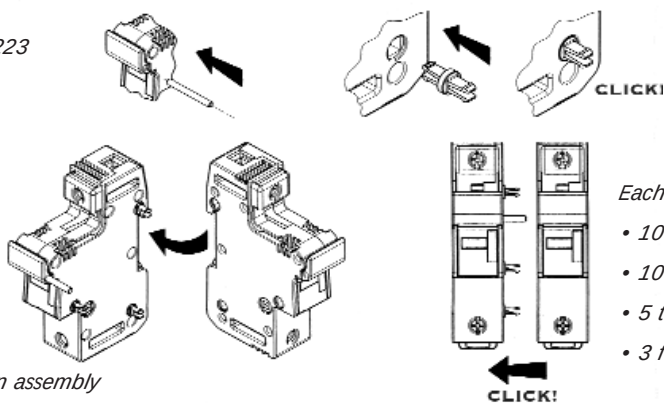


Locking reference: M223525

Multipole assembly

Assembly kit

CMS14 & CMS 22: Z218223



Assembly kit

US 14: X227927

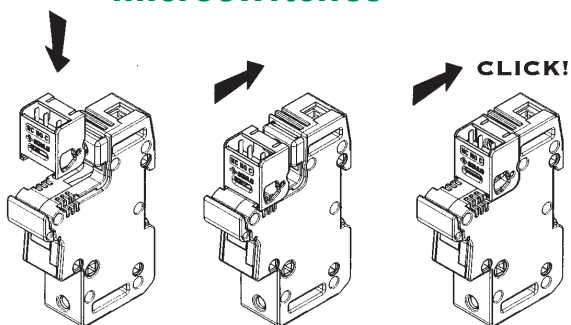
US 22: F227958

Each bag of kits is sufficient for:

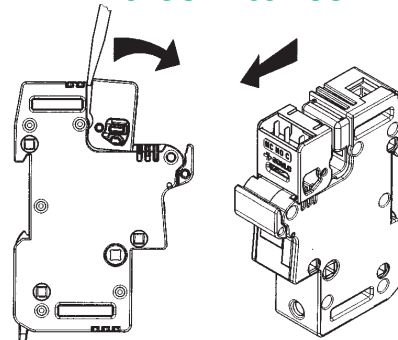
- 10 multipole assemblies
- 10 two-pole assemblies
- 5 three-pole assemblies
- 3 four-pole assemblies

NB: 6 poles maximum in an assembly

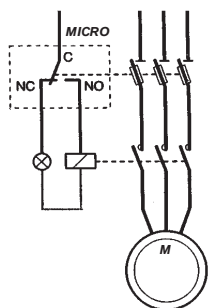
Mounting auxiliary microswitches



Dismounting auxiliary microswitches



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 the fuse holder opens

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

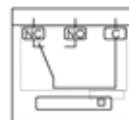
Characteristics of the auxiliary microswitch

Min. voltage and current for operation 10VAC-DC - 100mA

Rated current and breaking capacity (1) at 250V	6A	AC 12
	3A	AC 13
	0,3A	AC 14
	0,1A	DC 12/13/14

Rated current and breaking capacity (1) at 2 and 24 V	6A	DC 12/DC13
	5A	AC 13
	2A	AC 14/DC 13
	0,6A	DC 14

(1) as per standard IEC 947-5



With the fuse in the handle closed state.



No fuse
Fuse blown
Handle open



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses UltraSafe™ US14, US22

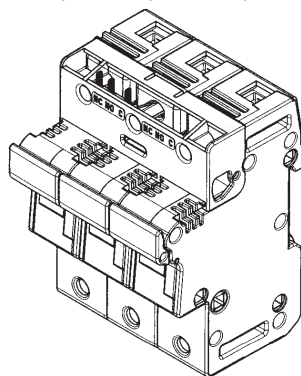
Mecanics for US 14 & 22

Microswitch options

Auxiliary microswitches 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

CMS 14 (C219261) - US14 (Z227929)
CMS 22 (L212093) - US 22 (H227960)

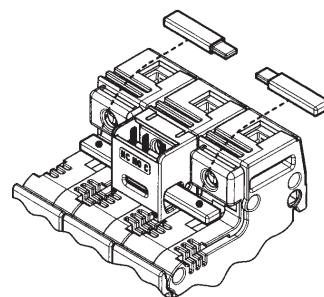


or

1 auxiliary microswitch

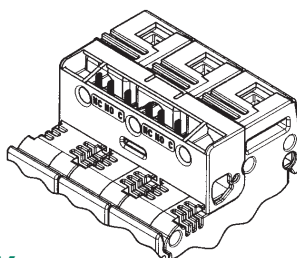
CMS 14 (M218741+F213629)
CMS 22 (E211581+F213629)

US 14 (Y227928+F213629)
US 22 (G229759+F213629)



2 auxiliary microswitches

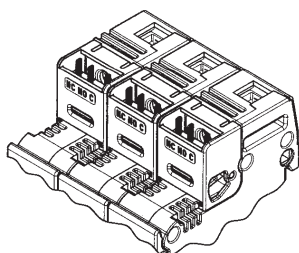
CMS 14 (D219791) - US14 (A227930)
CMS 22 (B212613) - US 22 (J227961)



3 independent auxiliary microswitches

CMS 14 (3 x M218741)
CMS 22 (3 x E211581)

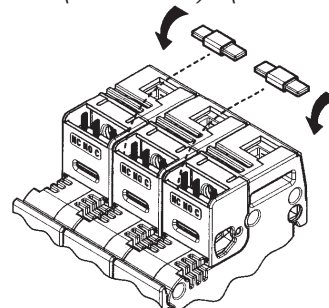
US 14 (3 x Y227928)
US 22 (3 x G227959)



3 mechanically interconnected auxiliary microswitches

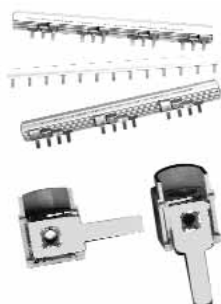
CMS 14 (3 x M218741+2 x J214138)
CMS 22 (3 x E211581+2 x J214138)

US 14 (3 x Y227928) + (2 x J214138)
US 22 (3 x G227959) + (2 x J214138)



NOTE: Do not fit with more than 3 microswitches

Supply wiring bars and terminals



Description	Cat.Number	Ref. Number	Maximum acceptable RMS current (A)	Pckg
jumping bar for 4 (CMS 14/US 14) 3 poles	CMS14BB3F4	A210312	100	5
jumping bar for 6 (CMS 14/US 14) 2 poles	CMS14BB2F6	Z210311	63	5
jumping bar for 12 (CMS 14/US 14) 1 pole	CMS14BB1F12	Y210310	63	5
jumping bar for 6 (CMS 22/US 22) 2 poles	CMS22BB2F6	C210314	150	5
jumping bar for 12 (CMS 22/US 22) 1 pole	CMS22BB1F12	B210313	90	5
Single-pole terminal, side	TBB1C	E210316	90	50
2/3-pole terminal, side	TBB23C	G210318	90	50
Single-pole terminal, axial	TBB1A	D210315	90	50
2/3-pole terminal, axial	TBB23A	F210317	90	50



IEC General Purpose Fuses Ferrule Fuses UltraSafe™ US14, US22



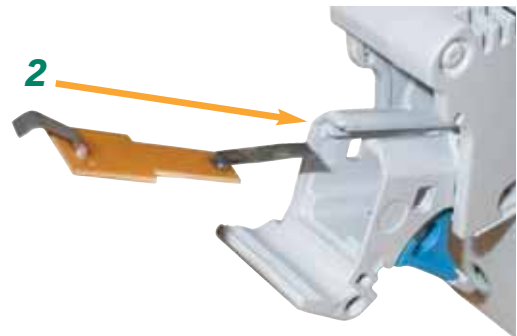
Indicator light kit

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 top insert into the rails, being careful not to twist the contact tabs.



3 Put the cover back on



Assembly precautions in multipole assemblies

When fuse holders are side by side or very near each other (less than one module apart), they must be derated again, in addition to derating for temperature

Number of 17.5 mm modules	Derating factor
1-2-3	None = 1
4-5-6	0.8
7-8-9	0.7
> 10	0.6



IEC General Purpose Fuses Ferrule Fuses ST22



ST 22

For Ferrule-type Fuses Ø 22

- IN ACCORDANCE WITH IEC 947-3 AND EN 60947-3
OPERATION CLASS: AC20B
IMPULSE WITHSTAND VOLTAGE: 6 AND 8 kV (1.2/50 µs wave)
- WITH PRE-ISOLATING AND BLOWN-FUSE INDICATING MICROSWITCHES
- COMPLETE PROTECTION AGAINST TOUCHING OF LIVE PARTS
- PROTECTION DEGREE: IP 2X
- HIGH-PERFORMANCE ST RANGE COMPLIANT WITH THE NEW EUROPEAN VOLTAGE RATINGS (IEC 33) U_N 480-690 V AC/DC I_N UP TO 125 A

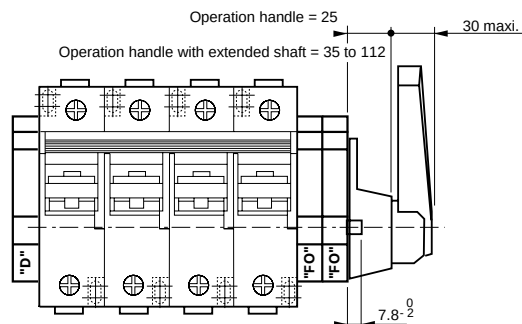
Main Characteristics

Size	AC Insulation voltage rating U_i (V) AC/DC	Impulse withstand voltage $U_{imp}(kV)(1)$	Current rating I_N (A)	Fuse current rating I_N (A)	Maximum fuse operating current (A)						Recommended copper wire gauge (mm ²)	Fire and fumes class NF F 16 -102
					gG	aM	URD/URC	URGB/URGA	gRC	gL		
ST 22	690 (CEI) 700 (US)	8	125	25	25	25	25	25	25	25	4	I3-F1
				32	32	32	29	29	29	32	6	
				40	40	40	35	35	35	40	10	
				50	50	50	40	40	40	50	10	
				63	63	63	52	51	52	63	16	
				80	80	80	65	64	65	75	16	
				100	100	100	76	74	76	85	25	
				125	110	125	85				25	
				135			87				35	

All terminals silver-plated copper

(1) Between close phases and phase and mass, between phases and microswitch as per IEC 947-1

Mounting with a padlocking right-hand side-handle for ST 22

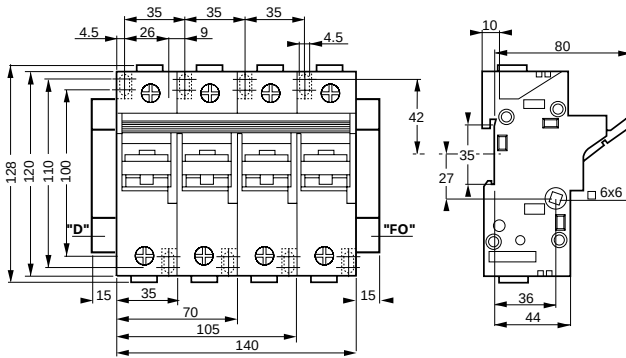


Designation (equipment + handle)	Ref. Number	Qty. of «FO»	Qty. of «D»	Cat. Number
ST22 IIIN FOFOD+CDELAT.D.	M 209633	2	1	
ST22 IIIN FOFO+CDELAT.D.	N 209634	2	0	
ST22 IIIN FOD+CDELAT.D.	P 209635	1	1	
ST22 IIIN FO+CDELAT.D.	Q 209636	1	0	
ST22 III FOFOD+CDELAT.D.	S 209638	2	1	
ST22 III FOFO+CDELAT.D.	R 209637	2	0	
ST22 III FOD+CDELAT.D.	T 209639	1	1	
ST22 III FO+CDELAT.D.	V 209640	1	0	



IEC General Purpose Fuses Ferrule Fuses ST22

ST 22 (for 22x58 fuses)



Unmovable screw clamp-type connections for wires:

- one conductor, multistrand or rigid wire: 35 mm²
- two conductors, multistrand wire: 16 mm²
- two conductors, rigid wire : 25 mm²

Minimal section: 2.5 mm²

With tightening torque: 2.8 to 3.5 Nm

Mounting:

- simple snap-mounting on standard symmetrical DIN-rail
- direct on board: two M4 screws with tightening torque 1 to 1.2 Nm

Poles	Symbol	Indication ⁽¹⁾	Predisconnection ⁽²⁾	Cat. Num	Ref. Num	Approvals	Weight (g)	Pck
1				ST221	F220368		235	12&3
			•	ST221FO	M220397		260	1
			•	ST221D	N220398		285	1
			•	ST221FOD	P220399		310	1
1+N				ST221N	D220389		485	6&1
			•	ST221NFO	E220620		510	1
			•	ST221ND	D220619		535	1
			•	ST221NFOD	D220573		560	1
N				ST22N	E220367		250	12&3
2				ST222	B220387		470	6&1
			•	ST222FO	R220401		495	1
			•	ST222D	S220402		520	1
			•	ST222FOD	T220403		545	1
3				ST223	C220388		705	4&1
			•	ST223FO	W220405		730	1
			•	ST223D	X220406		755	1
			•	ST223FOD	Y220407		780	1
3+N				ST223N	E220390		955	3&1
			•	ST223NFO	A220409		980	1
			•	ST223ND	B220410		1005	1
			•	ST223NFOD	C220411		1030	1
4			•	ST224D	H205926		1030	1

⁽¹⁾ Reversing switch-style blown-fuse indication contacts (D model)

⁽²⁾ Reversing switch-style preisolating contacts (FO model) enabling control of protection device and opening of off load disconnecter.

Preisolating "FO" and blown fuse indication "D" switch characteristics

AC insulation voltage rating (***)	FO or D type	Voltage/ current for certain operating	Current rating	Interrupting rating							AC voltage withstand test (*)	Impulse voltage Uimp1.2/50 μs (**)		1 ^{er} FO	2 ^{ème} FO	D
				Current	Non-inductive current			Inductive circuit : L/R = 25ms								
					30V	110V	250V	30V	110V	250V						
690 V	«FO»	20 V/50 mA	10 A	50/60 Hz	10 A	10 A	7 A	10 A	8 A	6 A	7.5 kV	8 kV	ST22			
690 V	«D»	10 V/10 mA	10 A	DC	5 A	0.5 A		1.6 A	0.3 A		7.5 kV	8 kV	open disconnecter Connecting with 6.3 clips			

* Between power circuit and microswitch terminals according to IEC 60 and 694 and NFC 64010 (50/60 Hz 1 mn dry air).

** Between power circuit and microswitch terminals Uimp: impulse voltage according to IEC 947-1.

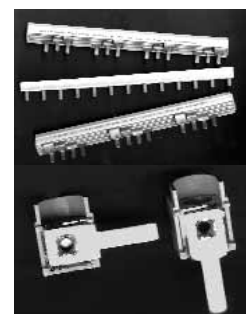
*** Between power circuit and microswitch terminals

Mounting adapter

Blue colored AF adapter (Ref. Number Q 098500) available for mounting on standard assymetrical DIN-rail (EN 50035) and usable for all models.

Supply wiring bars and terminals

Description	Catalog Number	References	Maximum acceptable RMS current (A)	Pckg
Wiring bar for 6x2 poles Size 22	CMS22BB2F6	C210314	150	5
Wiring bar for 12x1 pole Size 22	CMS22BB1F12	B210313	90	5
Single-pole terminal, side	TBB1C	E210316	90	50
2/3-pole terminal, side	TBB23C	G210318	90	50
Single-pole terminal, axial	TBB1A	D210315	90	50
2/3-pole terminal, axial	TBB23A	F210317	90	50



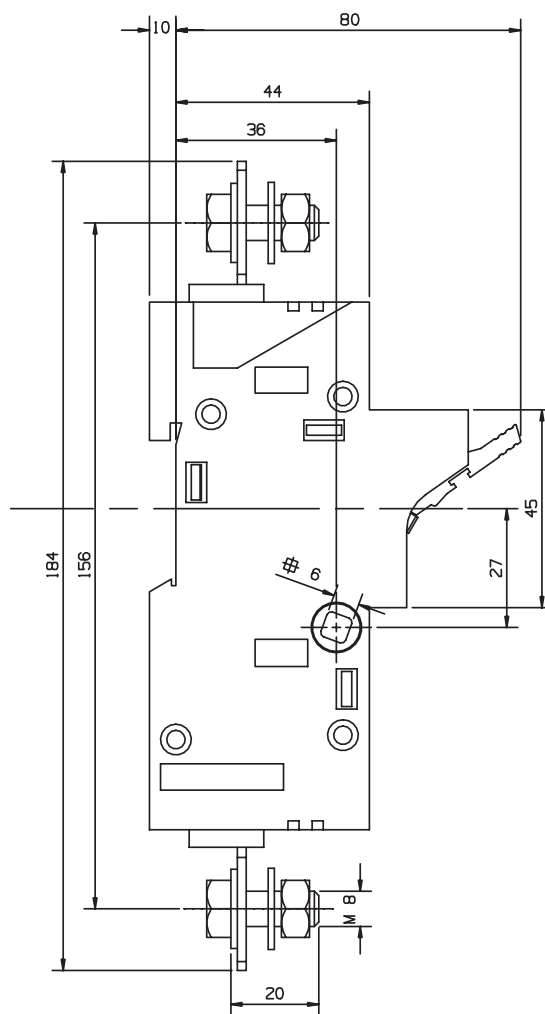
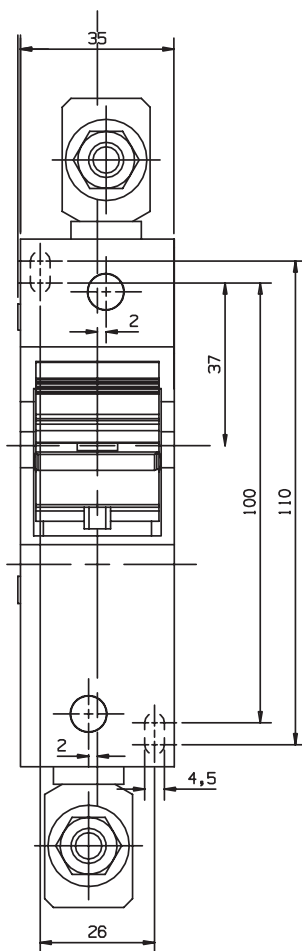
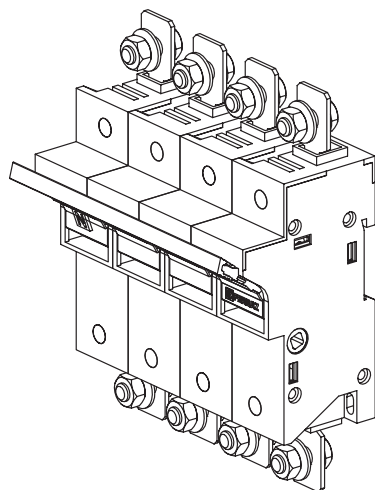


Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses ST22

ST22 with ring pug connection

Poles	FO	D	Right Handle	Designation	Reference Number	Catalog Number
1	/	/	No	ST 22 Plage Type B	B228828	ST22RING
	/	1	No	ST 22 D Plage Type B	C229910	ST22DRING
2	/	/	No	ST 22 II Plage Type B	K210873	ST222RING
	2	1	No	ST 22 II FOFOD Plage Type B	L210874	ST222FOFODRING
	2	1	Yes	ST22 II FOFOD Cde Lat. D Plage Type B	M210875	ST222LHFOFODRIN
3	/	/	No	ST22 III Plage Type B	N210876	ST223RING
	2	1	No	ST22 III FOFOD Plage Type B	P210877	ST223FOFODRING
	2	1	Yes	ST22 III FOFOD Cde Lat. D Plage Type B	Q210878	ST223LHFOFODRIN
4	2	1	Yes	ST 22 IV FOFOD Cde Lat. D Plage Type B"	M227711	ST224LHFOFODRIN





IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS27, UltraSafe™ US27



MODULOSTAR®: CMS27 Fuse Disconnecter ULTRASAFE™: US27 Fuse Holder

- *Conforms to the standards:*
UL 512 AND UL 840
CSA 22-2 N° 39
EN 60947-1 & 3 (Class : AC20B)
- *Rated insulation voltage U_i = 800VAC-DC*
- *Full protection against accidentally touching live parts.*
Protection degree : IP 2XB in accordance with the IEC standard 60529.
- *High performance, conforming to European standards*
(Attachment to DIN rail - Modular fuse-disconnector).
- *The US27 models have cULUS approval.*

Electric Characteristics

Insulation voltage AC U_i in V AC/DC	Impulse withstand voltage U_{imp} (kV)	Current rating I_N (A)	Fuse current rating I_N (A)	Maxi fuse operating current (A)					Recommended copper wire gauge	
				660V URGD	60gD	660V URQ-URSCC	660V-800VgRB	1000V URB	AWG	mm ²
800 (CEI) / (US)	8	150	8	-		WITHOUT DERATING		-	18	1
			10	-		WITHOUT DERATING		-	18	1
			12	-		WITHOUT DERATING		-	18	1
			16	-		WITHOUT DERATING		-	18	1
			20	-		WITHOUT DERATING		-	18	1
			25	-		WITHOUT DERATING		-	12	4
			32	32		32	32	29	10	6
			40	40		40	40	36	8	10
			50	50		45	50	42	8	10
			63-65	55	65	55	63	50	6	16
			80	61	80	60	80	60	6	16
			100	75	100	72	96	72	4	25
			110	-		-	102	-	3	30
			125	91		90	-	90	3	35
			160	112		110	-	109	3	35
			170	-		-	-	112	3	35
			200	130		130	-	-	1	50*
			250	138		138	-	-	1	50*

* Busbar and ring lug connection



IEC General Purpose Fuses

Ferrule Fuses

Modulostar® CMS27, UltraSafe™ US27



MODULOSTAR®: CMS27 Fuse Disconnecter

ULTRASAFE™: US27 Fuse Holder

Designed for 27 x 60 mm (2 3/8 x 1 1/16 In.) ferrule fuses.
(800V AC - DC, Ith = 150A)

New Improved Design

Attractive design and colour

Designed for all 27 x 60 ferrule fuses

- UR curve (class UR)
- gR curve (class gR)
- Class J (UL)

The Only Fuse-Disconnecter which Conforms to the Standard

The only fuse-disconnector on the market that respects the pre-isolation time defined by the standard (EN60947-1:t >20 ms), when it is equipped with a microswitch.

Ample Space for Wiring and Connection

Standard wiring with a choice of either :

- One 35 mm² cable (3AWG) flexible or rigid,
- Two 16 mm² flexible cables (6AWG),
- Wiring with B type connection plates for eye lugs (electronic market in the USA and Japan, global traction market).

Blown Fuse Indicator

The blown fuse indicator functions at between 100V and 800V AC and DC and is a standard part of the US 27 range. (Leak current less than 0.5mA)

UL Approval

The US 27 version has cULUS certification.

File Number E113357.

Fire smoke resistance classification : I3F2 in accordance with the standards NFF 16101 and NFF 16102 (US 27 version).

The Only Fuse-Holder With IP 20

- The only fuse-holder/fuse-disconnector on the market that offers certified IP 20B (open and closed)
- The only fuse-holder/fuse-disconnector on the market for this range of fuse (800V AC-DC 150A).

Identification of Terminals

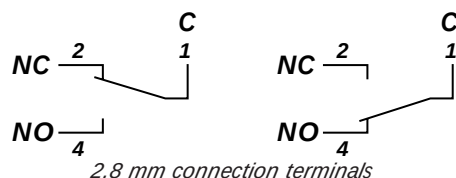
The terminals are easy to identify due to the marker kit provided with the standard product.

Blown Fuse Micro-Switch, Safe Pre-Isolation and fuse presence characteristics for the US27 version

Rated and minimum use current : In= 5A, Imini= 100 mA

Rated and minimum use voltage : Un= 250V, Umini= 20V

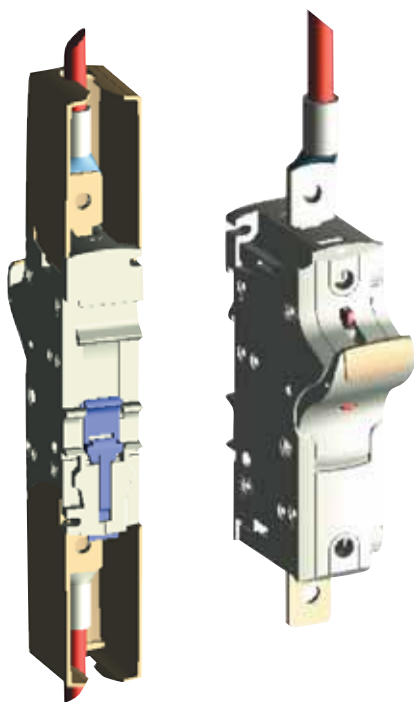
Approvals :





Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS27, UltraSafe™ US27



MODULOSTAR®: CMS27 Fuse Disconnecter
ULTRASAFE™: US27 Fuse Holder

Versatile Methods of Mounting

Option of mounting the fuse-holder with phase and neutral poles, as well as micro-switches, due to the connection accessories.

Several Kinds of Attachment

- With M4 screws,
- 35 mm or 75 mm symmetric DIN rail*,
- Asymmetric DIN rail with adapter (Ref. Q098500).

* Need of 15 mm distance between DIN rail and panel

Possibility of Using Connection Plates

For a cable with a diameter greater than either a 35 mm² rigid or flexible cable, or two 16 mm² flexible cables, the connection can be made using ring lug.

Protection covers are provided with this series to safeguard against accidental contact. Connection to connection plates, for cables equipped with ring or fork-type lugs.

Climatic Conditions of Use

This range of products has been designed for use in temperate, tropical and equatorial climates, provided that the following temperature/humidity conditions are not exceeded:

Maximum temperature °C	20	40	50
Maximum relative humidity %	95	80	50

Resistance to Vibrations

Test with sinusoidal vibrations, scanning the three main axes of the holder.

- Spectrum :
- 1st segment (2-16Hz) constant displacement
x = 5 mm peak
 - 2nd segment (16-250Hz) constant acceleration
γ = 5g peak

Exponential scanning speed : 1 octave per minute.

Duration : 2 hours per axis.

27x60 Fuses used			Applications
Ranges	U _N	I _N	
(6,621 CP URGD 27.60 ...)	660VAC	63 to 250A	Class aR - Protection of semiconductor equipment, e.g. Soft starters, static relays, or regulators.
(6,621 CP URQ, URS 27.60...)	660VAC	32 to 250A	
(821 CP gRB 27.60...)	800VAC	8 to 110A	Class gR - Protection of cables, semiconductor equipment and AC instrument circuits.
(1021 CP URB 27.60...)	1000VAC	25 to 170A	Class aR - Protection of semiconductor equipment, e.g. Soft starters, static relays, regulators.
(CC 4,421 CP gLB 27.60...)	440VDC	125 to 160A	Protection of DC instrument circuits, traction auxiliary circuits, DC fed converters.
(CC 6,621 CP gRB 27.60...)	660VDC	0.8 to 125A	



IEC General Purpose Fuses

Ferrule Fuses

Modulostar® CMS27, UltraSafe™ US27



MODULOSTAR®: CMS27 Fuse Disconnecter

ULTRASAFE™: US27 Fuse Holder

Range Without Microswitch

Number of poles	Connections	Cat. Number	Designation	Ref. Number	Weight (g)	Pack
1	By screw, U bolt or connector	US271I	US 271I	J226420	285	3
1	By screw, U bolt or connector	CMS271	CMS 27 gR -UR	R210580	290	3
1	Ring lug connection	US271RING	US 27I ring lug	B223515	340	3
1 + N	By screw, U bolt or connector	US271NI	US 27 1N I	K226421	580	1
1 + N	By screw, U bolt or connector	CMS271N	CMS 27 gR-UR 1+N	S210581	570	1
1 + N	Ring lug connection	US271NIRING	US 27 I+NI ring lug	E223518	690	1
N	By screw, U bolt or connector	CMS27N	CMS 27 N	B210152	285	3
N	Ring lug connection	US27NIRING	US 27 N ring lug	F223519	340	3
2	By screw, U bolt or connector	US272I	US 27 2I	L226422	580	1
2	By screw, U bolt or connector	CMS272	CMS 27 gR - UR II	T210582	570	1
2	Ring lug connection	US272IRING	US 272 I ring lug	C223516	690	1
3	By screw, U bolt or connector	US273I	US 27 3 I	M226423	855	1
3	By screw, U bolt or connector	CMS273	CMS 27 gR - UR III	V210583	870	1
3	Ring lug connection	US273IRING	US 27 3 I ring lug	D223517	1030	1
3 + N	By screw, U bolt or connector	US273NI	US 27 3 NI	N226424	1200	1
3 + N	By screw, U bolt or connector	CMS273N	CMS 27 gR - UR III+N	W210584	1250	1
Assembly kit		US27PAK	KIT MULTIPOL CMS/US27	H227615	10	
Microswitch*		US27W1	microcontact unipolaire 1 MC	E227612	1	

* for the US27 version only

The ring lug connection, four-pole model does not exist in the configuration (3 + neutral).

The blown fuse indicators are available with the standard US 27 version.

The recognized US 27 equipment uses UL 94 VO plastic materials. The US27range is pre-equipped with blown fuse microswitch and safe pre-isolation accessories, to transform the products into fuse-disconnectors.

Range With Microswitch

Number of poles	Connections	Cat. Number	Designation	Nb of microswitches	Ref. Number	Weight	Pack (g)
1	By screw, U bolt or connector	US271MI	US 271 I PRE+1MC	1	R227600	295	3
1	Ring lug connection	US271MIRING	US 271 ring lug PRE+1MC	1	Z227607	355	1
2	By screw, U bolt or connector	US272M2I	US 27 2I PRE+1MC	2	T227602	600	1
2	Ring lug connection	US272M2IRING	US 27 2I ring lug PRE+1MC	2	B227609	710	1



Gears & Fuse Gears

IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS27, UltraSafe™ US27



MODULOSTAR®: CMS27 Fuse Disconnecter
ULTRASAFE™: US27 Fuse Holder

Range of Accessories

Micro-switches and safe pre-isolation

Number of poles	Catalog Number	Reference number	Designation	Packaging
1	US27W1	E227612	Microswitch 1P	1

Note : 2 one-pole microswitches need to be purchased for a two-pole assembly (Ph+N or two-phase).

Pole Assembly Kit

Number of poles	Catalog Number	Reference number	Designation	Packaging
For 2, 3 and 4 poles	US27PAK	H227615	Kit Multipol CMS/US 27 for 10 Kits	1

The assembly kit is made up of staples to assemble the poles and pins for the handles.

Neutral Tubes

The neutral poles come with a neutral tube, which is sealed with plastic so that it cannot be removed.

35mm Mounting Rail

Type	Catalog Number	Reference number	Designation	Packaging
Symmetric		J213172	2 meters of DIN rail	40 lengths of 2 m
Symmetric drilled		C213672	2 meters of DIN drilled rail	40 lengths of 2 m
Symmetric reinforced		R215203	2 meters of DIN reinforced rail	20 lengths of 2 m
Adaptor for asymmetric DIN rail	ADAP-RASST	Q098500	Adaptor for asymmetric DIN rail	50



Symmetric



Symmetric drilled



Symmetric reinforced

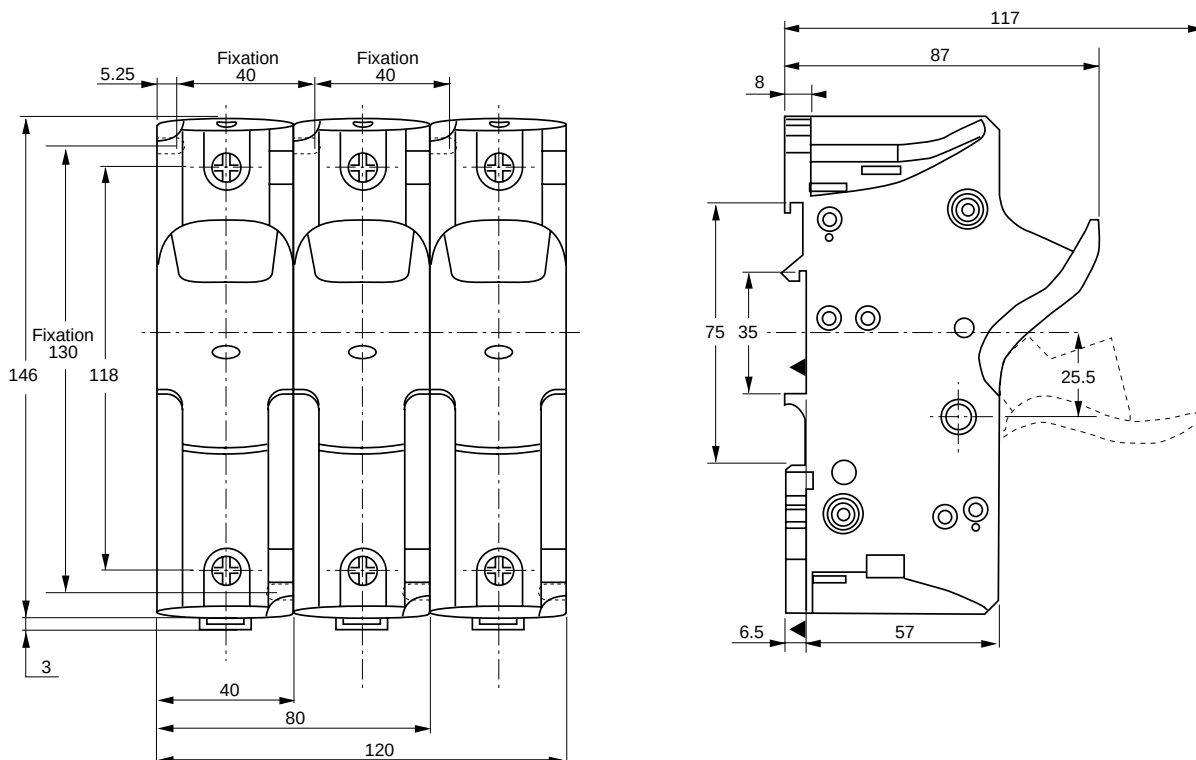


IEC General Purpose Fuses

Ferrule Fuses

Modulostar® CMS27, UltraSafe™ US27

Dimensions CMS27, US27



Connection by fixed terminal screw-clamps for wires. Maximum section:

- One conductor, rigid or multistrand : Maximum 35 mm² (3 AWG)
- 2 conductors, multistrand : 16 mm² (6 AWG) or rigid with tightening torque : 2.8 - 3.5 Nm (30 lbs.in)
- Ferraz Shawmut recommends to use screwdrivers PZ 3 or Flat 8 x 1.2 mm (maximum diameter 8 mm).
- Ring lug connection.

Mounting:

- Simple snap mounting on 35 mm symmetric DIN rail (standard EN 50022) and 75 mm with 2 locking positions*.
- Directly onto the board with M4 screws and tightening torque from 1 to 1.2 Nm (11 lbs.in)
- On 35 mm asymmetric DIN rail with adaptor (Ref. Q098500)

* Need of 15 mm distance between DIN rail and panel



IEC General Purpose Fuses Ferrule Fuses Modulostar® CMS27, UltraSafe™ US27

*Dimensions CMS27, US27
for ring lugs connections*

