

UL Low Voltage General Purpose Protection

Modular fuse-holders

UltraSafe™ US22

Data Sheet

The Innovative and comprehensive UltraSafe™ 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 indicators, in UL + IEC 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. UltraSafe™ range is made of tough and durable thermoplastic or thermoset material.

Benefits

- Finger safe
- Optional visual blown fuse indicator & microswitch
- Din rail mounting
- Modular design
- Lockable
- Multi-pole assembly kit available
- Sealable in closed and open position

Applications

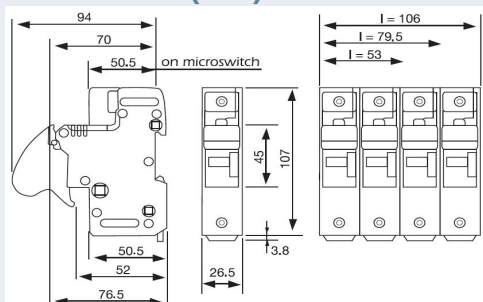
- All circuits up to 750V for protection of motors, transformers, low voltage distribution, control circuits
- Non-load operation.



UltraSafe™ fuse-holders for 22x58 fuse-links without striker

No of Poles	Catalog Number w/o indicator light	Reference Number w/o indicator light	Catalog Number with indicator light	Reference Number with indicator light	No of Mod. (17.5mm)	Pack.
1	US221	E331158	US221I	F331159	2	6
1 + N	US221N	H331161	-	-	4	3
2	US222	K331163	US222I	L331164	4	3
3	US223	R331169	US223I	S331170	6	2
3 + N	US223N	X331174	-	-	8	1

Dimensions (mm)



Recommended fuse usage

- 22x58 aM, gG fuse-links with and w/o striker
- 22x58 gR fuse-links with and w/o striker
- 22x58 A70QS, URD fuse-links

Ratings

- Ui = 750V AC/DC
- Ith = 125A, Ie < / = 125A
- Max. fuse power loss = 9.5W
- Utilization category: AC20B/DC20B
- Isc = 200kA
- Uimp = 8KV
- Protection: IP20
- Voltage limit for blown fuse indicator: 230 to 690V AC/DC

Approvals

- UL Recognized Component, UL4248, guide IZLT2, file E52283
- CSA Certified C22.2, class 6225, file 32169
- IEC 60269-2 and IEC 60947-3 Compliance
- RoHS Compliant
- Plastic material: NF 16101 & 16102 Requirement 2 Compliant
- Shock and vibration tested for marine and railway applications



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UltraSafe™ fuse-holders for all types of 22x58 fuse-links

No of Poles	Catalog Number with auxiliary microswitch	Reference Number with auxiliary microswitch	Catalog Number with auxiliary microswitch & indicator light	Reference Number with auxiliary microswitch & indicator light	No of Mod. (17.5mm)	Pack.
1	US221M	G331160	US221MI	Z1006203	1.5	6
1 + N	US221NM	J331162	-	-	3	3
2	US222M	M331165	US222MI	N331166	3	3
2*	US222M2	P331167	US222M2I	Q331168	3	3
3	US223M	T331171	US223MI	V331172	4.5	2
3*	US223M2	W331173	US223M2I	X1011974	4.5	2

*Two auxiliary microswitches (see instructions for mounting) - The auxiliary microswitch function requires use of fuses with strikers. Models without indicator light and with auxiliary microswitch can be equipped with indicator kind and auxiliary microswitch kit.

Technical characteristics

Shock and vibration

Vibration withstand on the 3 main axis*:

- Sinusoidal vibration testing according to IEC 60068-2-6
13 to 100Hz y= 0.7g peak according to french marine application
2 to 13Hz x= 1 mm peak
- Random vibration testing according to IEC 61373
Category 1 Class B

Shock withstand on the 3 main axis*:

- Shock testing according to IEC 60068-2-27 15g/11ms/18 shocks
- Shock testing according to IEC 61373 Category 1 Class B

*For specific usage please contact us

Connection

Max. tightening torque: 4Nm (35lbs.-in.)

Wire range

- Rigid wire = 1.5-50mm² (16-1AWG)
- Multistrand wire = 35mm² (3AWG)

PZ2 or flat 6.5x1.2mm screw drivers recommended
(max. diameter 7mm)

Plastic material

Plastic material UL94V2 mini

Flame retardant materials with glow wire flammability index to 960°C

Operating temperature: -25°C +60°C (1)

Storage temperature: -25°C +80°C

(1) See derating table

Specific usage conditions

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

No of poles	1 to 3	4 to 6	>= 7
Derating factor of current (Ith)	1	0.95	0.9

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

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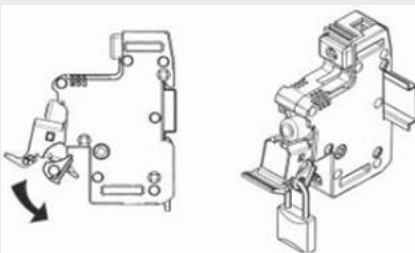
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Accessories

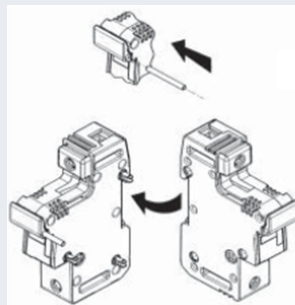
Description	Catalog Number	Reference Number	Max. rms current (A)	No of Mod. (17.5mm)	No of Poles	Pack.
Auxiliary contact kit 1 pole US22	USMSW4	G227959	-	1.5	-	1
Auxiliary contact kit 3 poles US22	USMSW5	H227960	-	4.5	-	1
2 auxiliary contact kit 3 poles US22	USMSW6	J227961	-	4.5	-	1
Auxiliary microswitch assembly pin (between 2 kits)	US1422PTH	J214138	-	-	-	10
Enlargement pin for auxiliary microswitch	US1422BP	F213629	-	-	-	10
Multi-pole assembly kit	US22PAK	F227958	-	-	-	10
Indicator light kit	CMS1422LHI	A225653	-	-	-	1
Lock	LOCK	M223525	-	-	-	1
Wiring bar for 6 US22 2 poles	CMS22BB2F6	C210314	150	-	-	5
Wiring bar for 12 US22 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

Locking system



Locking Reference Number: M223525

Multi-pole assembly



Assembly kit: F227958
NB: 6 poles maximum



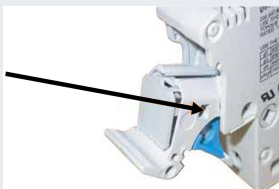
Each bag of kits is sufficient for:

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

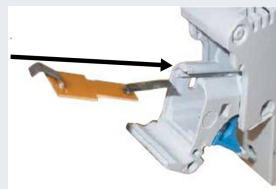
Indicator light kit for US22

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

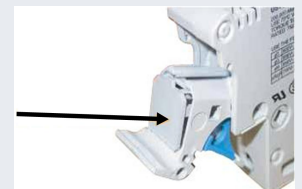
1. Carefully remove the cover with 2 screw drivers



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



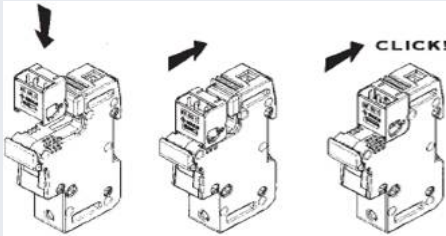
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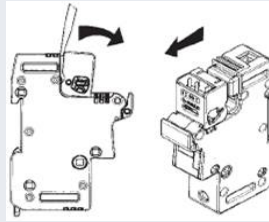
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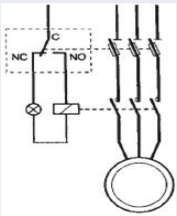
Mounting auxiliary microswitches



Dismounting auxiliary microswitches



Auxiliary microswitch functions

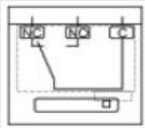


Fuse melting: A fuse-holder containing a fuse with a striker sends out a signal when the fuse element melts.

Pre-isolation: When 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.

Characteristics of the auxiliary microswitch



With the fuse in the handle closed state

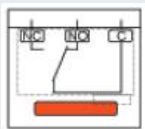
Rated insulation voltage: 250VAC

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



No fuse - Fuse blown handle open

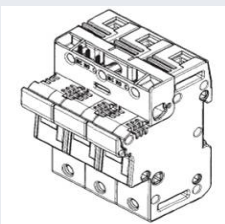
Auxiliary microswitch is designed to operate equally well on dual-current (1mA 4V minimum) or medium-current (5A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life.

Connection: Faston lugs

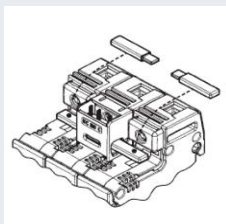
Microswitch options

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

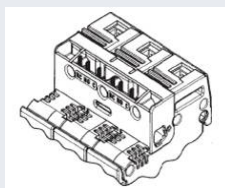


H227960



G227959 + F213629

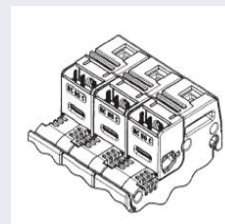
2 auxiliary microswitches



J227961

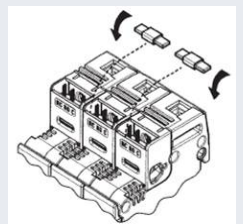
3 auxiliary microswitches

Independent



3 x G227959

Mechanically interconnected



3 x G227959 + 2 x J214138