

# UltraSafe™ US14

Modular fuse-holders

## FUSE HOLDERS, FUSE BASES AND SUPPORTS

### UL/CSA FUSE HOLDERS



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 indicator, in UL + IEC version.

Multi-pole units can also be field assembled by ordering pin-ties assembly kit. In this size, 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.

### TECHNICAL DATA OVERVIEW

UL ratings AC	800 VAC, 50 A, 50 kA
UL ratings DC	1000 VDC, 50 A, 50 kA
Voltage AC	750 VAC
Voltage DC	750 VDC
Amper (A)	50 A
SCCR	100 kA
Mounting	Installation on to DIN rails to EN 60716
Product Size	for cylindrical fuse links 14x51
Number of Poles	1 to 4 poles, 1+N, 3+N

### FEATURES & BENEFITS

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

### APPLICATIONS

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

### STANDARDS

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



## PRODUCT RANGE



US143

### UltraSafe™ fuse holders for 14x51 fuse links, without indicator

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
US141	Z331153	1	US14 single pole	6	0.14 kg
US141N	D331157	1 + N	US14 single pole + neutral conductor	3	0.30 kg
US142	G331137	2	US14 double pole	3	0.28 kg
US143	N331143	3	US14 triple pole	2	0.43 kg
US143N	X331151	3 + N	US14 triple pole + neutral conductor	1	0.6 kg



US141I

### UltraSafe™ fuse holders for 14x51 fuse links, with indicator

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
US141I	A331154	1	US14 single pole	6	0.14 kg
US142I	H331138	2	US14 double pole	3	0.3 kg
US143I	P331144	3	US14 triple pole	2	0.44 kg



US142M2

### UltraSafe™ fuse holders for 14x51 fuse-links, with auxiliary microswitch

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
US141M	B331155	1	US14 single pole, 1 microswitch	6	0.15 kg
US142M	J331139	2	US14 double pole, 2 microswitches	3	0.31 kg
US142M2	L331141	2	US14 double pole, 2 connected microswitches	3	0.31 kg
US143M	Q331145	3	US14 triple pole	2	0.45 kg
US143M2	T331148	3	US14 triple pole, 2 connected microswitches	2	0.45 kg
US143NM	Y331152	3 + N	US14 triple pole + neutral conductor, 3 microswitches	1	0.62 kg



US143MI

### UltraSafe™ fuse holders for 14x51 fuse-links, with indicator and auxiliary microswitch

Catalog number	Item number	Number of poles/phases	Design	Package	Weight
US141MI	C331156	1	US14 single pole	6	0.15 kg
US142MI	K331140	2	US14 double pole	3	0.31 kg
US142M2I	M331142	2	US14 double pole	3	0.28 kg
US143MI	S331147	3	US14 triple pole	2	0.46 kg
US143M2I	W331150	3	US14 triple pole	2	0.46 kg

### TECHNICAL DATA

	US14	US14I	US14M	US14MI
Size	14x51	14x51	14x51	14x51
Number of poles/phases	1, 1+N, 2, 3, 3+N, 4	1, 1+N, 2, 3, 3+N, 4	1, 1+N, 2, 3, 3+N, 4	1, 1+N, 2, 3, 3+N, 4
UL ratings AC	800VAC, 50A, 50kA	800 VAC, 50 A, 50 kA	800 VAC, 50 A, 50 kA	800 VAC, 50 A, 50 kA
UL ratings DC	1000VDC, 50A, 50kA	1000 VDC, 50 A, 50 kA	1000 VDC, 50 A, 50 kA	1000 VDC, 50 A, 50 kA
Conventional free air thermal current with fuse links $I_{th}$	50 A	50 A	50 A	50 A
Power dissipation at $I_{th}$	5 W	5 W	5 W	5 W
Utilisation category	AC20B/DC20B	AC20B/DC20B	AC20B/DC20B	AC20B/DC20B
Rated insulation voltage $U_i$	690 V	690 V	690 V	690 V
SCCR	100 kA	100 kA	100 kA	100 kA
Rated impulse withstand voltage $U_{imp}$	8 kV	8 kV	8 kV	8 kV
Degree of protection	IP 20	IP 20	IP 20	IP 20
Voltage limit for blown fuse indicator	-	230 to 690V AC/DC	-	230 to 690V AC/DC
Indication System	-	with indicator	with auxiliary microswitch	with indicator and auxiliary microswitch
Operating temperature	-25°C to 60°C	-25°C to 60°C	-25°C to 60°C	-25°C to 60°C
Storage temperature	-25°C to 80°C	-25°C to 80°C	-25°C to 80°C	-25°C to 80°C
Connection	Max. tightening torque: 3.5Nm (30lbs-in) Rigid wire = 1.5-35mm <sup>2</sup> (16-3AWG) Stranded wire = 1.5-25mm <sup>2</sup> (16-4AWG) PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)	Max. tightening torque: 3.5Nm (30lbs-in) Rigid wire = 1.5-35mm <sup>2</sup> (16-3AWG) Stranded wire = 1.5-25mm <sup>2</sup> (16-4AWG) PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)	Max. tightening torque: 3.5Nm (30lbs-in) Rigid wire = 1.5-35mm <sup>2</sup> (16-3AWG) Stranded wire = 1.5-25mm <sup>2</sup> (16-4AWG) PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)	Max. tightening torque: 3.5Nm (30lbs-in) Rigid wire = 1.5-35mm <sup>2</sup> (16-3AWG) Stranded wire = 1.5-25mm <sup>2</sup> (16-4AWG) PZ2 or flat 5.5x1mm screw drivers recommended (max. diameter 6mm)

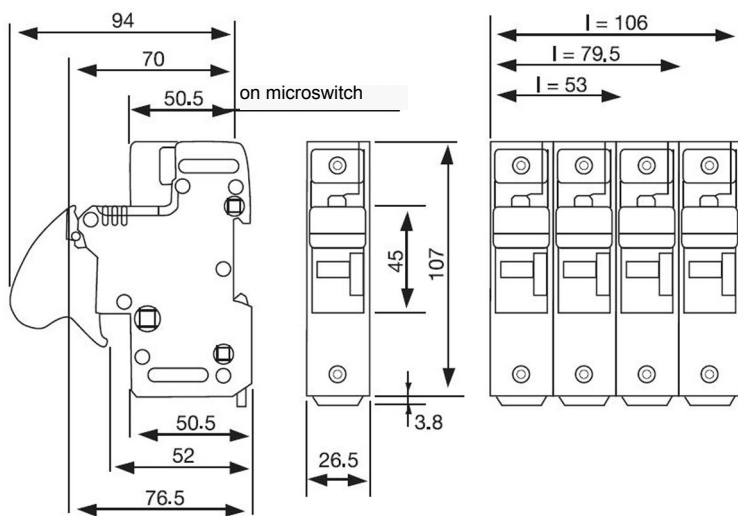
### SPECIFIC USAGE CONDITIONS

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

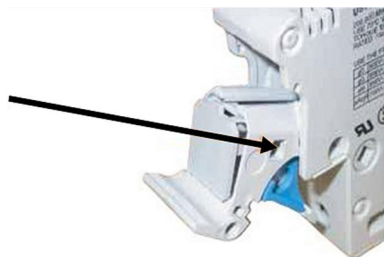
No of poles (side by side)	1 to 3	4 to 6	>= 7
Derating factor of current ( $I_{th}$ )	1	0.95	0.9

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

## DIMENSIONS



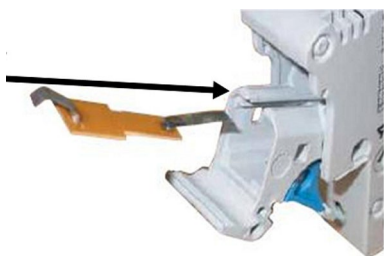
## FUNCTIONS



### Indicator light kit for US14

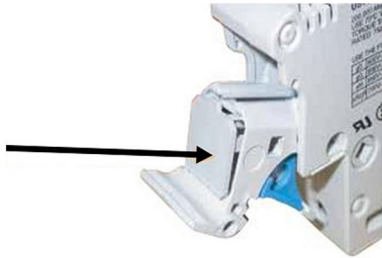
With the indicator light a blown fuse can be quickly located if power is still on.

1. Carefully remove the cover with 2 screw drivers.

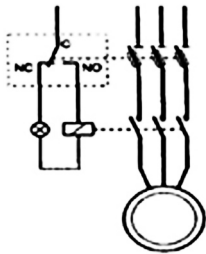


2. Slip the indicator light's to insert into the rails, being careful not to twist the contact tabs.

## FUNCTIONS



3. Put the cover back on.

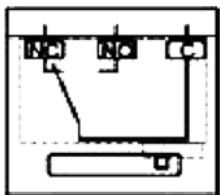


### Auxiliary microswitch functions

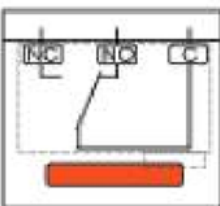
Fuse melting: a fuse-holder containing a fuse with a striker sends out a signal when the fuse element melts.

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

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



With the fuse in the handle closed state



No fuse - Fuse blown in handle open

### Characteristics

Rated insulation voltage: 250VAC

Rated operational current following IEC 60947-5 & -1

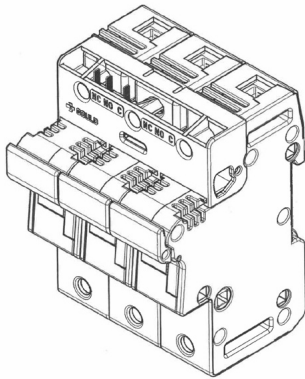
Utilization category AC15: 4A/24V, 4A/48V, 3A/127V, 2.5A/240V

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

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

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

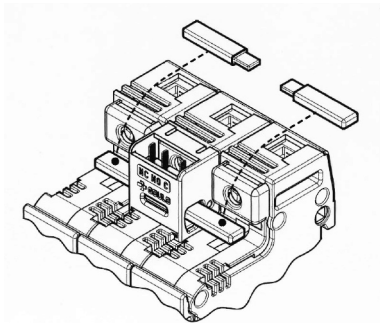
Connection: Faston lugs



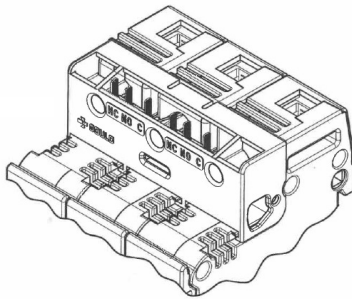
**Auxiliary microswitch can only be mounted on previously prepared fuse disconnectors. Use of the auxiliary microswitch for fuse melting requires the use of fuses with strikers.**

### 1 auxiliary microswitch

USMSW2

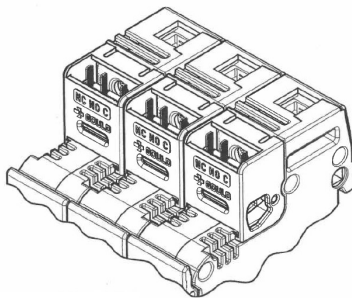


USMSW1 + US1422BP



### 2 auxiliary microswitches

USMSW3



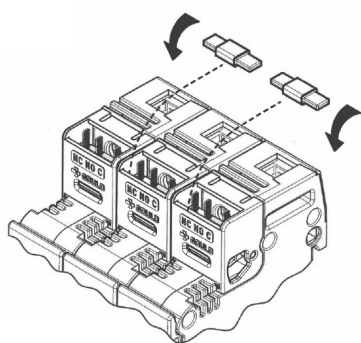
### 3 auxiliary microswitches

Independent

3 X USMSW1

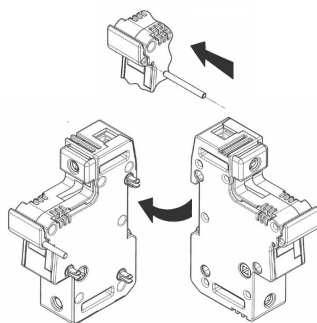
# UltraSafe™ US14

## Modular fuse-holders



Mechanically interconnected  
3 X USMSW1 + 2 X US1422PTH

## ACCESSORIES



Multiphase connection kit

### Kit for multi phase connection

Catalog number	Item number	Design	Package	Weight
US14PAK	US14PAK	links for connection of multipole units	10	2.5 g

### Auxiliary Switches

Catalog number	Item number	Design	Package	Weight
USMSW1	USMSW1	Auxiliary contact kit 1 pole US14	1	25 g
USMSW2	USMSW2	Auxiliary contact kit 3 poles US14	1	20 g
USMSW3	USMSW3	2 Auxiliary contact kit 3 poles US14	1	27 g



LOCK

### Locking devices

Catalog number	Item number	Features	Package	Weight
LOCK	M223525	Padlock	1	0.48 kg
TAGLOCKCMS14	T1015927	Locking kit (Tag and lockout)	1	20 g

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

## ACCESSORIES



TBB1A



TBB1C



TBB23A



TBB23C

### Power supply

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



### Wiring bars / Insulated bus bars

Catalog number	Item number	Design	Application	Package	Weight
CMS14BB3F4	A210312	triple pole	Max. rms current 100A, for installation of 4 modules	5	0.12 kg
CMS14BB2F6	Z210311	double pole	Max. rms current 63A, for installation of 6 modules	5	0.1 kg
CMS14BB1F12	Y210310	single pole	Max. rms current 63A, for installation of 12 modules	5	47.4 g

### Indication facilities

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