



# Gears & Fuse Gears

## 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  $U_i = 800\text{VAC-DC}$
- 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 UI in V AC/DC	Impulse withstand voltage Uimp (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 <sup>2</sup>
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

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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 mm<sup>2</sup> cable (3AWG) flexible or rigid,
- Two 16 mm<sup>2</sup> 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

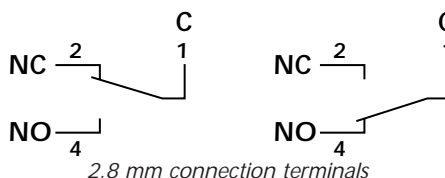
The terminals are easy to identify due to the marker kit provided with the standard product.

### 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

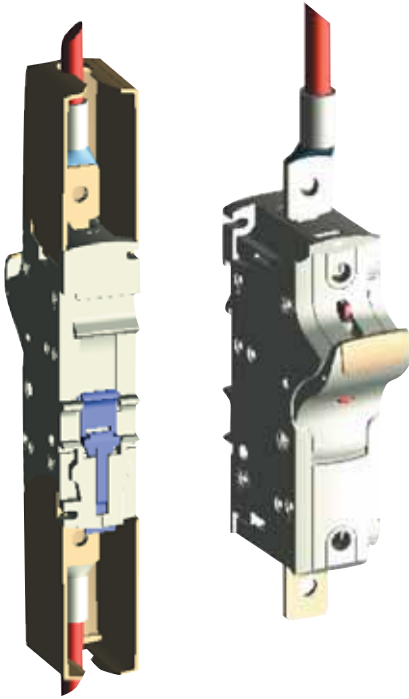
Approvals :





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**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 mm<sup>2</sup> rigid or flexible cable, or two 16 mm<sup>2</sup> 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 :
- 1<sup>st</sup> segment (2-16Hz) constant displacement  
x = 5 mm peak
  - 2<sup>nd</sup> 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 <sub>N</sub>	I <sub>N</sub>	
(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	



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### 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



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### 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

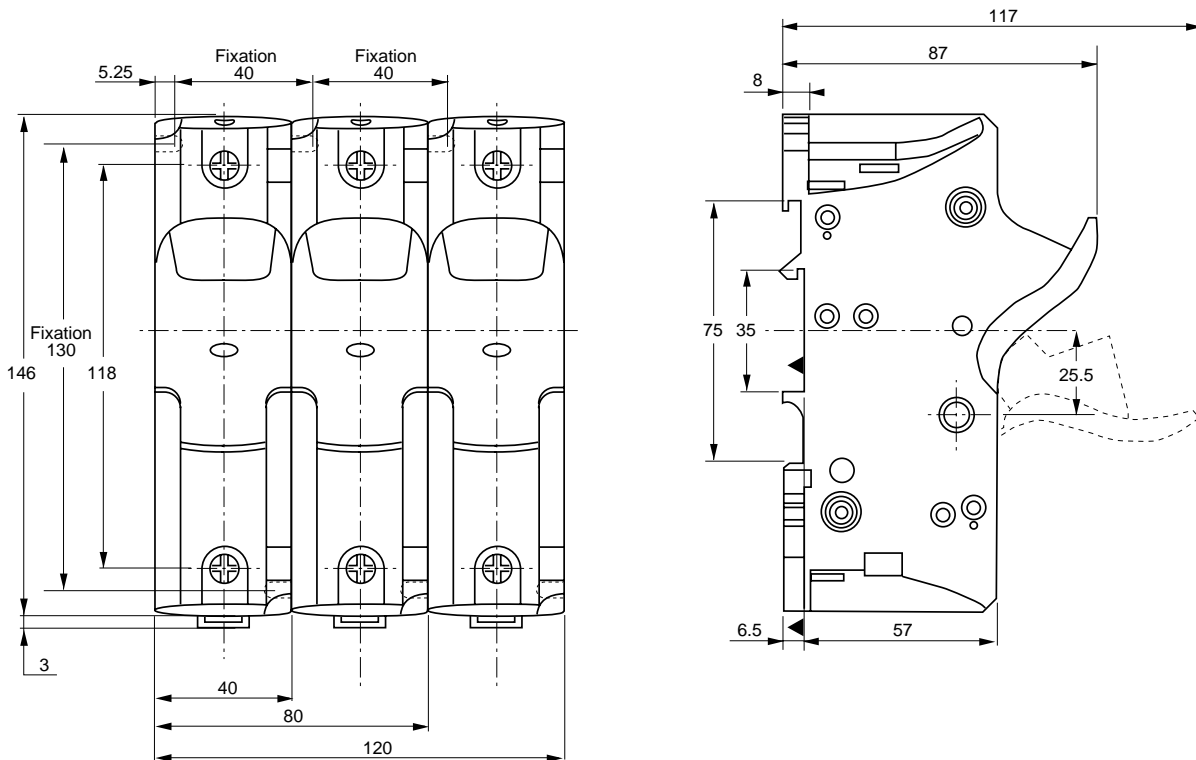


## IEC General Purpose Fuses

### Ferrule Fuses

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#### Dimensions CMS27, US27



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

- One conductor, rigid or multistrand : Maximum 35 mm<sup>2</sup> (3 AWG)
- 2 conductors, multistrand : 16 mm<sup>2</sup> (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)

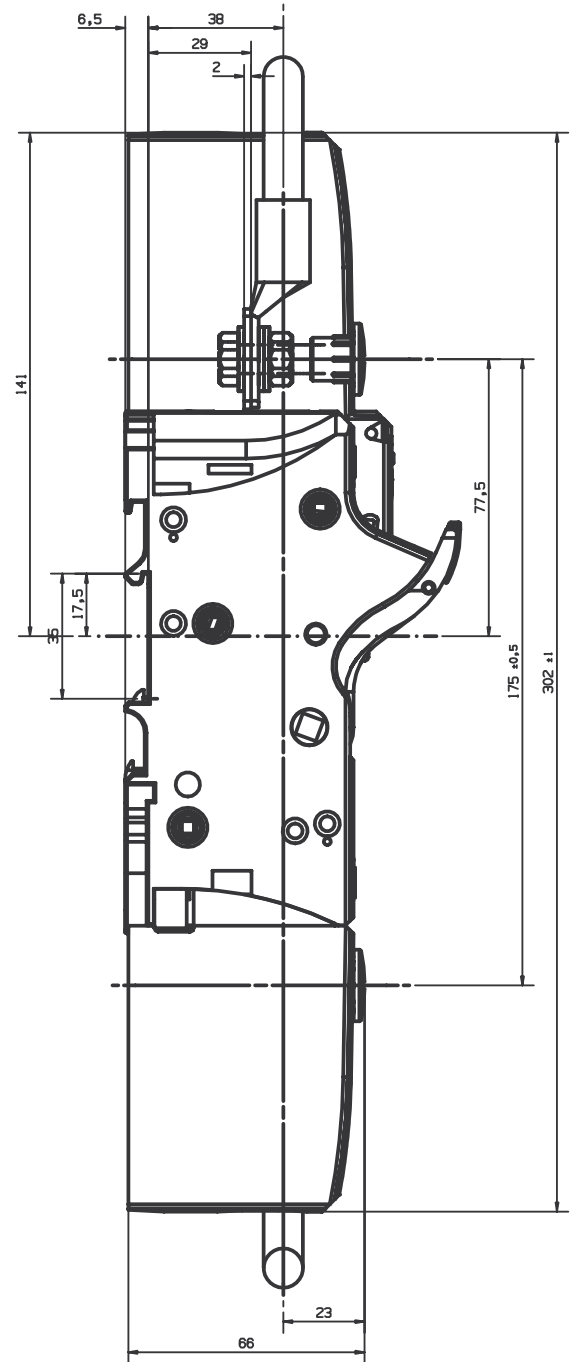
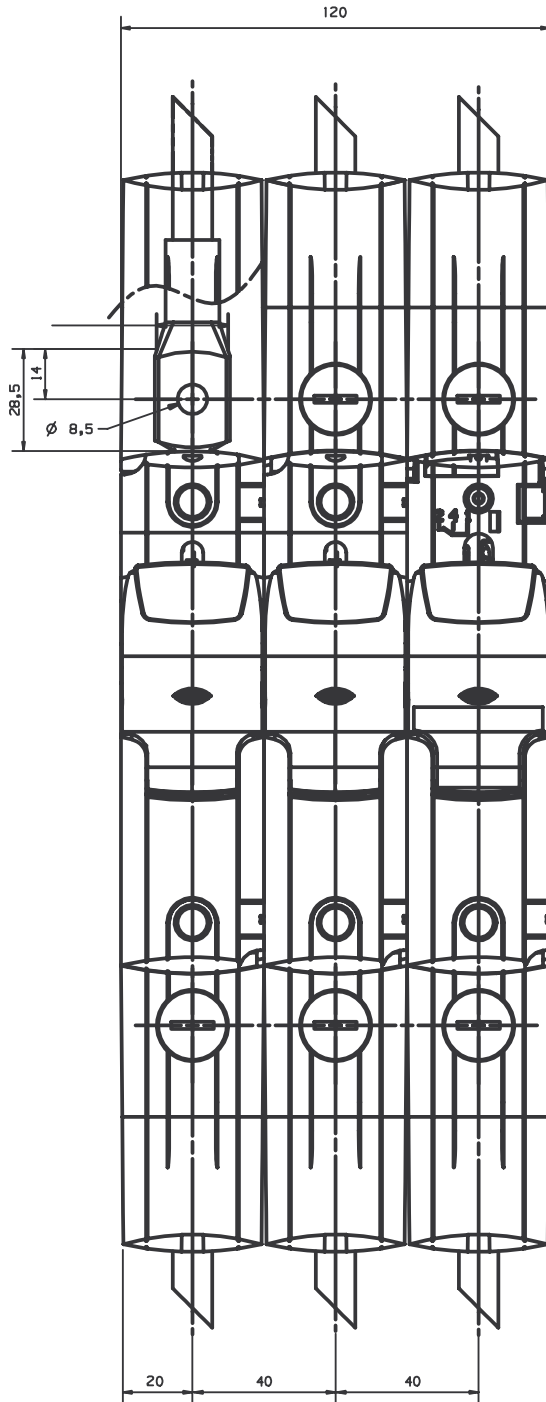
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Dimensions CMS27, US27  
for ring lugs connections





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Ferrule Fuses

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