

FMD20 ULTRA LIGHT POWER FUSE CUTOUT

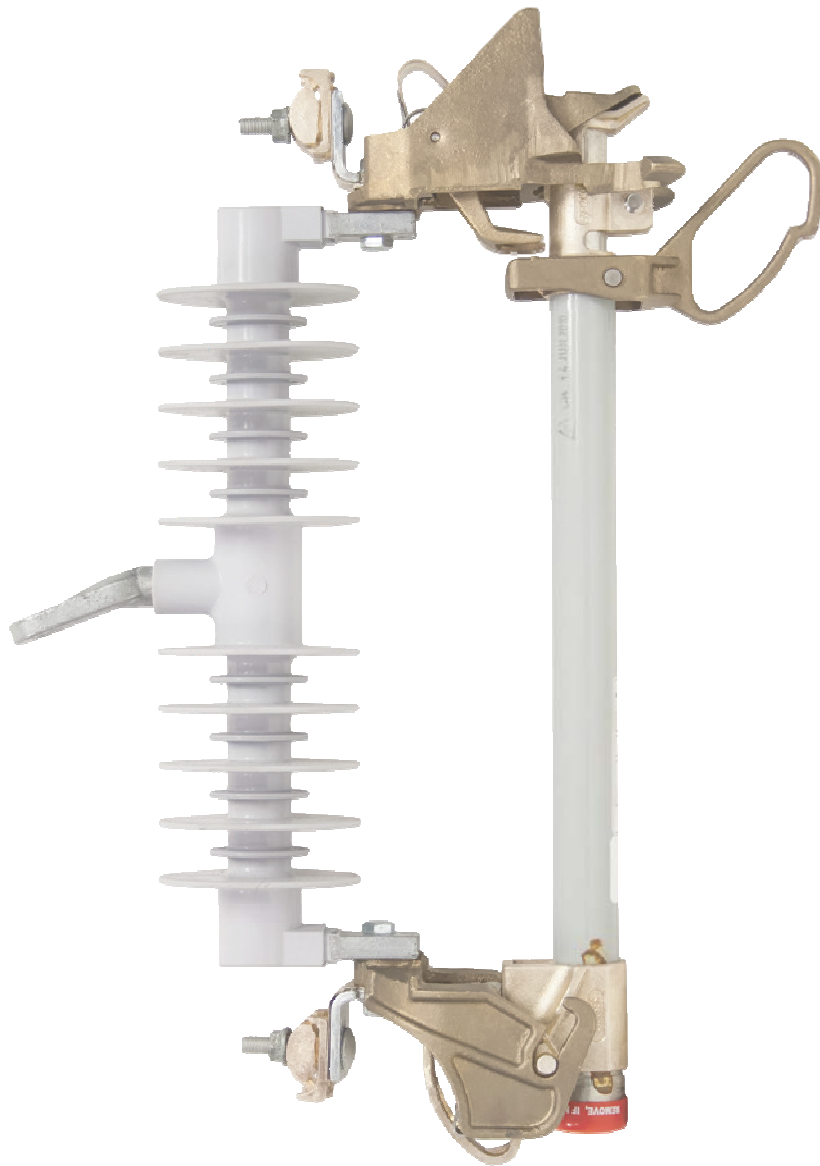


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Description

The Firon FMD20, Ultra Light Power Fuse cutout can provide full fault spectrum protection. The Power Fuse cutout is a maintenance free protective device suitable for overhead distribution feeder applications and outdoor distribution substation installations. The Power Fuse cutout is similar in nature to a distribution cutout but provides superior performance since it can handle higher fault currents, higher loads and higher voltages. Over current protection safeguards an electric system from excessive currents produced by abnormal conditions such as faults, line or equipment overloads, or equipment failures. Power Fuse cutouts are ruggedly constructed and will provide full-range over current protection.

Ultra Light Power Fuse cutouts are available in 15 & 27 kV voltage ratings.

Ultra Light Power Fuse cutouts have been tested to, and meet or exceed all requirements set forth by IEEE Std C37.41™-2008, IEEE Std C37.42™-2009, CSA C310-09 -2014 & ASTM D4476 standards.

Interchangeability

The Firon FMD20 Ultra Light Power Fuse cutout is interchangeable with the S & C Electric Co. Type SMD-20.

Design features

The backbone of the Ultra Light Power Fuse cutout is comprised of an E-glass fiberglass rod with crimped-on galvanized steel hanger and end fittings. The crimping process results in a robust design capable of withstanding numerous opening and closing operations and the severe forces present during fault current interruptions. The frame is over molded with the industry leading, track resistant, silicone rubber polymer-housing. Independent laboratory tests have verified the superiority of silicone rubber in terms of resistance to UV degradation, surface tracking/performance in contaminated environments, and other important insulating properties. The complete cutout assembly works together as a system and will stand up to years of exposure to environmental extremes.

The cast bronze lower hinge assembly has deep pockets for the trunnion to pivot and minimize accidental fuse removal. The rugged design with wide opening means an easy Power Fuse installation and removal. The lower contact assembly utilizes stainless steel backup springs and silver-to-silver contacts to minimize contact resistance and assure excellent continuous contact throughout the life of the cutout. Silver-to-silver top contacts are again used to minimize contact resistance. The Power Fuse cutout design develops high contact pressure to assure excellent contact for operating currents.

Lubricant is applied to all current interchange points. All hardware is designed to interlock during assembly to assure correct alignment. The rugged design assures smooth operation and long life.

Application

Proper cutout application requires several major system considerations: system operating voltage, insulation level, type of system grounding, maximum available fault current the cutout with Fuse may be subjected to, and anticipated maximum continuous load current.

The Power Fuse cutout voltage rating is the maximum design voltage of the cutout. It can be applied, without restrictions, on any three-phase system that has system line-to-line voltage less than or equal to the cutout rating. The Power Fuse cutouts can also be applied on single-phase or three-phase solidly grounded wye connected circuits. The circuit can have line-to-neutral voltages up to the voltage rating of the cutout as long as the maximum recovery voltage does not exceed the cutout's rating.

The Basic Impulse Insulation Level (BIL) of a cutout should be coordinated with the insulation of other connected apparatus. The cutout selected should have a continuous current rating sufficient to handle the expected load.

When selecting a cutout or fuse, it is important to consider future load growth and other planned system expansion.

Electrical ratings

Electrical insulation ratings for the Power Fuse cutouts are shown in Table 1.

All cutouts have been tested in accordance with IEEE Std C37.41™-2008 and IEEE Std C37.42™-2009 standards.

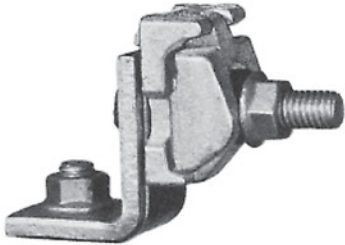


Figure 1. Parallel-groove connector (comes standard with cutout)

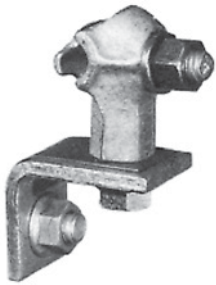


Figure 2. Eyebolt connector (optional)

Table 1. 15 & 27 kV Power Fuse cutout specifications

Catalog number *	Maximum voltage rating (kV)	BIL (kV)	Creep distance	Approximate weight
			inches (mm)	lbs. (kg)
FMD20-15	15	150	22.3 (566)	11.3
FMD20-27**	27	150	27.0 (686)	11.5

*Catalog number for standard unit comes with parallel groove connectors and Power Fuse end fittings. Power Fuses sold separately.

**Maximum voltage rating compatible with 29kV

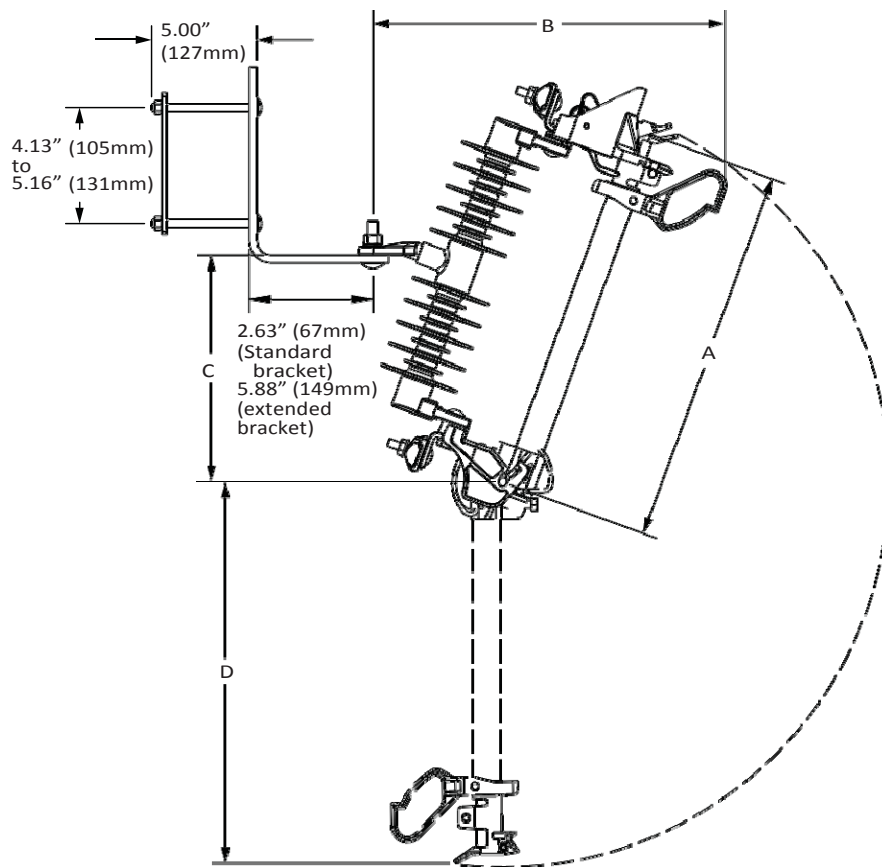


Figure 3. Power Fuse cutout assembly comes with standard parallel groove connectors.
Mounting Bracket and Power Fuse sold separately.

Table 2. FMD20 Ultra Light Power Fuse dimensional data

Voltage rating kV	BIL kV	Dimensions inches (mm)			
		A	B	C	D
15	150	17.91 (455)	16.74 (425)	10.77 (274)	18.13 (461)
27*	150	21.13 (537)	17.25 (438)	12.63 (321)	21.88 (556)

*Compatible with 29kV

Ordering information

To order a complete Power Fuse cutout, choose from the following options:

FMD20-15: 15 kV, 150 kV BIL cutout, comes with standard Parallel Groove connectors.

FMD20-15EB: 15 kV, 150 kV BIL cutout, comes with large Eyebolt connectors.

FMD20-27: 27 kV, 150 kV BIL cutout, comes with standard Parallel Groove connectors.

FMD20-27EB: 27 kV, 150 kV BIL cutout, comes with large Eyebolt connectors.

Note: Mounting bracket and hardware sold separately.
One set of Power Fuse end fittings included with each cutout.
To order a spare set of Power Fuse end fittings, use catalog number **F3095**.
Power Fuses sold separately.

Contact your Firon representative for more information.

