

Motor Surge Protection

Type MSP

- ▶ 2.4 to 24 kV
- ▶ Surge protection for critical industrial loads:
 - Large motors and generators
 - Large transformers
 - Medium-voltage switchgear and motor control centers

Electrical distribution systems are subject to power surges, switching transients, faults, and lightning strikes at anytime. Such occurrences can be damaging to electrical systems, as well as various apparatus used in a manufacturing process. ABB offers the Type MSP, a protective device that provides protection for motors, rotating machines, and transformers, and yields assurance of continuous operation of the equipment, the electrical system, and the manufacturing process.

The primary function of the Type MSP motor surge protector is to guard the winding insulation of the device being protected. Station class, metal oxide lightning arresters act to limit the maximum voltage to the device to a predetermined magnitude. Specially designed surge capacitors, connected in parallel with the arresters, control the rate of rise of the resultant overvoltage. The combination of surge arresters and surge capacitors serve to limit the turn-to-turn insulation stress impressed on the device being protected.

STANDARD FEATURES

- ▶ Rugged-welded 11-gauge metal enclosure
- ▶ Indoor NEMA 1/12" enclosure
- ▶ ANSI #61 light gray paint
- ▶ Heavy-duty rated surge capacitors
- ▶ Station class MOV surge arresters
- ▶ Copper bus bars
- ▶ Common ground connections
- ▶ Hinged, padlockable front door
- ▶ Removable cable entry plates for top or bottom feed



OPTIONAL

- ▶ Outdoor NEMA 3R enclosure
- ▶ NEMA 4X stainless steel enclosure
- ▶ Intermediate class MOV surge arresters

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ABB Type 2GUS surge capacitors provide high transient overvoltage withstand, low operating losses, and long life. Complete with porcelain bushings, these all-film units utilize Faradol 800, a non-PCB, completely biodegradable dielectric fluid. Internal discharge resistors provide a five minute discharge time after de-energization. The standard operating temperature range is -40°C to $+50^{\circ}\text{C}$.

ABB Type XPS polymer station class metal oxide surge arresters are supplied as standard, while ABB Type XPI polymer intermediate class metal oxide surge arresters are also available as an option. Internal cable connections include phase leads tied to isolated buswork fixed on porcelain insulators. Pre-punched bus bars provide for simplified external connections and integrity of the insulation system. Grounding of the Type MSP motor surge protector is made to the device being protected.

The Type MSP motor surge protectors should be located as close as possible to the device being protected to ensure maximum protection. Virtually maintenance free, only an occasional inspection and cleaning may be necessary to check the tightness of electrical and mechanical connections and the integrity of the insulation system. The Type MSP motor surge protector is completely factory assembled and tested, ready for installation and service.

SELECTOR GUIDE

To select the Type MSP motor surge protector equipment for your application, follow these steps:

1. Determine the line-to-line voltage of the system.
2. Determine the system grounding—delta, grounded, or ungrounded neutral.
3. Select required ABB Style Number that matches #1 and #2.

ABB Style No.	Voltage L-L	Δ or Ungrd. Y System	Grd. Y System	Arrester kV rms	Arrester MCOV	Capacitor # of Poles	μF Pole	Enclosure Depth
2GUR000100	2400	X	—	3.0	2.55	3	0.50	23"
2GUR000101	4160	X	—	6.0	5.10	3	0.50	23"
2GUR000102	4160	—	X	3.0	2.55	3	0.50	23"
2GUR000103	4800	X	—	6.0	5.10	3	0.50	23"
2GUR000104	6900	X	—	9.0	7.65	3	0.50	23"
2GUR000105	7200	X	—	9.0	7.65	3	0.50	23"
2GUR000106	13,200	X	—	18.0	15.30	3	0.25	23"
2GUR000107	13,200	—	X	10.0	8.40	3	0.25	23"
2GUR000108	13,800	X	—	18.0	15.30	3	0.25	23"
2GUR000109	13,800	—	X	12.0	10.20	3	0.25	23"
2GUR000110	24,000	X	—	27.0	22.00	1	0.125	36"
2GUR000111	24,000	—	X	21.0	17.00	1	0.125	36"

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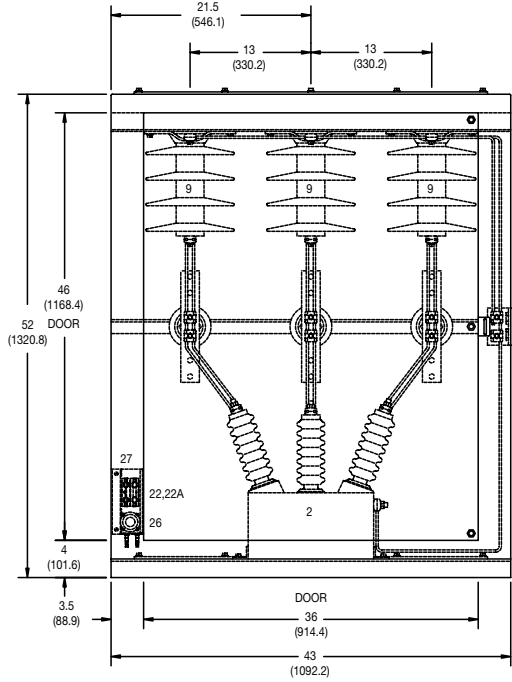
Motor Surge Protection

Type MSP

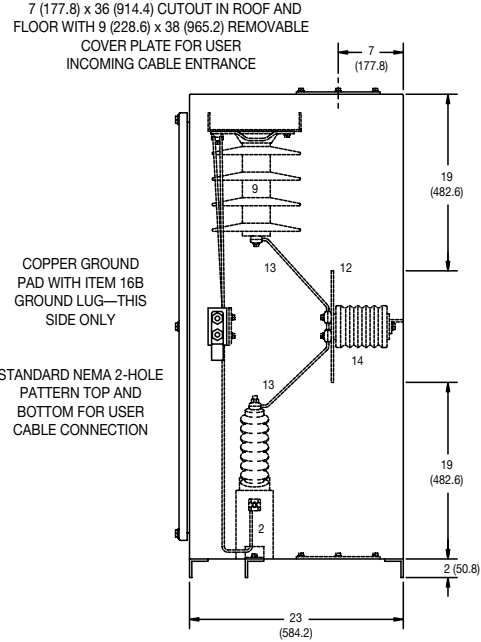
SPECIFICATIONS

Dimensions: 23" Wide Enclosure

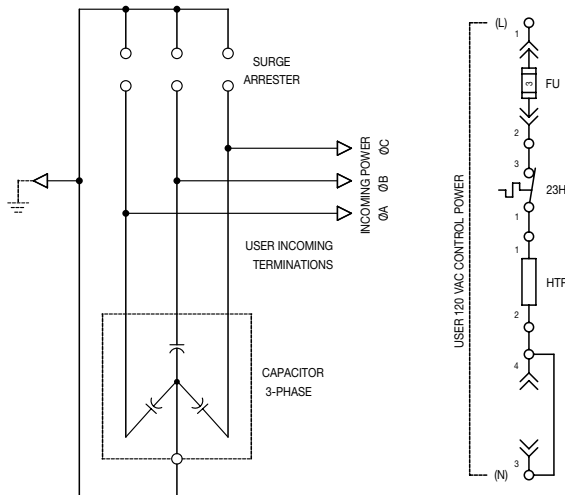
Dimensions are specified in inches (mm).



Front View



Right Side View



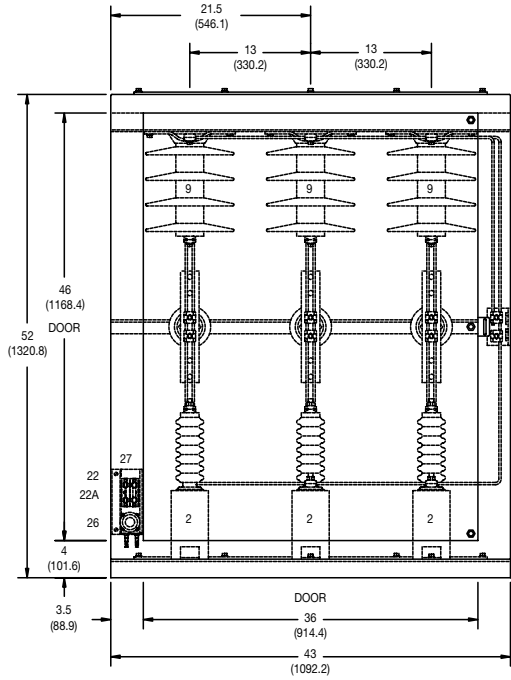
Elementary Diagram

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SPECIFICATIONS

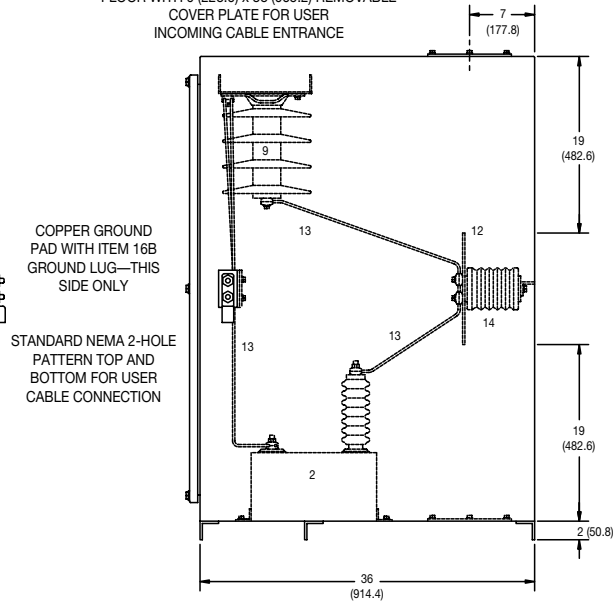
Dimensions: 36" Wide Enclosure

Dimensions are specified in inches (mm).

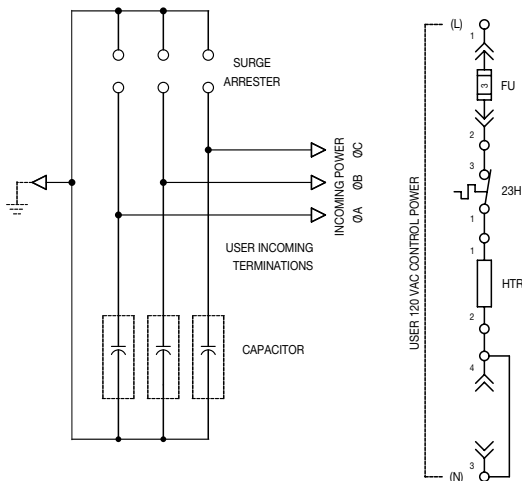


Front View

7 (177.8) x 36 (914.4) CUTOUT IN ROOF AND FLOOR WITH 9 (228.6) x 38 (965.2) REMOVABLE COVER PLATE FOR USER INCOMING CABLE ENTRANCE



Right Side View



Elementary Diagram

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