MSP
Motor Surge Protection for critical industrial loads

The MSP is a Surge Protection suitable for voltages between 2.4 kV and 24 kV for critical industrial loads such as large motors and generators, dry-type 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 MSP, a protective device that provides protection against insulation failure for motors, rotating machines, and dry-type transformers. This 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
- ANSI #61 light gray paint (RAL 7035)
- Heavy-duty rated surge capacitors
- Station class MOV surge capacitors
- Copper bus bars
- Common ground connections
- Hinged, padlockable front door
- Removable cable entry plates for top or bottom feed
- Outdoor NEMA 3R enclosure

Option
- RC surge suppressor capacitor
- Pressure switch with contact
- Fuse protection with contact (bigger enclosure)

Components
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 810, 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 -50°C to +60°C.

ABB type XPS polymer station class metal oxide surge arresters are supplied as standard. 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 MSP motor surge protector is made to the device being protected.

The MSP motor surge protector is completely factory assembled and tested, ready for installation and service.
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.

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<th>ABB Style No.</th>
<th>Voltage L-L</th>
<th>Ungr. Y System</th>
<th>Grd. Y System</th>
<th>Arrester kV rms</th>
<th>Arrester MCOV</th>
<th>Capacitor # of poles</th>
<th>Pole Enclosure</th>
<th>Depth (mm)</th>
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Elementary diagram

Legend:
FU: Control fuse
23H: Heater thermostat
HTR: Heater
Specifications

Dimensions: three-phase capacitor enclosure
Dimensions are specified in inches (mm).

Dimensions: 3x single-phase capacitor enclosure
Dimensions are specified in inches (mm).
For more information please contact:

ABB Inc.
500 rue du Binôme
Quebec, QC G1P 4P1, CANADA
Phone: +1 418 650 7629

www.abb.com/powercapacitors

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