



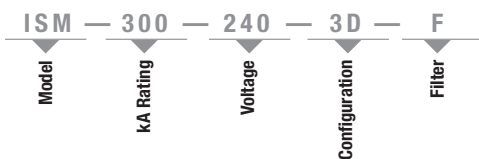
The ISM (Integrated Suppression Module) features a suppression filter assembly, with individual thermally fused and protected MOVs, for improved current sharing. Surge rated copper bussing and robust filtering. Incorporate the ISM as part of your custom switchgear, switchboard, panelboard, and motor control center applications. Add the integrated monitoring option gives the ability to monitor the ISM.

### FEATURES

- Component SPD suitable for use in Type 1 or Type 2 applications.
- Individual thermally fused and protected MOVs – ensures seamless product performance in the event of single MOV failure.
- Heavy-duty filter capacitors ensure industry's best high frequency noise and transient filtering.
- Solid copper bus construction – cumulative surge current is carried on copper bus bars, eliminating reliance on PCB trace for conducting full surge current.
- Thermoplastic polycarbonate rated UL 94V-0 housing.

### MODEL NUMBER SCHEME (ISM™)

E.g.: ISM-300-240-3D-F



#### kA Rating (Must Choose One)

Available ISM™ kA Ratings:  
050, 080, 100, 125, 150, 200,  
250, 300

#### Voltage\* (Must Choose One)

|     |         |
|-----|---------|
| 208 | 120/208 |
| 240 | 120/240 |
| 380 | 220/380 |
| 480 | 277/480 |
| 600 | 347/600 |

#### Configuration\* (Must Choose One)

|    |                                    |
|----|------------------------------------|
| 1G | 1-Phase, Grounded                  |
| 2G | 2-Phase, Grounded, Split-Phase     |
| 3Y | 3-Phase, Grounded, Wye             |
| 3R | 3-Phase, Grounded, High-Resistance |
| 3H | 3-Phase, Grounded, High-Leg Delta  |
| 3D | 3-Phase, Grounded, Delta           |

#### Filter (Must Choose One)

|    |                             |
|----|-----------------------------|
| F  | EMI/RFI Filter (Type 1 SPD) |
| F3 | UL1283 Filter (Type 2 SPD)  |
|    | No Filter if Blank          |

#### Stand-Alone Options

(To Be Ordered As Separate Items)

|     |                           |
|-----|---------------------------|
| DTS | DTS-2 Diagnostic Test Set |
| HPI | HPI Cable                 |

#### Integrated Monitoring Options

|      |  |
|------|--|
| M1X  | LED/Phase + Audible Alarm, Dry Relay Contacts      |
| M2X  | M1 + Surge Counter                                 |
| M3X  | Advanced Monitoring, Character Display, Modbus RTU |
| M4EX | M3 + Ethernet, Modbus TCP                          |
| M5X  | Advanced Monitoring, Graphics Display, Modbus RTU  |
| M6EX | M5 + Ethernet, Modbus TCP                          |

\*See table on next page for more Voltage/Configuration Options.

### PRODUCT SPECIFICATIONS

#### General Specifications

|                       |  |
|-----------------------|--|
| Safety Listings       | UL Listed 1449 4th Edition for Type 4 component Assembly for Type 1 and Type 2 SPD applications, cUL, and UL 1283 / Meets Requirements for UL 96A / Compliant to IEEE C62.41.1-2002, C62.41.2-2002 and C62.45-2002 / NFPA 70 [NEC], Article 285 / RoHS Compliant / CE, IEC 61643-11-2011 / FCC Part B Class B / EMC Directive 2004/108/EC / Low Voltage Directive 2006/95/EC |
| Protection Method     | Thermally protected MOVs, Capacitive Filter  |
| Product Design        | Individual thermally fused and protected MOVs, and All Copper, Tin-plated Bus  |
| Installation Location | Indoor   |
| Operating Environment | -40°C to +60°C<br>5% – 95% Non-Condensing Humidity   |
| Fault Current (SCCR)  | 200kAIC  |
| Connection Method     | Parallel   |
| Protection Modes      | All Modes (L-N, L-G, N-G, L-L)   |
| Response Time         | < 0.5 Nanoseconds  |
| Operating Frequency   | 47 – 63 Hz   |
| Warranty              | 15 Years   |

#### Filtering Attenuation Frequencies (Per Mil-Std-220B January 2000)\*\*

| 10 KHz  | 100 KHz | 1 MHz   | 10 MHz  | Max at 142 KHz |
|---------|---------|---------|---------|----------------|
| 18.1 dB | 44 dB   | 22.8 dB | 15.3 dB | 54.6 dB        |

#### Maximum Continuous Operating Voltage (MCOV)

| Voltage | L-N MCOV | Voltage | L-L MCOV |
|---------|----------|---------|----------|
| 120V    | 150V     | 240V    | 300V     |
| 277V    | 320V     | 480V    | 552V     |
| 347V    | 420V     | 600V    | 690V     |

\*\* Data based on actual tests. Contact factory for test reports

## VOLTAGE/CONFIGURATION OPTIONS

Not all voltage configurations are displayed, contact Thomas & Betts Power Solutions for additional configurations.

| Voltage | Configuration                  |   |                                     |   |  |                                       |
|---------|--------------------------------|---|-------------------------------------|---|--|---------------------------------------|
|         | 1-Phase, Grounded<br><b>1G</b> | 2-Phase, Grounded, Split-Phase<br><b>2G</b> | 3-Phase, Grounded, Wye<br><b>3Y</b> | 3-Phase, Grounded, High-Resistance<br><b>3R</b> | 3-Phase, Grounded, High-Leg Delta<br><b>3H</b> | 3-Phase, Grounded, Delta<br><b>3D</b> |
| 120     | X                              |   |                                     |   |  |                                       |
| 208     | X                              |   | X                                   | X   |  | X                                     |
| 220     | X                              | X   |                                     | X   |  | X                                     |
| 230     | X                              |   |                                     |   |  | X                                     |
| 240     | X                              | X   |                                     |   | X  | X                                     |
| 380     |                                | X   | X                                   | X   |  | X                                     |
| 415     |                                | X   | X                                   | X   |  | X                                     |
| 480     |                                | X   | X                                   | X   |  | X                                     |
| 600     |                                | X   | X                                   | X   |  | X                                     |

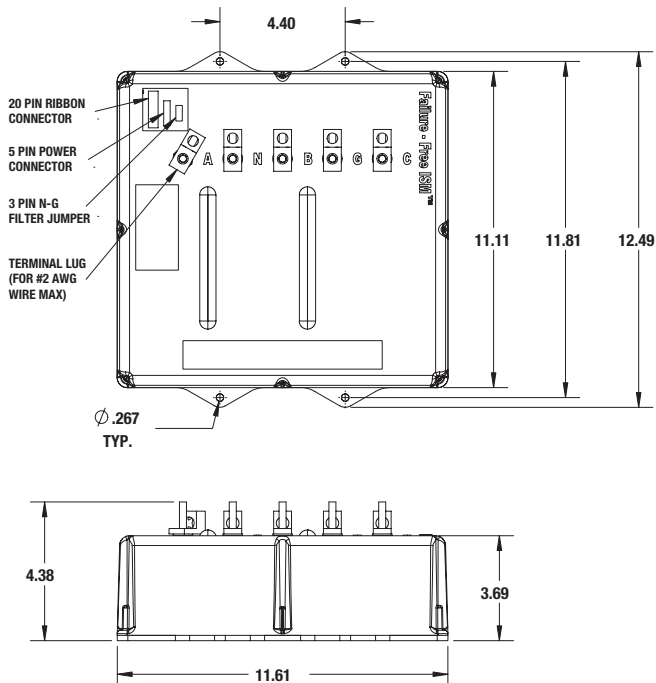
## ISM™ PERFORMANCE DATA

| System Voltage     | Mode | B3 Ring Wave 6kV, 500A | Combo Wave 6kV, 500A | B3/C1 Combo Wave 6kV, 3kA | UL 1449 3rd Edition 2009 Revision |
|--------------------|------|------------------------|----------------------|---------------------------|-----------------------------------|
| 120/240<br>120/208 | L-N  | 300                    | 400                  | 550                       | 600                               |
|                    | L-G  | 400                    | 400                  | 560                       | 600                               |
|                    | N-G  | 325                    | 475                  | 540                       | 600                               |
|                    | L-L  | 425                    | 725                  | 935                       | 1,000                             |
| 277/480            | L-N  | 500                    | 875                  | 990                       | 1,000                             |
|                    | L-G  | 825                    | 825                  | 1,005                     | 1,200                             |
|                    | N-G  | 650                    | 875                  | 930                       | 1,000                             |
|                    | L-L  | 700                    | 1,625                | 1,825                     | 2,000                             |

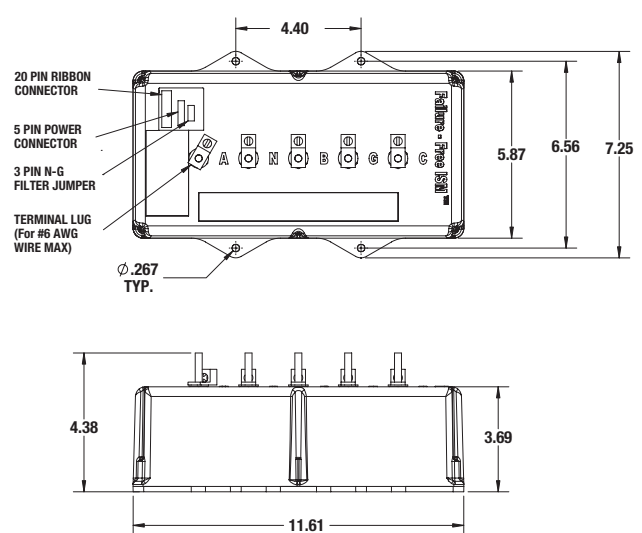
All ISM™ systems voltage protection ratings (VPR) are peak values ( $\pm 10\%$ ) measured from the 90° reference point and are in compliance with test and evaluation procedures outlined in ANSI/IEEE C62.41

## DIMENSIONAL SPECIFICATIONS

### 125kA – 300kA



### 50kA – 100kA



# Integrated Monitoring Options

## SPD INTEGRAL TO SWITCHGEAR

Example showing the ISM integrated into the switchgear and the M6EX remotely mounted on the surface of the switchgear.



## MONITORING FEATURES

The Integrated Monitoring Options offers multiple levels of advanced, multifunction, power quality monitoring. A robust, full-featured system, provides realtime data on product performance and distribution system power quality.

- Capable of providing time data stamp, magnitude, and duration for most types of power quality events.
- End users have the ability to set alarm conditions by establishing the magnitude and duration required to trigger an alarm event.
- Monitors and communicates the available surge protection for each phase, as a percentage of protection remaining.
- The surge counter function categorizes surges into low, medium or high surge current ratings.

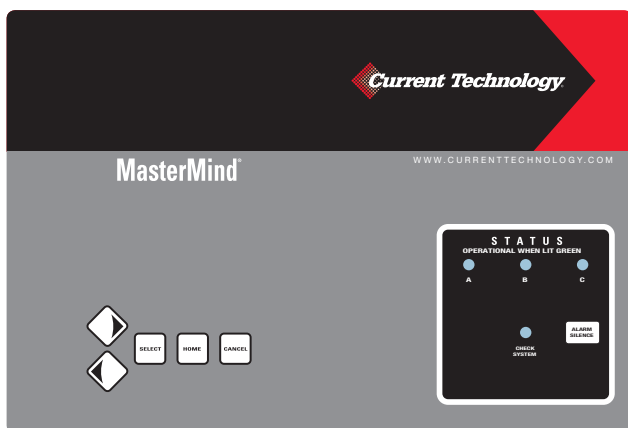
## M3X AND M5X MONITORING

- Local display with membrane switch user interface
- Power Quality Monitor that provides time, date, magnitude and duration of the following
  - Sags
  - Swells
  - Dropouts
  - Outages
  - Thermal Harmonic Distortion
  - Frequency
  - Volts RMS per phase
  - Surges
    - Low 100A–500A
    - Med 500A–3000A
    - High 3000A+
  - Remaining surge protection percentage
- User settable alarm thresholds (magnitude and duration)
- Two sets of dry relay contacts
- Audible alarm, alarm silence
- Per phase LED indication
- ModBus RTU remote communications capability

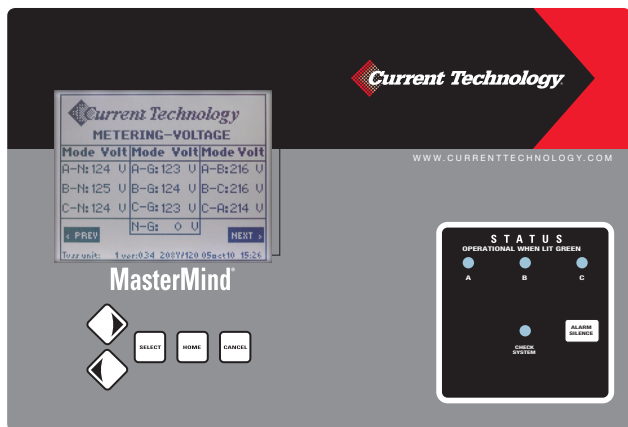
## M4EX AND M6EX MONITORING

Includes features above plus:

- Ethernet, Modbus TCP remote communications capability
- Web interface

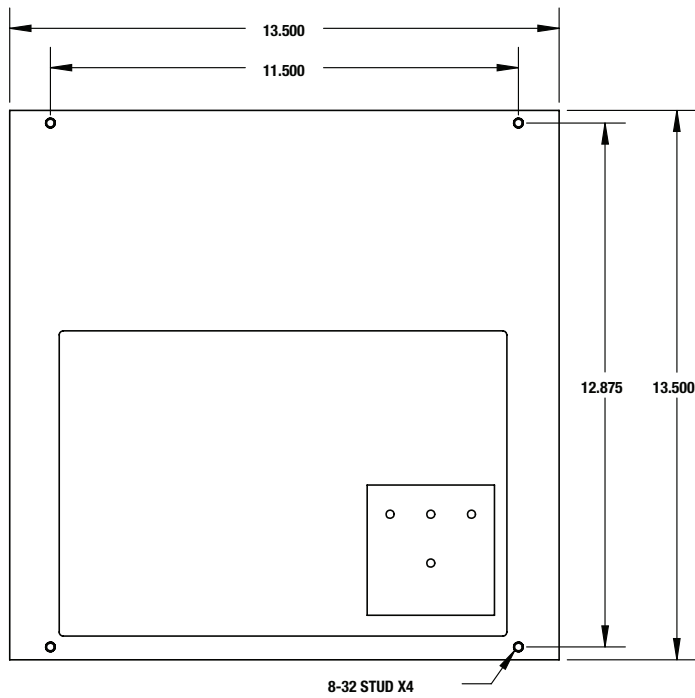
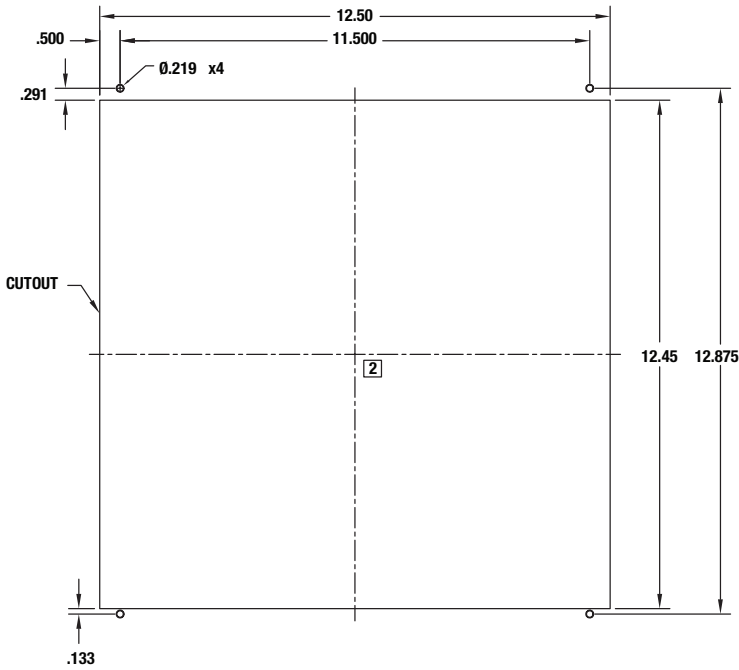


M3X and M4EX display



M5X and M6EX display

REMOTE MOUNTING CUTOUT SPECIFICATIONS FOR M3X, M5X, M4EX, AND M6EX





# Energía Verde RMS

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