GARD

Unparalleled Protection

iM7200 / 13800

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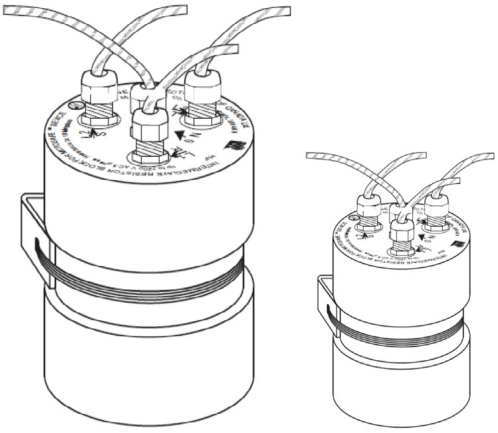
iM7200 and iM13800 Insulation Monitors are designed to monitor Medium Voltage AC motor installations for insulation deterioration whenever they are not energized. In such installations personnel safety is paramount and both Insulation Monitors incorporate features to maximize that safety.

They are entirely automatic in operation and are CSA Certified and UL Listing as High Voltage Industrial Control Devices.

Connection Diagram:

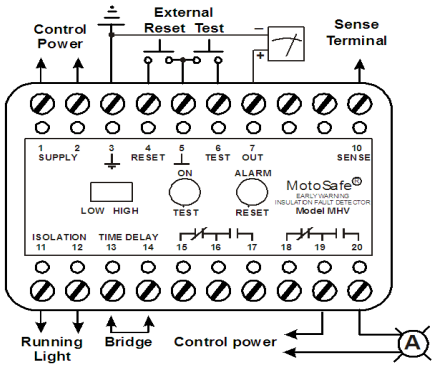
High Voltage Compartment



IRB 13800
9.4 Ø x 19.7

IRB 7200
4.9 Ø x 6.5

Low Voltage Compartment
iM 7200 / iM 13800



- Fast and easy installation
- Actual resistance reading output
- Vacuum contactor rated
- Surge capacitor discharge delay included
- Low test voltage for personnel safety
- Residual voltage forced discharge circuit
- Completely automatic operation
- Solid state circuitry
- High/Low alarm selction
- LED local alarm/remote alarm capability
- Local/Remote reset capability
- Small footprint DIN rail mounting
- Two models: iM7200 covers voltages up to 7.2kV AC
  iM13800 covers voltages up to 13.8kV AC

Technical Specifications:

Parameter \ Model	iM7200 iM13800	IRB 7200	IRB 13800
Line Voltage Maximum	N / A	7.2kV AC	13.8kV AC
Control Voltage*	120 or 220 V, ± 20%, 50 / 60HZ	N/A	
Control Power	3 VA	N/A	
Isolation Voltage	24-300V AC/DC	N/A	
Factory Setpoints Low / High	2.5 / 5.0 MΩ 14 / 20 MΩ20	N/A	
Contacts Rating	5A, 250V Resistive	N/A	
Isolation Time	0.5ms	N/A	
Dimension (mm)	103 x 68 x 112	125 Ø x 165	238 Ø x 500
W x H x L (in)	4.05 x 2.67 x 4.4	4.9 Ø x 6.5	9.4 Ø x 19.7
Weight (kg) / (oz)	0.36 / 12.7 0.44 / 15.5	1.2 / 42	7.7 / 270

* For other supply voltages contact I-Gard

** Setpoints in the range to 10 MW available - contact I-Gard

- For monitoring on-line equipment - contact I-Gard
- All units suitable for DIN Rail Mounting
- Max. short circuit current: 1 microampere
- Temperature: Operating -20°C to +50°C;
  Storage -40°C to +100°C
- Environment: Maximum 95% relative
  Humidity, non-condensing

Application:

iM7200/13800 is designed to provide safe monitoring of the electrical insulation integrity of electrical machines and equipment whenever they are not in use. The primary use monitoring machines which are in intermittent service, give early warning of the insulation deterioration preceding failure, as starting and stopping machines causes micro-cracking of the insulation with consequent degradation of its properties.

To maximize personnel safety they use a low DC voltage to sense insulation resistance and they are connected to the motor circuit through the star point of a high resistance Intermediate Resistor Block (IRB). Under normal circumstances this ensures that the Sense terminal is at ground potential and should a ground fault occur on the motor supply, the impedance of the Intermediate Resistor Block limits the Sense terminal voltage to a safe level.

iM7200/13800 incorporates features allowing the complete discharge of surge capacitors and dissipation of residual charge in motor cabling, to eliminate possible nuisance alarms. The monitor is equipped with analogue output providing the actual value of the insulation resistance in the range of 0 to 47 Megohm.

To eliminate the hazard to personnel, the connection between the Intermediate Resistor Block in the high voltage compartment and the iM13800 monitor unit in the low voltage compartment of the motor control gear, is current limited by the high internal impedance of the Intermediate Resistor Block to a maximum of 1.4 milliamperes, i.e. 28% of the mandated GFCI trip level. The maximum current flows through the “Sense” line (red conductor of the IRB) to terminal 10 of the iM7200/13800 monitor unit only if terminal 10 is shorted to ground when a ground fault exists on one phase of the motor supply.

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