

# Oxygen Monitor Alarm

for MRI INSTALLATIONS

## Model ISA-60M, 1-3 Channel Monitor with MRI-5175 O<sub>2</sub> Sensor/Transmitter

### FEATURES

- Long-life oxygen sensor
- Oxygen sensor/transmitter is designed for EMC compatibility
- The ISA-60M has 3 channel capacity; system can be expanded
- Continuous monitoring of the environment
- The ISA-60M provides continuous LCD display of oxygen concentrations
- Menu driven operation, maintenance and calibration procedures
- Audio and visual alarms indicate unsafe conditions
- Alarm acknowledgement, including audio defeat capability
- 4-20 mA output for each channel, plus RS-485 Modbus
- 5 oxygen alarm relay contacts
- Fault relay and visual fault alarm
- Classified to UL 60601-1 IEC 60601-1 & CSA 22.2, No. 601-1



ISA-60M Monitor includes MRI-5175 Oxygen Sensor/Transmitter



MRI-5175 Remote Oxygen Sensor/Transmitter (shown with optional audio alarm)

### GENERAL SPECIFICATIONS

Temperature: 32° to 104°F (0° to 40°C)  
 Relative Humidity: 10-99% RH, non-condensing  
 Pressure, Atmospheric: 20 to 36 inHg (68 to 122 kPa)  
 Approval: Classified to UL 60601-1

### ISA-60M MONITOR SPECIFICATIONS:

**Standard Alarm Points:** 19.5% & 17% decreasing oxygen  
**Display:** 2 line, 16 character, dot matrix LCD  
**Alarms:** Visual: LEDs, Audible: piezo electric  
**Horn:** 95 dB at 2 feet  
**Alarm Relays:** 5 programmable oxygen alarm relays, plus fault. All relays are programmable latching or non-latching, dry SPDT, 10 amps (resistive load only) at 110 VAC.  
**Analog Output:** 4-20 mA  
**Digital Output:** RS-232 Modbus and RS-485 Modbus  
**Connections:** Strain relief (2 supplied) for 0.20" to 0.35" OD Cable  
**Operating Power:** 100 to 240 VAC and/or 12 VDC, 15 Watts  
**Enclosure:** Thermoplastic box with clear, hinged front cover, designed for NEMA 12 and 4X  
**Size:** 10.5 H x 8.5 W x 5.8 D inches (27 x 22 x 15 cm)  
**Weight:** 8 lbs. (3.6 kg)

*Channel Capacity: From 1 to 3 MRI-5175 Remote Oxygen Sensor/Transmitters can be connected to one ISA-60M monitor utilizing 4-20 mA signals. Up to four MRI-5175 can be displayed at the ISA-60M using RS-485 Modbus.*

### MRI-5175 TRANSMITTER

**Visual Gas Alarm:** 3 Red LEDs  
**Visual Power/Fault:** Green/Red LED  
**Analog Output:** 4-20 mA  
**Digital Output:** RS-485 Modbus  
**Power:** 24 VDC from ISA-60M  
**Optional Audible Alarm:** 105 dB at 12 inches (30 cm)  
**Connection to ISA-60M:** Strain relief (1 supplied) for 24 VDC, 4-20 mA, 0.20" to 0.35" OD Cable  
**Enclosure:** Fiberglass-reinforced polyester with non-magnetic coating and hardware  
**Dimensions:** 5 x 5 x 4 inches (2 x 2 x 1.6 cm)  
**Weight:** 2 lbs. (0.9 kg)

### OXYGEN SENSOR, SUPPLIED WITH MRI-5175

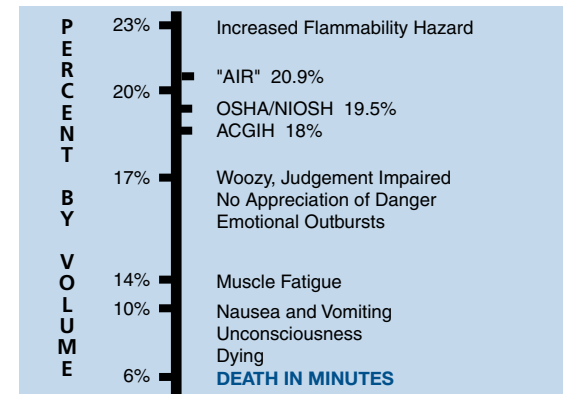
**Type:** Electrochemical  
**Resolution:** 0.1% by Volume Oxygen  
**Range:** 0 to 30.0% by Volume Oxygen  
**Typical Life:** 4 to 5 years

### SENSOR CABLE

**Cable, MRI-5175 to ISA-60M:** 3-wire, shielded cable, typically 18 to 20 AWG, user supplied, UL Listed type CM, PLTC or TC

### Oxygen in MRI Facilities

Maintaining the quality of breathing air in a Magnetic Resonance Imaging (MRI) facility is an important safety consideration. Cryogenic gas used to maintain the magnetic field is highly dangerous if released into an enclosed space. Inert gas can create a hazardous situation by reducing the concentration of oxygen in breathing air to unsafe levels.

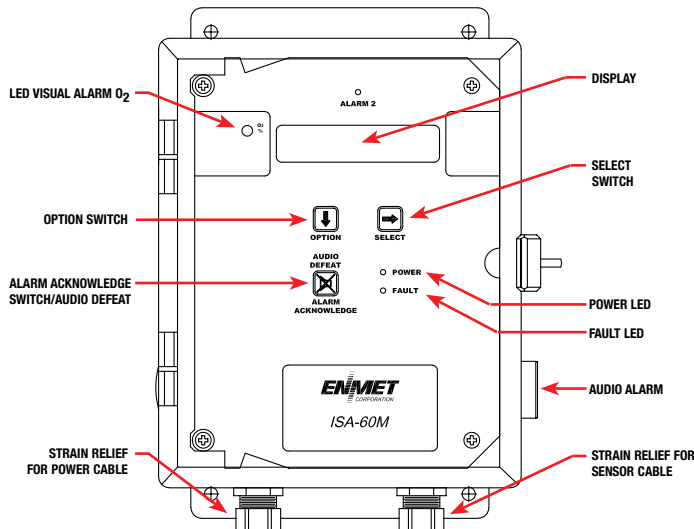


The silent, odorless, and invisible hazard of low oxygen concentrations can incapacitate or even kill. Reduced oxygen levels start by causing fatigue, confusion, and disorientation without individuals being aware of their peril. If oxygen levels are further reduced, fatalities may result in minutes.

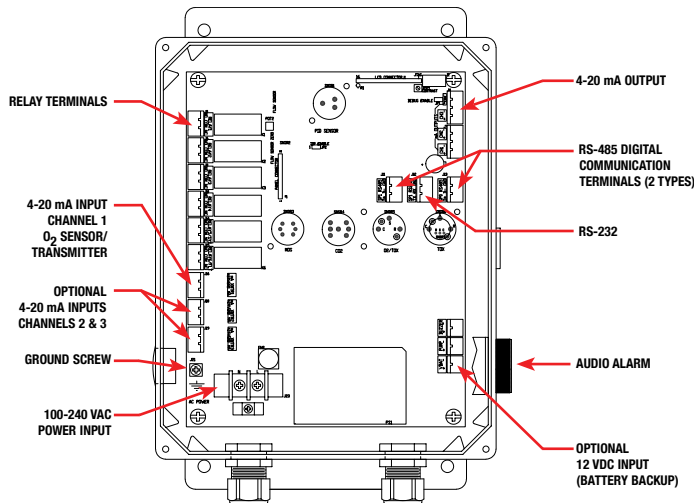


# ISA-60M Monitor with MRI-5175 Oxygen Sensor/transmitter

## ISA-60M

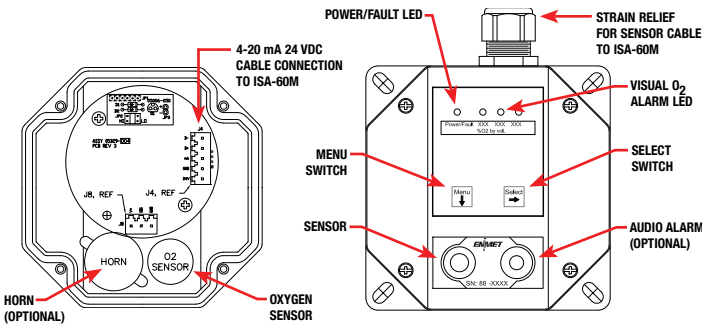


EXTERNAL FEATURES



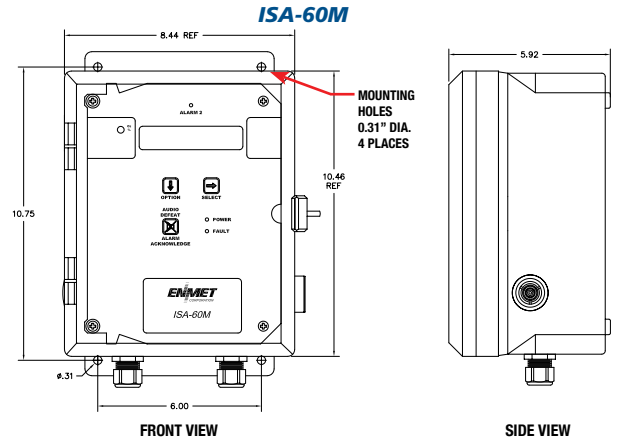
INTERNAL FEATURES

## MRI-5175



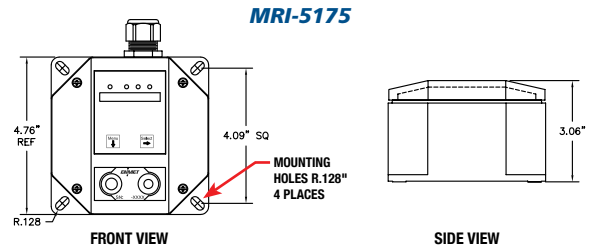
EXTERNAL FEATURES

## DIMENSIONS IN INCHES



FRONT VIEW

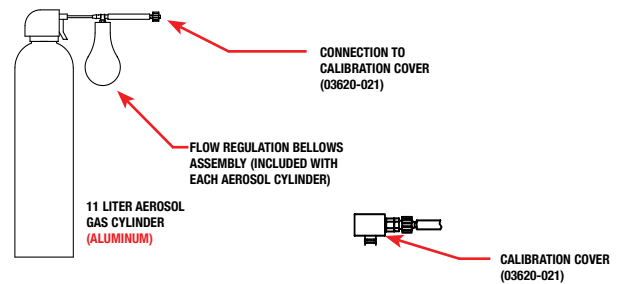
SIDE VIEW



FRONT VIEW

SIDE VIEW

## CALIBRATION CYLINDERS & HARDWARE



## ORDERING INFORMATION

### INSTRUMENTS

Part No.	Description
04650-001	ISA-60M, Single-Channel, with one MRI-5175 O <sub>2</sub> Sensor/transmitter
04650-002	ISA-60M-2, Dual-Channel, with two MRI-5175 O <sub>2</sub> Sensor/transmitters
04650-003	ISA-60M-3, Three-Channel, with three MRI-5175 O <sub>2</sub> Sensor/transmitters

### CALIBRATION EQUIPMENT

03100-185	Alarm Point Test Gas, 11 liter aluminum cylinder, 18.5% Oxygen with bellows assembly (order #03620-021 separately)
03100-209	Calibration Gas, 11 liter aluminum cylinder, 20.9% Oxygen with bellows assembly (order #03620-021 separately)
03620-021	Calibration Cover (use with 03100-185 or 03100-209)

### ACCESSORIES/REPLACEMENT PARTS

04566-004	Battery Backup and Charging System, 12 VDC, 24 amp/hour
66017-006	Sensor/Transmitter Cable, 3-conductor, 18 AWG, shielded (MRI-5175 to ISA-60M)
67016-1152	Replacement Oxygen Sensor, Long-life type

**NOTE:** Loss of primary power renders continuous gas monitors inoperative. Contact factory for specifications and pricing for backup battery systems compatible with ENMET monitors.

