

Oxygen Monitor Alarm

for MRI INSTALLATIONS

Model ISA-60M, 1-3 Channel Monitor with MRI-5175 O₂ Sensor/Transmitter

FEATURES

- Long-life oxygen sensor
- The ISA-60M has 3 channel capacity utilizing 4-20 mA; Up to 4 channels can be displayed using RS-485 Modbus
- 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 IEC 60601-1 & CSA 22.2, No. 601-1

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 non-magnetic 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

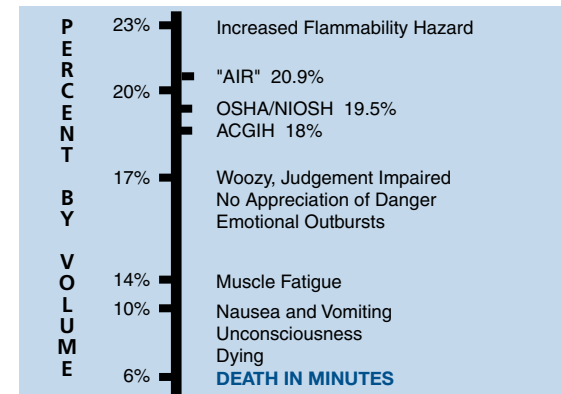
Type:	Electrochemical	Range:	0 to 30.0% by Volume Oxygen
Resolution:	0.1% by Volume Oxygen	Typical Life:	4 to 5 years

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.

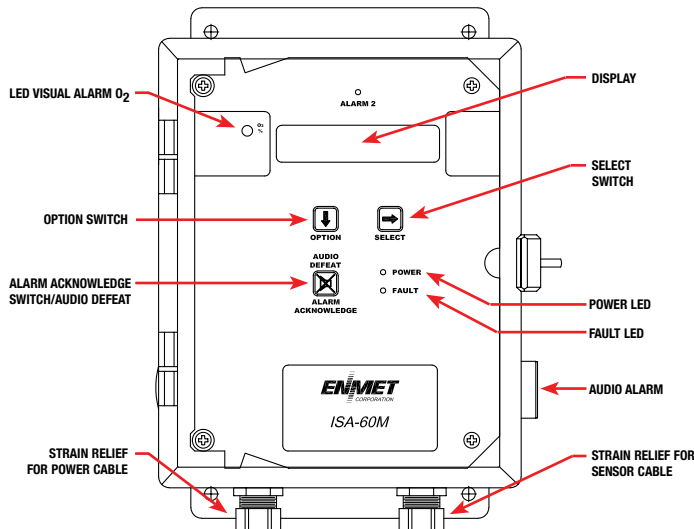


The silent, odorless, and invisible hazard of low oxygen concentrations can incapacitate or even kill. Reduced oxygen levels start by causing fatigue, confusion, and disorientation without individuals being aware of their peril. If oxygen levels are further reduced, fatalities may result in minutes.

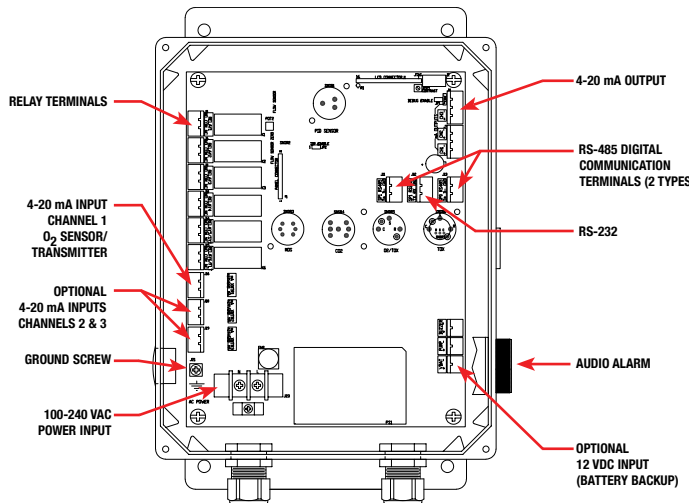


ISA-60M Monitor with MRI-5175 Oxygen Sensor/transmitter

ISA-60M

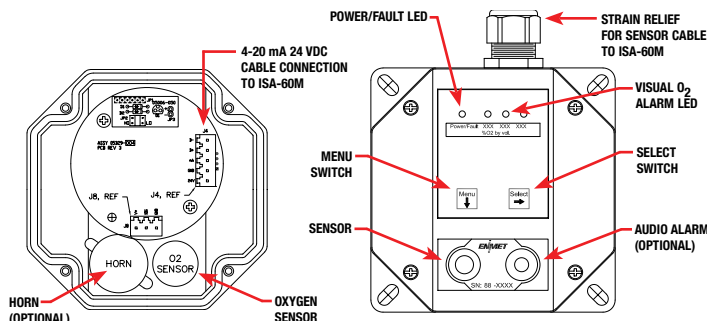


EXTERNAL FEATURES



INTERNAL FEATURES

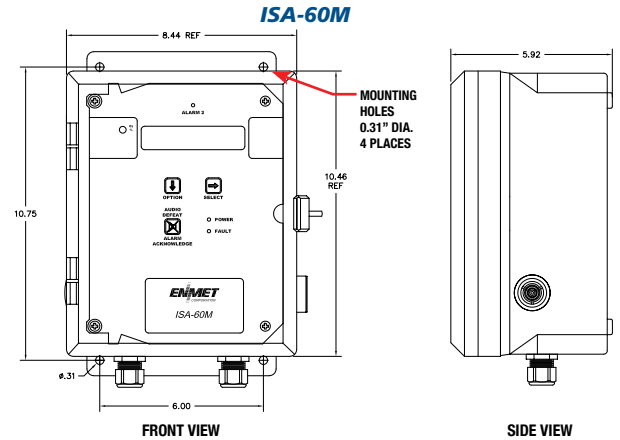
MRI-5175



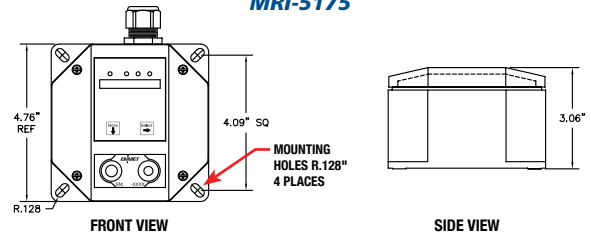
INTERNAL FEATURES

EXTERNAL FEATURES

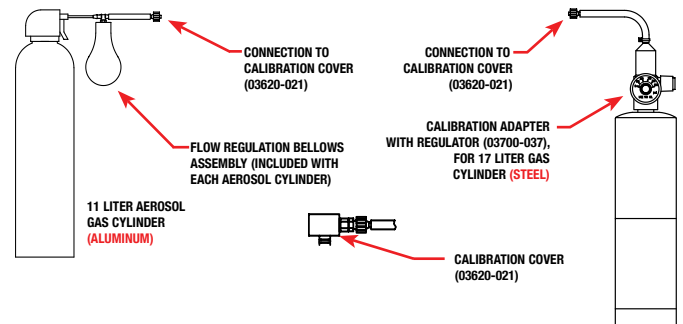
DIMENSIONS IN INCHES



MRI-5175



OPTIONAL CALIBRATION CYLINDERS & HARDWARE



ORDERING INFORMATION

INSTRUMENTS

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

CALIBRATION EQUIPMENT

03700-037	Gas Regulator Assembly, for 17 liter cylinders (order #03620-021 separately)
03296-209	Calibration Gas, 17 liter, steel cylinder, 20.9% Oxygen
03296-170	Test Gas, 17 liter, steel cylinder, 17% Oxygen
03100-209	Calibration Gas, Aerosol, 11 liter, aluminum cylinder, 20.9% Oxygen with bellows assembly (order #03620-021 separately). These aerosol cylinders can ship by ground transportation without a hazmat fee.
03620-021	Calibration Cover (use with 03700-037 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.

