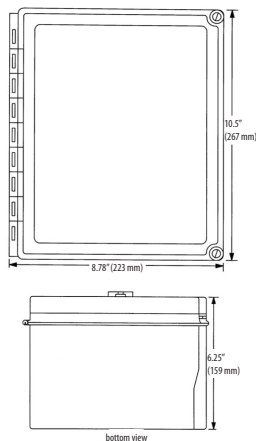


Self-Contained Controllers - GAS DETECTION DATASHEET

DCC-MRI Oxygen Sampling System



TECHNICAL DRAWING



The DCC-MRI is a self-contained Oxygen (O₂) monitoring system developed for Magnetic Resonance Imaging (MRI) room applications for hospitals and clinics. Due to the strong magnetic field inside the MRI room, electronic equipment does not operate properly when mounted inside the room. The DCC-MRI system is designed to be installed outside of the MRI room with a sample tubing running from the monitoring system to the sampled environment.

The DCC-MRI comes with an O₂ sensor (measurement range 0 - 25% volume), a flow detector, a sample draw pump and an internal adjustable flow meter.

Features include two 4 - 20 mA outputs, one alarm level line voltage relay with field configurable time delays and trigger levels, a blocked flow alarm indicating a dirty filter or clogged tubing, a side mounted audible buzzer and an LCD digital display with LED indicators for channel alarm status and fault conditions.

This system is accurate enough to measure to government established exposure levels for O₂ deficiency for health and safety.

KEY FEATURES

- » 2x16 character LCD display with LED indicators
- » Loud side mounted buzzer
- » Blocked flow alarm
- » Sample draw pump
- » Adjustable flow meter
- » Oxygen sensor 0 - 25% volume (3 year lifespan)
- » One 5-amp SPDT dry contact relay
- » Two 4-20 mA outputs (O₂ reading, Flow Alarm)
- » Thermal resetting fuses
- » RoHS compliant circuit boards
- » Standard water / dust tight, corrosion resistant enclosure (drip proof)

APPLICATIONS

- » MRI Rooms
- » TEM Rooms
- » Freezer Farms (medical)

SAMPLE ENGINEERING SPECIFICATIONS

Oxygen Monitoring System for MRI Rooms in Hospitals and Clinics

Supply a self-contained Oxygen monitoring system model DCC-MRI for the monitoring of Oxygen levels in MRI rooms in hospitals and clinics in a wall mount, water/dust tight, corrosion resistant polyester reinforced fiberglass enclosure with hinged, secured door. The DCC-MRI shall have an LCD display for indicating real time Oxygen values, LED indicators for channel alarm status and fault conditions, an audible alarm with silence push-button, one field adjustable alarm level, two analog outputs, internal sample pump and an adjustable flow meter.

DCC-MRI should be wall mounted outside of the MRI room with flexible tubing running from the inlet port fitting to the area to be monitored inside the MRI room. If the exhausted sample air must be directed somewhere else other than the room where the DCC-MRI is installed connect flexible tubing to the outlet port fitting. Internal flow meter must be adjusted for proper flow rate after installing tubing. Installing contractor should supply and connect 24 VAC (nominal) power to the instrument. The instrument should be powered up all the time to avoid warm up delays for the Oxygen sensor.

System operation shall be as follows. The DCC-MRI constantly monitors the target area air and indicates real time Oxygen levels on the display. Normal Oxygen levels in a room with good air exchange are approximately 20.8% to 21.0% volume. If the Oxygen level drops below 19.5%, Channel 1 LED will turn amber, the buzzer will sound and relay 1 will be de-energized. The buzzer can be silenced by pressing the "Silence" push-button. Once the Oxygen level stabilizes, the DCC-MRI returns to normal operation. The Oxygen sensor life span is approximately three years. If the Oxygen level drops dramatically low, and the system goes into full alarm and will not recover or reset, the Oxygen sensor may have expired.

Regular maintenance should be conducted at a frequency of twice per year. If the inlet tube becomes blocked and/or the filter becomes dirty, the display will show Flow Alarm, Channel 2 LED will turn red, the buzzer will sound and the pump will shut off. Remove the blockage or replace the dirty filter and press the "Silence" push-button to stop the buzzer, restart the pump and clear the latching.

Contractor shall provide all wiring, conduit and hose required for a successful installation. System should be on-site tested after installation and warm up. A service report should be generated for reference.



شرکت آلپرداز ممیت

تهران - خیابان آزادی - بین خیابان شادمهر و
بزرگراه یادگار امام - شماره ۴۱۷ - واحد ۵

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TECHNICAL SPECIFICATIONS CONT

GAS TYPE

Electrochemical	Oxygen (O ₂)
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MECHANICAL

Enclosure	Water / dust tight corrosion resistant polyester reinforced fiberglass
Weight	7.5 lb (3.4 kg)
Size	8.8" x 10.5" x 6.3" (223 mm x 267 mm x 159 mm)
Tubing (not supplied)	1/4" OD Factory tested distance: 50 ft (15.24 m)

USER INTERFACE

Display	2x16 character LCD digital display with LED Panel indicating "CH1" state, "CH2" state, and "FAULT"
"SILENCE" Push Button	Temporarily clears buzzer and latched relays

INPUT / OUTPUT

Relays	One SPDT dry contact relay, rated 5 amps @ 240 VAC
Audible Alarm	Loud, side mounted buzzer, rated 90 dB @ 30 cm
Flow	Normal operation 1.0 LPM Flow alarm at 0.5 LPM

ELECTRICAL

Power Requirement	24 VAC nominal, 10 W, Class 2
Current Draw	400 mA RMS @ 24 VAC
Wiring	24 VAC two-conductor shielded
Fuses	Automatic resetting thermal

ENVIRONMENTAL (sensor dependant)

Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Humidity	15 - 90% RH non-condensing

CERTIFICATION

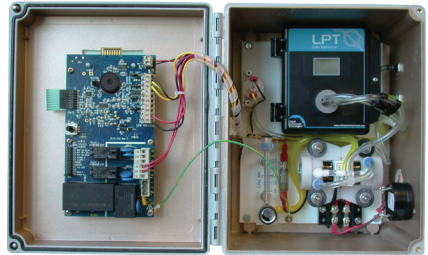
Pending CSA, UL, CE, FCC

PRODUCT CODES

DCC-MRI	Oxygen (O ₂) sensor (0 - 25% volume)
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ACCESSORIES

CET-715A-SDP	Sample Draw Pump Calibration Kit for 17, 34, 58, 74, 103 L cylinders, 1.0 LPM demand flow regulator & adapter to fit 17 L cylinder
SCS-8000-SPG	Metal protective guard, large, 16 gauge, galvanized metal guards for controllers



The picture above shows the inside of the DCC-MRI.