



**ISO 9001: 2000**  
Certified

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# Detcon Model IR-640

## Carbon Dioxide Sensor

Non-dispersive Infrared Optical

(order by part number 966-404520-Range)

## Specifications

### Sensor Type

Non-dispersive Infrared Optical (NDIR)

### Measurement Range

0 - 0.3%/0 - 1%/0 - 3%/0 - 5% by volume

### Accuracy/Repeatability

±5% full scale

### Response/Clearing Time

T50 <15 seconds

T90 <40 seconds

### Zero Drift

<0.05% per year

### Operating Temperature Range

-40°F to +167°F; -40°C to +75°C

### Operating Humidity Range

0-99% RH non-condensing

### Outputs

Linear 4-20 mA DC

RS-485 Modbus™

3 Relays (alarm 1, alarm 2, & fault)

Contacts rated 5 amps

### Input Voltage

22.5-28 VDC

### Power Consumption

<3 watts @ 24 VDC

### Electrical Classification

Explosion proof

Class I, Division 1, Groups B, C, D

### Safety Approvals

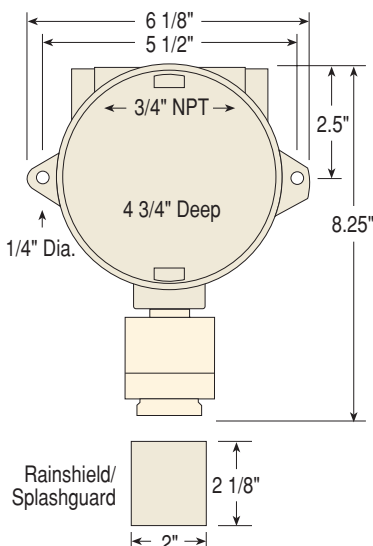
CSA/NRTL (US OSHA Certified)

### Sensor Life/Warranty

Sensor: 5 year warranty pro-rated

Transmitter: 2 year warranty

## Dimensions



## MicroSafe™ Intelligent Sensor

“RS-485 Addressable”

## Description

Detcon Model IR-640 sensors are non-intrusive “Smart” sensors designed to detect and monitor Carbon Dioxide. Available ranges of detection are 0-0.3%, 0-1%, 0-3%, and 0-5% by volume.

The sensor assembly consists of a miniature infrared optical sensor in a stainless steel housing, a plug-in control transmitter circuit, a base connector board and an explosion proof enclosure.



## Features

- ☞ CSA-NRTL Approved: Class I, Division 1, Groups B, C, & D
- ☞ Compatible with PLCs, SCADA, DCS, or a variety of host controllers via 4-20 mA, and/or RS-485, and/or alarm relays
- ☞ Sensor status and parameters accessible via RS-485 (Modbus™)
- ☞ Menu programmable relays standard (two alarms plus fault)
- ☞ Simple menu driven calibration - takes less than 3 minutes
- ☞ Backlit LCD and LED indicators for FAULT and CAL status
- ☞ Unique miniature field-replaceable optical sensor
- ☞ Plug-in field-replaceable transmitter
- ☞ Low power consumption
- ☞ 5-year expected sensor life

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