



# Detcon Model IR-700-CO2

**ISO 9001**  
Certified

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## 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-RTU
- Input Voltage**  
11.5-28 VDC
- Power Consumption**  
<2 1/2 watts @ 24 VDC
- Electrical Classification**  
Explosion proof  
Class I, Division 1, Groups B, C, D (NRTL)  
Class I, Zone 1, Group IIC (ATEX)
- Safety Approvals (Pending)**  
CSA/NRTL (US OSHA Certified); ATEX
- Sensor Life/Warranty**  
Sensor - 5 Year Pro-rated; Transmitter 2 Years
- Dimensions**  
7" High x 2 1/8" Diameter

## Carbon Dioxide Sensor

Non-dispersive Infrared Optical  
(order by part number 967-405520-003)

## Description

Detcon Model IR-700-CO2 Carbon Dioxide 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 an electropolished 316SS housing, an epoxy-encapsulated Intelligent Transmitter Module, and sensor splashguard. Operator interface is via a small handheld magnet. One of the main features is the embedded intuitive software that guides the user through routine calibration and configuration menus using a built-in LED alpha/numeric display.



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**Features** (Designed to IEC 61511 and 61508 Functional Safety Standards as a SIL2 Stand-alone Component)

## Environmentally Bulletproof

- ▶ Electropolished 316SS Construction
- ▶ 100% Epoxy Encapsulated Circuitry
- ▶ Bullet-Proof I/O Protection (Over-voltage, Miswiring, EMI/RFI Immunity)
- ▶ Water-Proof, Corrosion-Proof, Vibration-Proof

## Modular and Serviceable

- ▶ Modular Design
- ▶ Plug and Play Components
- ▶ Limited Spare Parts (Universal Design Concept)
- ▶ Quick Thread Release (For Sensor Replacement)
- ▶ Integral Calibration Port

## Failsafe User-Friendly Interface

- ▶ LED Display (With Antiglare Cover)
- ▶ Full Text Display Method
- ▶ Non-intrusive Interface
- ▶ Auto Zero/Auto Span
- ▶ Pre-emptive Fault Diagnostics  
(Input Voltage Range, Operating Temperature Range, Detector Signal Amplitude, Output Signal Loop Integrity)

▶ Scrolling Full Message/Text Display

