Description
Detcon Model CX-IR gas detection sensors are easily and economically deployable in both permanent and temporary installations. These low power sensor assemblies utilize infrared technology for combustible hydrocarbons. Model CX-IR sensors are equipped with standard analog 4-20mA, and Modbus™ RTU RS-485 outputs and can be used with Detcon’s SmartWireless® Site Sentinel CX/CXT Controllers as well as other Detcon control systems. Relay and battery options available.

Model DM-IR Series sensors feature non-intrusive operator interface and comprehensive fault diagnostics. The sensor is packaged in an electro-polished 316 stainless steel housing fitted with a ¾ inch NPT thread. The plug-in, field replaceable sensor cell features large surface area gold-plated pins that reduce the effects of corrosion in harsh industrial environments. Signal conditioning electronics are completely encapsulated in the sensor housing adding a high level of durability. This innovative design virtually eliminates sensor failure due to water ingress, corrosion, vibration, and transient spikes. The packaging is XP-intrinsically safe.

A primary feature of the Model CX-IR is embedded intuitive software that simplifies operator interface by guiding the user through routine calibration, configuration, and fault diagnostic functions using a built-in alpha/numeric display. Each sensor is shipped with a splash guard with integral calibration port. Detcon’s IR combustible hydrocarbon sensors have a long shelf life and are supported by an industry-leading warranty.

Features
- Low Power Infrared Gas Detection Sensors
- Built-in Display
- Class I, Div. 1, Groups B, C, & D
- Non-intrusive Magnetic Interface
- Built-in Diagnostics
- Fully Encapsulated Electronics
- Electropolished 316SS Construction
- Quick Thread Release (for sensor replacement)
- Relays optional
- Battery power options

Applications
- Oil and Gas Drilling Rigs
- Work-over and pulling units
- Oil and Gas Production
- Turn-a-rounds in Refining and Petrochemical Plants
- One year run time on a single battery charge

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Model Series CX-IR Infrared LEL Gas Detection Sensor Assemblies

System Specifications

Sensor Type
Continuous diffusion/adsorption
Non-dispersive Infrared Optical (NDIR) - Combustible Gas
Sub-miniature plug-in field replaceable

Sensor Life
3 years typical

Measurement Range
0-100% LEL (lower explosive limit)

Accuracy/Repeatability
±3% 0-50% LEL; ±5% 51-100% LEL

Response Time
T50 < 10 seconds, T90 < 30 seconds

Outputs
Linear 4-20 mA DC
RS-485 Modbus™
3 Relays - alarm 1, 2, fault, contacts 5 amp (optional)

Electrical Specifications

Power Input
9-30 VDC
Internal “D” Size Disposable Battery Pack (optional)
Lithium Ion Rechargeable Battery Pack (optional)

Power Consumption
100mW (Typical); 660mW (Max)

RFI/EMI Protection
Complies with EN61362

Analog Output
Linear 4-20mA DC (750 ohms max loop load @ 24VDC)
0mA All Fault Diagnostics
4-20mA 0-100% full-scale
22mA Over-range condition

Serial RS-485 Output
RS-485 Modbus™ RTU

Baud Rate
9600 BPS (9600,N,8,1 Half Duplex)

Status Indicators
4-digit LED display with gas concentration & fault

Faults Monitored
Missing Sensor, Zero, Calibration

Cable Requirements
Power/Analog
3-wire shielded cable
Maximum distance is 13,300 feet with 14 AWG
Serial Output (optional)
2-wire twisted-pair shielded cable specifically for use with RS-485 installations
Maximum distance is 4,000 feet to last sensor

I/O Protection
Over-voltage, Miswiring, EMI/RFI Immunity

Mechanical Specifications

Dimensions
With Stainless Steel Mini J-Box
10.0"H x 3.62"W x 4.3"D; 254mmH x 92mmW x 109mmD
10.0"H x 5.5"W x 4.3"D; 254mmH x 140mmW x 109mmD (with XP Power Switch)
12.2"H; 310mmH (with splashguard)

Weight
5.2 lbs/2.36 kg

Specifications subject to change without notice

Order Guide

Part Number Description
96C-IR0402-100 Model CX-IR, 0-100 % LEL Combustible in Stainless Steel Mini Junction Box

Environmental Specifications

Operating Temperature Range
-40°F to +167°F; -40°C to +75°C

Storage Temperature Range
-40°F to +167°F; -40°C to +75°C

Operating Humidity Range
0-100% RH non-condensing