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
System Specifications

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

Sensor Life
- 5 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 Classification
- Explosion proof
  - Class I, Division 1, Groups C, D (Tamb = -40°C to +60°C)
  - Class I, Zone 1, Group IIB
  - Ex d ib IIB T4 Gb (Tamb = -40°C to +60°C)

Ingress Protection
- NEMA 4X

Safety Approvals
- cCSAus: Performance to ISA 12.13.01-2000 and CSA 22.2 #152
- ATEX
- CE Marking

Warranty
- Plug-in detector - 2 years
- Transmitter - 2 Years

Mechanical Specifications

Dimensions
- With Stainless Steel Mini J-Box
  - 10"H x 3.62"W x 4.3"D; 254mmH x 92mmW x 109mmD
  - 10"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

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

Accessory Options
- Tripod for Mounting (specify pole mount and/or leg mount brackets)
- Mini Tripod for Mounting (specify pole mount and/or leg mount brackets)

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

Order Guide

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

Specifications subject to change without notice