CXT Wireless

Infrared LEL Gas Detection Sensor

Economical wireless gas detection

The CXT Wireless® gas detection sensors are easily and economically deployable in both permanent and temporary installations. This low power sensor assembly utilizes infrared technology for combustible hydrocarbons. All component parts are rated for Class I; Division 1, Groups C, D hazardous areas. This advanced field device consists of a Model CXT low power infrared gas detection sensor, and wireless transceiver packaged in a single enclosure. Power is provided by an internal battery pack with disposable "D" cell (3.6V) batteries capable of continuous operation for up to 9 months. An optional lithium ion rechargeable battery pack allows for five months of operation (not available with ATEX or IECEx approvals). Solar panels can provide charging of battery packs in safe areas.

Reliable wireless technology

The proprietary "self-healing mesh" technology operates at 2.4 GHZ and conforms to non licensed radio frequency appliance usage around the world. Wireless network integrity and security is accomplished using direct sequence spread spectrum DSSS programming topology. Wireless applications can be as simple as a single field device communicating with a host display or any number of field devices forming a network of subscribers. Each device in the network is assigned its unique device identification or a UID. Every device in the network can act as a router and repeater for all other devices in the network. This means that subscribers can "hop" through neighboring devices to communicate with each other thereby widening network access points. This unique and innovative technology is designed to create a robust network that automatically routes around congestion and line-of-sight obstacles while improving throughput as subscriber device density increases.

Features

- Self-healing mesh network topology
- Universally accepted 2.4 GHz non-licensed frequency
- Low power IR gas detection sensor with built-in transceivers
- Built-in display for gas sensor/field device HMI
- Disposable or rechargeable battery packs

Applications

- Oil and gas drilling rigs
- Work-over and pulling units
- Oil and gas production
- Turn-a-rounds in refining and petrochemical plants

Order guide

Part Number	Description
96C-IR0 _ 0 _ - 100	Model CXT-IR, 0-100 % LEL Combusitble

To complete the part number please select from the options below. XXX - XXX _ X _ - XXX _

Position"7" select SmartWireless Transceiver Option
2 - CXT-IR with 320 mesh transceiver

Position"9" Junction Box Selection & Power Selection
7 - Aluminum Enclosure with High Output Rechargeable Battery Pack
D - Aluminum Enclosure, internal Battery Pack with Disposable"D" Cells (3.6V)

Certification :
A - ATEX
C - CSA
H - IECEx
G - General purpose

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System specifications

Sensor Type
Continuous diffusion/absorption
Non-dispersive Infrared Optical (NDIR) - combustible gas
sub-miniature plug-in field replaceable

Sensor Life
5 years typical

Measurement Range
0-100% Lower Explosive Limit (LEL)

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

Response Time
T50 < 10 seconds, T90 < 30 seconds

Input/Output
2.4Ghz DSSS radio transmission

Safety Approvals
Explosion proof
cCSAus Class I, Division 1, Groups C, D (Tamb = -40º to + 60ºC)
Class I, Zone 1, Group IIB
ATEX* Ex db ib IIB T4 Gb (Tamb = -40ºC to + 60ºC)
CE marking*
IECEx* Ex db ib IIB T4 Gb (Tamb = -40ºC to + 60ºC)

* "D" cell disposable battery pack version only

Performance Approvals
cCSAus performance tested to ISA 12.13.01-2000 and CSA 22.2 #152

Ingress Protection
NEMA 4X

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

Mechanical specifications

Dimensions
With Aluminum J-Box (rechargeable battery pack version)
19"H x 5.8"W x 8.5"D; 482mmH x 147mmW x 216mmD
21.5"H; 546mmH (with splashguard)

Weight
5.2 lbs/2.36 kg (w/aluminum j-box)

Battery specifications

Battery Pack with Disposable "D" Cells (3.6V):
Max. 9 months sensor run time full function
(-55°C to +85°C; -67°F to +185°F discharge temperature).

Smart Lithium Ion Rechargeable Battery:
Max. 5 months sensor run time full function
(-20°C to +60°C; -4°F to +140°F discharge temperature;
-30°C intermittent).

Electrical specifications

Power Input
Internal battery pack with "D" size (3.6V) disposable batteries
Optional Lithium Ion Rechargeable Battery Pack (CSA version only)

Power Consumption
25mW (typical), 420mW (max)

RF
Outdoor RF Line of Sight (with standard antenna): 1.5 miles
Interface Data Rate: 9,600bps
Throughput Data Rate: 19,200bps
RF Data Rate: 250,000bps
Transceiver Sensitivity: -102dBm
Frequency: 2.40-2.48GHz
RF Channels: 16, each 5Mz wide
Output Power: 100mW (20.5dBm) EIRP
Spread Spectrum: DSSS (Direct Sequence Spread Spectrum)
Modulation: 0-QPSK
Supported Network Topologies: Mesh, Point-to-Point

Antenna
5db Flex Whip; Screw on Radome Whip Antenna Guard Included
I/O Protection
Over-voltage, Miswiring, EMI/RFI Immunity

Environmental specifications

Operating Temperature Range
-40°F to +140°F; -40°C to +60°C
Storage Temperature Range
-40°F to +140°F; -40°C to +60°C
Operating Humidity Range
0-100% RH non-condensing

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)
Solar charging panel for battery charging in safe area only.

Refer to the CXT-300/320 data sheet for CXT-300/320 transceiver specific specifications subject to change without notice

Teledyne Gas & Flame Detection quality assurance programmes demand the continuous assessment and improvement of all our products. Information in this leaflet could thus change without notification and does not constitute a product specification. For more information, please contact us or your company representative

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