



Site Sentinel

SmartWireless® Gas Detection Technology for Today's Industrial Environment



CXT Sensor Assemblies

Detcon's Model CXT is a compact, low powered, 2.4GHz wireless sensor that detects for dangerous and harmful combustible and toxic gases. This environmentally bulletproof gas detector has a built-in display and is powered by either rechargeable or disposable batteries.

CX Sensor Assemblies

The Model CX is a wired version of the Model CXT that can be used with Detcon's SmartWireless® Site Sentinel CX/CXT Controllers as well as other Detcon control systems. Standard outputs include 4-20 mA, and RS-485 Modbus.

Detectable Gases

Combustible Hydrocarbons

Acetylene C₂H₂

Ammonia NH₃

Arsine AsH₃

Bromine Br₂

Butadiene C₄H₆

Carbon Monoxide CO

Chlorine Cl₂

Chlorine Dioxide ClO₂

Diborane B₂H₆

Ethanol C₂H₅OH

Ethyl Mercaptans C₂H₅SH

Ethylene C₂H₄

Ethylene Oxide C₂H₄O

Fluorine F₂

Formaldehyde CH₂O

Germane GeH₄

Hydrazine N₂H₄

Hydrogen H₂

Hydrogen Bromide HBr

Hydrogen Chloride HCl

Hydrogen Cyanide HCN

Hydrogen Fluoride HF

Hydrogen Sulfide H₂S

Methanol CH₃OH

Methyl Mercaptan CH₃SH

Nitric Oxide NO

Nitrogen Dioxide NO₂

Oxygen Deficiency O₂

Ozone O₃

Phosphine PH₃

Silane SiH₄

Sulfur Dioxide SO₂

Description

Detcon's advanced SmartWireless® Site Sentinel is a lightweight, stand-alone transportable wireless gas detection system that can be fitted with either one, or a combination of electrochemical and infrared sensors to monitor toxic gases and/or combustible hydrocarbons in heavy industrial environments. Designed for reliability in rugged environments, each system includes a tripod, network HMI, gas detection sensor(s), and alarm warning devices. An optional Sentinel SiteWatch provides remote access to system data via Ethernet or cellular communication. Power to the sensor assembly is supplied by a rechargeable Smart Battery Pack, disposable batteries or directly from HMI. Flexible and expandable, a Site Sentinel network can include up to 32 devices and consist of any combination of wireless and/or wired sensors, one or more HMI panels and optional solar panels. Additional sensors and/or remote alarm stations on tripods can be added as needed to assure widespread alert to site personnel.



Network Operability

All CXT-Series gas detectors use an innovative “Self-Healing Mesh Network” topology. Standard network configuration is of the master/slave type. An optional and proprietary technology referred to as “Fault Tolerant Safety Network” is also available which guarantees that no single point of failure will interrupt communications between devices on the rest of the network, including loss of HMI.

Solar Power Options

Detcon SmartWireless® devices can use line or battery power. Battery power runtimes can be extended indefinitely by using one of several solar power options.

- ▷ 1.5 W and 3 W (Class I, Division 1)
- ▷ 5W, 10W, 20W, 30W, and 40W (Class I, Division 2)



HMI Panel

- ▷ Up to 32 Devices, Wired or Wireless
- ▷ NEMA4X Division 1 and Division 2 Packages Available
- ▷ Configurable up to eight zones
- ▷ Alarm & Fault Condition LEDs
- ▷ Display Indicates: Field Device Location, Alarm Status, Channel, Gas Reading, Battery Life & Link Signal Strength



Alarm Stations

Alarm relay options include adjustable set points and latching/non-latching relays. Alarm level 2 can be configured for acknowledge/silence via operator interface at the SmartWireless™ HMI display panel.

- ▷ Class I, Div1 & Class I, Div2 options
- ▷ Smart rechargeable battery packs
- ▷ Optional solar charging panel



Wired or Wireless Configuration Options

Detcon Site Sentinel allows for the extensive use of wireless as well as wired device configurations bringing unparalleled flexibility for quick set up and deployment.

- ▷ Wireless
- ▷ Wired 4-20 mA
- ▷ Wired RS-485 Modbus
- ▷ Line Power
- ▷ Battery Power
- ▷ Solar and Battery/Solar



SmartWireless® Network Configuration Tool

The Detcon SmartWireless® configuration tool is used to identify and establish network members and create specific field device functions for the fault tolerant safety network. The auto configuration feature provides field device search and find capability that simplifies network set up and commissioning.



- ▷ 10.1" Touch Panel LCD
- ▷ USB Wireless Interface

Battery Options

- ▷ Class I; Division 1; Groups C, D
- ▷ Plug-in High Energy L-ion Technology
- ▷ Smart Rechargeable Packs (Standard & High Capacity): safety battery with low voltage disconnect, internal safe charge control circuit, digital charge level output, temperature range safety circuit
- ▷ "C" Cell Pack: compact with easy replacement cells
- ▷ "D" Cell Pack: extended operating time, easy replacement cells

Smart Rechargeable and "D" Cell replaceable battery packs are interchangeable without any changes in electronics.



Sentinel SiteWatch Remote Monitor

Sentinel SiteWatch is an advanced networking device that provides remote access to any Detcon gas detection systems via Ethernet or cellular communication. The Sentinel SiteWatch Ethernet version provides an IP addressed webpage that can be accessed via any web browser and both the Ethernet and Cellular versions provide automated emails for all alarm and fault conditions instantaneously.



Specifications (Abbreviated - See Specific Product Data Sheets for Full Specifications)

CX & CXT Sensor Assemblies

Sensor Type

Electrochemical for Toxics and Oxygen
Non-dispersive Infrared Optical (NDIR) - Combustible Gas
Sub-miniature Plug-in Field Replaceable

Input/Output

2.4Ghz DSSS Radio Transmission (CXT)
4-20 mA and RS-485 Modbus (CX)

Power Input

Disposable Battery Pack - up to 90 days operation (CXT)
Rechargeable Smart Battery Pack - up to 180 days operation (CXT)
9-30 VDC (CX)

Electrical Classification (Designed to)

Class I; Division 1; Groups C, D (CXT)
Class I; Division 1; Groups B, C, D (CX)

HMI Panel

Capacity

Up to 32 Input Devices

Display

1 1/4" x 6" Backlit LCD

Electrical Classification (Designed to)

Class I; Division 1; Groups D, C
Class I; Division 2; Groups A, B, C, D
NEMA4 General Purpose

Power Input

External: 11.5-30 VDC
Internal: Rechargeable Smart Battery (up to 60 days operation)

Operating Temperature Range

-20°C to +70°C; -4°F to +158°F

Alarm Stations

Input Voltage

24VDC

Electrical Classifications Available

Class I; Div 1; Groups C, D
Class I; Div 2; Groups A, B, C, D

Sound Output

104dB @ 1m (1kHz) (Div2 Version)
110dB @ 1m (1kHz) (Div1 Version)

Tones

On-board choice of 15 tones (Div2 Version)
32 Selectable (Div1 Version)

Strobe Colors

Amber, Blue, Clear, Green, Red (Div2 Version)
Amber, Blue, Clear, Green, Opal, Red, Yellow (Div1 Version)

Network Configuration Tool

Display

10.1" Wide (LED Backlit, 1366x768) Dual Bonded

Processor/Cache

Intel Atom Z670 processor (1.5 Ghz)

Inputs

Touch (Capacitive Multi-Touch) and Pen (Active Stylus)

Input Voltage

100-240VAC~1.5A, 50-60Hz
Lithium-Ion Battery with 43Whr capacity (up to 8 hours)

Operating Temperature Range

41°F to +109°F, +5°C to +43°C

Battery Options

Rechargeable

Power Rating

13.2 AH

Watt-hour Rating

146 WH

Operating Temperature Range

-20°C to +60°C; -4°F to +140°F

"C" Cell Replaceable

Power Rating

8.5 AH

Watt-hour Rating

91 WH

Operating Temperature Range

-55°C to +85°C; -67°F to +185°F

High Capacity Rechargeable

Power Rating

17.4 AH @ 12VDC

Watt-hour Rating

193 WH

Operating Temperature Range

-20°C to +60°C; -4°F to +140°F

"D" Cell Replaceable

Power Rating

19 AH

Watt-hour Rating

342 WH

Operating Temperature Range

-55°C to +85°C; -67°F to +185°F

Solar Power Options

Electrical Classification

1.5 and 3 Watt - Class I; Div 1 Groups C, D
5, 10, 20 and 40 Watt - Class 1, Div2

Sentinel SiteWatch

Signal Input

RS-485

Signal Output

Ethernet; Cellular

Power Input

115-230 VAC

Electrical Classification

NEMA 4X corrosion resistant weatherproof