

SMARTWIRELESS™ TECHNOLOGY

CUT THE CORD ON WIRED INSTALLATION COSTS

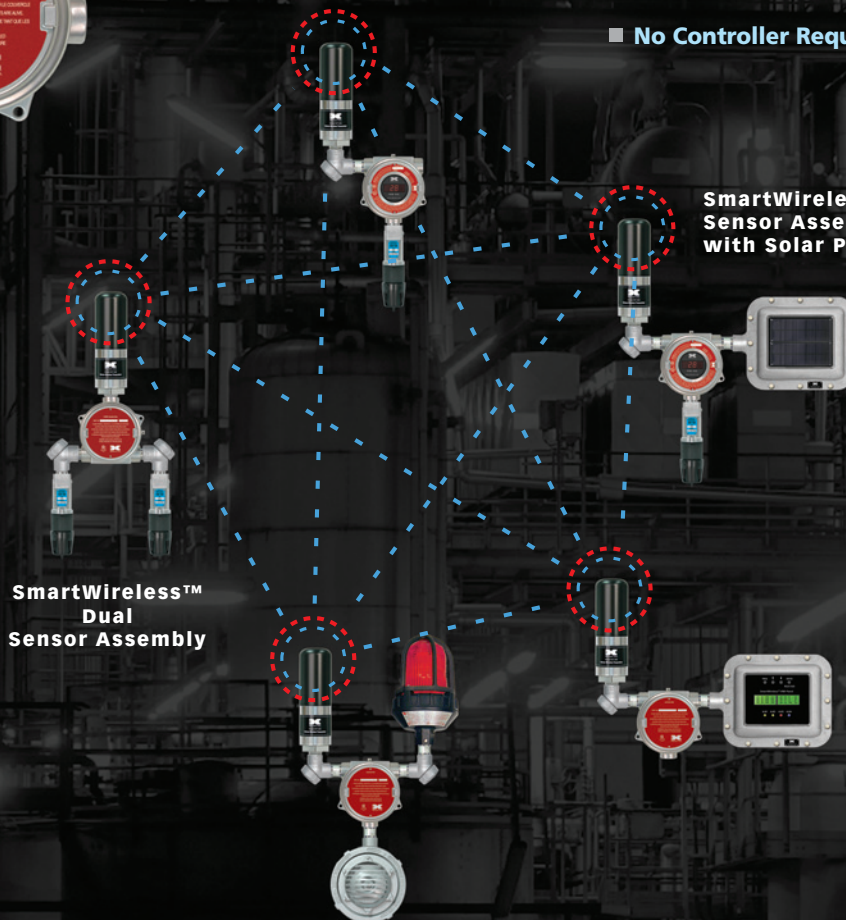
Direct sequence spread spectrum wireless mesh technology
Automatically routes around congestion and line-of-site obstacles

Model RXT-300 Wireless Transceiver
Rechargeable Smart Battery Packs
Low Power Gas Detection Sensors
Solar Charging Options

- Universally Acceptable Frequency 2.4 GHz
- Low Power Requirement
- 3 Mile Line-of-Sight Range
- Robust Mesh Network Topology
- Network Capacity up to 32 Devices
- Flexible I/O Options
- Distributed Alarm Processing
- No Controller Required



SmartWireless™
Sensor Assembly



SmartWireless™
Sensor Assembly
with Solar Panel

SmartWireless™
Dual
Sensor Assembly

SmartWireless™
HMI Panel

SmartWireless™
Alarm Station

Wireless Applications

Distributed Power

CordlessWireless™

Rechargeable replaceable batteries

Solar/Battery Power



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MODEL RXT-300

SMARTWIRELESS™ TRANSCEIVER



DESCRIPTION

Detcon Model Series RXT-300 SmartWireless™ transceivers are ideal for use in transmitting signal data in a wide range of industrial detection and alarm system applications. Signal data can be analog 4-20 mA DC or serial MODBUS. The transceivers operate at 2.4 GHz and conform to non-licensed radio frequency appliance usage around the world. Wireless network integrity and security is accomplished using direct sequence spread spectrum wireless mesh technology. Wireless applications can be as simple as a single field device communicating with a host controller or any number of field devices forming a network of subscribers. Each device in the network is assigned a Network ID. Unlike conventional mesh networks, processing power is shared among all devices thus eliminating single device control dependence. Every device in the network is capable of functioning 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.

- ▷ Universally Acceptable Frequency 2.4 GHz
- ▷ Network Wide Control Processing Capability
- ▷ Low Power Requirement
- ▷ 3 Mile Line-of-Sight Range
- ▷ Robust Mesh Network Topology
- ▷ Network Capacity up to 32 Devices
- ▷ Flexible I/O Options

SMARTWIRELESS™

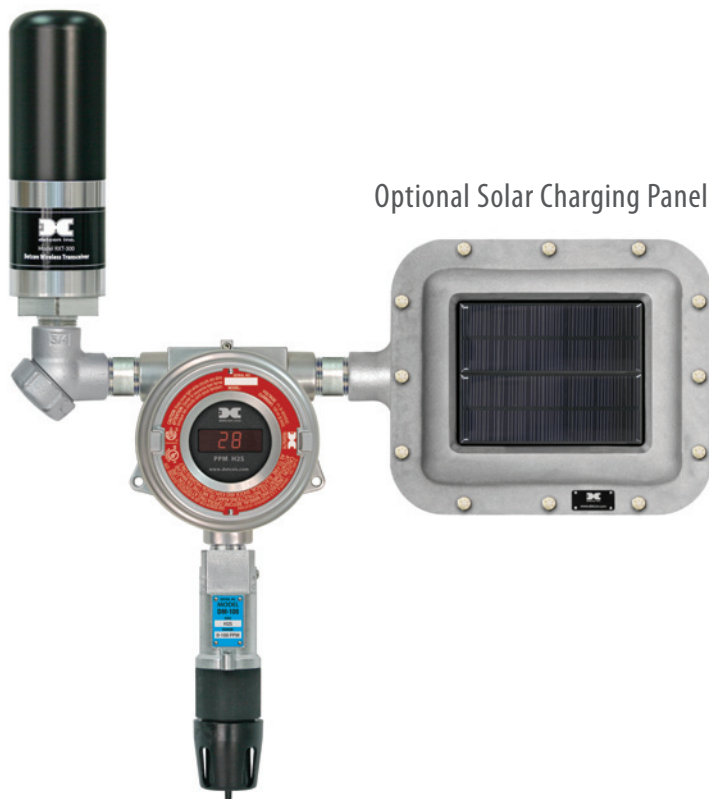
GAS DETECTION SENSOR ASSEMBLY

DESCRIPTION

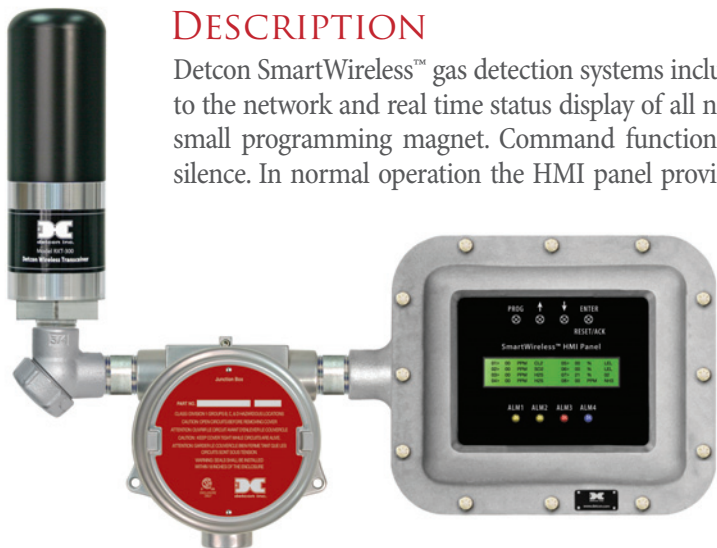
Detcon SmartWireless™ gas detection sensors are low power devices covering 4 technologies and a wide range of industrial applications; electrochemical for a long list of toxic gases, solid state MOS for H₂S, catalytic beads for combustible gas and infrared for combustible hydrocarbons. All component parts are rated for Class 1; Division 1, Group C, D hazardous areas. These advanced field devices consist of a Detcon Model Series 100 low power gas detection sensor, a Detcon smart rechargeable battery pack, a Detcon Model RXT-300 SmartWireless™ transceiver and an optional solar charging circuit.

FEATURES

- ▷ Detcon Model RXT-300 self healing mesh network topology
- ▷ Universally accepted 2.4 GHz non-licensed frequency
- ▷ Detcon Model 100 low power gas detection sensors
- ▷ Loop powered display for gas sensor/field device HMI
- ▷ Smart rechargeable battery packs with integral safety circuitry
- ▷ Built-in charge gauge and low voltage cutoff



SMARTWIRELESS™ HMI PANEL



DESCRIPTION

Detcon SmartWireless™ gas detection systems include 16 or 32 channel HMI modules that provide operator interface to the network and real time status display of all network devices. Operator interface is through the HMI panel via a small programming magnet. Command functions include alarm reset, alarm acknowledge, alarm test and radio silence. In normal operation the HMI panel provides real time display of gas concentrations or the status of other field devices; Smart Battery charge levels, network RF signal quality and any number of fault diagnostic conditions effecting either an individual field device or the network in general. These fault conditions are displayed on the HMI screen. Another useful feature is field device tags.

The wireless HMI panel is available in two packages; one rated for Class 1; Division 1, Group C, D hazardous areas and the other rated for Class 1, Division 2; Group A, B, C, D areas. Operator interface is non-intrusive via magnetic contact switches located behind the glass lens cover. This advanced design takes advantage of a low power LCD with back light and ultra low power components that extend operating time for 2-3 months before recharge is required. Like all other Detcon SmartWireless™ system components, power is provided by Detcon's Smart Battery Pack. An optional solar charging panel can be used to extend operating time for virtually any application.

- ▷ 16 and 32 channel capacity panels
- ▷ Real time 4 line 40 character LCD
- ▷ Field device status and location tag
- ▷ Alarm condition LEDs
- ▷ Non-intrusive operator interface

SMARTWIRELESS™

AUDIO VISUAL ALARM STATION

DESCRIPTION

Detcon SmartWireless™ gas detection systems feature a battery powered audio visual alarm station designed as a wireless cordless system component. Alarm level 1 is used to turn on an alarm strobe and alarm level 2 is used to turn on an audible warning device. 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. Power is provided by a Detcon designed smart battery pack eliminating the requirement for power or signal cables. The battery pack continuously reports its charge level and estimated operating time before recharge or replacement is required. The standard battery packs are capable of delivering enough energy for 4-6 hours of continuous operation in a full alarm condition. An optional solar charging panel can be used to extend operating time and maintain full battery charge levels for virtually any application. Detcon SmartWireless™ alarm stations are available in two packages; one rated for general purpose non-hazardous areas and the other rated for Class 1, Division 2; Group A, B, C, D hazardous areas.

FEATURES

- ▷ 4-6 hours continuous operation in full alarm
- ▷ Smart rechargeable battery packs with integral safety circuitry
- ▷ Optional solar charging panel



MODEL SERIES SPS-00W-XX

SOLAR POWER SUPPLIES



DESCRIPTION

Detcon Model Series SPS are self contained, pre-assembled 12 VDC solar power supplies designed specifically for heavy industrial applications. Each system consists of a rechargeable battery, solar energy panel and a battery controller-charge circuit designed to supply continuous DC power sufficient enough to operate a wide range of industrial automation products. Gas detection sensors, process measurement devices, remote data acquisition systems and audio visual alarm stations are just a few examples. These pre-assembled solar power supplies (SPS) are available in 4 different power levels with one rated for use in Division 1 electrically classified areas, one for Division 2 locations and 2 for general purpose non-hazardous locations.

- ▷ Model SPS-01W-DV1 - lithium ion, 10AH, 1.5 Watts
- ▷ Model SPS-10W-GP - lead acid, 18AH, 10 Watts
- ▷ Model SPS-20W-GP - lead acid, 18AH, 20 Watts
- ▷ Model SPS-40W-DV2 - lead acid, 36AH, 40 Watts



SMART BATTERY PACKS FOR WIRELESS APPLICATIONS

DESCRIPTION

High energy “smart” battery packs are a necessary component in the application of any SmartWireless™ detection system. Detcon’s Smart Battery packs consist of rechargeable lithium ion batteries packaged as a plug-in module. The module is equipped with integrated safety electronics that include fuel gauge, voltage, current, and temperature monitoring circuits. The safety circuitry continuously monitors the battery module’s condition and reports critical status information to a serial port in the Detcon Model RXT-300 wireless transceiver. Detcon’s Smart Battery modules are housed and secured inside a Division 1 enclosure using a mechanical guide and large surface area gold plated mating connectors. Detcon’s battery modules are capable of providing power to a wide range of toxic and combustible gas detection sensors as well as other process measurement devices. Operating periods before recharge vary based on the power requirements of each gas sensor and/or field device. Low power electrochemical toxic sensors can be expected to operate for periods as long as 2-3 months while higher powered combustible gas sensors will operate for 3-4 weeks. Detcon Smart Battery packs are generally suitable for any field device that is rated equal to or less than 1 watt of power. An optional solar charging panel is available in Class 1, Division 1; and Class 1, Division 2 packages. Solar charging panels can be stacked and sized to meet the requirements of continuous operation in virtually any location with sufficient daily average sunlight.



FEATURES

- ▷ High energy lithium ion battery technology
- ▷ Built-in gauge with digital output indicating charge level
- ▷ Low voltage disconnect
- ▷ Optional Loop Powered display for gas sensor/field device HMI