



# Model RXT-320

## SmartWireless® Transceiver

GAS DETECTION SENSORS ■ INTEGRATED CONTROL SYSTEMS ■ SMARTWIRELESS® ■ PIPELINE ANALYZERS ■ ALARMS

## Description

Detcon Model Series RXT-320 SmartWireless® transceivers are ideal for transmitting signal data in a wide range of industrial detection and alarm system applications. The transceiver operates at a universally accepted frequency of 2.4 GHz and is able to transmit signal data from 4-20 mA DC or serial MODBUS inputs. Wireless installations eliminate the cost of point-to-point wiring and can be as simple as a single field device communicating with a controller, or as complex as 32 field device nodes forming a seamless network with a controller, remote display, and audio/visual alarm stations.

Wireless network integrity, security, and reliability are accomplished using direct sequence spread spectrum wireless mesh technology. 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, thus widening network access points. This innovative technology creates a robust network that automatically routes around congestion and RF line-of-sight obstacles. Throughput improves as device density increases.



## Features

- ▶ Universally Acceptable Frequency 2.4 GHz
- ▶ Low Power Requirement
- ▶ 1 Mile Line-of-Sight Range
- ▶ Robust Mesh Network Topology
- ▶ Network Capacity up to 32 Devices
- ▶ Flexible I/O options

## Applications

- ▶ Oil and Gas Drilling Rigs
- ▶ Oil and Gas Production Sites
- ▶ Wastewater Treatment Plants
- ▶ Food and Beverage Processing
- ▶ Pulp and Paper Mills
- ▶ Refining and Petrochemical

## System Specifications

### Input/Output

Two Analog 4-20mA  
RS-485 Modbus™ RTU (9600bps)

### Outputs

Four Open Collector Outputs

### Electrical Classification

Class I; Division 1; Groups D, C

### Safety Approvals

cETLus Class I, Division 1, Groups C, D  
ATEX II 2 G Ex d [ib] ib IIB T6 + H2 T4 (pending)  
CE Marking (pending)

### Warranty

One Year

## Environmental Specifications

### Operating Temperature Range

-40°C to +85°C; -40°F to +185°F

## Mechanical Specifications

### Dimensions

8.4"H x 2.4"Dia.; 213mmH x 61mm Dia. (transceiver only)  
15.7"H x 10"W x 4.3"D; 399mmH x 254mmW x 109mmD (with J-Box)  
15.7"H x 10"W x 8"D; 399mmH x 254mmW x 203mmD (with J-Box & battery)

### Weight

2 lbs/0.90 kilograms (transceiver only)  
8 lbs/3.62 kilograms (with aluminum J-box)  
11 lbs/4.98 kilograms (with SS J-box)  
10 lbs/4.53 kilograms (with aluminum J-box & battery)  
13 lbs/5.89 kilograms (with SS J-box & battery)

## Accessories

Solar Charging Panel

## Order Guide

| Part Number    | Description   |
|----------------|---|
| 976-000320-000 | Model RXT-320 Wireless Transceiver  |
| 976-000321-000 | Model RXT-320 w/Aluminum J-Box & Terminal Board                           |
| 976-000322-000 | Model RXT-320 w/Stainless Steel J-Box & Terminal Board                    |
| 976-000327-000 | Model RXT-320 w/Extended lid aluminum junction box and smart battery pack |
| 976-0003FF-000 | SmartWireless® Network Configuration Tool                                 |

## Electrical Specifications

### Power Input

7-30 VDC

### Power Consumption

Base RXT-320 unit: <500mW, 20 mA max at 24VDC  
Total Power is dependent on com update rate between RXT transceivers

### Baud Rate

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

### Performance

Transmit Power Output: 18dBm

### Range Limits

Indoor/ No Line of Sight: 1,000ft  
Outdoor RF Line of Sight (with standard antenna): 1 Mile  
Interface Data Rate: 9,600bps  
Throughput Data Rate: 19,200bps  
RF Data Rate: 250,000bps  
Transceiver Sensitivity: -102dBm

### Networking and Security

Frequency: 2.4GHz ISM  
Spread Spectrum: DSSS (Direct Sequence Spread Spectrum)  
Modulation: 0-QPSK  
Supported Network Topologies: Mesh, Point-to-Point  
Channel Capacity: 32  
Encryption: AES-128 Available

### Antenna

Connector: Internal F-Type Antenna  
Impedance: N/A

### I/O Protection

Over-voltage, Miswiring, EMI/RFI Immunity

Specifications subject to change without notice

Houston ■ Odessa ■ Shanghai ■ Dammam ■ Del Carmen ■ Europe



Tel: 713-559-9200  
Toll Free: 888-367-4286  
Fax: 281-292-2860  
Email: sales@detcon.com  
Web: www.detcon.com

an company