



SmartWireless® MCX-32 Alarm & Control System

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

Description

Detcon's **SmartWireless® MCX-32** is a flexible and expandable multi-channel control system compatible with a wide range of wired and wireless gas detectors, transceivers, alarms, and other field devices. The advanced control system can include up to 64 channels of any combination of wired and/or wireless field devices.

Real time status of each active field device is displayed on a large backlit LCD Touch Screen that also serves as a user interface. Command functions can also be displayed on the touch screen and include alarm reset, alarm acknowledge, alarm test, and radio silence. During normal operation the screen shows real time gas concentrations or the status of field devices to include battery charge level, network RF signal quality, and any number of fault conditions affecting either an individual device or the entire network. Display formats include field device function, tag name, current reading, and alarm status. Each input can be configured for up to 3 alarm levels with a fourth-alarm output dedicated to fault diagnostics of field devices and internal operating systems. Each system application can include either a common or a limited number of discrete alarm relays.

Among the SmartWireless MCX-32's specialized features is "auto-configuration" of addressable devices that are located in a device library within the unit. This provides a unique combination of "auto configuration" simplicity and ease, with customizable expansion capabilities. The control system is also fitted with a 10/100 BaseT Ethernet Port, allowing users to safely monitor a network remotely with the convenience of a desktop PC, or handheld device with internet connection. An addressable RS-485 Modbus RTU slave port is available for communication with higher level automation and control systems such as PLC's, PC's and Distributed Control Systems. The SmartWireless MCX-32 offers standard datalogging of alarms, calibrations, comm errors and faults, as well as 15-minute peak and average readings for each channel using Type I or Type II compact flash cards.

Wired devices with either a 4-20mA DC or serial RS-485 output can be interfaced with the control system individually or by using Detcon's stackable din-rail mounted I/O modules. Detcon I/O modules include a 4-channel 4-20mA input module (DA-4), a 4-alarm relay output module (RL-4), a 4-channel 4-20mA output module (AO-4), and a 4-relay contact input module (DI-4). The I/O modules may be mounted within the main system enclosure or in separate enclosures suitable for the area classification where installation will occur. All I/O modules are individually addressable and operate on 11.5-30VDC.

The SmartWireless MCX-32 is available in either fiberglass or stainless steel NEMA 4X enclosures and can be powered by 110-230 VAC or 24 VDC. The control system is intended for installation inside buildings or under cover avoiding direct sunlight.

Additional ordering options include audio alarm, visual alarm, external alarm port, alarm reset switch, 10-meter separation antenna, and battery backup.



Features

- ▶ Compatible with Model RXT-320 Transceivers
- ▶ 64 channel capacity
- ▶ Large LCD with touch-screen user interface
- ▶ Wireless, analog, or Modbus input capability
- ▶ Comprehensive integral data logging
- ▶ Non-intrusive operator interface

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

2.4Ghz DSSS Radio Transmission
 Wired device inputs: 4-20mA (using DA-4 Modules)
 RS-485 Modbus™ RTU
 Contact closure (using RL-4 Modules)

Capacity

Up to 64 Input Devices

Display

5.8" Monochrome Backlit LCD (sunlight readable)
 Resistive analog touch-screen
 Brightness 165 cd/m2
 Backlight MTBF: 20,000 hour typ.

Warranty

One Year

Environmental Specifications

Operating Temperature Range

0°C to +50°C; 32°F to +122°F

Storage Temperature Range

-20°C to +70°C; -4°F to +158°F

Optional Visual Alarm

Light Output

1.75 Joules per flash

Lamp Type

Xenon strobe lamp

Flash Rate

60 to 80 flashes per minute

Optional Audio Alarm

Mode of Operation

Continuous Tone

Frequency

2900 Hz ± 500 Hz

Loudness

80 - 90 dB(A) min. @ 2 FT @ 6 - 28 Vdc

Order Guide

Part Number

954-MCX____-____-0

Description

SmartWireless MCX-32 control system in NEMA 4X enclosure 110/220VAC, 24VDC power supply.

To complete the part number please select from the options below. 9 5 4 - M C X _____ - _____ - 0

Position "7" Alarm Options

- 0 - None
- 1 - Audible Only A - Red Strobe & Audible
- 2 - Red Strobe C - Amber Strobe & Audible
- 4 - Amber Strobe D - Green Strobe & Audible
- 5 - Green Strobe E - Blue Strobe & Audible
- 6 - Blue Strobe F - Purple Strobe & Audible
- 7 - Purple Strobe G - Clear Strobe & Audible
- 9 - Clear Strobe

Enclosure Option

- 0 - NEMA 4 Fiberglass
- 2 - NEMA 4, 4X Stainless Steel

Position 10-13 I/O Modules

- Number of DI-4 modules installed
- Number of DA-4 modules installed
- Number of AO-4 modules installed
- Number of RL-4 modules installed



Position "15" Antenna Separation Option

- 0 - none
- 1 - 7db 10 Meter Separation Antenna

Position "13" Wireless Transceiver Option

Contact factory to complete part number

Mechanical Specifications

Dimensions

SmartWireless MCX-32-N4X, 16"W x 27.9"H x 9.5"D
 SmartWireless MCX-32-SS, 14"W x 26"H x 8.2"D

Electrical Specifications

Power Input

110-230 VAC: 24VDC nominal (20 - 28VDC)
 Optional battery backup

Power Consumption

Base MCX-32 Controller: 14 Watts @ 24 VDC
 Total power dependent on:
 Number of I/O Modules
 Number of Gas Sensors not to exceed 80 watts

Electrical Classification

Model SmartWireless MCX-32-N4X, NEMA 4X
 Model SmartWireless MCX-32-SS, NEMA 4X

Performance

Transmit Power Output: 18dBm

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
 Optional 7db omnidirectional 10 meter separation antenna

I/O Protection

Over-voltage, Miswiring, EMI/RFI Immunity

Specifications subject to change without notice



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