



## 3M™ Detcon™ SmartWireless MCX-32

### Alarm & Control System

#### 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.

#### 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

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.



# 3M™ Detcon™ SmartWireless MCX-32

## Alarm & Control System

### Systems 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

### 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

### 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

### Electronical 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

### 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

Specifications subject to change without notice

### Order Guide

Part Number	Description
954-MCX____-__0_	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
- 2 - Red Strobe
- 4 - Amber Strobe
- 5 - Green Strobe
- 6 - Blue Strobe
- 7 - Purple Strobe
- 9 - Clear Strobe

- A - Red Strobe & Audible
- C - Amber Strobe & Audible
- D - Green Strobe & Audible
- E - Blue Strobe & Audible
- F - Purple Strobe & Audible
- G - Clear Strobe & Audible

#### 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



© 3M 2018. All rights reserved.  
gasdetection.3m.com. GF-00037B

#### Americas Texas (USA)

4055 Technology Forest  
Blvd. The Woodlands,  
TX 77381  
Tel.: +1-713-559-9200  
Fax: +1-713-893-6729

#### EMEA

ZI Est, Rue Orfila,  
CS 20417  
62027 ARRAS CEDEX, France  
Tel.: +33-3-21-60-80-80  
Fax: +33-3-21-60-80-00

#### Asia Pacific

290 Guiqiao Road  
Pudong, Shanghai 201206  
People's Republic of China  
Tel.: +86-21-3127-6373  
Fax: +86-21-3127-6365