

# FCS System Controller – 32 Channels



The FCS-32 is a sophisticated, high performance system controller that offers up to 32 gas channel configurations for monitoring toxic, combustible or refrigerant gases with versatile control functionality for non-hazardous, non-explosion rated, commercial and light industrial applications. The FCS-32 is designed to accept inputs from digital and/or analog transmitters and/or Peripheral Devices (in various combinations), using Modbus® RTU RS-485 or 4-20 mA analog input.

The FCS-32 is available in two models: FCS-32-M with Modbus® RTU RS-485 output or the FCS-32-B with BACnet® MS/TP RS-485 output for communicating with a Building Automation System (BAS).

Standard features include, 4 internal SPDT dry contact relays, 2 dedicated horn/strobe drives, a full colour LCD resistive touch screen with an LED panel indicating channel alarm status, relay status and fault conditions, an extensive menu system with password protection, enhanced logic control, priorities / zoning capabilities, a USB port for firmware upgrades, data logging and a door-mounted audible alarm.

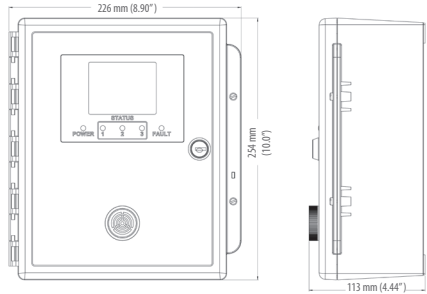
Optional value added features include, analog inputs and/or analog outputs, a top mounted strobe, a locking door, manual shut off switch, and a water tight audible alarm.

The FCS-32 can be configured to comply with California Title-24 Building Energy Efficiency Standards. Specification details need to be given at time of order and additional settings can be implemented in the field as required.

## KEY FEATURES

- » Up to 32 channels of gas readings
- » Graphic, full colour, resistive touch LCD display with LED indicators
- » Data logging
- » Four internal SPDT dry contact relays
- » 2 horn/strobe output drives
- » Up to 8 configurable internal analog inputs (optional) and/or analog outputs (optional)
- » Modbus® RTU RS-485 LAN protocol for communicating with transmitters and Peripheral Devices
- » Modbus® RTU RS-485 (FCS-32-M) or BACnet® MS/TP RS-485 (FCS-32-B) WAN output for communicating with a BAS or DDC
- » Supports 4-20 mA and Modbus® driven VFDs
- » Enhanced logic control, zoning and priorities capabilities
- » USB port for firmware upgrades
- » Configurable compliance with California Title-24 Building Energy Efficiency Standards
- » Standard water / dust tight, corrosion resistant enclosure (drip proof), with optional lockable door. IP54 rating with door mounted, water tight buzzer installed.
- » RoHS compliant circuit boards

## TECHNICAL DRAWING



Note: Drawings above are shown with the optional door lock.

## APPLICATIONS

- » Enclosed Parking Facilities
- » Food Processing Plants
- » Chemical Storage Rooms
- » Vehicle Maintenance Shops / Bus Barns
- » Warehouse Distribution Centers
- » Greenhouse Production Facilities
- » ... and many more

## TECHNICAL SPECIFICATIONS

### MECHANICAL

Enclosure	ABS / Polycarbonate, IP54 rating with door mounted, water tight buzzer installed, copper coated interior to reduce RF interference
Weight	1.8 kg / 4 lbs
Size	254 x 226 x 113 mm 10.0 x 8.9 x 4.44 in

### USER INTERFACE

Display	8.1 cm (3.2") graphic, 1/4 VGA full colour resistive touch LCD screen with LED indicators for "POWER", "STATUS 1, 2 and 3" and "FAULT"
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### INPUT / OUTPUT

Input	- 4-20 mA analog input (optional) - Modbus® RS-485 input
Output	- Modbus® RTU RS-485 WAN (model: FCS-32-M) - BACnet® MS/TP WAN (model: FCS-32-B) - 4-20 mA analog output (optional) - Modbus® RTU RS-485 LAN - Two drive outputs for strobe/horn e.g. RSH-24V-R (0.5 A @ 24 VDC max)
Relays	Four internal SPDT dry contact relays rated 5 A @ 240 VAC
Audible Alarm	- Standard loud, door mounted buzzer, rated 90 dB @ 30 cm (1 ft) - Optional door mounted, water tight buzzer, rated 85 dB @ 60.96 cm (2 ft)

### TECHNICAL SPECIFICATIONS CONT

#### ELECTRICAL

**Power Requirement** Line Voltage 90 - 240 VAC  
50 - 60 Hz, 75 W

**Power Distribution** Total power available to Options,  
Remote and Peripheral Devices  
65 W @ 24 VDC

**Wiring**

- VAC (line voltage) 3-conductor shielded
- LAN Modbus® RTU RS-485 4-conductor shielded
- WAN (output to BAS only): 4-conductor, 16 AWG, stranded shielded Modbus RTU (version 1.1b3) RS-485 or BACnet MS/TP (version 1 rev 14) RS-485

**Fuses** Thermal, resetting

#### ENVIRONMENTAL

**Operating Temperature** -20°C to 40°C (-4°F to 104°F),  
lower temperature option available

**Humidity** 15 - 90% RH non-condensing

#### CERTIFICATION

Conforms to: CSA-C22.2 No. 205-12, UL508 (Edition 17):2007

Conforms to: EMC Directive 2004/108/EC  
EN 50270:2006, Type 1, EN61010

Conforms to: FCC. This device complies with Part 15 of the FCC Rules.

FCS-B, FCS-B-X models are Listed by BTL  
(where X represents one or more factory installed Options)



#### ACCESSORIES

<b>SCS-8000-SPG</b>	Metal protective guard, large, 16 gauge, galvanized metal guards for controller
<b>CET-SS</b>	Wall mounted adjustable outdoor sun shade, cover protects from sun, glare and inclement weather

The maximum number of relays (internal + remote) the FCS-32 can accommodate is 64. The 4 internal relays plus 2 strobe/horn drives plus 1 internal buzzer equals 7 relay connections if all are in use (default). The RLY-4 offers an additional 4 remote relays plus 2 strobe/horn drives and the RLY-8 offers 8 remote relays plus 4 strobe/horn drives. Depending on how many relays are being used and how many strobe/horns are connected will determine the maximum number of RLY-4 or RLY-8 remote relay devices you can connect.

### PRODUCT CODES

**FCS-32-M** 32 channel Controller with Modbus® WAN output to BAS

**FCS-32-B** 32 channel Controller with BACnet® WAN output to BAS

#### OPTIONS (Factory installed) Add at the end of the "Part Number".

<b>AI</b>	4 internal 4-20 mA Analog Inputs
<b>2AI</b>	8 internal 4-20 mA Analog Inputs
<b>AO</b>	4 internal 4-20 mA Analog Outputs
<b>2AO</b>	8 internal Analog Outputs, 4-20 mA
<b>AIAO</b>	4 internal Analog Inputs and 4 internal Analog Outputs, 4-20 mA
<b>DL</b>	Enclosure door lock and keys
<b>IH</b>	Internal heater for cold environment applications down to -40°C / -40°F
<b>L</b>	Top mounted strobe, red lens, IP65 rated 6.1 cm dia x 13 cm H / 2.4 in dia x 5.2 in H)
<b>SW</b>	Manual shutoff switch (meets B52 Code for refrigeration applications)
<b>WA</b>	Door mounted, water tight audible alarm, rated 85 dB @ 60.96 cm (2 ft)

#### REMOTE & PERIPHERAL DEVICES

<b>CET-RDM</b>	Remote Display Module, Modbus® RS-485
<b>CET-RDM-L2</b>	Remote Display Module with side mounted strobe, Modbus® RS-485
<b>LNK-AI</b>	Analog Input Peripheral Device, Modbus® RS-485 with four 4-20 mA inputs
<b>LNK-AO</b>	Analog Output Peripheral Device, Modbus® RS-485 with four 4-20 mA outputs
<b>LNK-XT</b>	Peripheral Device Network BUS Extender that extends the Modbus® RS-485 wire length
<b>RLY-4</b>	Remote Relay Output, Modbus® RS-485 with four relays, rated 5A @ 240 volts each plus 2 horn/strobe output drives 5A @ 24 VDC max
<b>RLY-8</b>	Remote Relay Output, Modbus® RS-485 with eight relays, rated 5A @ 240 volts each plus 2 horn/strobe output drives 5A @ 24 VDC max
<b>RPS-24VDC</b>	Remote Power Supply, provides power to extend the network of remote and peripheral devices
<b>RSA-24V</b>	Remote LED strobe light with audible, red lens, 8.9 cm / 3.5", comes with mounting bracket
<b>RSH-24V-A</b> <b>RSH-24V-B</b> <b>RSH-24V-R</b>	Remote Horn/Strobe Combo, unmounted, 24 VAC/VDC, rated 99 dB @ 3 m (10 ft) (VAC), 97 dB @ 3 m (10 ft) (VDC), choice of Amber, Blue or Red lens
<b>HORN 120V</b>	Surface mount Industrial Horn, rated 78 to 103 dB @ 3 m (10 ft), includes mounting bracket, indoor use only
<b>HORN 120V-W</b>	Conduit or surface mount Industrial Horn, rated 78 to 103 dB @ 3 m (10 ft), includes mounting bracket, NEMA 4X, indoor or outdoor use
<b>Maximums</b>	32 analog inputs 60 analog outputs 20 remote display modules 6 network extenders