# FCS System Controller - 4 Channels

**Critical Environment Technologies™**

**FIXED SYSTEMS**

## TECHNICAL DRAWING

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

The FCS-4 is a sophisticated, high performance system controller that offers up to 4 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-4 communicates with digital transmitters and remote devices using Modbus® RTU RS-485 and offers an optional four 4-20 mA analog inputs if required.

The FCS-4 is available in two models: the FCS-4-M with Modbus® RTU RS-485 output or the FCS-4-B with BACnet® MS/TP RS-485 output for communicating with a Building Automation System (BAS).

Standard features include, Modbus® RTU RS-485 LAN output, 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.
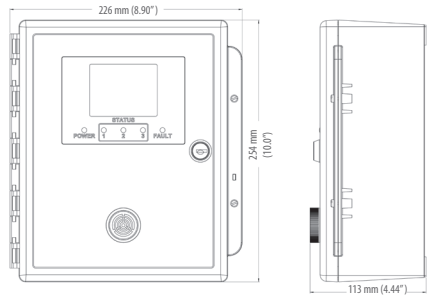
Optional value added features include, 4 internal analog inputs, up to 8 internal analog outputs, a top mounted strobe, a locking door, manual shut off switch and a water tight audible alarm.

The FCS-4 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 4 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
- » 4 configurable internal analog inputs (optional) and/or up to 8 analog outputs (optional)
- » Modbus® RTU RS-485 LAN protocol for communicating with transmitters and Peripheral Devices
- » Modbus® RTU RS-485 (FCS-4-M) or BACnet® MS/TP RS-485 (FCS-4-B) WAN output for communicating with a BAS or DDC
- » Supports 4-20 mA and Modbus® driven VFDs
- » Enhanced logic control, zoning and priorites 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

## APPLICATIONS

- » Cold Storage / Freezer Rooms
- » Chiller Rooms
- » Indoor Recreation Facilities
- » Food Processing Plants
- » Wastewater Treatment Plants
- » Chemical Storage Rooms
- » Wineries, Distilleries and Breweries
- » ... 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<br>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" |

### INPUT / OUTPUT

| | |
|---|---|
| Input | - Modbus® RS-485 input<br>- 4-20 mA analog input (optional) |
| Output | - Modbus® RTU RS-485 WAN (model: FCS-4-M)<br>- BACnet® MS/TP WAN (model: FCS-4-B)<br>- 4-20 mA analog output (optional)<br>- Modbus® RTU RS-485 LAN<br>- 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)<br>- Optional door mounted, water tight buzzer, rated 85 dB @ 60.96 cm (2 ft) |

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## TECHNICAL SPECIFICATIONS CON'T

### 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<br>- LAN Modbus® RTU RS-485 4-conductor shielded<br>- 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

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

## PRODUCT CODES

| | |
|---|---|
| **FCS-4-M** | 4 channel Controller with Modbus® WAN output to BAS |
| **FCS-4-B** | 4 channel Controller with BACnet® WAN output to BAS |

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

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

### REMOTE & PERIPHERAL DEVICES

| | |
|---|---|
| **CET-RDM** | Remote Display Module, Modbus® RS-485 |
| **CET-RDM-L2** | Remote Display Module with side mounted strobe, Modbus® RS-485 |
| **LNK-AI** | Analog Input Peripheral Device, Modbus® RS-485 with four 4-20 mA inputs |
| **LNK-AO** | Analog Output Peripheral Device, Modbus® RS-485 with four 4-20 mA outputs |
| **RLY-4** | Remote Relay Output, Modbus® RS-485 with four relays, rated 5A @ 240 volts each plus 2 horn/strobe output drives 5A @ 24 VDC max |
| **RLY-8** | Remote Relay Output, Modbus® RS-485 with eight relays, rated 5A @ 240 volts each plus 2 horn/strobe output drives 5A @ 24 VDC max |
| **RSA-24V** | Remote LED strobe light with audible, red lens, 8.9 cm / 3.5", comes with mounting bracket |
| **RSH-24V-A RSH-24V-B RSH-24V-R** | 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 |
| **HORN 120V** | Surface mount Industrial Horn, rated 78 to 103 dB @ 3 m (10 ft), includes mounting bracket, indoor use only |
| **HORN 120V-W** | Conduit or surface mount Industrial Horn, rated 78 to 103 dB @ 3 m (10 ft), includes mounting bracket, NEMA 4X, indoor or outdoor use |
| **Maximums** | 4 analog inputs<br>8 analog outputs<br>12 relays (maximum 8 remote)<br>6 horn/strobe drives<br>4 remote display modules |

**kenelec scientific** measuring up

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