



The FCS Flexible Control System is a sophisticated, high performance system controller that offers up to 128 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 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 Flexible Control system is available in two models: the FCS-M with Modbus® RTU RS-485 output or the FCS-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, 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.

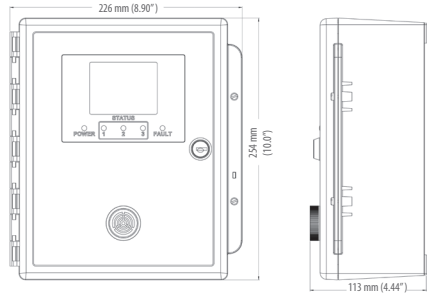
Optional value added features include, analog inputs and/or analog outputs, a top mounted strobe, a locking door, manual shut off switch, and a water tight audible alarm.

The FCS 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 128 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-M) or BACnet® MS/TP RS-485 (FCS-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
- » Distribution Warehouses
- » Indoor Recreation Facilities
- » Cold Storage / Freezer Rooms / Food Processing Plants
- » Chemical Storage Rooms
- » 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	- Modbus® RS-485 input - 4-20 mA analog input (optional)
Output	- Modbus® RTU RS-485 WAN (model: FCS-M) - BACnet® MS/TP WAN (model: FCS-B) - Modbus® RTU RS-485 LAN - Two drive outputs for strobe/horn e.g. RSH-24-R (0.5 A @ 24 VDC max) - Field configurable Analog Output 4-20 mA or 0-10 volts (optional)
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)



GAS DETECTION CONTROLLERS DATASHEET

FCS System Controller - 128 Channels

FIXED SYSTEMS

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)

PRODUCT CODES

FCS-M 128 channel Controller with Modbus® WAN output to BAS

FCS-B 128 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

2AI 8 internal 4-20 mA Analog Inputs

AO 4 internal 4-20 mA Analog Outputs (field configurable 4-20 mA or 0-10 volts)

2AO 8 internal Analog Outputs (field configurable 4-20 mA or 0-10 volts)

AIAO 4 internal Analog Inputs and 4 internal Analog Outputs (field configurable 4-20 mA or 0-10 volts)

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)

PRODUCT CODES

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

LNK-XT Peripheral Device Network BUS Extender that extends the Modbus® RS-485 wire length

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

RPS-24VDC Remote Power Supply, provides power to extend the network of remote and peripheral devices

RSA-24V Remote LED strobe light with audible, red lens, 8.9 cm / 3.5", comes with mounting bracket

RSH-24V-A Remote Horn/Strobe Combo, unmounted, 24 VAC/VDC, rated 99 dB @ 3 m (10 ft) (VAC), 97 dB @ 3 m (10 ft) (VDC)
RSH-24V-B 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
60 analog inputs
60 analog outputs
20 remote display modules
6 network extenders

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

NOTE: The maximum number of relays (internal + remote) the FCS 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.

