Multi Channel FCS Flexible Control System

Critical Environment Technologies™

FIXED SYSTEMS

TECHNICAL DRAWING

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

The FCS Flexible Control System is a sophisticated, high performance 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 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, four internal SPDT dry contact relays with field configurable time delays and trigger levels, a full colour LCD resistive touch screen with an LED panel indicating configurable 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.
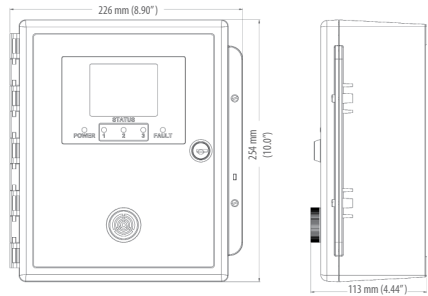
Optional value added features include, analog inputs and/or analog outputs, a top mounted strobe, a locking door and a water tight audible alarm. The FCS can can be connected to several remote devices such as a remote strobe/horn combo, a Remote Display Module and various LNK Peripheral Devices required to complete the necessary gas detection system.

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.

APPLICATIONS

» Large Parking Facilities
» Indoor Recreation Facilities (ice arena, swimming pool)
» Food Processing Plants
» Cold Storage and Freezer Rooms
» Chemical Storage Rooms
» ... and many more

KEY FEATURES

» Up to 128 channels of gas readings
» Graphic, full colour, resistive touch LCD display with LED indicators
» Four internal SPDT dry contact relays
» Up to 8 configurable internal analog inputs and/or analog outputs (optional)
» Modbus® RTU RS-485 LAN communications for controlling Peripheral Devices
» Modbus® RTU RS-485 (FCS-M) or BACnet® MS/TP RS-485(FCS-B) WAN output
   for communicating with a BAS or DCC
» Configurable for compliance with California Title-24 Building Energy
   Efficiency Standards
» USB port for firmware upgrades and data logging
» 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 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 inches

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 - 4-20 mA analog input (optional)
Output	- Modbus® RTU RS-485 WAN (model: FCS-M) - BACnet® MS/TP WAN (model: FCS-B) - 4-20 mA analog output (optional) - Modbus® RTU RS-485 LAN - Two drive outputs for strobe/horn - e.g. RSH-24 (0.5 amp @ 24 V max)
Relays	Four internal SPDT dry contact relays rated 5 amps @ 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)

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TECHNICAL SPECIFICATIONS CON'T

ELECTRICAL

Power Requirement	90 - 240 VAC, 50 - 60 Hz, 75 W Line Voltage
Power Distribution	Total power available to Remote & Peripheral Devices and Options 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 *(sensor dependant)*

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

FCS shown with Options DL, L and SW

PRODUCT CODES

FCS-M	Modbus® WAN Output FCS Controller
FCS-B	BACnet® WAN Output FCS Controller

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

AI	Four internal 4-20 mA Analog Inputs
2AI	Eight internal 4-20 mA Analog Inputs
AO	Four internal 4-20 mA Analog Outputs
2AO	Eight internal Analog Outputs, 4-20 mA
AIAO	Four internal Analog Inputs and four 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 24 V, 7 cm dia x 12.7 cm H (2.75 in dia x 5 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

QCC-RDM	Remote Display Module, Modbus® RS-485 (max 20)
LNK-AI	Analog Input Peripheral Device, Modbus® RS-485 with four 4-20 mA inputs (max 15, no internals AI)
LNK-AO	Analog Output Peripheral Device, Modbus® RS-485 with four 4-20 mA outputs (max 15, no internals AO)
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 (max 14, no RLY-8)
RLY-8	Remote Relay Output, Modbus® RS-485 with eight relays, rated 5A @ 240 volts each (max 7, no RLY-4)
RPS-24VDC	Remote Power Supply, provides power to extend the network of remote and peripheral devices
RAA-90	Remote Audible Alarm, rated 90 dB at 30 cm (1 ft)
RAA-90-W	Remote Audible Alarm water tight, rated 85 dB @ 60.96 cm (2 ft)
RSH-24VDC	Remote Strobe and Horn combo, red lense, mounted on enclosure, 24 VAC/VDC, rated 99 dB @ 3 m (10 ft) (VAC), 97 dB @ 3 m (10 ft) (VDC)
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 **A**mber, **B**lue or **R**ed lense
RSH-TMR	Remote Horn/Strobe Combo, red lense, mounted on enclosure, with built in timer and shut off switch, 24 VAC/VDC, rated 99 dB @ 3 m (10 ft) (VAC), 97 dB @ 3 m (10 ft) (VDC)