



# Q-CONTROLLER

## 256 Sensor Analog / Digital Controller

The Q-Controller system uses an RS-485 communication protocol that accommodates 128 channels through four digital ports. In addition, there are 128 analog inputs from any 4-20mA device and 128 4-20mA outputs as well. There are also up to 128 binary inputs and 128 binary outputs. The system communicates wirelessly for programming and downloading of data through your smartphone or tablet device. Input/output boxes can be installed anywhere in the RS-485 network for ease of installation of additional sensors. A touch screen graphic display is used for programming. All relevant gas detection data, such as relay status, historical data, location, and addresses of sensors are displayed by scrolling through the display menu. The controller has a scheduler that can be programmed to activate relays and deactivate relays (4, 10 Amp SPDT relays on

main board) several times a day based on a frequency of day, weekday or weekend only. It also has an auto configure program that searches for connected devices. The Q-Controller can accept any 4-20 mA signal, making it ideal for monitoring temperature, humidity and other parameters. Several Q-Controllers can be connected to a centralized system that will display gas detection concentrations of an entire facility. Optional remote monitors can be used to observe the concentration of gases prior to entering the space. Refer to all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products.

**Applications:** Underground Parking Garages, Water Treatment Plants, Municipal Service Garages, Aircraft Hangers, Chiller Monitoring, Warehouses, Automobile Dealerships & Battery Charging / Storage.

**The Q-Controller is covered by ACI's Two (2) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, [workaci.com](http://workaci.com).**

### PRODUCT SPECIFICATIONS

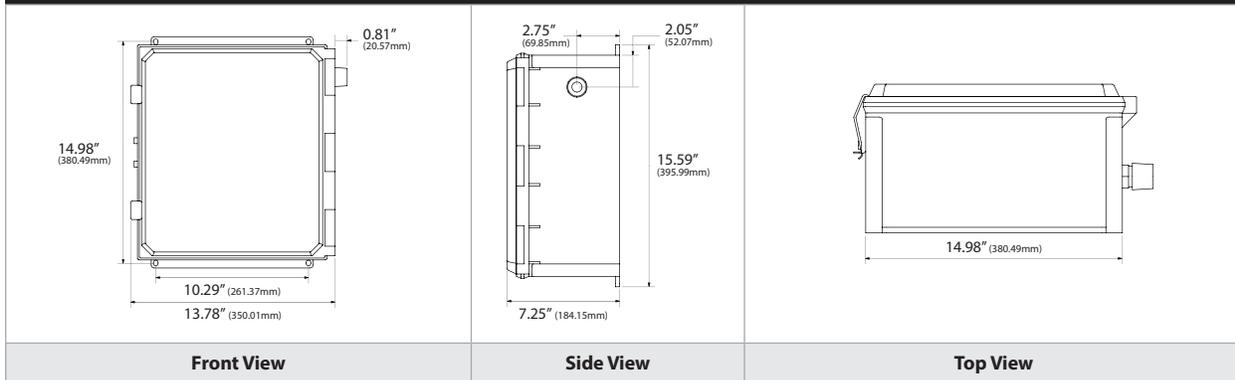
<b>Supply Voltage<sup>1</sup>:</b>	24 VAC Nominal, 15 to 24 VAC 50/60 Hz   24 VDC Nominal, 18 to 30 VDC
<b>Current<sup>2</sup>:</b>	<b>Q-Controller:</b> 0.75A maximum (fuse protected)   <b>Horn &amp; Strobe:</b> 0.75A maximum (fuse protected)
<b>Fuses:</b>	F1, F2 on main board: Polyswitch 750 mA   Fuses reset after removing power
<b>Operating Temperature:</b>	32°F to 120°F (-0°C to 49°C)
<b>Operating Humidity:</b>	85% +/-5% for temperatures up to 86°F (30°C), decreasing Linearly to 50% RH at 104°F (40°C)
<b>Altitude:</b>	Up to 6,561 ft (2,000m)
<b>Communication Protocol:</b>	Modbus Slave using Modbus RTU RS-485, BACnet IP (using BAC-box) ports to host computer
<b>Inputs:</b>	<b>Digital:</b> 4 RS-485 ports for up to 128 QEL sensors <b>Analog:</b> 128 4-20 mA inputs using AI-Box; 8 channels/box, up to 16 boxes <b>Relays:</b> 128 relay inputs using BI-Box, 4 relays/box, up to 31 boxes
<b>Outputs:</b>	<b>Analog:</b> 128 4-20 mA outputs using AO-Box; 8 channels/box, up to 16 boxes <b>Relay:</b> 128 outputs using BO-Box; 4 relays/box, up to 31 boxes
<b>Indicators:</b>	15 Status LED's: Power, USB TX/RX status 4 RS-485 port TX/RX status for sensor network 1 RS-485 port TX/RX status for Modbus 1 RS-485 port TX/RX status for BACnet Module BAC-box
<b>Display &amp; Keypad:</b>	7" LCD touchscreen with 800 X 480 resolution 4 pluggable SPDT Form C, Dry Contact,
<b>On-Board Relays:</b>	10A @ 250 VAC, 30 VDC Resistive 7.5A @ 250 VAC, 5A @ 30 VDC Inductive
<b>Relay Life Expectancy:</b>	<b>Mechanical:</b> VAC 10,000,000, VDC 20,000,000 @ 300 times/minute
<b>Time Delays:</b>	<b>Actuation / De-Actuation:</b> 0 to 9999 seconds   Default is 10 seconds
<b>On-Board Buzzer:</b>	100 db @ 4" (10 cm), 3700 Hz continuous
<b>Horn &amp; Strobe:</b>	Two (2) 24 VDC Terminals (750 mA maximum)
<b>Switch Inputs:</b>	4 Inputs   Can be Q-Switch or any ON-OFF switch
<b>Storage:</b>	32°F to 68°F (0°C to 20°C) 0 to 99% RH Non-Condensing
<b>Enclosure:</b>	NEMA 4X, Polycarbonate, Flammability Rating UL94V-V-0
<b>Operating Environment:</b>	Indoor use only
<b>Dimensions:</b>	(H) 16.00" (406 mm) x (W) 12.00" (305 mm) x (D) 6.00" (152 mm)
<b>Terminal Blocks:</b>	Removable, Power wiring: 16 to 26 AWG (0.2 to 1.00 mm <sup>2</sup> ) Twisted Pair
<b>Terminal Block Torque Rating:</b>	0.37 ft-lb (0.5n-3m) Nominal
<b>Communication Wiring:</b>	Beldon 9841 or equal
<b>Shipping Weight:</b>	12.0 lbs (5443g)
<b>Agency Approvals:</b>	UL2017

**Note:** Sensors and system should be scheduled to be tested for accuracy and functionality every 6 months for toxic, and every 3 months for combustible | Recalibrate or replace sensor boards if necessary | **Note 1:** A switch or circuit breaker must be provided during installation to remove power from the Q-Controller in case of emergency, since the Q-Controller enclosure can be locked to prevent tampering, and the internal power switch is not accessible | **Note 2:** Total actual power depends on the system size and design | The power may be supplied to sensors and modules, or each may have separate power supplies | Each sensor type varies in power requirements





**DIMENSIONAL DRAWING**



**STANDARD ORDERING**

Model #	Item #	Description
Q-CONTROLLERA-000	138070	Q-Controller (256 Sensor Analog / Digital Controller)

**ACCESSORIES ORDERING**

Model #	Item #	Description
AI-BOX-0	138071	8 channel Analog Input Module
BI-BOX-0	138899	4 channel Relay Input Module
AO-BOX-0	138900	8 channel Analog Output Module
BO-BOX-0	138072	4 channel Relay Output Module
IO-BOX-0	138898	DIN Rail Mounting Box for Modules
Q-SWITCHA-0	138897	Manual Input Switch
BAC-BOX-0	127160	BACnet IP Output Module

**ACCESSORIES ORDERING | HORN STROBE**

Model #	Item #	Description
FSIG-SLM500A	136476	Streamline Horn and Strobe (Amber)
FSIG-SLM500B	142976	Streamline Horn and Strobe (Blue)
FSIG-SLM500G	143013	Streamline Horn and Strobe (Green)
FSIG-SLM500R	143132	Streamline Horn and Strobe (Red)

**ACCESSORIES ORDERING | MOUNTING BASE**

Model #	Item #	Description
FSIG-SLMBD-012-024GY	142977	Deep Base for FSIG-SLM500 Series; Gray
FSIG-SLMBW-012-024GY	136477	Wall Mount Base for FSIG-SLM500 Series; Gray

**Note:** See Strobe & Alarm Data Sheet if required