



CO ROOM

Carbon Monoxide Room Sensor

The CO Room Series monitors carbon monoxide (CO) levels and is designed for the continuous monitoring of vehicle exhaust in non-hazardous areas. This series uses a wide spectrum, long life electrochemical sensor to measure the amount of carbon monoxide in the environment. It is offered with an operating range of 0 to 125 ppm. Room CO transmitters are offered in a standard NEMA 1 rated ABS Polycarbonate plastic enclosure. Other options include an LCD display with (2) SPDT Form 1C relays and a buzzer. Refer to all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products. CO-R is not compatible with the Q4C-II or Q-controllers.

Applications: Parking Garages, Arenas, Kitchens, Laundry Rooms, Warehouses, Loading Docks, Service Garages, School Bus Parking Areas

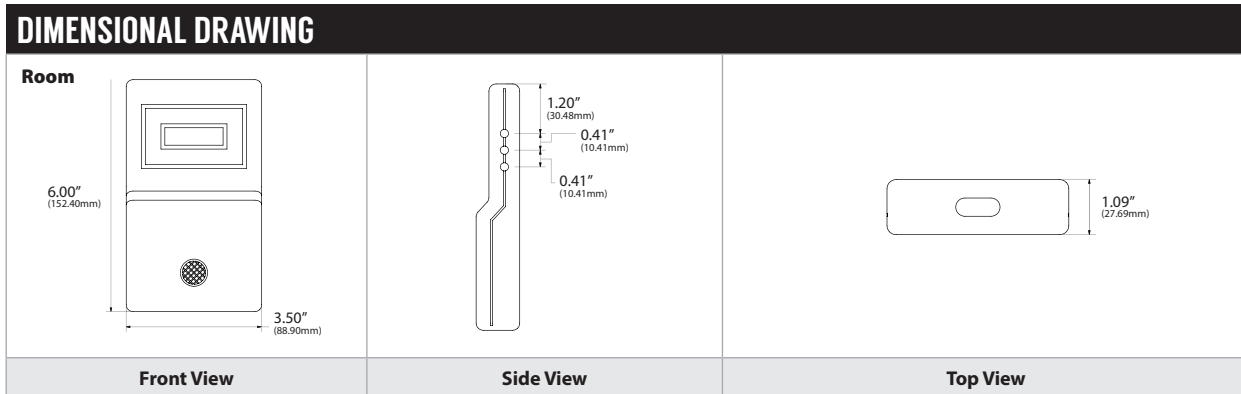
The CO Room Series Gas Transmitters are covered by ACI's Two (2) Year Limited Warranty against defects in material and workmanship from the date of shipment with the exception of the Sensor Modules (Electrochemical/Toxic: Six Months and Catalytic/Combustible: One Year). The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC +/- 10% Floating; 24 VAC +/- 10%, One side Grounded; 24 VDC
Supply Current:	100 mA nominal 250 mA maximum
Power Usage:	6.6 Watts maximum
Operating Temperature:	-4°F to 104°F (-20°C to 40°C)
Operating Humidity:	15 to 90% RH Continuous, non-condensing; 0 to 99% RH Intermittent, non-condensing
Accuracy:	+/- 2.5% of Reading
Repeatability:	+/- 1% of Reading
Operating Pressure:	Atmospheric +/- 10%
Response Time:	Less than 60 Seconds for 90% of step change
Sensor Type:	Electrochemical
Sensor Life:	~ 5 years under Normal Conditions
Factory Set:	0 – 125 ppm / 0 – 250 ppm Field Adjustable
Coverage Area:	7500 sq. ft; 49' Radius
Indicators:	Alphanumeric, 2 line X 8 digit LCD / (2) Red LED's for Relay Status
Mounting Height:	4' to 6' above the floor
Analog Outputs:	4-20 mA or 2-10V Jumper Selectable
Relay & Buzzer (Optional):	Two SPDT Form C, Dry Contact, 1A @ 30 VDC/0.5A @ 125 VAC (Resistive Load), Buzzer Rating 85 dB @ one foot
Relay Life Expectancy:	200,000 cycles minimum with 1A @ 30 VDC
Time Delays:	Actuation / De-Actuation: 0 to 60 Minutes in 5 minute Increments
Storage:	32° to 68°F (0°C to 20°C)
Shelf Life:	6 Months
Enclosure:	Room: Polycarbonate/ABS Blend, UL94V-0
Terminal Blocks:	Fixed, Power wiring: 16 to 26 AWG (0.2 to 1.00 nm ²) Shielded Twisted Pair
Terminal Block Torque Rating:	0.37 ft-lbs (0.5n-3m) Nominal
RS-485 Wiring:	Beldon 9841 or equal
Product Dimensions:	Room: (H) 6.00" (152.4 mm) x (W) 3.5" (88.9 mm) x (D) 1.09" (27.87 mm)
Product Weight:	Room: 0.62 lbs (281.2 g)

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 | When installed @ > 3000' above sea level, the gas transmitters must be verified for accuracy & re-calibrated as needed after installation





STANDARD ORDERING

Model # Example: **CO-R** -OR- **102151**

Model #	Item #	Description
CO-R	102151	CO Room Mount, Standard Room Enclosure
CO-R-RB-D	107556	CO Room Mount with Display, Relay, Buzzer, Standard Enclosure

ACCESSORIES ORDERING

Model # Example: **83830-020-000** -OR- **127649**

Model #	Item #	Description
83830-020-000	127649	Calibration Adapter
6300-0041	134187	Replacement CO Sensing Element
CUSTOM CAL KIT*	148426	Gas Cal Kit

Note*: Refer to GAS CAL KIT data sheet for specific's



CO DUCT

Carbon Monoxide Duct Sensor

The CO Duct Series monitors carbon monoxide (CO) levels and is designed for the continuous monitoring of vehicle exhaust in non-hazardous areas. This series uses a wide spectrum, long life electrochemical sensor to measure the amount of carbon monoxide in the environment. It is offered with an operating range of 0 to 125 ppm. Duct CO transmitters are offered in a standard NEMA 1 rated ABS Polycarbonate plastic enclosure. Other options include an LCD display with (2) SPDT Form 1C relays and a buzzer. Refer to all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products. CO-D is not compatible with the Q4C-II or Q-Controllers.

Applications: Parking Garages, Arenas, Kitchens, Laundry Rooms, Warehouses, Loading Docks, Service Garages, School Bus Parking Areas

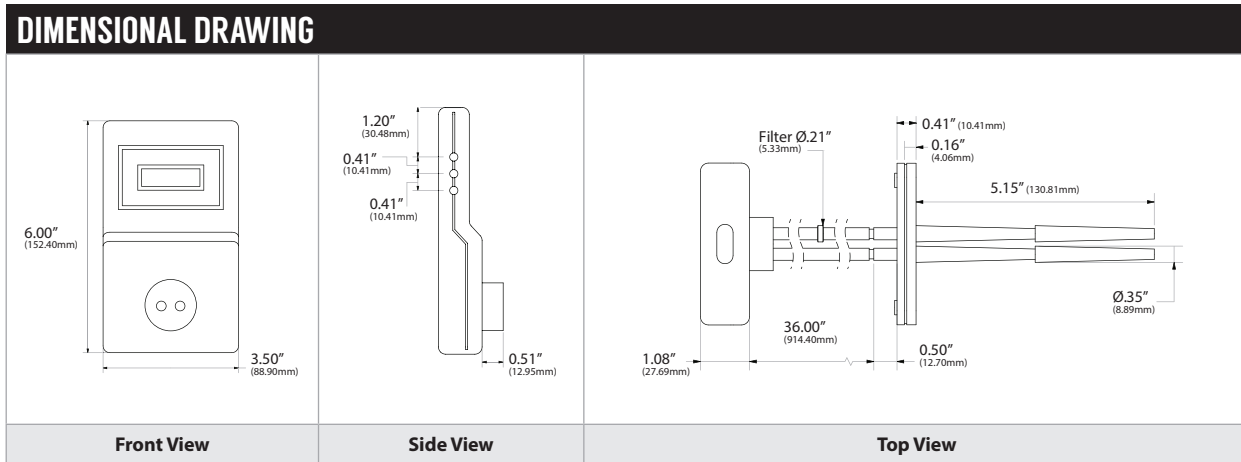
The CO Duct Series Gas Transmitters are covered by ACI's Two (2) Year Limited Warranty against defects in material and workmanship from the date of shipment with the exception of the Sensor Modules (Electrochemical/Toxic: Six Months and Catalytic/Combustible: One Year). The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC +/- 10% Floating; 24 VAC +/- 10%, One side Grounded; 24 VDC
Supply Current:	100 mA nominal 250 mA maximum
Power Usage:	6.6 Watts maximum
Operating Temperature:	-4°F to 104°F (-20°C to 40°C)
Operating Humidity:	15 to 90% RH Continuous, non-condensing; 0 to 99% RH Intermittent, non-condensing
Accuracy:	+/- 2.5% of Reading
Repeatability:	+/- 1% of Reading
Operating Pressure:	1 Atmosphere (14.7 psi) +/- 10%
Response Time:	Less than 60 Seconds for 90% of step change
Sensor Type:	Electrochemical
Sensor Life:	~ 5 years under Normal Conditions
Factory Set:	0 – 125 ppm / 0 – 250 ppm Field Adjustable
Indicators:	Alphanumeric – 2 line X 8 digit LCD / (2) Red LED's for Relay Status
Analog Outputs:	4-20 mA or 2-10V Jumper Selectable
Relay & Buzzer (Optional):	Two SPDT Form C, Dry Contact, 1A @ 30 VDC/0.5A @ 125 VAC (Resistive Load), Buzzer Rating 85 dB @ one foot
Relay Life Expectancy:	200,000 cycles minimum with 1A @ 30 VDC
Time Delays:	Actuation / De-Actuation: 0 to 60 Minutes in 5 minute Increments
Storage:	32° to 68°F (0°C to 20°C)
Shelf Life:	6 Months from date of purchase
Duct Kit Tubing Material:	Vinyl
Duct Kit Tubing Length:	18"
Duct Kit In-Line Filter:	5 micron
Duct Kit Pitot Tube:	3 5/32", Polycarbonate/ABS Blend / UL94V
Enclosure:	Polycarbonate/ABS Blend, UL94V-0
Terminal Blocks:	Fixed, Power wiring: 16 to 26 AWG (0.2 to 1.00 mm ²) Shielded Twisted Pair
Terminal Block Torque Rating:	0.37 ft-lbs (0.5n-3m) Nominal
RS-485 Wiring:	Beldon 9841 or equal
Product Dimensions:	(H) 6.00" (152.4 mm) x (W) 3.5" (88.9 mm) x (D) 1.6" (40.6 mm)
Product Weight:	1.00 lbs (0.45 kg)

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 | When installed @ > 3000' above sea level, the gas transmitters must be verified for accuracy & re-calibrated as needed after installation





STANDARD ORDERING

Model #	Item #	Description
CO-D	102147	CO Duct Mount, Standard Enclosure
CO-D-RB-D	107557	CO Duct Mount with Display, Relay, Buzzer, Standard Enclosure

ACCESSORIES ORDERING

Model #	Item #	Description
83830-020-000	127649	Calibration Adapter
6300-0041	134187	Replacement CO Sensing Element
CUSTOM CAL KIT*	148426	Gas Cal Kit

Note*: Refer to GAS CAL KIT data sheet for specific's



NO2 ROOM

Nitrogen Dioxide Room Sensor

The NO2 Room Series monitors nitrogen dioxide (NO2) levels and is designed for the continuous monitoring of vehicle exhaust in non-hazardous areas. This series uses a wide spectrum, electrochemical sensor to measure the amount of nitrogen dioxide in the environment. It is offered with an operating range of 0 to 6 ppm. ACI's NO2 Room transmitter is offered in a standard NEMA 1 rated ABS Polycarbonate plastic enclosure. Other options include an LCD display with (2) SPDT Form 1C relays and a buzzer. Refer to all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products. NO2-R is not compatible with the Q4C-II or Q-controllers.

Applications: Parking Garages, Arenas, Warehouses, Loading Docks, Service Garages, School Bus Parking Areas

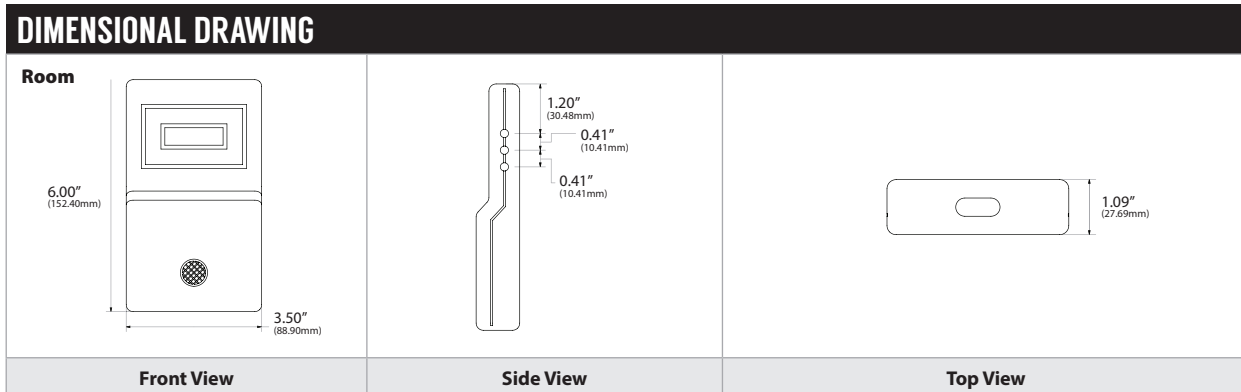
The NO2 Room Series Gas Transmitters are covered by ACI's Two (2) Year Limited Warranty against defects in material and workmanship from the date of shipment with the exception of the Sensor Modules (Electrochemical/Toxic: Six Months and Catalytic/Combustible: One Year). The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC +/- 10% Floating; 24 VAC +/- 10%, One side Grounded; 24 VDC
Supply Current:	100 mA nominal 250 mA maximum
Power Usage:	6.6 Watts maximum
Operating Temperature:	-4°F to 104°F (-20°C to 40°C)
Operating Humidity:	15 to 90% RH Continuous, non-condensing; 0 to 99% RH Intermittent, non-condensing
Accuracy:	+/- 2.5% of Reading
Repeatability:	+/- 1% of Reading
Operating Pressure:	Atmospheric +/- 10%
Response Time:	Less than 60 Seconds for 90% of step change
Sensor Type:	Electrochemical
Sensor Life:	2-3 years under Normal Conditions
Factory Set Range:	0 to 6 ppm 0 to 10 ppm Field Adjustable
Coverage Area:	7500 sq. ft; 49' Radius
Indicators:	Alphanumeric, 2 line x 8 digit LCD / (2) Red LED's for Relay Status
Mounting Height:	6 to 18" above the floor
Analog Outputs:	Analog 4-20 mA or 2-10V Jumper Selectable
Relay & Buzzer (Optional):	Two SPDT Form C, Dry Contact, 1A @ 30 VDC/0.5A @ 125 VAC (Resistive Load), Buzzer Rating 85 dB @ one foot
Relay Life Expectancy:	200,000 cycles minimum with 1A @ 30 VDC
Time Delays:	Actuation / De-Actuation: 0 to 60 Minutes in 5 minute Increments
Storage:	32° to 68°F (0°C to 20°C)
Unit Shelf Life:	6 months from date of purchase
Enclosures:	Room: Polycarbonate/ABS Blend
Terminal Blocks:	Power wiring: 16 to 26 AWG (0.2 to 1.00 mm ²) Shielded Twisted Pair
Terminal Block Torque Rating:	0.37 ft-lbs (0.5n-3m) Nominal
Communication Wiring:	Beldon 9841 or equal
Product Dimensions:	Room: (H) 6.00" (152.4 mm) x (W) 3.5" (88.9 mm) x (D) 1.09" (27.87 mm)
Product Weight:	Room: 0.62 lbs (281.2 g)

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 | When installed @ > 3000' above sea level, the gas transmitters must be verified for accuracy & re-calibrated as needed after installation





STANDARD ORDERING

Model # Example: **NO2-R-4X** -OR- **111575**

Model #	Item #	Description
NO2-R	102593	NO2 Room Mount, Standard Room Enclosure
NO2-R-RB-D	108397	NO2 Room Mount with Display, Relays (2 x SPDT), Buzzer, Standard Room Enclosure

ACCESSORIES ORDERING

Model # Example: **83830-020-000** -OR- **127649**

Model #	Item #	Description
83830-020-000	127649	Calibration Adapter
6300-0035	128873	Replacement NO2 Sensing Element
CUSTOM CAL KIT*	148426	Gas Cal Kit

Note*: Refer to GAS CAL KIT data sheet for specific's



NO2 DUCT

Nitrogen Dioxide Duct Sensor

The NO2 Duct Series monitors nitrogen dioxide (NO2) levels and is designed for the continuous monitoring of vehicle exhaust in non-hazardous areas. This series uses a wide spectrum electrochemical sensor to measure the amount of nitrogen dioxide in the environment. It is offered with an operating range of 0 to 6 ppm. The Duct NO2 transmitter is offered in a standard NEMA 1 rated ABS Polycarbonate plastic enclosure. Other options include an LCD display with (2) SPDT Form 1C relays and a buzzer. Refer to all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products. NO2-D is not compatible with the Q4C-II or Q-Controllers.

Applications: Parking Garages, Arenas, Warehouses, Loading Docks, Service Garages, School Bus Parking Areas

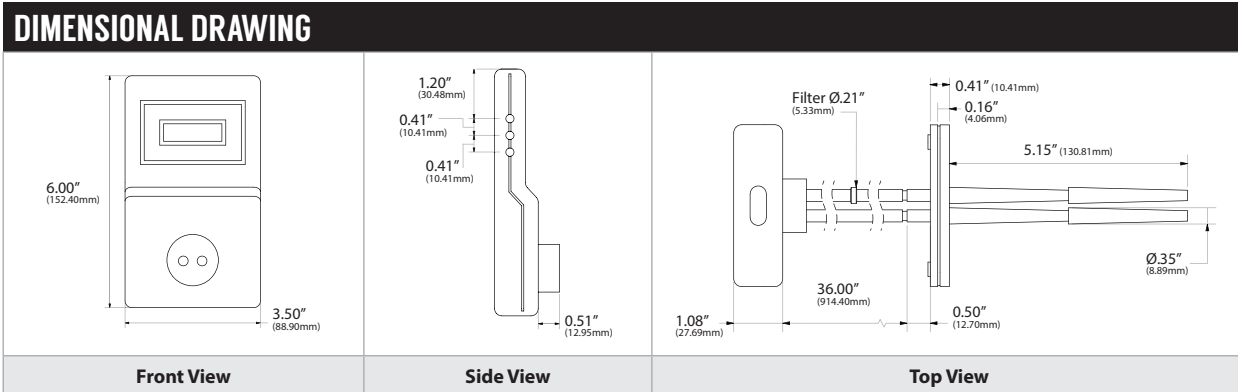
The NO2 Duct Series Gas Transmitters are covered by ACI's Two (2) Year Limited Warranty against defects in material and workmanship from the date of shipment with the exception of the Sensor Modules (Electrochemical/Toxic: Six Months and Catalytic/Combustible: One Year). The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC +/- 10% Floating; 24 VAC +/- 10%, One side Grounded; 24 VDC
Supply Current:	100 mA nominal 250 mA maximum
Power Usage:	6.6 Watts maximum
Operating Temperature:	-4°F to 104°F (-20°C to 40°C)
Operating Humidity:	15 to 90% RH Continuous, non-condensing; 0 to 99% RH Intermittent, non-condensing
Accuracy:	+/- 2.5% of Reading
Repeatability:	+/- 1% of Reading
Operating Pressure:	Atmospheric +/- 10%
Response Time:	Less than 60 Seconds for 90% of step change
Sensor Type:	Electrochemical
Sensor Life:	2-3 years under Normal Conditions
Factory Set Range:	0 to 6 ppm 0 to 10 ppm Field Adjustable
Indicators:	Alphanumeric, 2 line X 8 digit LCD / (2) Red LED's for Relay Status
Analog Outputs:	4-20 mA or 2-10V Jumper Selectable
Relay & Buzzer (Optional):	Two SPDT Form C, Dry Contact, 1A @ 30 VDC/0.5A @ 125 VAC (Resistive Load), Buzzer Rating 85 dB @ one foot
Relay Life Expectancy:	200,000 cycles minimum with 1A @ 30VDC
Time Delays:	Actuation / De-Actuation: 0 to 60 Minutes in 5 minute Increments
Storage:	32°F to 68°F
Unit Shelf Life:	6 months from date of purchase
Duct Kit Tubing Material:	Vinyl
Duct Kit Tubing Length:	18"
Duct Kit In-Line Filter:	5 micron
Duct Kit Pitot Tube:	3 5/32", Polycarbonate/ABS Blend / UL94V
Enclosure:	Polycarbonate/ABS Blend, Fire Retardant
Terminal Blocks:	Power wiring: 16 to 26 AWG (0.2 to 1.00 mm ²) Shielded Twisted Pair
Terminal Block Torque Rating:	0.37 ft-lbs (0.5n-3m) Nominal
Communication Wiring:	Beldon 9841 or equal
Equipment Needed For Calibration:	0.5 lpm Regulator, zero & span gas (supplied by local vendor) Calibration adapter (Part # 83830-020-000)
Replacement NO2 Sensor:	Part# 6300-0035
Product Dimensions:	(H) 6.00" (152.4 mm) x (W) 3.5" (88.9 mm) x (D) 1.6" (40.6 mm)
Product Weights:	1.00 lbs (0.45 kg)

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 | When installed @ > 3000' above sea level, the gas transmitters must be verified for accuracy & re-calibrated as needed after installation





STANDARD ORDERING

Model # Example: **NO2-D-RB-D** -OR- **113012**

Model #	Item #	Description
NO2-D	109680	NO2 Duct Mount, Standard Enclosure
NO2-D-RB-D	113012	NO2 Duct Mount with Display, Relays (2x SPDT), Buzzer, Standard Enclosure

ACCESSORIES ORDERING

Model # Example: **83830-020-000** -OR- **127649**

Model #	Item #	Description
83830-020-000	127649	Calibration Adapter
6300-0035	128873	Repacement NO2 Sensing Element
CUSTOM CAL KIT*	148426	Gas Cal Kit

Note*: Refer to GAS CAL KIT data sheet for specific's



Q5/B5 SERIES

Toxic/Combustible Gas Transmitter

The B5/Q5 Toxic/Combustible Gas Detectors use various sensing technologies to detect a wide assortment of gases. These units are housed in a NEMA 4X rated plastic enclosure that will meet the most stringent applications. All models feature an internal clock, LCD Display for displaying gas concentrations and setup, LED Status Indication, integral buzzer with three user configurable relays and a number of different communication protocols for use with one of our gas controllers or your building management system. Factory calibrated sensor module replacements are available and are easily replaced in the field by removing two screws on the previous module. All units should be checked for proper functionality and calibration once the replacement sensor module is reinstalled and has had a chance to warm up. A user selectable password can be used to protect the system integrity. The Q5 can be used as a standalone gas detector or in conjunction with the Q4C, M-Controller or Q-Controllers using the proprietary RS-485 Optomux communication protocol. The

B5 uses BACnet™ MSTP (RS485) protocol to communicate directly with a BAS. ACI also offers a full line of horns and strobes that can be used with the Gas detectors or building management system to alert building occupants of an alarm condition. Refer to all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products. The Q5/B5-GENL can be ordered to monitor specific combustible gases such as Gasoline, Ethanol, Diesel or Jet fuel. Contact ACI for specific gases.

Applications: Mechanical Rooms, Warehouses, Refrigeration Plants, Industrial Plants, Process Monitoring, Leak Detection, Parking Garages, Auto/Truck Maintenance Facilities, Oil and Gas Industry

The Q5/B5 Series Gas Transmitters are covered by ACI's Two (2) Year Limited Warranty against defects in material and workmanship from the date of shipment with the exception of the Sensor Modules (Electrochemical/Toxic: Six Months and Catalytic/Combustible: One Year). The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage (Q5):	VDC Supply Voltage: 24 VDC nominal (+18 to 30 VDC) VAC Supply Voltage: 24 VAC nominal (+15 to 24 VAC) (AC Power must not be grounded)
Supply Voltage (B5):	VDC Supply Voltage: 24 VDC nominal (+18 to 30 VDC) VAC Supply Voltage: 24 VAC nominal (+15 to 24 VAC) (AC Power can be grounded or non-grounded)
Fuse Protection:	0.750A Polyswitch: (Resets after fault is cleared & power to circuit is removed)
Supply Current Power Consumption:	0.3A maximum 8.4 VA
Analog Output Signals (Q5 Only):	Analog: 4-20 mA, 1 to 5 VDC or 2 to 10 VDC (All Analog Output Signals require 4-Wires)
Maximum Load Impedance:	4-20 mA Output: 600 Ohms maximum 1-5 VDC or 2-10 VDC: 3000 Ohms minimum
Communication Protocols:	Q5 Communication Protocols: RS-485 Modbus RTU/OptoMux (Proprietary QEL Controller Protocol) B5 Communication Protocols: RS-485 Serial BACnet MS/TP (Master and Slave - Default: Master)
Communication Baud Rates (Q5):	1200, 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600, 76800 Bits/Second (Default: 4800)
B5 Communication Baud Rates (B5):	9600, 19200, 38400, 76800 Bits/Second (Default: 38400)
Factory Calibration Range:	See Gas Sensor Selection & Specification Table on back of data sheet
Display:	LCD Graphic Display with backlight (Displays: TWA, STEL and Concentration)
Keypad:	Three Capacitive Touch sensing keys
Relays Contact Type Relay Contact Ratings:	Three SPDT (Form C) Dry Contacts 1.0A max. @ 30 VDC or 0.3A max. @ 125 VAC (Resistive Loads)
Relay Life Expectancy:	Mechanical: 50,000,000 operations minimum @ 36,000 operations/hour Electrical: 200,000 operations minimum @ rated load
Status LEDs:	Two Green LEDs (Tx/Rx Communication Status): Three LEDs (Relays 1, 2 & 3)
Buzzer:	80 dB at 3.94" (10 cm), 2700 Hz (3 Programmable Tones)
Warm Up Time:	24 Hours (Allow 24 hours before calibrating sensor after installation)
Sensor Type:	See Sensor Technology Type in Table on back of data sheet
Gas Types:	Combustible, Toxic Gases/Oxygen Sensor & Infrared
Coverage Area Mounting Height:	See Gas Sensor Selection & Specification Table on back of data sheet
Life Expectancy:	Electrochemical (Toxic): 2 to 3 Years, typical Oxygen/Hydrogen (Toxic): 18 months, typical Catalytic (Combustible): 3 to 5 Years, typical CO: 7 Years, typical
Unit Shelf Life:	Electrochemical (Toxic): 6 months from the date of purchase Catalytic (Combustible): 1 year from date of purchase
Replacement Sensor Modules:	See additional on-line Product Literature or Contact ACI Catalytic (Combustible): Accuracy & Bump test every 3 months or as required by Code
Recommended Maintenance:	Electrochemical (Toxic): Accuracy & Bump test every 6 months or as required by Code Oxygen/Hydrogen (Toxic): Calibrate every 3 months
Enclosure Specifications (Material Type, Flammability, NEMA/IP Rating):	Plastic Enclosure; Polycarbonate Lexan; UL94 V-0, NEMA 4, 4X, 12 and 13 (IP66)
Enclosure Knockouts:	3/4" Knockouts (accepts 1/2" Conduit Fittings)



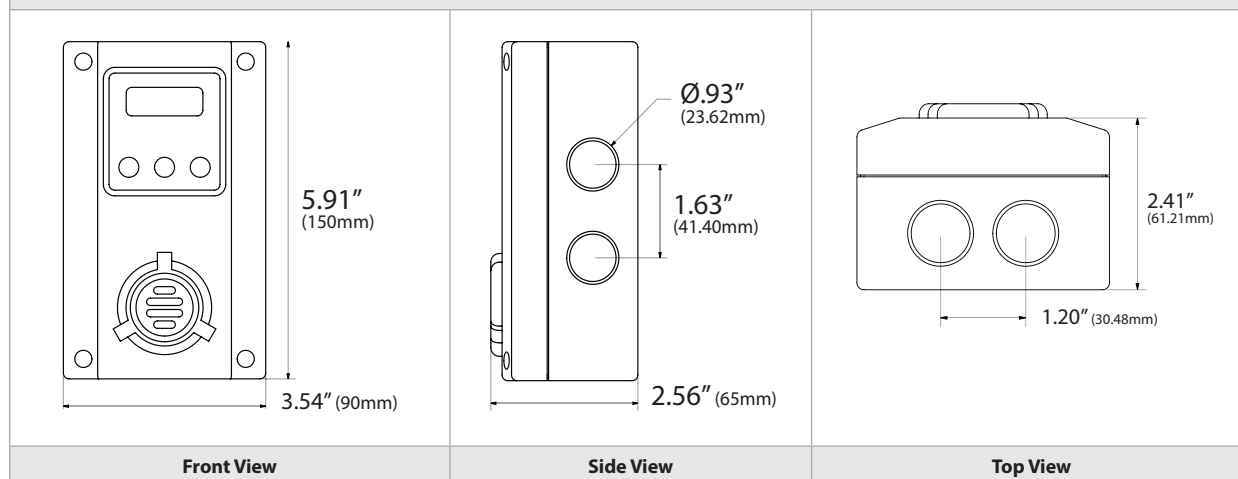


PRODUCT SPECIFICATIONS

Operating Temperature Humidity:	See Sensor Selection & Specification Table on back of data sheet 5 to 95% RH, non-condensing
Operating Atmospheric Pressure¹:	14.696 psi (1.0132 bar) +/- 10%
Recommended Storage Temperature/ Humidity:	32 to 68°F (0 to 20°C) 5 to 95% RH, non-condensing
Wiring Connections Wire Size:	De-pluggable Screw Terminal Blocks 16 to 24 AWG (0.2047 to 1.301 mm) Shielded Twisted Pair
Communications Cable:	Belden 9841 or Equivalent, 120 Ohms Input Impedance
Terminal Block Torque Rating:	0.37 ft-lb (0.502 Nm) Nominal
Approvals:	RoHS, cETLus Listed, Safety requirement for Electrical Equipment for Measurement, Control & Laboratory Use Part 1: CAN/CSA-22.2 No. 61010-1 Third Edition, Dated May 11, 2012; General Requirements UL 61010-1 Third Edition, Dated May 11 2012 Q5C-CO & B5C-CO only: UL 2075 Gas & Vapor Detectors & Sensors (ETL Control# 4010204)
Product Weight:	1.00 lbs. (0454 kg)
Product Dimensions (L x W x H):	5.91" (150 mm) x 3.54" (90 mm) x 2.56" (65 mm)

Note1: When installed @ > 3000' above sea level, the gas transmitters must be verified for accuracy & re-calibrated as needed after installation

DIMENSIONAL DRAWING





SENSOR SELECTION AND SPECIFICATION

Gas Type	Gas Span Code	Combustible	Toxic	100% LEL ¹ in % By Vol.	Measurement Range	Operating Temp °F (°C)	Square Feet ft ² (m ²)	Radius ft (m)	Mounting Height
Acetone	CH3CO-100L	•		2.6%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Ammonia	NH3-100P		•	N/A	0-100 PPM	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	High ²
Ammonia	NH3-1000P		•	N/A	0-1000 PPM	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	High ²
Arsine	ASH3-1P		•	N/A	0-1 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Benzene	C6H6-100L	•		1.3%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Iso-Butane	C4H10-100L	•		1.8%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Butanol, n-Butane	BUTAN-100L	•		1.9%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Carbon Dioxide	CO2-5000P	Infrared	Infrared	N/A	0-5000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Dioxide	CO2-5V	Infrared	Infrared	N/A	0-5% by Vol	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Dioxide	CO2-20V	Infrared	Infrared	N/A	0-20% by Vol	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Dioxide	CO2-100V	Infrared	Infrared	N/A	0-100% by Vol	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Monoxide	CO-250P		•	N/A	0-250 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Monoxide	CO-1000P		•	N/A	0-1000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Chlorine	CL2-5P		•	N/A	0-5 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Chlorine Dioxide	CLO2-2P		•	N/A	0-2 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Diborane	B2H6-2P		•	N/A	0-2 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Mid ²
Ethylene	C2H4-100L	•		2.7%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Ethylene Oxide	ETO-20P		•	N/A	0-20 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Germane	GEH4-2P		•	N/A	0-2 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen	H2-1000P		•	N/A	0-1000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen	H2-2000P		•	N/A	0-2000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen	H2-100L	•		4.0%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen Bromide	HBR-30P		•	N/A	0-30 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen Chloride	HCL-30P		•	N/A	0-30 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Hydrogen Cyanide	HCN-50P		•	N/A	0-50 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Hydrogen Sulphide	H2S-25P		•	N/A	0-25 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen Sulphide	H2S-100P		•	N/A	0-100 PPM	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Methane	CH4-100L	•		5.0%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	High ²
Methanol	CH3OH-100L	•		6.7%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Nitric Oxide	NO-100P		•	N/A	0-100 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Nitrogen Dioxide	NO2-10P		•	N/A	0-10 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Low ²
Oxygen ³	O2-25V		•	N/A	0-25% by Vol	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Ozone	O3-1P		•	N/A	0-1 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	High ²
Iso-Pentane	C5H12-100L	•		1.4%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Phosphine	PH3-1P		•	N/A	0-1 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Phosphine	PH3-5P		•	N/A	0-5 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Propane	C3H8-100L	•		2.1%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	Low ²
Silane	SiH4-50P		•	N/A	0-50 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Mid ²
Sulphur Dioxide	SO2-6P		•	N/A	0-6 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Combustibles ¹	GENL-100L	•		Specify Gas	0-100% LEL	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Gas Dependent

Acetaldehyde, Benzene, Carbon Disulfide, Dioxane, Ethane, Ethanol, Ethylbenze, Gasoline, Heptane, Hexane, Ipa, Jet Fuel, Kerosene, Naphtha, Styrene, Toluene, Voc's, Xylenes, Acetylene, Diesel, Pentane, Ethyl Acetate, Propylene

Note 1: Lower Explosive Limit (LEL) | **Note 2:** Low = 0.5 to 1.5' (0.15 to 0.46m) above floor | Mid = 4.0 to 6.0' (1.20 to 1.83m) above floor | High = 0.5 to 1.5' (0.15 to 0.46m) below ceiling | **Note 3:** Oxygen sensors monitor oxygen depletion caused by numerous gases including: Nitrous Oxide, Helium, Nitrogen, Sulfur hexafluoride, Argon, Xenon, Neon.





STANDARD ORDERING		MODEL #
A. Sensor Series <i>Select One (1)</i>	Q5 = Toxic/Combustible Gas Transmitter Series with Analog/Relay/Communicating Output Signals and Display (All gasses except CO) Q5C = Carbon Monoxide Toxic Gas Transmitter (Certified to meet UL 2075 Requirements for Carbon Monoxide (CO) only) B5 = Toxic/Combustible MS/TP BACnet™ Gas Detection Transmitter with Relays and LCD Display (All gases except CO) B5C = Carbon Monoxide MS/TP BACnet™ Toxic Gas Transmitter (Certified to meet UL 2075 Requirements for Carbon Monoxide (CO) only)	
B. Gas Span Code	Enter a "Gas Span Code" from the Sensor Selection & Specification Table	
C. Enclosure <i>No Selection Required</i>	O = Standard Wall Mount Enclosure →	O
D. Revision <i>No Selection Required</i>	X = Factory Provided →	X
E. For GENL Sensors	Enter a "Gas Span Code" from the Sensor Selection & Specification Table (See Combustibles)	

STANDARD ORDERING		
Model #	Item #	Description
Q5C-CO-250P-O-X	141036	CO, 0-250 ppm, UL2075 Certified
B5C-CO-250P-O-X	140654	BACnet™ CO, 0-250 ppm, UL2075 Certified

ACCESSORIES ORDERING Q5, B5		
Model #	Item #	Description
GAS CAL KIT	148426	Cal Kit includes Carry Case, 0.5lpm regulator, C10 to CGA-600 adapter, tubing
85930-006-000	128901	Calibration Adapter for Q5/B5, Q6/B6
85930-007-000	130812	Sensor Splash Guard Kit for Q5/B5, Q6/B6
85930-040-000	131510	Duct Mount Kit (Adapter, Tubing, Pitot Tubes) for Q5/B5, Q6/B6
GSG-1	141059	Gas Sensor Protective Guard (White)

Note: See GAS CAL KIT Data Sheet if required

ACCESSORIES ORDERING HORN STROBE		
Model #	Item #	Description
FSIG-SLM500A	136476	Streamline Horn and Strobe (Amber)
FSIG-SLM500B	142976	Streamline Horn and Strobe (Blue)
FSIG-SLM500C	150028	Streamline Horn and Strobe (Clear)
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



Q6/B6 SERIES

Toxic/Combustible Gas Transmitter

The Q6/B6 Toxic/Combustible Gas Detectors use various sensing technologies to detect a wide assortment of gases. These units are housed in a NEMA 4X rated plastic enclosure that will meet a wide variety of applications. The combo unit consists of a main unit (Carbon Monoxide only) with an LCD, LED status indication, 3 user configurable relays and a remote sensing unit (various gas types available) for installation at high or low elevations based on the density of the gas being detected. The main and remote unit gas concentrations levels are both displayed on the main unit's LCD. This series also features a sensor module that can be easily replaced by removing a couple of screws and unplugging the existing module before inserting the new factory calibrated sensing module. All units should be verified for proper functionality and calibration once the replacement sensor module has been reinstalled. A user selectable password can be used to protect the system integrity. The Q6 can be used as a standalone gas detector or in conjunction

with one of our Q4C, M-Controller or Q-Controllers using the proprietary RS-485 Optomux communication protocol. ACI also offers a full line of horns and strobes that can be used with the gas detectors or building management system to alert building occupants of an alarm condition.

It is your responsibility to ensure that the Q6/B6 Series will meet all of your applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products.

Applications: Mechanical Rooms, Warehouses, Refrigeration Plants, Industrial Plants, Process Monitoring, Leak Detection, Parking Garages, Auto/Truck Maintenance Facilities, Oil and Gas Industry

The Q6/B6 Series Gas Transmitters are covered by ACI's Two (2) Year Limited Warranty against defects in material and workmanship from the date of shipment with the exception of the Sensor Modules (Electrochemical/Toxic: Six Months and Catalytic/Combustible: One Year). The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	VDC Supply Voltage: 24 VDC nominal (+18 to 30 VDC) VAC Supply Voltage: 24 VAC nominal (+15 to 24 VAC) (AC Power must not be grounded)
Fuse Protection:	0.750A Polyswitch; (Resets after fault is cleared & power to circuit is removed)
Supply Current Power Consumption:	0.3A maximum 8.4 VA
Communication Protocols:	Q6 Communication Protocols: RS-485 Modbus RTU/OptoMux (Proprietary QEL Controller Protocol) B6 Communication Protocols: RS-485 Serial BACnet™ MS/TP (Master and Slave; Default: Master)
Q6 Communication Baud Rates:	1200, 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600, 76800 Bits/Second (Default: 4800)
B6 Communication Baud Rates:	9600, 19200, 38400, 76800 Bits/Second (Default: 38400)
Factory Calibration Range:	See Gas Sensor Selection & Specification Table on back of data sheet
Display:	LCD Graphic Display with backlight (Displays: TWA, STEL and Concentration)
Keypad:	Three Capacitive Touch sensing keys
Relays Contact Type Relay Contact Ratings:	Three SPDT (Form C) Dry Contacts 1.0A max. @ 30 VDC or 0.3A max. @ 125 VAC (Resistive Loads)
Relay Life Expectancy:	Mechanical: 50,000,000 operations minimum @ 36,000 operations/hour Electrical: 200,000 operations minimum @ rated load
Status LEDs:	Two Green LEDs (Tx/Rx Communication Status); Three Red LEDs (Relays 1, 2 & 3)
Buzzer:	80 dB at 3.94 (10 cm), 2700 Hz (3 Programmable Tones)
Warm Up Time:	24 Hours (Allow 24 hours before calibrating sensor after installation)
Sensor Type:	Main: Carbon Monoxide (CO) Remote: See Gas Sensor Selection & Specification Table on back of data sheet
Gas Types:	Combustible, Toxic Gases/Oxygen Sensor & Infrared
Coverage Area Mounting Height:	See Gas Sensor Selection & Specification Table on back of data sheet
Life Expectancy:	Electrochemical (Toxic): 2 to 3 Years, typical Oxygen/Hydrogen (Toxic): 18 months, typical Catalytic (Combustible): 3 years, typical CO: 7 years, typical
Unit Shelf Life:	Electrochemical (Toxic): 6 months from date of purchase Catalytic (Combustible): 1 year from date of purchase
Replacement Sensor Modules:	See additional on-line Product Literature or Contact ACI
Recommended Maintenance:	Catalytic (Combustible): Accuracy & Bump test every 3 months or as required by Code Electrochemical (Toxic): Accuracy & Bump test every 6 months or as required by Code Oxygen/Hydrogen (Toxic): Calibrate every 3 months



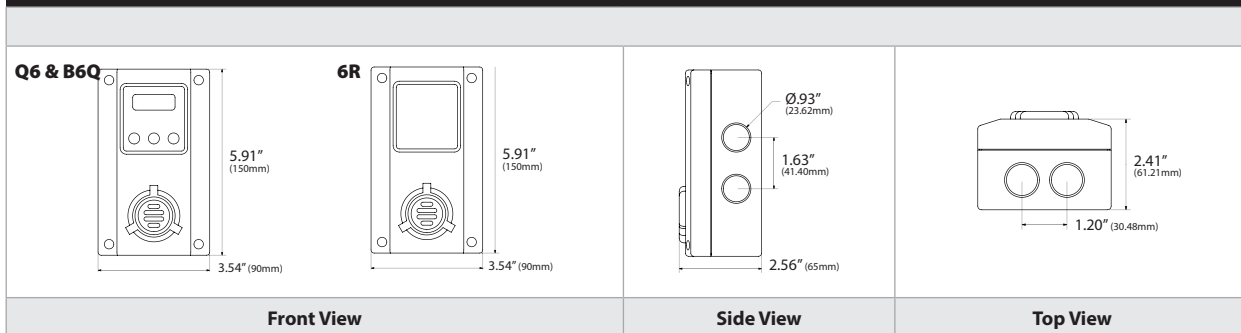


PRODUCT SPECIFICATIONS

Enclosure Specifications (Material Type, Flammability, NEMA/IP Rating):	Plastic Enclosure; Polycarbonate Lexan; UL94 V-0, NEMA 4, 4X, 12 and 13 (IP66)
Enclosure Knockouts:	3/4 ³ Knockouts (accepts 1/2" Conduit Fittings)
Operating Temperature Humidity:	See Sensor Selection & Specification Table on back of data sheet 5 to 95% RH, non-condensing
Operating Atmospheric Pressure¹:	14.696 psi (1.0132 bar) +/- 10%
Recommended Storage Temperature/ Humidity:	32 to 68°F (0 to 20°C) 5 to 95% RH, non-condensing
Wiring Connections Wire Size:	De-pluggable Screw Terminal Blocks 16 to 24 AWG (0.2047 to 1.301 mm) Shielded Twisted Pair
Communications Cable:	Belden 9841 or Equivalent, 120 Ohms Input Impedance
Terminal Block Torque Rating:	0.37 ft-lb (0.502 Nm) Nominal

Note¹: When installed @ >3000' above sea level, the gas transmitters must be verified for accuracy & re-calibrated as needed after installation

DIMENSIONAL DRAWING





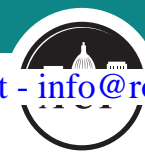
SENSOR SELECTION AND SPECIFICATION

Gas Type	Gas Span Code	Combustible	Toxic	100% LEL ¹ in % By Vol.	Measurment Range	Operating Temp °F (°C)	Square Feet ft ² (m ²)	Radius ft (m)	Mounting Height
Acetone	CH3CO-100L	•		2.6%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Ammonia	NH3-100P		•	N/A	0-100 PPM	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	High ²
Ammonia	NH3-1000P		•	N/A	0-1000 PPM	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	High ²
Arsine	ASH3-1P		•	N/A	0-1 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Benzene	C6H6-100L	•		1.3%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Iso-Butane	C4H10-100L	•		1.8%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Butanol, n-Butane	BUTAN-100L	•		1.9%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Carbon Dioxide	CO2-5000P	Infrared	Infrared	N/A	0-5000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Dioxide	CO2-5V	Infrared	Infrared	N/A	0-5% by Vol	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Dioxide	CO2-20V	Infrared	Infrared	N/A	0-20% by Vol	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Dioxide	CO2-100V	Infrared	Infrared	N/A	0-100% by Vol	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Monoxide	CO-250P		•	N/A	0-250 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Monoxide	CO-1000P		•	N/A	0-1000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Chlorine	CL2-5P		•	N/A	0-5 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Chlorine Dioxide	CLO2-2P		•	N/A	0-2 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Diborane	B2H6-2P		•	N/A	0-2 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Mid ²
Ehtylene	C2H4-100L	•		2.7%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Ethylene Oxide	ETO-20P		•	N/A	0-20 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Germane	GEH4-2P		•	N/A	0-2 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen	H2-1000P		•	N/A	0-1000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen	H2-2000P		•	N/A	0-2000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen	H2-100L	•		4.0%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen Bromide	HBR-30P		•	N/A	0-30 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen Chloride	HCL-30P		•	N/A	0-30 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Hydrogen Cyanide	HCN-50P		•	N/A	0-50 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Hydrogen Sulphide	H2S-25P		•	N/A	0-25 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen Sulphide	H2S-100P		•	N/A	0-100 PPM	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Methane	CH4-100L	•		5.0%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	High ²
Methanol	CH3OH-100L	•		6.7%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Nitric Oxide	NO-100P		•	N/A	0-100 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Nitrogen Dioxide	NO2-10P		•	N/A	0-10 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Low ²
Oxygen ³	O2-25V		•	N/A	0-25% by Vol	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Ozone	O3-1P		•	N/A	0-1 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	High ²
Iso-Pentane	C5H12-100L	•		1.4%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Phosphine	PH3-1P		•	N/A	0-1 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Phosphine	PH3-5P		•	N/A	0-5 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Propane	C3H8-100L	•		2.1%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	Low ²
Silane	SiH4-50P		•	N/A	0-50 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Mid ²
Sulpher Dioxide	SO2-6P		•	N/A	0-6 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Combustibles ¹	GENL-100L	•		Specify Gas	0-100% LEL	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Gas Dependent

Acetaldehyde, Benzene, Carbon Disulfide, Dioxane, Ethane, Ethanol, Ethylbenze, Gasoline, Heptane, Hexane, Ipa, Jet Fuel, Kerosene, Naphtha, Styrene, Toluene, Voc's, Xylenes, Acetylene, Diesel, Pentane, Ethyl Acetate, Propylene

Note 1: Lower Explosive Limit (LEL) | **Note 2:** Low = 0.5 to 1.5' (0.15 to 0.46m) above floor | Mid = 4.0 to 6.0' (1.20 to 1.83m) above floor | High = 0.5 to 1.5' (0.15 to 0.46m) below ceiling | **Note 3:** Oxygen sensors monitor oxygen depletion caused by numerous gases including: Nitrous Oxide, Helium, Nitrogen, Sulfur hexafluoride, Argon, Xenon, Neon.





STANDARD ORDERING		
Model #	Item #	Description
Q6-CO/NO2-10P	146117	Main Unit: CO (0-250 ppm) Remote Unit: NO2 (0-10 ppm)
B6-CO/NO2-10P	146119	BACnet™ Main Unit: CO (0-250 ppm) Remote Unit: NO2 (0-10 ppm)

CUSTOM ORDERING		MODEL #
A. Sensor Series <i>Select One (1)</i>	Q6-CO = Main Unit (CO) B6-CO = BACnet™ Main Unit (CO)	
B. Gas Span Code	Enter a "Gas Span Code" from the Sensor Selection & Specification Table	
C. For GENL Sensors	Enter a "Gas Span Code" from the Sensor Selection & Specification Table (See Combustibles)	

ACCESSORIES ORDERING Q6, B6		
Model #	Item #	Description
GAS CAL KIT	148426	Cal Kit includes Carry Case, 0.5lpm regulator, C10 to CGA-600 adaptor and tubing
85930-006-000	128901	Calibration Adaptor for Q5/B5, Q6/B6
85930-007-000	130812	Sensor Splash Gaurd Kit for Q5/B5, Q6/B6
85930-040-000	131510	Duct Mount Kit (Adaptor, Tubing, Pitot Tubes) for Q5/B5, Q6/B6
GSG-1	141059	Gas Sensor Protective Guard (White)

Note: See GAS CAL KIT data sheet if required

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

ACCESSORIES ORDERING PROTECTIVE DOME FOR DEEP MOUNTING BASE		
Model #	Item #	Description
FSIG-SLMDG2	143149	Optional Protective Dome for Deep Mounting Base and SLM500x Series Horn and Strobe



CO2 ROOM

Sensor with Temperature, Setpoint & Override

The ACI Carbon Dioxide Room Series (A/CO2-R2) monitors the carbon dioxide (CO2) levels in commercial, school, and office-type environments. The concentration of CO2 is a strong indication of the overall indoor air quality. The A/CO2 Series is based on a single beam, non-dispersive infrared technology and is a cost-efficient solution for measuring carbon dioxide levels for building climate control. In addition, ABC software eliminates the need for manual calibration. Carbon Dioxide concentration is measured up to 2,000 ppm and is converted into proportional analog outputs. The factory default outputs are 0-10 VDC (Output 1) and 4-20 mA (Output 2), whereas 0-5 VDC is field selectable via integral dip switches. Thermistor temperature outputs, along with setpoint and override, are available as options for this configuration as well. Please see the order grid for the available sensor options. The A/CO2-R2 Series provides data which can be used in conjunction with a Building Automation System or Demand Control Ventilation to

decrease energy consumption while creating a healthier indoor climate.

Applications: Schools, Office Buildings, Auditoriums, Gymnasiums, Shopping Malls, Theatres, Demand Control Ventilation & Economizers

The CO2 Room Series are covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's web site, workaci.com.

PRODUCT SPECIFICATIONS

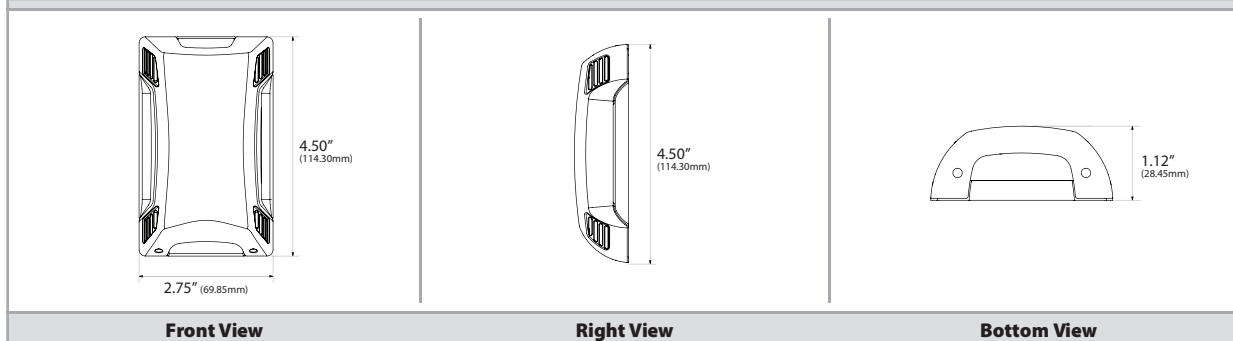
Supply Voltage:	24 VAC +/-20%, 50/60 Hz (half-wave rectifier) 16.5-40 VDC maximum
Power Consumption:	3 VA for 24 VAC, 3W for 24 VDC (peak); <0.9W (average)
Sensing Technology:	Single beam infrared sensing technology (NDIR)
Sensing Method:	Diffusion
Measurement Range Default:	0 to 2,000 ppm
Extended CO2 Ranges:	Up to 10,000 ppm (factory set)
CO2 Accuracy¹:	+/- 40 ppm and +/- 3% of reading (@ 15-35°C; 20-70% RH and 101.3 kPa)
Extended Range Accuracy:	+/- 30 ppm and +/- 5% of reading
CO2 Output Signal:	Output 1: 0-5 VDC or 0-10 VDC (Default) Output 2: 4-20 mA (500 Ohm load maximum)
Fail Safe:	Polarity protected
Pressure Dependence:	+ 1.6% reading per kPa (deviation from standard pressure 101.3 kPa)
Response Time:	≤ 2 minutes, diffusion
Warm-Up Time:	< 1 Minute (@ full specs < 15 minutes)
Temperature Output Range:	Various (See Ordering Grid)
Temperature Accuracy:	+/- 1°F (+/- 0.6°C)
Operating Temperature Range:	32 to 122°F (0 to 50°C)
Operating Humidity Range:	0 to 95%, non-condensing
Connections Wire Size:	Screw Terminal Blocks 16 (1.31 mm ²) to 26 (0.129 mm ²) AWG
Terminal Block Torque Rating:	0.5 Nm (minimum); 0.6 Nm (maximum)
Enclosure:	ABS, Plastic, White, UL94-HB
Sensor Coverage Area:	7,500 sq. ft maximum
Mounting Height:	4-6 ft
Sensor Life²:	> 15 years (typical)
Calibration³:	ABC algorithm (Automatic Baseline Correction)
Product Dimensions:	(H) 4.50" (114.30 mm) x (W) 2.75" (69.85 mm) x (D) 1.12" (28.45 mm)
Product Weight:	0.230 lbs (0.104 kg)
Agency Approvals:	EMC Directive 2014/30/EC RoHS Directive 2011/65/EU

Note 1: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note 2:** In normal indoor air quality (IAQ) applications | Corrosive environments are excluded | **Note 3:** Building CO2 levels must drop to 400 ppm some time during the week for ABC to work properly | If the building is occupied 24 hours / day, ABC must be turned off





DIMENSIONAL DRAWING



STANDARD ORDERING

Model #	Item #	Description
A/CO2-R2	144220	CO2 Room (0-5 VDC, 0-10 VDC, 4-20 mA Outputs)

CUSTOM ORDERING

Model # Example: A/CO2 R250 CP A01G 5		MODEL #
		A/CO2
A. Sensor Series No Selection Required	A/CO2	A/CO2
B. Configuration Select One (1)	R2 = Room R20 = Room with Override* R25 = Room with Set Point R250 = Room with Set Point and Override	
C. Temperature Sensor Options Select One (1)	---- (None) 1.8K 3K AN (Type III) AN-BC CP (Type II) 10K-E1 CSI 20K 100KS	
D. Slidepots** Select One (1)	Direct Acting (Range in Ohms) A01 = 0 to 100K A02 = 0 to 20K A03 = 0 to 10K A06 = 4.75K to 24.75K A07 = 10K to 30K A08 = 1K to 11K A09 = 0 to 2K A10 = 0 to 1K A11 = 2.05K to 3.05K A12 = 0 to 400 A16 = 0 to 5K A18 = 10K to 15K A20 = 6.19K to 26.19K A26 = 866 to 1,266 A29 = 7.87K to 27.8K Reverse Acting (Range in Ohms) A04 = 1051.1 to 51.1 A14 = 10K to 0 A24 = 9.5K to 1K	
E. Setpoint Indication Select One (1)	G5 = BLUE/RED (R2 Enclosure)	

Note 1: Override options is Dry Contact (Separate Input) only. Short Sensor is not available by jumpers, only field wiring.

Note 2: Other Setpoint configurations are available. Please contact ACI.

ACCESSORIES ORDERING

Model #	Item #	Description
A/CUSTOM CAL GAS*	140970	Custom Calibration

Note: Contact ACI's Technical Support for custom calibration ranges



CO2 DUCT Sensor with Conduit Option

The ACI Carbon Dioxide Duct Series (A/CO2-D) monitors the carbon dioxide (CO2) levels in industrial, commercial, school, and office-type environments. The concentration of CO2 is a strong indication of the overall indoor air quality. The A/CO2 Series is based on a single beam, non-dispersive infrared technology and is a cost-efficient solution for measuring carbon dioxide levels for building climate control. In addition, ABC software eliminates the need for manual calibration. Carbon Dioxide concentration is measured up to 2,000 ppm and is converted into proportional analog outputs. The factory default outputs are 0-10 VDC (Output 1) and 4-20 mA (Output 2), whereas 0-5 VDC is field selectable via integral dip switches. The A/CO2-D provides data which can be used in conjunction with a Building Automation System or Demand Control Ventilation to decrease energy consumption while creating a healthier indoor climate.

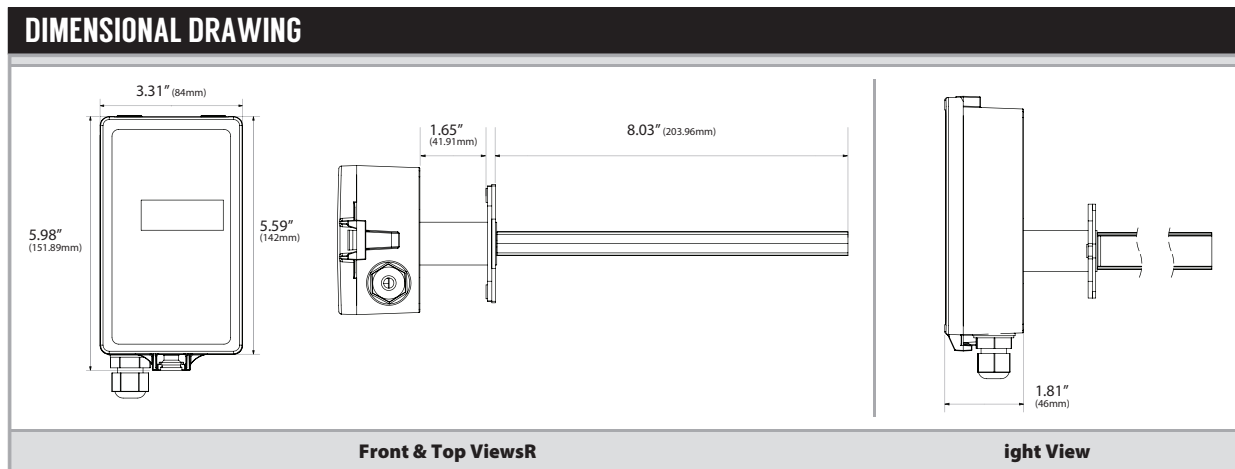
Applications: Schools, Office Buildings, Auditoriums, Gymnasiums, Shopping Malls, Theatres, Demand Control Ventilation & Economizers

The CO2 Duct Series are covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's web site, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC +/-20%, 50/60 Hz (half-wave rectifier) 16.5-40 VDC maximum
Power Consumption:	3 VA for 24 VAC, 3W for 24 VDC (peak); <0.9W (average)
Sensing Technology:	Single beam infrared sensing technology (NDIR)
Sensing Method:	Diffusion
Measurement Range Default:	0 to 2,000 ppm
Extended CO2 Ranges:	Up to 10,000 ppm (factory set)
CO2 Accuracy¹:	+/- 40 ppm and +/- 3% of reading (@ 15-35°C; 20-70% RH and 101.3 kPa)
Extended Range Accuracy>2000 ppm:	+/- 30 ppm and +/- 5% of reading
CO2 Output Signal:	Output 1: 0-5 VDC or 0-10 VDC (Default) Output 2: 4-20 mA (500Ohm load maximum)
Fail Safe:	Polarity protected
Pressure Dependence:	+ 1.6% reading per kPa (deviation from standard pressure 101.3 kPa)
Response Time:	≤ 2 minutes, diffusion
Warm-Up Time:	< 1 Minute (@ full specs < 15 minutes)
Operating Temperature Range:	32 to 122°F (0 to 50°C)
Operating Humidity Range:	0 to 95%, non-condensing
Connections Wire Size:	Screw Terminal Blocks 16 (1.31 mm ²) to 26 (0.129 mm ²) AWG
Terminal Block Torque Rating:	0.5 Nm (minimum); 0.6 Nm (maximum)
Enclosure:	Duct Box: IP65 rated, PC & ABS blend, Flammability Rating UL94V-0 Cover: Makrolon® 6555 plastic, Flammability Rating UL94V-0 Pipe: PC & ABS blend, Flammability Rating UL94V-0
Sensor Life²:	> 15 years (typical)
Calibration³:	ABC algorithm (Automatic Baseline Correction)
Product Dimensions:	(H) 5.59" (142 mm) x (W) 3.31" (84 mm) x (D) 1.81" (46 mm)
Product Weight:	0.79 lbs (0.36 kg)
Agency Approvals:	EMC Directive 2014/30/EC RoHS Directive 2011/65/EU

Note 1: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note 2:** In normal indoor air quality (IAQ) applications | Corrosive environments are excluded | **Note 3:** Building CO2 levels must drop to 400 ppm same time during the week for ABC to work properly | If the building is occupied 24 hours / day, ABC must be turned off



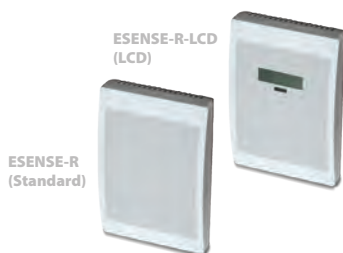
STANDARD ORDERING

Model #	Item #	Description
A/CO2-DUCT	150117	CO2 Duct (0-5 VDC, 0-10 VDC, 4-20 mA)
A/CO2-DUCT-C	137562	CO2 Duct with 1/2" Conduit Adapter (0-5 VDC, 0-10 VDC, 4-20 mA)

ACCESSORIES ORDERING

Model #	Item #	Description
A/CUSTOM CAL GAS*	140970	Custom Calibration

Note: Contact ACI's Technical Support for custom calibration ranges



ESENSE ROOM

CO2 Room Sensor with LCD Display Option

ESENSE Room series monitors the carbon dioxide (CO₂) levels in school and office type environments. The concentration of CO₂ is a good indication of the overall indoor air quality. The ESENSE Series is based on a single beam non-dispersive infrared technology and is a cost-optimized solution for the climate control of buildings and other processes. In addition, ABC software eliminates the need for manual calibration. The ESENSE Series measures the CO₂ concentration in the ambient air up to 2,000 ppm and converts the data into an analog output. This data can be used in conjunction with a Building Automation or Demand Control

Ventilation System to decrease energy consumption while creating a healthier indoor climate.

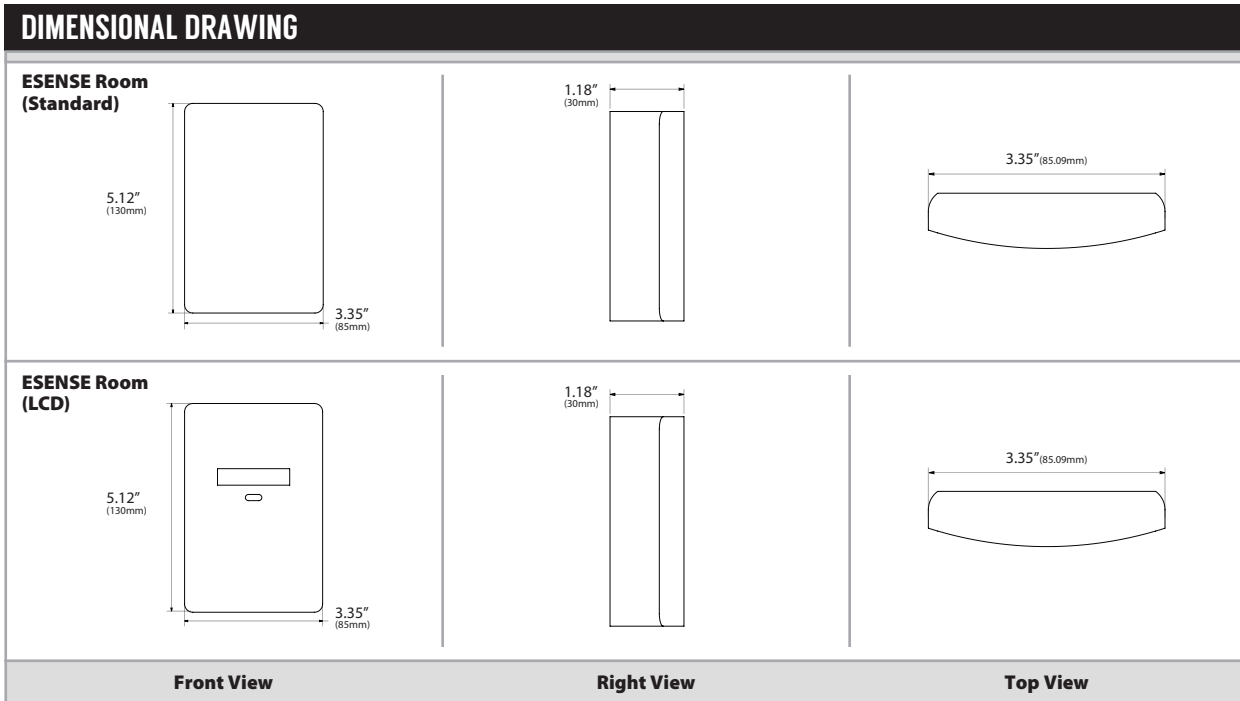
Applications: Schools, Office Buildings, Auditoriums, Gymnasiums, Shopping Malls, Theaters, Demand Control Ventilation & Economizers

The ESENSE Room Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS	
Supply Voltage:	24 VAC/VDC ±20%; 50/60Hz (Half-wave rectified)
Power Consumption:	<1W
Electrical Connections:	0.00232 in ² (1.5 mm ²) screw terminals
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Operating RH:	0 – 95% RH Non-condensing
Warm-Up Time:	1 minutes (@ full specs 15 minutes)
Accuracy¹:	±30 ppm and ±3% of reading
Repeatability:	±20 ppm ±1% of measured value
Annual Zero Drift:	± 0.3% of measurement range
Operating Pressure:	+1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmosphere = 14.7 psi (1.013 KPa))
Sensing Method:	Single beam Non-dispersive Infrared (NDIR)
Sensor Life²:	>15 years
Response Time (T1/e):	<10 seconds @ 30 cc/min flow rate, < 3 minutes diffusion time
Operating Environment:	Residential, Commercial spaces
Sensing Range:	0 to 2000 ppm
Extended CO2 Ranges:	Up to 10,000 ppm (factory set or SADK Kit required)
Extended Range Accuracy >2,000 PPM:	+/- 30 ppm and +/- 5% of reading
Coverage Area:	7500 sq. ft. maximum
Mounting Height:	4-6' off the floor
Display (Optional):	4 digits, 7 segments LCD with ppm indicator
Calibration³:	Senseair ABC algorithm (Automatic Baseline Correction)
Outputs:	Standard: Out 1: 0-10V for 0 to 2000 ppm Out 2: 2-10V or 4-20mA for 0 to 2000 ppm
Storage:	ESENSE-R: -40 to 158°F (-40 to 70°C) ESENSE-R-LCD: -4 to 122°F (-20 to 50°C)
Enclosure:	ABS, Flammability Rating UL94V-0
Room Dimensions:	(H) 5.12" (130 mm) x (W) 3.35" (85.1 mm) x (D) 1.18" (30 mm)
Product Weight (Standard & LCD):	ESENSE-R: 0.294 lbs (0.133 kg) ESENSE-R-LCD: 0.304 lbs (0.138 kg)
Agency Approvals:	EMC Directive 2014/30/EC RoHS Directive 2011/65/EU RoHS 3 Directive 2015/863/EU

Note 1: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note 2:** In normal Indoor Air Quality (IAQ) applications | Corrosive environments are excluded | Changes can be made using the SADK Calibration Kit and UIP5 software | **Note 3:** Building CO₂ levels must drop to 400 ppm some time during the week for ABC to work properly. If the building is occupied 24 hrs/day, ABC must be turned off





STANDARD ORDERING

Model # Example: **ESENSE-R-S** -OR- **130162**

Model #	Item #	Description
ESENSE-R	130079	CO2 Room Mount, 0-10 VDC, 2-10 VDC or 4-20 mA Output
ESENSE-R-LCD	130158	CO2 Room Mount with Display, 0-10 VDC, 2-10 VDC or 4-20 mA Output
ESENSE-R-5-LCD	130163	CO2 Room Mount with Display, 0-5 VDC Output

ACCESSORIES ORDERING

Model # Example: **A/CUSTOM CAL GAS** -OR- **140970**

Model #	Item #	Description
A/CUSTOM CAL GAS*	140970	Custom Calibration
SADK	130502	SADK Calibration Kit
UIP5	----	Free Software Download (Contact ACI)

Note*: Contact ACI's Technical Support for custom calibration ranges





ESENSE DUCT

CO2 Duct Sensor with LCD

The ESENSE Duct series monitors the carbon dioxide (CO₂) levels in industrial, school, and office type environments. The concentration of CO₂ is a good indication of the overall indoor air quality. The ESENSE Series is based on a single beam non-dispersive infrared technology and is a cost-optimized solution for the climate control of buildings and other processes. In addition, ABC software eliminates the need for manual calibration. The ESENSE Series measures the CO₂ concentration in the ambient air up to 2,000 ppm and converts the data into an analog output. This data can be used in conjunction with a Building Automation or Demand Control Ventilation System to decrease energy consumption while creating a healthier indoor climate.

Applications: Commercial Office Buildings, Hospitals & Schools

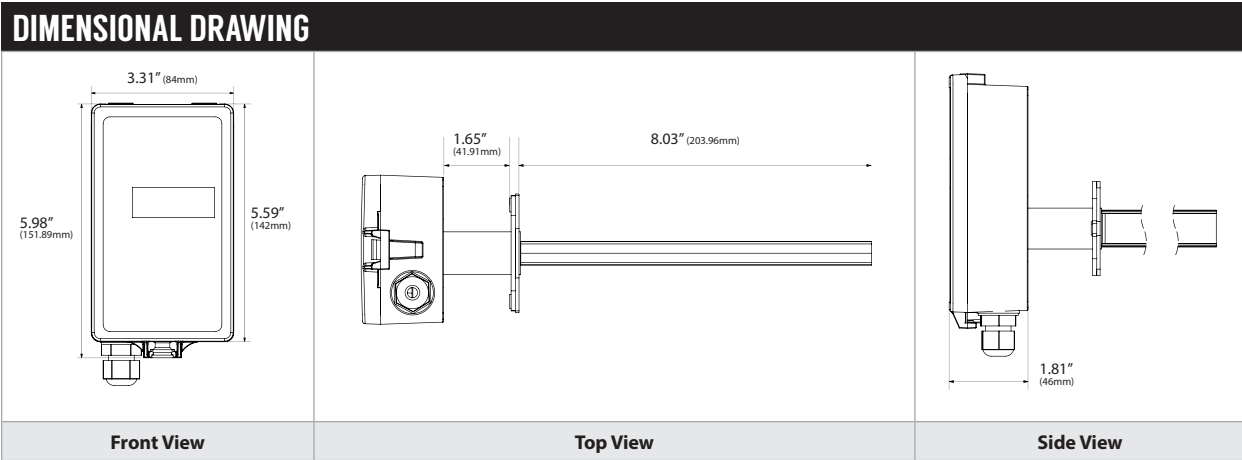
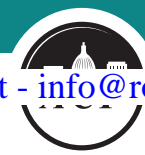
The ESENSE Duct Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's web site, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC/VDC ±20%; 50/60Hz (Half-wave rectified)
Power Consumption:	<1W
Electrical Connections:	0.00232 in ² (1.5 mm ²) screw terminals
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Operating RH:	0 – 95% RH Non-condensing
Warm-Up Time:	1 minutes (@ full specs 15 minutes)
Accuracy¹:	±30 ppm and ±3% of reading
Repeatability:	±20 ppm ±1% of measured value
Annual Zero Drift:	± 0.3% of measurement range
Operating Pressure:	+1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmosphere = 14.7 psi (1.013 KPa))
Sensing Method:	Single beam Non-dispersive Infrared (NDIR)
Sensor Life²:	>15 years
Response Time (T1/e):	<10 seconds @ 30 cc/min flow rate, < 3 minutes diffusion time
Operating Environment:	Residential, Commercial and Industrial spaces
Sensing Range:	0 to 2000 ppm
Extended CO₂ Ranges:	Up to 10,000 ppm (factory set or SADK Kit required)
Extended Range Accuracy >2,000 PPM:	+/- 30 ppm and +/- 5% of reading
Display (Optional):	4 digits, 7 segments LCD with ppm indicator
Calibration³:	Senseair ABC algorithm (Automatic Baseline Correction)
Output:	Standard: Out 1: 0-10V for 0-2000 ppm Out 2: 2-10V or 4-20 mA for 0-2000 ppm
Storage:	-40 to 158°F (-40 to 70°C) Non-display, -4 to 122°F (-20 to 50°C) Display
Enclosure:	Duct Box: IP65 rated, PC & ABS blend, Flammability Rating UL94V-0 Cover: Makrolon® 6555 plastic, Flammability Rating UL94V-0 Pipe: PC & ABS blend, Flammability Rating UL94V-0
Room Dimensions:	(H) 5.95" (151.8 mm) x (W) 3.33" (84.6 mm) x (D) 1.85" (47 mm)
Product Weight:	0.80 lbs (0.36 kg)
Agency Approvals:	EMC Directive 2014/30/EC RoHS Directive 2011/65/EU RoHS 3 Directive 2015/863/EU

Note 1: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note 2:** In normal Indoor Air Quality (IAQ) applications | Corrosive environments are excluded | Changes can be made using the SADK Calibration Kit and UIP5 software | **Note 3:** Building CO₂ levels must drop to 400 ppm some time during the week for ABC to work properly. If the building is occupied 24 hrs/day, ABC must be turned off





STANDARD ORDERING

Model # Example: **ESENSE-D-5** -OR- **130166**

ACI Model #	Item #	Description
ESENSE-D	130164	CO2 Duct Mount, 0-10 VDC, 2-10 VDC or 4-20 mA Output
ESENSE-D-LCD	130165	CO2 Duct Mount with Display, 0-10 VDC, 2-10 VDC or 4-20 mA Output

ACCESSORIES ORDERING

Model # Example: **A/CUSTOM CAL GAS** -OR- **140970**

ACI Model #	Item #	Description
A/CUSTOM CAL GAS*	140970	Custom Calibration
SADK	130502	SADK Calibration Kit
UIP	----	Free Software Download (Contact ACI)

Note*: Contact ACI's Technical Support for custom calibration ranges





ESENSE IP54

CO2 Sensor with LCD & IP54 Rated Enclosure

The ESENSE Duct series monitors the carbon dioxide (CO2) levels in industrial, school, and office type environments. The concentration of CO2 is a good indication of the overall indoor air quality. The ESENSE Series is based on a single beam non-dispersive infrared technology and is a cost-optimized solution for the climate control of buildings and other processes. In addition, ABC software eliminates the need for manual calibration. The ESENSE Series measures the CO2 concentration in the ambient air up to 2,000 ppm and converts the data into an analog output. This data can be used in conjunction with a Building Automation or Demand Control Ventilation System to decrease energy consumption while creating a healthier indoor climate.

Applications: Commercial Office Buildings, Hospitals & Schools

The ESENSE IP54 Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's web site, workaci.com.

PRODUCT SPECIFICATIONS

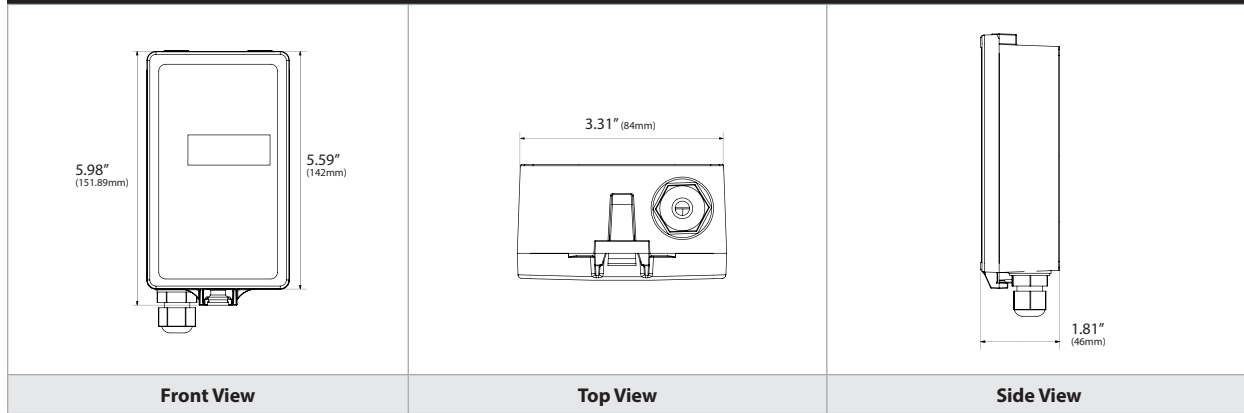
Supply Voltage:	24 VAC/VDC ±20%; 50/60Hz (Half-wave rectified)
Power Consumption:	<1W
Electrical Connections:	0.00232 in ² (1.5 mm ²) screw terminals
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Operating RH:	0 – 95% RH Non-condensing
Warm-Up Time:	1 minutes (@ full specs 15 minutes)
Accuracy¹:	±30 ppm and ±3% of reading
Repeatability:	±20 ppm ±1% of measured value
Annual Zero Drift:	± 0.3% of measurement range
Operating Pressure:	+1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmosphere = 14.7 psi (1.013 KPa))
Sensing Method:	Single beam Non-dispersive Infrared (NDIR)
Sensor Life²:	>15 years
Response Time (T1/e):	<10 seconds @ 30 cc/min flow rate, < 3 minutes diffusion time
Operating Environment:	Residential, Commercial and Industrial spaces
Sensing Range:	0 to 2000 ppm
Extended CO2 Ranges:	Up to 10,000 ppm (factory set or SADK Kit required)
Extended Range Accuracy >2,000 PPM:	+/- 30 ppm and +/- 5% of reading
Display (Optional):	4 digits, 7 segments LCD with ppm indicator
Calibration³:	Senseair ABC algorithm (Automatic Baseline Correction)
Output:	Standard: Out 1: 0-10V for 0-2000 ppm Out 2: 2-10V or 4-20 mA for 0-2000 ppm
Storage:	-40 to 158°F (-40 to 70°C) Non-display, -4 to 122°F (-20 to 50°C) Display
Enclosure:	Duct Box: IP65 rated, PC & ABS blend, Flammability Rating UL94V-0 Cover: Makrolon® 6555 plastic, Flammability Rating UL94V-0 Pipe: PC & ABS blend, Flammability Rating UL94V-0
Room Dimensions:	(H) 5.95" (151.8 mm) x (W) 3.33" (84.6 mm) x (D) 1.85" (47 mm)
Product Weight:	0.80 lbs (0.36 kg)
Agency Approvals:	EMC Directive 2014/30/EC RoHS Directive 2011/65/EU RoHS 3 Directive 2015/863/EU

Note 1: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note 2:** In normal Indoor Air Quality (IAQ) applications | Corrosive environments are excluded | Changes can be made using the SADK Calibration Kit and UIP5 software | **Note 3:** Building CO2 levels must drop to 400 ppm some time during the week for ABC to work properly. If the building is occupied 24 hrs/day, ABC must be turned off





DIMENSIONAL DRAWING



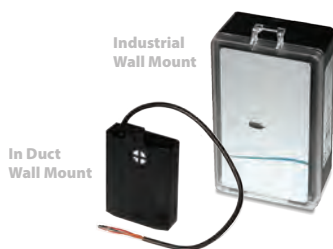
STANDARD ORDERING

ACI Model #	Item #	Description
ESENSE-IP54-LCD	130169	CO2 Duct Mount, 0-10 VDC, 2-10 VDC or 4-20 mA Output

ACCESSORIES ORDERING

ACI Model #	Item #	Description
A/CUSTOM CAL GAS*	140970	Custom Calibration
SADK	130502	SADK Calibration Kit
UIP5	----	Free Software Download (Contact ACI)

Note*: Contact ACI's Technical Support for custom calibration ranges



ESENSE WALL MOUNTS

Industrial (IP54) & In-Duct (IP50) Wall Mounts

The ESENSE-IP54 Industrial Wall Mount transmitters monitor the carbon dioxide (CO2) levels in industrial, school, and office type environments. The concentration of CO2 is a good indication of the overall indoor air quality. The ESENSE Series is based on a single beam non-dispersive infrared technology and is a cost-optimized solution for the climate control of buildings and other processes. In addition, ABC software eliminates the need for manual calibration. The ESENSE Series measures the CO2 concentration in the ambient air up to 2,000 ppm and converts the data into an analog output. This data can be used in conjunction with a Building

Automation or Demand Control Ventilation System to decrease energy consumption while creating a healthier indoor climate. The enclosure is IP54 rated for Industrial applications.

Applications: Schools, Office Buildings, Auditoriums, Gymnasiums, Shopping Malls, Theaters, Demand Control Ventilation & Economizers

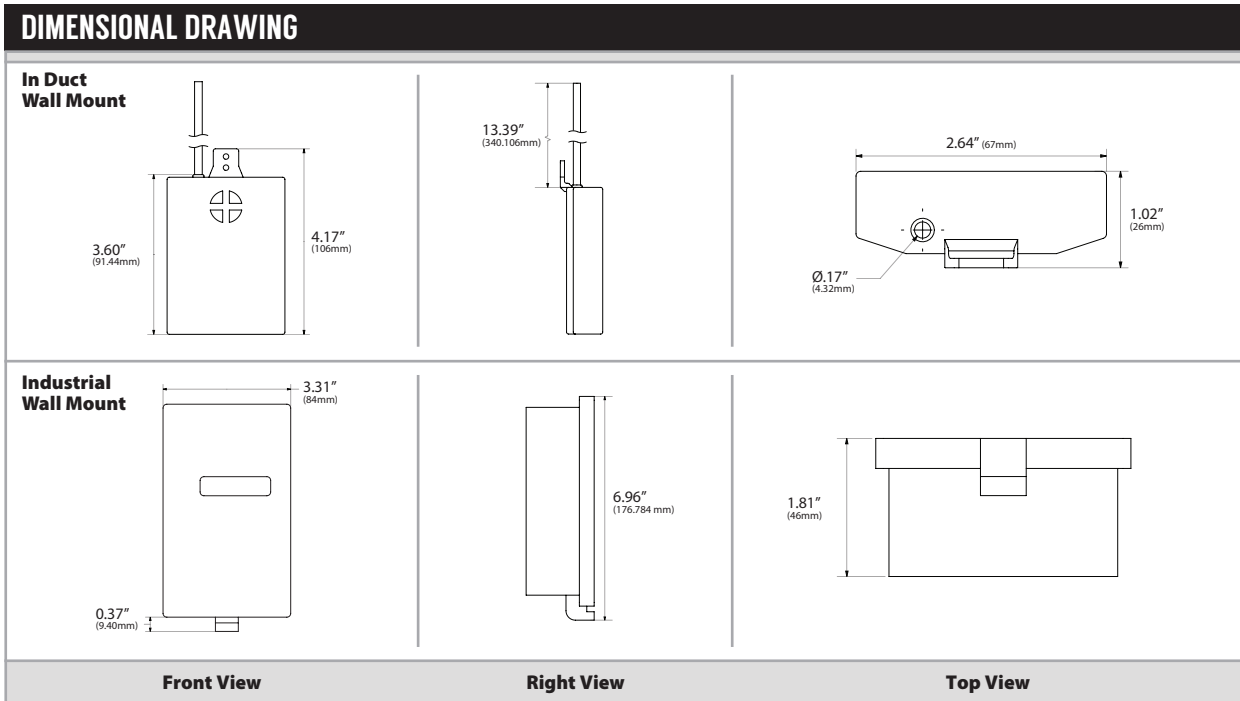
The ESENSE Room IP54 Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC/VDC ±20%; 50/60Hz (Half-wave rectified)
Power Consumption:	<1W Average
Electrical Connections:	Industrial: 0.00232 in ² (1.5 mm ²) screw terminals In-Duct: 13.39" (34 cm) 3-wire pigtail
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Operating RH:	0 – 95% RH Non-condensing
Warm-Up Time:	1 minute (@ full specs 15 minutes)
Accuracy¹:	±30 ppm ±3% of reading
Annual Zero Drift:	<±10 ppm
Operating Pressure:	+1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmosphere = 14.7 psi (1.013 KPa))
Sensing Method:	Single beam Non-Dispersive Infrared (NDIR)
Sensor Life²:	>15 years
Diffusion Time (T1/e):	<3 minutes
Operating Environment:	Residential, Commercial and Industrial spaces
Sensing Range:	0 to 2000 ppm
Extended CO2 Ranges (IP54):	Up to 10,000 ppm (factory set or SADK Kit required)
Extended Range Accuracy:	+/- 30 ppm and +/- 5% of reading
Coverage Area:	7500 sq. ft. maximum
Mounting Height:	4-6' off the floor or in duct
Display (Optional):	4 digits, 7 segments LCD with ppm indicator
Calibration²:	Senseair ABC algorithm (Automatic Baseline Correction)
Outputs (Industrial):	Out 1: 0-10V for 0-2000 ppm Out 2: 2-10V or 4-20 mA for 0-2000 ppm Out 1: 0-10V only (In-Duct Version)
Storage:	-40 to 158°F (-40 to 70°C) Non-display, -4 to 122°F (-20 to 50°C) Display
Enclosure:	Industrial: IP54 rated, Box; PC & ABS blend, Flammability Rating UL94V-0 Cover; Makrolon® 6555 plastic, Flammability Rating UL94V-0 In-Duct: IP50 Rated, PC & ABS blend, Flammability Rating UL94V-0
Product Dimensions:	Industrial: (H) 5.95" (151.9 mm) x (W) 3.33" (84.6 mm) x (D) 1.85" (47 mm) In-Duct: (H) 4.17" (106 mm) x (W) 2.64" (67 mm) x (D) 1.02" (26 mm)
Agency Approvals:	EMC Directive 2014/30/EC RoHS Directive 2011/65/EU RoHS 3 Directive 2015/863/EU

Note 1: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note 2:** In normal Indoor Air Quality (IAQ) applications | Corrosive environments are excluded | Changes can be made using the SADK Calibration Kit and UIP5 software | **Note 3:** Building CO2 levels must drop to 400 ppm some time during the week for ABC to work properly. If the building is occupied 24 hrs/day, ABC must be turned off





STANDARD ORDERING

Model # Example: **ESENSE-IP54** -OR- **130168**

Model #	Item #	Description
ESENSE-IP54-LCD	130169	CO2 Industrial Wall Mount with Display, 0-10 VDC or 4-20 mA Output
ESENSE-IP50	130030	CO2 Industrial In Duct / Wall Mount, 0-10 VDC Output

ACCESSORIES ORDERING

Model # Example: **A/CUSTOM CAL GAS** -OR- **140970**

Model #	Item #	Description
A/CUSTOM CAL GAS*	140970	Custom Calibration (IP54 only)
SADK	130502	SADK Calibration Kit
UIP5	----	Free Software Download (Contact ACI)

Note*: Contact ACI's Technical Support for custom calibration ranges





ESENSE OUTDOOR

CO2 Outdoor Sensor

Carbon Dioxide Sensor The ESENSE-OUTDOOR combines excellent performance with a straightforward design to provide an analog output based on 0 to 2,000 ppm of carbon dioxide. The ESENSE-OUTDOOR is complete with a IP65 housing with side ventilation to support the flow of outdoor air. The ESENSE-OUTDOOR includes an in-line thermostat in order that heating of the housing only takes place when the outdoor temperature warrants the use of the energy to maintain an above freezing temperature in the housing. This device can be mounted to a wall, or other supporting structures, using the four corner mounting holes or the top and bottom mounting holes.

Applications: Outdoor or Non-Heated Structures

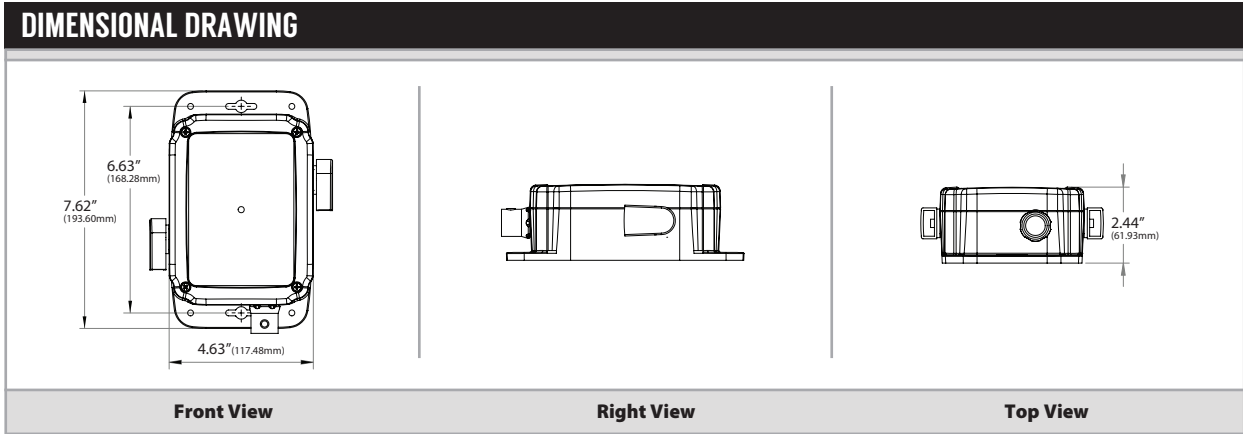
The ESENSE-OUTDOOR Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC/VDC ±20%; 50/60Hz (Half-wave rectified)
Power Consumption:	Sensor: <1W Heater: 10W Maximum Total Power: 11W
Enclosure Heater:	24 VAC Turns on @ 39°F (4°C) and below
Electrical Connections:	0.00232 in ² (1.5 mm ²) screw terminals
Operating Temperature:	-22°F to 115°F (-30°C to 46°C)
Operating RH:	0 - 95% RH Non-condensing
Warm-Up Time:	1 minute (@ full specs 15 minutes)
Accuracy¹:	±30 ppm and ±3% of reading
Repeatability:	±20 ppm ±1% of measured value
Annual Zero Drift:	± 0.3% of measurement range
Operating Pressure:	+1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmosphere = 14.7 psi (1.013 KPa))
Sensing Method:	Single beam Non-dispersive Infrared (NDIR)
Sensor Life²:	>15 years
Response Time (T1/e):	<10 seconds @ 30 cc/min flow rate, < 3 minutes diffusion time
Operating Environment:	Outdoor or Non-Heated Structures
Sensing Range:	0 to 2000 ppm
Extended CO2 Ranges:	Up to 10,000 ppm (factory set or SADK Kit required)
Extended Range Accuracy >2,000 PPM:	+/- 30 ppm and +/- 5% of reading
Calibration³:	Senseair ABC algorithm (Automatic Baseline Correction)
Outputs:	Standard: Out 1: 0-10V for 0 to 2000 ppm Out 2: 2-10V or 4-20mA for 0 to 2000 ppm
Storage:	-4 to 122°F (-20 to 50°C)
Enclosure:	IP65, Flammability Rating UL94V-0 Poly Carbonate
Room Dimensions:	(H) 7.62" (193.55 mm) x (W) 4.63" (117.60 mm) x (D) 2.44" (61.98 mm)
Product Weight:	1.4 lbs (0.64 Kg)
Agency Approvals:	EMC Directive 2014/30/EC RoHS Directive 2011/65/EU RoHS 3 Directive 2015/863/EU

Note 1: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note 2:** In normal Indoor Air Quality (IAQ) applications | Corrosive environments are excluded | Changes can be made using the SADK Calibration Kit and UIP5 software | **Note 3:** Building CO2 levels must drop to 400 ppm some time during the week for ABC to work properly. If the building is occupied 24 hrs/day, ABC must be turned off





STANDARD ORDERING Model # Example: **ESENSE-OUTDOOR** -OR- **135028**

Model #	Item #	Description
ESENSE-OUTDOOR	135028	ESENSE-OUTDOOR / CO2 Heated Outdoor Sensor

ACCESSORIES ORDERING Model # Example: **A/CUSTOM CAL GAS** -OR- **140970**

Model #	Item #	Description
A/CUSTOM CAL GAS*	140970	Custom Calibration (IP54 only)
SADK	130502	SADK Calibration Kit
UIP5	---	Free Software Download (Contact ACI)

Note*: Contact ACI's Technical Support for custom calibration ranges





ASENSE-R
(Standard)



ASENSE ROOM

CO2 Room Sensor with Relay Option

The ASENSE Room series monitors the carbon dioxide (CO2) levels in commercial, school, and office type environments. The concentration of CO2 is a strong indication of the overall indoor air quality. The ASENSE Series is based on a single beam non-dispersive infrared technology and is a cost-optimized solution for the climate control of buildings and other processes. In addition, ABC software eliminates the need for manual calibration. The ASENSE Series measures the CO2 concentration in the ambient air up to 2,000 ppm and converts the data into an analog output. This data can be used in conjunction with a Building Automation or Demand Control Ventilation System to create a healthier indoor climate. This series features an analog temperature output (32 to 122°F) and come with combined output options of 0-10 VDC and 0

to 20 mA (4 to 20 mA and 2-10 VDC are field selectable via an onboard jumper). A relay option is available for this series as well. The UIP5 software and programming cable offer a configuration/test utility and provide access to the main features of the ASENSE series.

Applications: Commercial Office Buildings, Gymnasiums, Shopping Malls, Auditoriums, Theaters, Hospitals & Schools

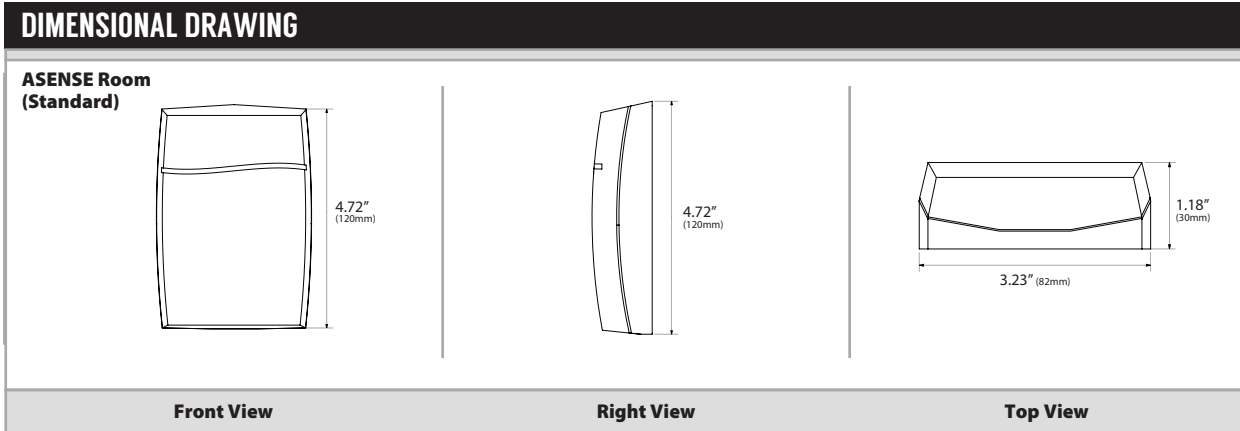
The ASENSE Room Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC/VDC ±20%; 50/60 Hz, 10.5 to 40 VDC maximum (Half-wave rectified)
Power Consumption:	<1W
Wiring Connections:	0.00232 in ² (1.5 mm ²) screw terminals
Operating Environment:	Residential, commercial and industrial spaces
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Operating RH:	0 to 85% RH Non-condensing
Warm-Up Time:	<5 minutes (@ full specs 15 minutes)
Accuracy:	CO2¹: ±30 ppm and ±3% of reading Temperature: ±1.8°F (1°C)
Repeatability:	±20 ppm ±1% of measured value
Annual Zero Drift:	<± 0.3% of measurement range
Operating Pressure:	+1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmosphere = 14.7 psi (1.013 KPa))
Sensing Method:	Single beam Non-dispersive Infrared (NDIR)
Sensor Life ²:	>15 years
Response Time (T1/e):	<10 seconds @ 30 cc/minutes flow rate, <3 minutes diffusion time
Sensing Range:	CO2: 0 to 2000 ppm Temperature: -4 to 140°F (-20 to 60°C)
Extended CO2 Ranges:	Up to 10,000 ppm (factory set or programming cable required)
Extended Range Accuracy > 2,000 PPM:	+/- 30 ppm and +/- 5% of reading
Coverage Area:	7500 sq. ft. maximum
Mounting Height:	4-6' off the floor
Self-Diagnostics:	Complete function check, yellow LED; LCD error indication (display model only)
Display (Optional):	4 digits, 7 segments LCD with ppm indicator
Calibration ³:	Senseair ABC algorithm (Automatic Baseline Correction)
Outputs:	Output 1 (CO2): 0/2 to 10V, 0/4 to 20 mA, 0 to 2000 ppm Output 2 (Temperature): 0/2 to 10V, 0/4 to 20 mA, 32 to 122°F (0 to 50°C)
Relay (Optional):	Output 3: N.O. or N.C. rated 0.5A @ 125 VAC; 1A @ 24 VDC
Relay Trip Point:	1000 ppm (factory set)
Relay Deadband/Hysteresis:	100 ppm (factory set)
Relay Durability:	Mechanical: 5,000,000 operations minimum (at 36,000 operations/hr) Electrical: 100,000 operations minimum (under rated load, at 1,800 operations/hr)
Storage:	Standard Versions: -40 to 158°F (-40 to 70°C) LCD Versions: -4 to 122°F (-20 to 50°C) 0 to 85% RH Non-condensing
Enclosure:	ABS, Flammability Rating UL94-HB
Product Dimensions:	ASENSE-R & ASENSE-R-LCD: (H) 5.12" (130 mm) x (W) 3.35" (85.1 mm) x (D) 1.18" (30 mm)
Product Weight:	ASENSE-R: 0.300 lbs (0.136 kg) ASENSE-R-LCD: 0.314 lbs (0.142 kg)
Agency Approvals:	EMC Directive 2014/30/EC, RoHS Directive 2011/65/EU & RoHS 3 Directive 2015/863/EU

Note 1: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note 2:** In normal Indoor Air Quality (IAQ) applications | Corrosive environments are excluded | **Note 3:** Building CO2 levels must drop to 400 ppm some time during the week for ABC to work properly | If the building is occupied 24 hrs/day, ABC must be turned off | Changes can be made using TTL-232R-3V3 cable and UIP5 software





STANDARD ORDERING

Model # Example: **A**SENSE-R-REL -OR- 130529

Model #	Item #	Description
A SENSE-R	131189	CO2 Room, 0-10 VDC or 0-20 mA Output, 4-20mA or 2-10 VDC Field Selectable
A SENSE-R-REL	130529	CO2 Room, 0-10 VDC or 0-20 mA Output, Relay, 4-20mA or 2-10 VDC Field Selectable
A SENSE-R-LCD	131191	CO2 Room, with Display, 0-10 VDC or 0-20 mA Output, 4-20mA or 2-10 VDC Field Selectable
A SENSE-R-LCD-REL	130530	CO2 Room, with Display, 0-10 VDC or 0-20 mA Output, Relay, 4-20mA or 2-10 VDC Field Selectable

ACCESSORIES ORDERING

Model # Example: **A/CUSTOM CAL GAS** -OR- 140970

Model #	Item #	Description
A/CUSTOM CAL GAS*	140970	Custom Calibration
TTL-232R-3V3	134207	Programming Cable
UIP5	----	Free Software Download (Contact ACI)

Note*: Contact ACI's Technical Support for custom calibration ranges





ASENSE DUCT

CO2 Duct Sensor with IP65 Rated Enclosure

The ASENSE Duct series monitors the carbon dioxide (CO2) levels in industrial, commercial, school, and office type environments. The concentration of CO2 is a strong indication of the overall indoor air quality. The ASENSE Series is based on a single beam non-dispersive infrared technology and is a cost-optimized solution for the climate control of buildings and other processes. In addition, ABC software eliminates the need for manual calibration. The ASENSE Series measures the CO2 concentration in the ambient air up to 2,000 ppm and converts the data into an analog output. This data can be used in conjunction with a Building Automation or Demand Control Ventilation System to create a healthier indoor climate. This series features

an analog temperature output (32 to 122°F) and come with combined output options of 0-10 VDC and 0 to 20 mA (4 to 20 mA and 2-10 VDC are field selectable via an onboard jumper) The relay output can directly control dampers and speed regulated fans. The UIP5 software and programming cable offer a configuration/test utility and provide access to the main features of the ASENSE series.

Applications: Commercial Office Buildings, Hospitals & Schools

The ASENSE Duct Series is covered by ACI's Five (5) 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.

PRODUCT SPECIFICATIONS

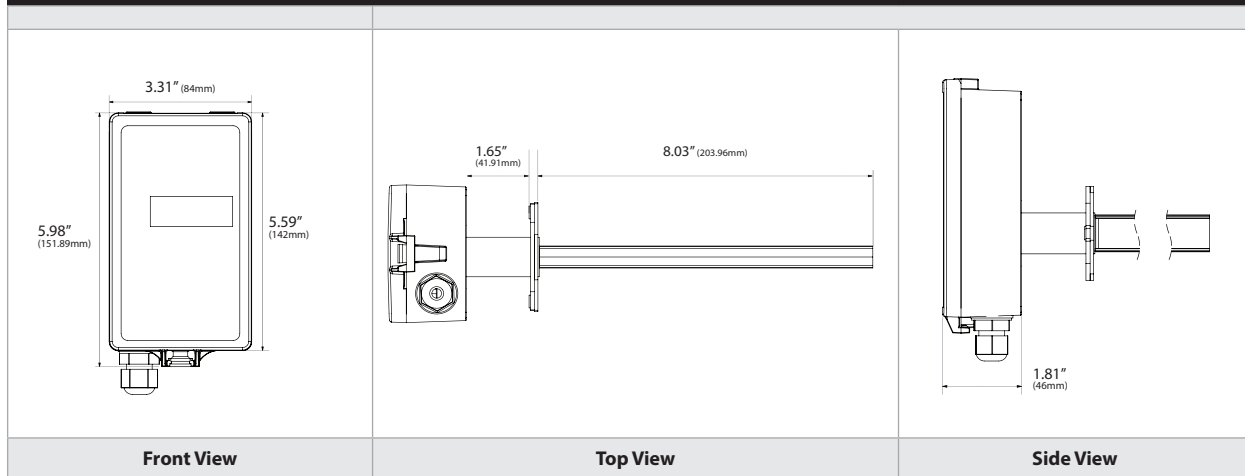
Supply Voltage:	24 VAC/VDC ±20%; 50/60 Hz, 10.5 to 40 VDC maximum (Half-wave rectified)
Power Consumption:	<1W
Wiring Connections:	0.00232 in ² (1.5 mm ²) screw terminals
Operating Environment:	Residential, commercial, and industrial spaces
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Operating RH:	0 to 85% RH Non-condensing
Warm-Up Time:	<5 minutes (@ full specs 15 minutes)
Accuracy:	CO2 ¹ : ±30 ppm and ±3% of reading Temperature: ±1.8°F (1°C)
Repeatability:	±20 ppm ±1% of measured value
Annual Zero Drift:	<± 0.3% of measurement range
Operating Pressure:	+1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmosphere = 14.7 psi (1.013 KPa))
Sensing Method:	Single beam Non-dispersive Infrared (NDIR)
Sensor Life ² :	>15 years
Response Time (T1/e):	<10 seconds @ 30 cc / minimum flow rate, <3 minutes diffusion time
Sensing Range:	CO2: 0 to 2000 ppm Temperature: -4 to 140°F (-20 to 60°C)
Extended CO2 Ranges:	2000 to 10,000 ppm (factory set or programming cable required)
Extended Range Accuracy >2,000 PPM:	+/- 30 ppm and +/- 5% of reading
Coverage Area:	7500 sq. ft. maximum
Self-Diagnostics:	Complete function check, yellow LED; LCD error indication (display model only)
Display:	4 digits, 7 segments LCD with ppm indicator
Calibration ³ :	Senseair ABC algorithm (Automatic Baseline Correction)
Outputs:	Out 1 (CO2): 0/2 to 10V, 0/4 to 20 mA, 0 to 2000 ppm Out 2 (Temperature): 0/2 to 10V, 0/4 to 20 mA, 32 to 122°F (0 to 50°C)
Relay:	Out 3: N.O. or N.C. rated 0.5A @ 125 VAC; 1A @ 24 VDC
Relay Trip Point ⁴ :	1000 ppm (factory set)
Relay Deadband/Hysteresis:	100 ppm (factory set)
Relay Durability:	Mechanical: 5,000,000 operations minimum (at 36,000 operations/hr) Electrical: 100,000 operations minimum (under rated load, at 1,800 operations/hr)
Storage:	ASENSE-D-LCD: -4 to 122°F (-20 to 50°C) 0 to 85% RH Non-condensing
Enclosure:	Duct Box: PC & ABS blend, Flammability Rating UL94V-0 Cover: Makrolon® 6555 plastic, Flammability Rating UL94V-0 Pipe: PC & ABS blend, Flammability Rating UL94V-0
Product Dimensions:	(H) 5.95" (151.9 mm) x (W) 3.33" (84.6 mm) x (D) 1.85" (47 mm)
Product Weight:	0.812 lbs (0.368 kg)
Agency Approvals:	CE, UKCA, RoHS

Note ¹: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note** ²: In normal Indoor Air Quality (IAQ) applications | Corrosive environments are excluded | **Note** ³: Building CO2 levels must drop to 400 ppm some time during the week for ABC to work properly | If the building is occupied 24 hrs/day, ABC must be turned off | **Note** ⁴: Changes can be made using TTL-232R-3V3 cable and UIP5 software





DIMENSIONAL DRAWING



STANDARD ORDERING

Model # Example: **A**SENSE-D-LCD -OR- 133507

Model #	Item #	Description
A SENSE-D-LCD-REL	130532	CO ₂ , Duct Mount with Display, Relay, 0-10 VDC or 0-20 mA Output, 4-20 mA or 2-10 VDC Field Selectable

ACCESSORIES ORDERING

Model # Example: **A**/CUSTOM CAL GAS -OR- 140970

Model #	Item #	Description
A /CUSTOM CAL GAS*	140970	Custom Calibration
T TTL-232R-3V3	134207	Programming Cable
U IP5	----	Free Software Download (Contact ACI)

Note*: Contact ACI's Technical Support for custom calibration ranges



ASENSE-GH-LCD

CO2 Sensor for Greenhouses / Indoor Agriculture

The ASENSE-GH is a device that is designed for monitoring carbon dioxide (CO2) and temperature in areas that have higher Carbon Dioxide levels such as greenhouses and breweries. It has a conformally coated PCB and filter equipped housing to protect against dust and high humidity. The ASENSE-GH-LCD uses State-of-the-art non-dispersive infrared (NDIR) technology and has a membrane covered sample chamber that gives a stable and reliable CO2 reading. There are three

(3) outputs on the ASENSE-GH: Output 1 for CO2: 0/2-10V or 0/4-20 mA 0-2000 ppm, Output 2 temperature: 0/2-10V or 0/4-20 mA 0-50°C, and Output 3 is a relay for fan control. An optional RS485 interface for Modbus communication is available.

Applications: Greenhouses, Grow Houses, Breweries, Indoor Agriculture, Mushroom Farms & Horticultural

The ASENSE-GH-LCD Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

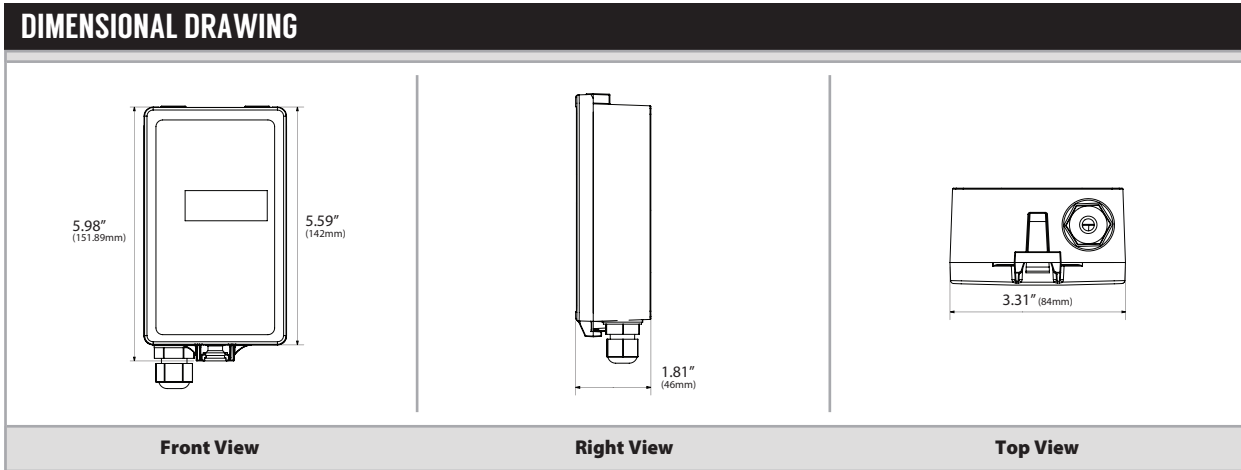
Supply Voltage:	24 VAC/VDC ±20%; 50/60 Hz, 10.5 to 40 VDC maximum (Half-wave rectified)
Power Consumption:	<3W Average
Electrical Connections:	0.00232 in ² (1.5 mm ²) screw terminals
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Operating RH:	0 to 85% RH Non-condensing
Warm-Up Time:	< 1 minute (@ full specs 15 minutes)
Sensing Range; CO2 Temperature:	0 to 2000 ppm -4° to 140°F (-20° to 50°C)
Extended CO2 Ranges:	2000 to 10,000 ppm (factory set or programming cable required)
Accuracy; CO2 Temperature:	±30 ppm ±3% of reading ±1.8°F (1°C)
Extended Range Accuracy:	+/- 30 ppm and +/- 5% of reading
Annual Zero Drift:	< +/-10 ppm
Operating Pressure:	+1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmosphere = 14.7 psi (1.013 KPa))
Sensing Method:	Non-dispersive infrared (NDIR) with EQC (Eternal Quality Coating)
Sensor Life ¹:	> 15 years
Diffusion Time (T1/e):	< 3 minutes
Coverage Area:	7500 sq. ft maximum
Mounting Height:	4-6' off the floor
Display:	4 digits, 7 segments LCD with ppm / °F
Status LED Indicators:	Yellow = Maintenance Support Red = Closed Relay
Calibration:	Recommended annually
Outputs ²:	Out 1 (CO2): 0/2-10V, 0/4-20 mA, 0-2000 ppm Out 2 (Temp): 0/2-10V, 0/4-20 mA, 32° to 122°F / 0° to 50°C Out 3 Relay: N.O.; 1A @ 50 VAC / 24 VDC
Protection:	PTC fuse (auto reset) on signal return M, short-circuit safe
Output Limits:	MIN & MAX limits may be individually set to all outputs Linear
OUT1 & OUT2:	0/2-10 VDC, ROUT < 100Ω, RLOAD > 5kΩ (0/1-5 VDC optional) 0/4-20 mA, RLOAD < 500Ω
D/A Resolution:	10 bits, 10 mV / 0.016 mA
D/A Conversion Accuracy:	Voltage mode: ± 2% of reading ± 50 mV current loop : ± 2% of reading ± 0.3 mA
Relay Trip Point ³:	1000 ppm (factory set)
Relay Deadband / Hysteresis:	100 ppm (factory set)
Agency Approvals:	RoHS directive 2011/65/EU, EMC 2004/108/EC, 92/31/EEG including amendments by the CE-marking Directive 93/68/EEC
Storage:	-40° to 158°F (-40° to 70°C) Non-display, -4° to 122°F (-20 to 50°C) Display 0 to 85% RH Non-condensing
Enclosure:	Box; PC & ABS blend IP65 Rating, Flammability UL94V-0 Cover; Makrolon® 6555 plastic, Flammability rating UL94V-0
Product Dimensions:	(H) 5.95" (151.9 mm) x (W) 3.33" (84.6 mm) x (D) 1.85" (47 mm)

Note ¹: In normal Indoor Air Quality (IAQ) applications | Corrosive environments are excluded

Note ²: Optional Modbus RS485 communication board available

Note ³: Changes can be made using TTL-232R-3V3 cable and UIP5 software downloaded from Senseair





STANDARD ORDERING Model # Example: **A**SENSE-GH-LCD -OR- 144119

Model #	Item #	Description
ASENSE-GH-LCD	144119	ASENSE Greenhouse, CO2, Temperature, Relay, With Display

ACCESSORIES ORDERING Model # Example: **A**/CUSTOM CAL GAS -OR- 140970

Model #	Item #	Description
A/CUSTOM CAL GAS*	140970	Custom Calibration
TTL-232R-3V3	134207	Programming Cable
UIP5	----	Free Software Download (Contact ACI)

Note*: Contact ACI's Technical Support for custom calibration ranges





ASENSE IP54

CO2 Sensor with IP54 Rated Enclosure

The ASENSE Duct series monitors the carbon dioxide (CO2) levels in industrial, commercial, school, and office type environments. The concentration of CO2 is a strong indication of the overall indoor air quality. The ASENSE Series is based on a single beam non-dispersive infrared technology and is a cost-optimized solution for the climate control of buildings and other processes. In addition, ABC software eliminates the need for manual calibration. The ASENSE Series measures the CO2 concentration in the ambient air up to 2,000 ppm and converts the data into an analog output. This data can be used in conjunction with a Building Automation or Demand Control Ventilation System to create a healthier indoor climate. This series features an analog temperature output (32 to 122°F) and come with combined output options of 0-10 VDC and 0 to 20 mA (4 to 20 mA and 2-10 VDC are

field selectable via an onboard jumper) or 0-5 VDC for “-5” versions. A relay option is available for this series as well. The UIP5 software and programming cable offer a configuration/test utility and provide access to the main features of the ASENSE series.

Applications: Commercial Office Buildings, Hospitals & Schools

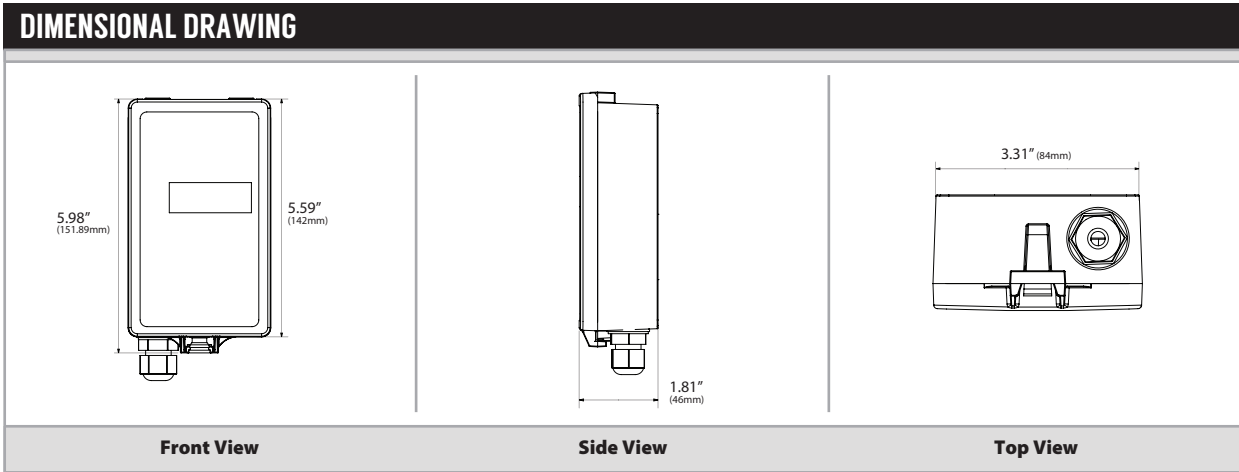
The ASENSE IP54 Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VAC/VDC ±20%; 50/60 Hz, 10.5 to 40 VDC maximum (Half-wave rectified)
Power Consumption:	<1W
Wiring Connections:	0.00232 in ² (1.5 mm ²) screw terminals
Operating Environment:	Residential, commercial, and industrial spaces
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Operating RH:	0 to 85% RH Non-condensing
Warm-Up Time:	<5 minutes (@ full specs 15 minutes)
Accuracy:	CO2¹: ±30 ppm ±3% of reading Temperature: ±1.8°F (1°C)
Repeatability:	±20 ppm ±1% of measured value
Annual Zero Drift:	<± 0.3% of measurement range
Operating Pressure:	+1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmosphere = 14.7 psi (1.013 KPa))
Sensing Method:	Single beam Non-dispersive Infrared (NDIR)
Sensor Life²:	>15 years
Response Time (T1/e):	<10 seconds @ 30 cc / minimum flow rate, <3 minutes diffusion time
Sensing Range:	CO2: 0 to 2000 ppm Temperature: -4 to 140°F (-20 to 60°C)
Extended CO2 Ranges:	2000 to 10,000 ppm (factory set or programming cable required)
Extended Range Accuracy:	+/- 30 ppm and +/- 5% of reading
Coverage Area:	7500 sq. ft. maximum
Self-Diagnostics:	Complete function check, yellow LED; LCD error indication (display model only)
Display (Optional):	4 digits, 7 segments LCD with ppm indicator
Calibration³:	Senseair ABC algorithm (Automatic Baseline Correction)
Outputs:	Out 1 (CO2): 0/2 to 10V, 0/4 to 20 mA, 0 to 2000 ppm Out 2 (Temperature): 0/2 to 10V, 0/4 to 20 mA, 32 to 122°F (0 to 50°C) “5” Version: 0-5 VAC for 0-2000 ppm
Relay (Optional):	Out 3: N.O. or N.C. rated 0.5A @ 125 VAC; 1A @ 24 VDC
Relay Trip Point⁴:	1000 ppm (factory set)
Relay Deadband/Hysteresis:	100 ppm (factory set)
Relay Durability:	Mechanical: 5,000,000 operations minimum (at 36,000 operations/hr) Electrical: 100,000 operations minimum (under rated load, at 1,800 operations/hr)
Storage:	ASENSE-IP54-LCD-REL: -4 to 122°F (-20 to 50°C) 0 to 85% RH Non-condensing
Enclosure:	Duct Box: PC & ABS blend, Flammability Rating UL94V-0 Cover: Makrolon® 6555 plastic, Flammability Rating UL94V-0
Product Dimensions:	(H) 5.95" (151.9 mm) x (W) 3.33" (84.6 mm) x (D) 1.85" (47 mm)
Product Weight:	0.812 lbs (0.368 kg)
Agency Approvals:	EMC Directive 2014/30/EC, RoHS Directive 2011/65/EU & RoHS 3 Directive 2015/863/EU

Note 1: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note 2:** In normal Indoor Air Quality (IAQ) applications | Corrosive environments are excluded | **Note 3:** Building CO2 levels must drop to 400 ppm some time during the week for ABC to work properly | If the building is occupied 24 hrs/day, ABC must be turned off | **Note 4:** Changes can be made using TTL-232R-3V3 cable and UIP5 software





STANDARD ORDERING Model # Example: **ASENSE-IP54-5** -OR- **132732**

Model #	Item #	Description
ASENSE-IP54-LCD-REL	134678	ASENSE CO2 IP54 with LCD, Relay

ACCESSORIES ORDERING Model # Example: **A/CUSTOM CAL GAS** -OR- **140970**

Model #	Item #	Description
A/CUSTOM CAL GAS*	140970	Custom Calibration
TTL-232R-3V3	134207	Programming Cable
UIP5	----	Free Software Download (Contact ACI)

Note*: Contact ACI's Technical Support for custom calibration ranges





TSENSE

CO2 Sensor with Temperature, RH & Display

The TSENSE is an advanced and versatile 3 in 1 transmitter designed for installation in air conditioned zones. It measures carbon dioxide, temperature and relative humidity and features analog and relay outputs or communication protocols of BACnet™ or Modbus, depending on the application specifications. The TSENSE-LCD features a touch screen menu and is suitable for use in numerous energy efficiency strategies for commercial office buildings, hospitals, hotels, schools and other facilities. The TSENSE incorporates a NDIR (non-dispersive infrared) technology and complies with ASHRAE 189.1 allowing for a comfortable and healthy environment for the occupants. The TSENSE-LCD can be configured through the touch screen or with the TTI-232R-3V3-AJ programming cable and UIP5 software. **The TSENSE without LCD must use the TTL-232R-3V3-AJ programming cable and UIP5 software to change settings or for BACnet or Modbus communication.**

Applications: Commercial Office Buildings, Hospitals & Schools

The TSENSE Series Gas Transmitters are covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's web site, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	12 VDC, 24 VAC/VDC, ±20%; (Half-wave rectified) (50-60 Hz)
Power Consumption:	<0.35W average non-display, <0.6W display version, <2W maximum
Electrical Connections:	0.00232 in ² (1.5 mm ²) screw terminals
Operating Environment:	Residential and Commercial spaces
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Operating RH:	0-95% RH Non-condensing
Warm-Up Time:	1 minute (@ full specs 15 mins)
Coverage Area:	7500 sq. ft. maximum
Pressure Dependence:	±1.6% per 0.145 psi (1 kPa) deviation from normal pressure (1 Atmospher = 14.7 psi (1.013 KPa))
Maintenance Interval:	Maintenance free
Mounting Height:	4-6' off the floor
Self-Diagnostics:	Complete function check
Display (Optional):	Touch display, configurable color LCD with CO2 (PPM), Temperature (°F or °C), and Humidity (%RH)
Storage:	-22°F to 158°F (-30°F to 70°F)
Analog Output:	Out 1 (CO2): 0 to 10V, 0 to 2000 ppm Out 2 (Temperature): 0-10V, 32°F to 122°F (0°C to 50°C) Out 3 (RH): 0 to 10V, 0 to 100% RH
Analog Output Signal:	Voltage Output: 0 to 10V, R out <100Ω, Load: >5KΩ
Analog Output Resolution:	10-bits, 10mV/steps, , 0.1% steps of full ppm/°C/%RH range
CO2 Accuracy¹:	±50 ppm (@ 1000 ppm, 63°F to 82°F (17°C to 28°C), and Humidity (%RH)) Typical full range ±30 ppm ±3% of reading (CO2)
CO2 Sensing Method:	Single beam non-dispersive Infrared (NDIR)
CO2 Sensor Life²:	> 15 years (typical)
CO2 Sensor Response Time (T1/e):	<3 minute diffusion time
CO2 Sensing Range³:	0 to 2000 ppm (CO2), optional 0 to 3000 ppm
Extended Range Accuracy:	Typically < (+/- 30 ppm +/- 20% of measured value)
CO2 Repeatability:	±20 ppm ±1% of measured value
CO2 Annual Zero Drift:	±0.3% of measurement range
CO2 Calibration³:	Senseair ABC algorithm (Automatic Baseline Correction)
Temperature Range:	32°F to 122°F (0°C to 50°C)
Temperature Accuracy:	±0.9°F @ 63 to 82°F (±0.5°C @ 17 to 28°C), ±1.8°F @ 32 to 122°F (±1.0°C @ 0 to 50°C)
Temperature Repeatability:	±0.45°F @ 63 to 82°F (±0.25°C @ 17 to 28°C)
Temperature Response Time:	<6 minutes (Aire velocity of 0.15m/s)
RH Sensor:	Capacitive
RH Measurement Range:	0-100%
RH Accuracy:	±5% @ 20 to 80% RH
RH Hysteresis:	±1% @ 20 to 80% RH
RH Annual Drift:	<±0.5% RH
RH Repeatability:	±0.25% RH @ 63 to 82°F (±0.25% RH @ 17 to 28°C)
RH Response Time:	<6 minutes (Air velocity of 0.15m/s)



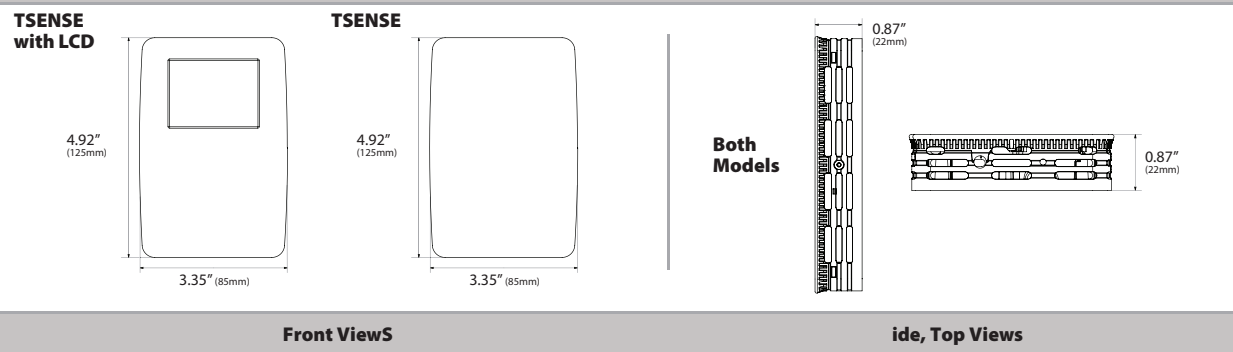


PRODUCT SPECIFICATIONS CONTINUED

Relay Trip Point (CO2):	1000 ppm (factory set)
Relay Input Source:	CO2 (Default) / Temp/RH Configurable via Touchscreen or UIP5 Software
Relay Deadband / Hysteresis:	100 ppm (factory set)
Relay Type:	Form C, SPDT 1A @ 50 VAC / 24 VDC
Relay Durability:	Mechanical: 100,000,000 operations minimum (@ 36,000 operations/hour) Electrical: 100,000 operations minimum for AC (@ 1,800 operations/hour with rated load) 100,000 operations minimum for DC (@ 1,200 operations/hour with rated load)
Communication Protocol:	Modbus RTU or BACnet MS/TP
Baud Rates:	9600, 19200, 38400, 57600, 76800, 115200
BACnet MAC Address:	0 to 127 (Default 104)
Enclosure:	Bayblend FR3000 (PC & ABS blend), Flammability rating UL 94V-0
Enclosure Dimensions:	(H) 4.92" (125 mm) x (W) 3.35" (85 mm) x (D) 0.87" (22 mm)
Product Weight:	TSENSE: 0.361 lbs (0.166kg) TSENSE-LCD: 0.414 lbs (0.188kg)
Agency Approvals:	EMC directive 2004/108/EC, Rohs directive 2011/65/EU, complies with ASHRAE 189.1, Compliant with CA Bill 841 requirements

Note¹: Accuracy is defined after minimum three (3) ABC periods (1 period = 8 days) of continuous operations | **Note²:** In normal indoor air quality (IAQ) applications | Corrosive environments are excluded | **Note 3:** Building CO2 levels must drop to 400 ppm same time during the week for ABC to work properly | If the building is occupied 24 hours / day, ABC must be turned off | Changes can be made using TTL-232R-3V3 cable and UIP5 software

DIMENSIONAL DRAWING



STANDARD ORDERING

Model #	Item #	Description
TSENSE-LCD	135458	TSENSE Transmitter with LCD
TSENSE*	135459	TSENSE Transmitter, Standard (No LCD)

Note*: Must order TTL-232R-3v3-AJ Programming Cable for BACnet™ or MODBUS communication settings

ACCESSORIES ORDERING

Model #	Item #	Description
A/Custom CAL Gas	140970	Custom Calibration
TTL-232R-3V3-AJ	137011	USB to Serial Programming Cable, 3.5 mm Audio Jack
UIP5	----	Free Software Download (Contact ACI)



Room



Duct

PM Particulate Matter

“Particulate matter” (PM) is the general term used to describe solid particles and liquid droplets found in the air. The PM series of transmitters are designed to measure Particulates that include smoke, smog, bacteria, fine dust, liquid droplets, and report the total particle concentration of the monitored environment. ACI’s PM series transmitters utilize a laser particulate matter sensor, that is offered in two different measuring ranges. The PM series transmitters operate on a laser scattering principle, utilizing a fan sampling method.

The PM2.5 is designed to detect Particles less than 2.5 µm in diameter. The PM10 is designed to detect Particles less than 10 µm in diameter.

The sensor has good long-term stability with an accuracy 10% reading or 10 µg/m³. The room unit features field selectable outputs, 4-20 mA, 0-10 VDC, and Modbus RTU (RS485), relay, and display.

The sensor has two jumper selectable working modes for monitoring PM. The Normal Mode monitors the environment continuously and Auto Mode reduces the measuring time to extend service life. The sensor is sent default in Auto Mode.

Applications: Monitoring air quality, Air purifiers, WELL Building Standard

The PM Series 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 web site, workaci.com.

PRODUCT SPECIFICATIONS

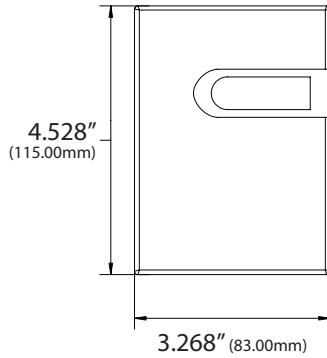
Supply Voltage:	16-28VAC/16-35VDC (Reverse Polarity Protection)
Supply Current:	LCD: 50mA Non-LCD: 33mA
Sensor Type:	Laser particulate matter sensor
Detected Particle Size:	PM2.5: 0.3 ~ 2.5 µm PM10: 0.3 ~ 10 µm
Sensing Range:	PM2.5: 0 ~ 500 µg/m ³ PM10: 0 ~ 600 µg/m ³
Accuracy:	+/- 10 µg/m ³ @ 0 ~ 100 µg/m ³ , +/- 10% reading @ 100 ~ 500/600 µg/m ³ @ 25°C/50%RH
Resolution:	1 µg/m ³
Output/Load Resistance:	4-20 mA: 500 Ohms maximum (Default) 0-10 VDC: 2K Ohms minimum
Communication Protocol:	Modbus RTY; EIA RS-485
Relay (Room with LCD Only):	1 SPDT, N.O. rated 3A @ 30VDC, 3A @ 250VAC
Relay Trip Point:	100 (Factory set), user adjustable
Sampling Method:	Fan
Response Time:	In continuous service mode, sample time <1s, response time <10s
Warm Up Time:	15 minutes
Service Life:	MTBF more than 3 years in continuous service mode, service life up to 8-10 years in auto (intermittent) service mode
Connection/Wire Size:	Screw Terminal Blocks/16 AWG (1.31 mm ²) to 22 AWG (0.33 mm ²)
Terminal Block Torque Rating:	0.45 lb-in (0.5 Nm) nominal
Operating Temperature Range:	32 to 122°F (0 to 50°C)
Storage Temperature Range:	-30 to 70°F (-34 to 21°C)
Operating Humidity Range:	0 to 95% RH, non-condensing
Enclosure Protection:	IP30 (Room) IP65 (Duct) IP30 (Probe)
Enclosure Material/UL Flammability:	ABS Plastic/UL94V-0
Weight:	Room: ~200g Duct: ~270g
Approval:	CE



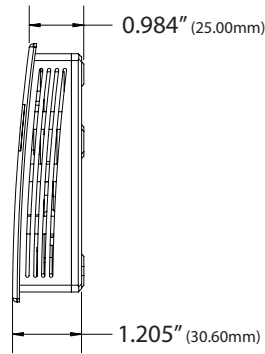


DIMENSIONAL DRAWING

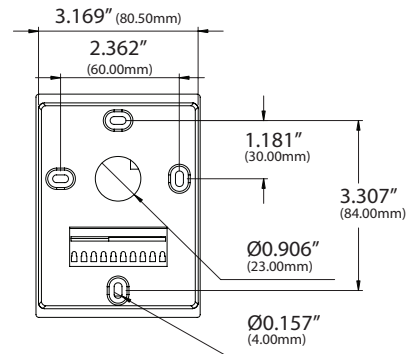
Room



Front View

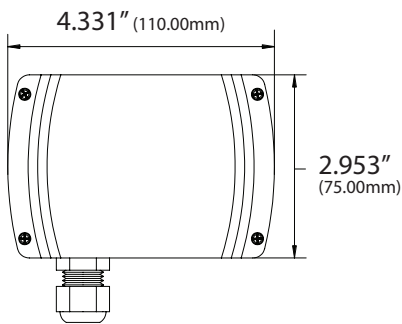


Side View

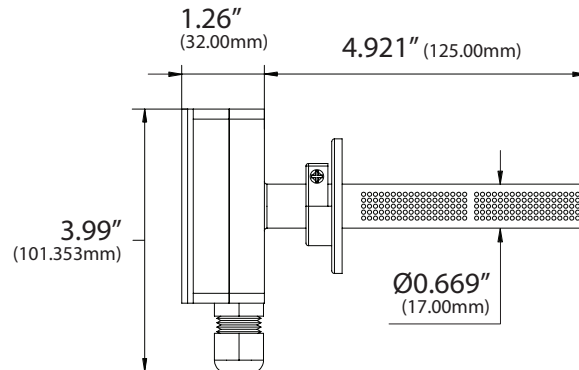


Back View

Duct



Front View



Side View

STANDARD ORDERING

Configuration	Item #	Detected Partical Size	Description
PM-R	147638	0.3 ~ 2.5 µm	Room mount, PM2.5, 4-20mA, 0-10V, Modbus RS-485
PM-R-LCD	147639	0.3 ~ 2.5 µm	Room mount, PM2.5, Relay, LCD, Keypad, 4-20mA, 0-10V, Modbus RS-485
PM-D	147640	0.3 ~ 2.5 µm	Duct mount, PM2.5, 4-20mA, 0-10V, Modbus RS-485
PM10-D	148522	0.3 ~ 10 µm	Duct mount, PM10, 4-20mA, 0-10V, Modbus RS-485



Room



Duct

VOC

Volatile Organic Compound

VOCs are emitted as gases from certain solids or liquids, such as building materials and furnishings, office equipment, cleansers and disinfectants, etc. These types of contaminants directly affect indoor air quality and occupant comfort. Measuring and communicating VOC levels back to the BAS will help users adjust ventilation to maintain proper IAQ levels. These units utilize a high-performance metal oxide sensor and will output TVOC levels in a range from 0-1000 ppb. All units come equipped with both analog and RS485 Modbus RTU outputs easily interface into existing BAS systems.

Applications: VOC Measurements for IAQ (indoor air quality)

The VOC Series 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 web site, workaci.com.

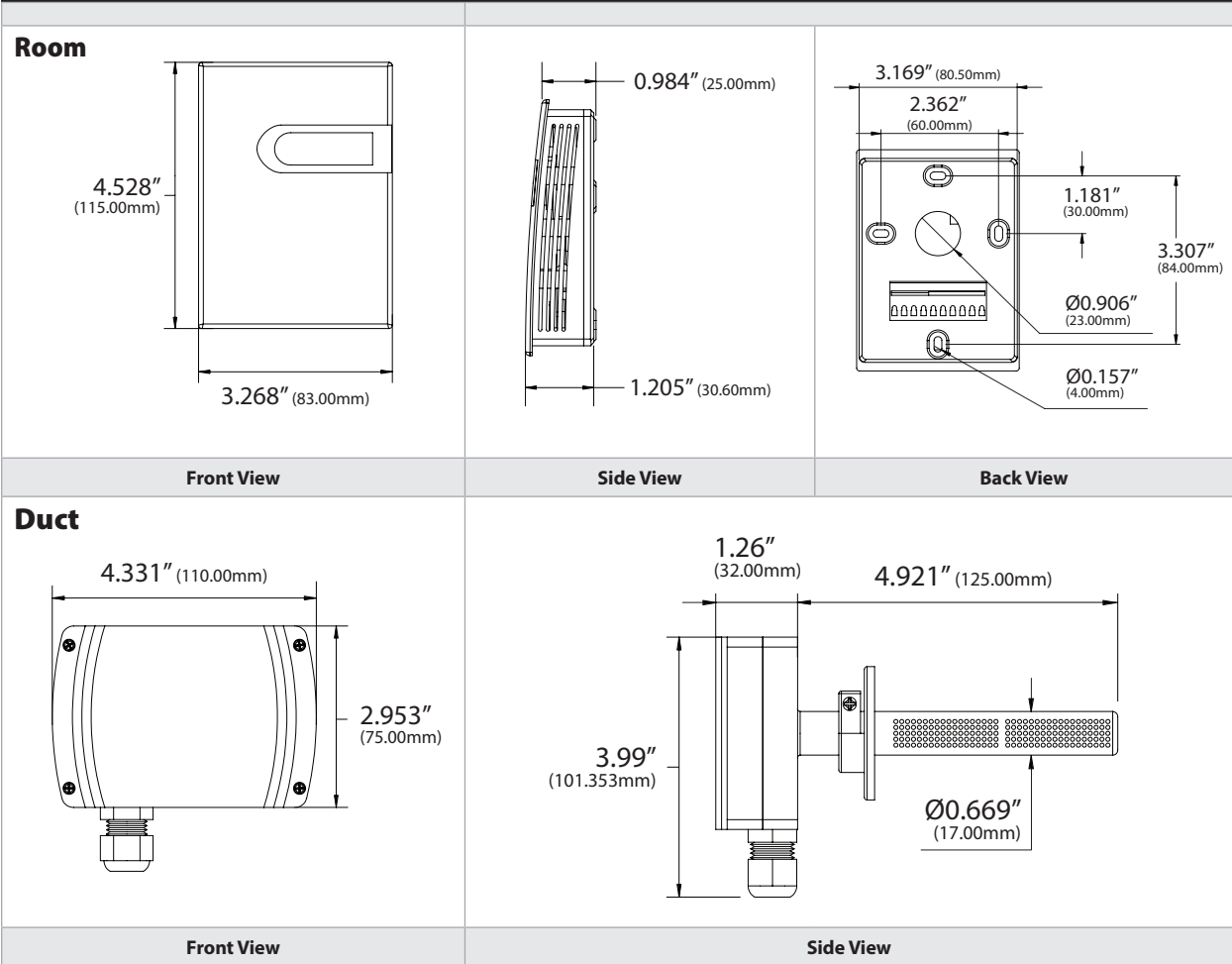
PRODUCT SPECIFICATIONS

Supply Voltage:	16-28VAC/16-35VDC (Reverse Polarity Protection)
Supply Current:	LCD: 50mA Non-LCD: 33mA
Sensor Type:	Metal Oxide Semiconductor
Sensing Range:	0-1000 ppb TVOC (Isobutene)
Output/Load Resistance:	4-20 mA: 500 Ohms maximum (Default) 0-10 VDC: 2K Ohms minimum
Communication Protocol:	Modbus RTU; EIA RS-485
Relay:	1 SPDT, N.O. rated 3A @ 30VDC, 3A @ 250VAC
Relay Trip Point:	230 ppb
Response Time:	<5 seconds
Warm Up Time:	15 minutes
Connection/Wire Size:	Screw Terminal Blocks/16 AWG (1.31 mm ²) to 22 AWG (0.33 mm ²)
Terminal Block Torque Rating:	0.45 lb-in (0.5 Nm) nominal
Operating Temperature Range:	32 to 122°F (0 to 50°C)
Storage Temperature Range:	-4 to 140°F (-20 to 60°C)
Operating Humidity Range:	10 to 95% RH, non-condensing
Enclosure Protection:	IP30 (Room) IP65 (Duct) IP30 (Probe)
Enclosure Material/UL Flammability:	ABS Plastic/UL94V-0
Weight:	Room: ~190g Duct: ~270g
Approval:	CE





DIMENSIONAL DRAWING



STANDARD ORDERING

Configuration	Item #	Description
VOC-R	147635	Room Mount, 4-20 mA and 0-10 VDC, Modbus RS-485
VOC-R-LCD	147636	Room Mount, Relay, LCD, 4-20 mA and 0-10 VDC, Modbus RS-485
VOC-D	147637	Duct Mount, 4-20 mA and 0-10 VDC, Modbus RS-485





Q8/B8 SERIES

Combustible Gas Transmitter

The Q8/B8 Series of Explosion Proof Gas Detectors are used in applications that require a rugged enclosure that meets the Class 1 Division 1 requirements. Each unit comes standard with an integral clock, digital display of concentration, relay status, STEL, TWA, and peak daily values of the gas being detected. A three color backlight will flash depending on the level of alarm for operator safety. Setup and calibration is accomplished through non-intrusive magnetic switches that allow for programming of all parameters. A remote sensor option is available for toxic and combustible gases and should be used in applications where the main unit can be mounted at 3 to 6 feet off of the floor with the remote sensor being at the ceiling or floor levels to monitor the gas concentrations depending on the gas being monitored. Sensor types include electrochemical and catalytic bead sensors to meet the demand and performance requirements for particular

industries. The Q8 uses Optomux and Modbus RS-485 protocol, 4-20 mA, 1-5 or 2-10 VDC while the B8 uses BACnet™ MSTP(RS485) protocol to communicate directly with a BAS. The Q8/B8 also has three (3) SPDT Form 1C relays that are user adjustable. Refer to all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products. The Q8/B8-GENL can be ordered to monitor specific combustible gases such as Gasoline, Ethanol, Diesel or Jet fuel. Contact ACI for specific gases.

Applications: Mechanical Rooms, Warehouses, Refrigeration Plants, Industrial Plants, Process Monitoring, Leak Detection, Parking Garages, Auto/Truck Maintenance Facilities, Oil and Gas Industry

The Q8/B8 Series Gas Transmitters are covered by ACI's Two (2) Year Limited Warranty against defects in material and workmanship from the date of shipment with the exception of the Sensor Modules (Electrochemical/Toxic: Six Months and Catalytic/Combustible: One Year). The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage [Q8]:	VDC Supply Voltage: 24 VDC nominal (+18 to 30 VDC) VAC Supply Voltage: 24 VAC nominal (+15 to 24 VAC, AC Power must not be grounded)
Supply Voltage [B8]:	VDC Supply Voltage: 24 VDC nominal (+18 to 30 VDC) VAC Supply Voltage: 24 VAC (+15 to 24 VAC, AC power can be grounded or non-grounded)
Fuse Protection:	0.750A Polyswitch; (Automatically resets after fault is cleared & power to circuit is removed)
Supply Current Power Consumption:	0.3A maximum 8.4 VA
Analog Output Signals (Q8 Only):	4-20 mA, 1-5 VDC or 2-10 VDC (4-Wire Power, Power Ground, Output Signal, Output Signal Common)
Load Impedance:	4-20 mA Output: 600 Ohms maximum 1-5 VDC or 2-10 VDC: 3000 Ohms minimum
Communication Protocols:	Q8 Communication Protocols: RS-485 Modbus RT/OptoMux (Proprietary QEL Communication) B8 Communication Protocols: RS-485 Serial BACnet™ MS/TP (Master and Slave; Default: Master)
Q8 Communication Baud Rates:	1200, 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600, 76800 Bits/Second (Default: 4800)
B8 Communication Baud Rates:	9600, 19200, 38400, 76800 Bits/Second (Default: 38400)
Factory Calibration Range:	See Gas Sensor Selection & Specification Table on back of data sheet
Display:	LCD Graphic Display with backlight (Displays TWA, STEL and PEAK Daily Value)
Keypad:	Three (Non-Intrusive) Magnetic Switches
Relays Contact Type Relay Contact Ratings:	Three, SPDT (Form 1C) Dry Contact rated 1.0A max. @ 30 VDC or 0.3A max. @ 125 VAC (Resistive Load)
Status LEDs:	Two Green LED's (Tx/Rx Communication Status), Three Red LED's (Relays 1, 2 & 3 Status)
Factory Calibrated Range:	See Gas Sensor Selection & Specification Table on back of data sheet
Sensor Warm-Up Time:	24 Hours (Allow 24 hours before calibrating sensor after initial installation)
Sensor Type:	See Sensor Technology Type in Table on back of Product Data Sheet
Gas Type:	Combustible and Toxic Gases/Oxygen Sensor
Life Expectancy:	Electrochemical (Toxic): 2 to 3 Years, typical Oxygen/Hydrogen (Toxic): 18 months, typical Catalytic (Combustible): 3 to 5 years, typical
Unit Shelf Life:	Electrochemical (Toxic): 6 Months from date of purchase (Must be installed and operational) Catalytic (Combustible): 1 Year from date of purchase (Must be installed and operational)
Replacement Sensor:	See User's Manual or Contact ACI
Recommended Maintenance:	Catalytic (Combustible): Accuracy & Bump test every 3 months or as required by Code Electrochemical (Toxic): Accuracy & Bump test every 6 months or as required by Code Oxygen/Hydrogen (Toxic): Calibrate every 3 months
Enclosure Specifications (Type, Material Type, Flammability, NEMA/IP Rating, Explosion Proof):	Industrial Connection Head; Cast Aluminum Epoxy Coated NEMA 4X (IP66), Division 1 Division 2, ANSI/ISA 12.22.01 Class I, Zone 1, AEx d II C, IP66 Zone 1 CSA E60079-1 Ex d II C, Class I, Zone 1, IP 66 CSA C22.2 No. 30 Class I, Groups A, B, C, D; Class II Groups E, F, G; Class III



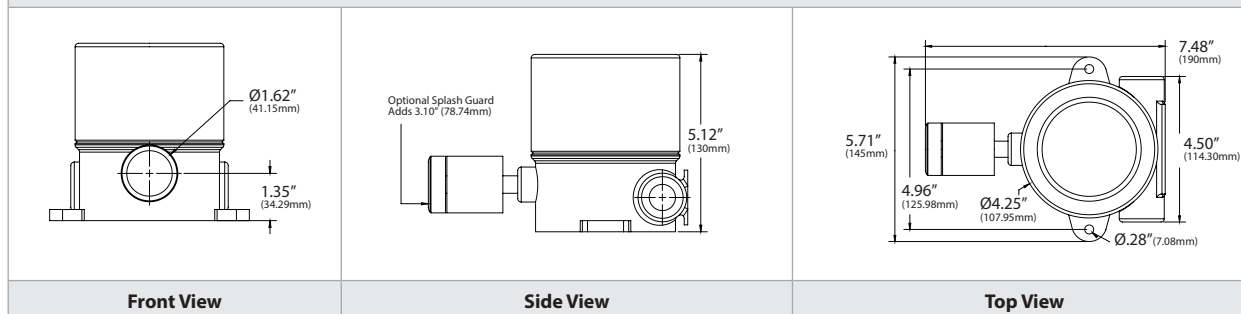


PRODUCT SPECIFICATIONS

Conduit Connection:	Two 3/4" NPT Threaded Openings
Operating Temperature Humidity:	See Sensor Selection & Specification Table on back of data sheet 5 to 95% RH, non-condensing
Operating Atmospheric Pressure¹:	14.696 psi (1.0132 bar) +/- 10%
Recommended Storage Temperature Humidity:	32 to 68°F (0 to 20°C) 5 to 95% RH, non-condensing
Wiring Connections Wire Size:	Depluggable Screw Terminal Blocks 16 to 24 AWG (0.51 to 1.30 mm) Shielded Twisted Pair
Communication Cable:	Belden 9841 or Equivalent, 120 Ohms Input Impedance
Terminal Block Torque Rating:	0.37 ft-lb (0.502 Nm) Nominal
Coverage Area Mounting Height:	See Gas Sensor Selection & Specification Table on back of data sheet
Approvals:	RoHS, CSA-Class 4828-02 inspected to C22.2 No. 30 and No. 142 (CSA File #: 088890_0_000)
Product Weight:	4.35 lbs. (1.973 kg)
Product Dimensions (L x W x H):	7.48" (190 mm) x 5.71" (145 mm) x 5.12" (130 mm)

Note¹: When installed @ >3000' above sea level, the gas transmitters must be verified for accuracy & re-calibrated as needed after installation

DIMENSIONAL DRAWING





SENSOR SELECTION AND SPECIFICATION

Gas Type	Gas Span Code	Combustible	Toxic	100% LEL ¹ in % By Vol.	Measurment Range	Operating Temp °F (°C)	Square Feet ft ² (m ²)	Radius ft (m)	Mounting Height
Acetone	CH3CO-100L	•		2.6%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Ammonia	NH3-100P		•	N/A	0-100 PPM	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	High ²
Ammonia	NH3-1000P		•	N/A	0-1000 PPM	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	High ²
Arsine	ASH3-1P		•	N/A	0-1 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Benzene	C6H6-100L	•		1.3%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Iso-Butane	C4H10-100L	•		1.8%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Butanol, n-Butane	BUTAN-100L	•		1.9%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Carbon Monoxide	CO-250P		•	N/A	0-250 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Monoxide	CO-1000P		•	N/A	0-1000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Chlorine	CL2-5P		•	N/A	0-5 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Chlorine Dioxide	CLO2-2P		•	N/A	0-2 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Diborane	B2H6-2P		•	N/A	0-2 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Mid ²
Ethylene	C2H4-100L	•		2.7%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Ethylene Oxide	ETO-20P		•	N/A	0-20 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Germane	GEH4-2P		•	N/A	0-2 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen	H2-1000P		•	N/A	0-1000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen	H2-2000P		•	N/A	0-2000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen	H2-100L	•		4.0%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen Bromide	HBR-30P		•	N/A	0-30 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen Chloride	HCL-30P		•	N/A	0-30 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Hydrogen Cyanide	HCN-50P		•	N/A	0-50 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Hydrogen Sulphide	H2S-25P		•	N/A	0-25 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen Sulphide	H2S-100P		•	N/A	0-100 PPM	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Methane	CH4-100L	•		5.0%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	High ²
Methanol	CH3OH-100L	•		6.7%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Nitric Oxide	NO-100P		•	N/A	0-100 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Nitrogen Dioxide	NO2-10P		•	N/A	0-10 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Low ²
Oxygen ³	O2-25V		•	N/A	0-25% by Vol	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Ozone	O3-1P		•	N/A	0-1 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	High ²
Iso-Pentane	C5H12-100L	•		1.4%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Phosphine	PH3-1P		•	N/A	0-1 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Phosphine	PH3-5P		•	N/A	0-5 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Propane	C3H8-100L	•		2.1%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	Low ²
Silane	SiH4-50P		•	N/A	0-50 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Mid ²
Sulphur Dioxide	SO2-6P		•	N/A	0-6 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Combustibles ¹	GENL-100L	•		Specify Gas	0-100% LEL	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Gas Dependent
Acetaldehyde, Benzene, Carbon Disulfide, Dioxane, Ethane, Ethanol, Ethylbenze, Gasoline, Heptane, Hexane, Ipa, Jet Fuel, Kerosene, Naphtha, Styrene, Toluene, Voc's, Xylenes, Acetylene, Diesel, Pentane, Ethyl Acetate, Propylene									

Note 1: Lower Explosive Limit (LEL) | **Note 2:** Low = 0.5 to 1.5' (0.15 to 0.46m) above floor | Mid = 4.0 to 6.0' (1.20 to 1.83m) above floor | High = 0.5 to 1.5' (0.15 to 0.46m) below ceiling | **Note 3:** Oxygen sensors monitor oxygen depletion caused by numerous gases including: Nitrous Oxide, Helium, Nitrogen, Sulfur hexafluoride, Argon, Xenon, Neon.





CUSTOM ORDERING		Model # Example: B8 CO-250P O X	MODEL #
		A. B. C. D. E.	
A. Sensor Series <i>Select One (1)</i>	Q8 = Toxic/Combustible Gas Transmitter Series with Analog/Relay/Communicating Output Signals and Display B8 = Toxic/Combustible MS/TP BACnet™ Gas Detection Transmitter with Relays and LCD Display		
B. Gas Span Code	Enter a "Gas Span Code" from the Sensor Selection & Specification Table		
C. Enclosure <i>Select One (1)</i>	O = Standard Wall Mount Enclosure R = Remote Mount Sensor		
D. Revision <i>No Selection Required</i>	X = Factory Provided →		X
E. For GENL Sensors	Enter a "Gas Span Code" from the Sensor Selection & Specification Table (See Combustibles)		

ACCESSORIES ORDERING		
Model #	Item #	Description
GAS CAL KIT	148426	Cal Kit includes Carry Case, 0.5lpm regulator, C10 to CGA-600 adapter and tubing
79030-103	126566	Q8 Combustible Calibration Adapter
6395-0003	126254	Q8 Toxic calibration Adapter/Splash Guard
28030-012-000	150947	Q8 Combustible Splash Guard

Note: See GAS CAL KIT Data Sheet if required

ACCESSORIES ORDERING HORN STROBE		
Model #	Item #	Description
FSIG-SLM500A	136476	Streamline Horn and Strobe (Amber)
FSIG-SLM500B	142976	Streamline Horn and Strobe (Blue)
FSIG-SLM500C	150028	Streamline Horn and Strobe (Clear)
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





QTS-1710 SERIES

Combustible Gas Transmitter

The QTS-1710 Series utilizes a standard pellistor bead technology for the measurement of combustible gases. The sensor is resistant to poisoning substances such as Silicones, Sulphur and Chlorinated compounds. The Sensor is mounted to an explosion-proof housing while the transmitter provides a 3-wire, linear 4 to 20 mA output signal that is proportional to the LEL (Lower Explosive Limit) of the calibrated combustible gas. Test jacks are provided to monitor the transmitter signal without having to interrupt the output signal and Zero and Span adjustments allow for field calibration. Calibration and bump testing should be completed every three months in all combustible or explosive atmospheres. Calibration gases and 0.5

liter/minute gas regulators are not available through ACI. These should be purchased through your local gas supply company or companies such as Portagas® (Praxair®, Inc.) or Mesa Specialty Gases®. See the Q8 Combustible and Toxic Gas transmitter product data sheet for all applications that require a local display, remote sensor and a wider range of gases and output options. Refer to all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products.

Applications: Mechanical Rooms, Warehouses, Refrigeration Plants, Industrial Plants, Process Monitoring, Leak Detection, Parking Garages, Auto/Truck Maintenance Facilities

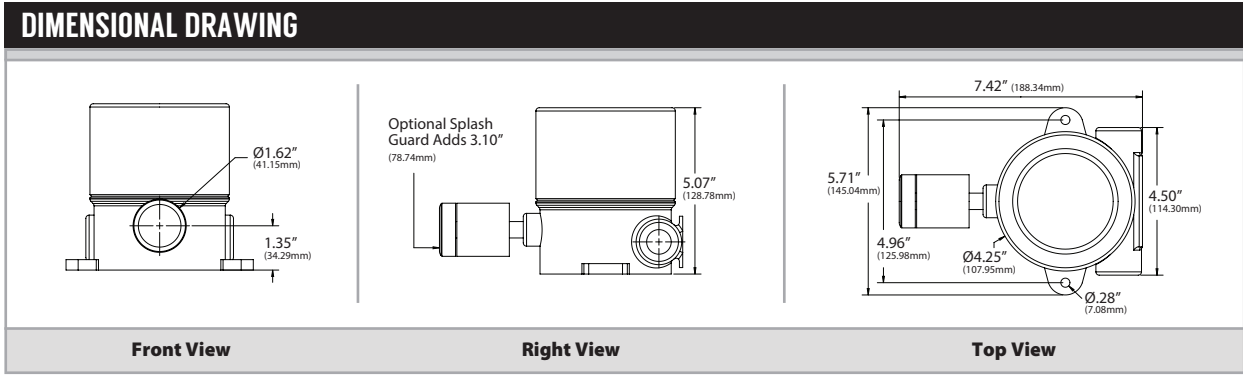
The QTS-1710 Series Gas Transmitters are covered by ACI's Two (2) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage Protection:	12 to 30 VDC 0.5A Socketed Pico Fuse
Supply Current Power Consumption:	125 mA maximum (80 mA, typical) 3.75 Watts maximum
Maximum Load (@ 24 VDC):	700 Ohms (500 Ohms @ 20 VDC and 200 Ohms @ 12 VDC)
Output Signal:	4-20 mA (3-Wire; Power, Gnd/Com, Signal)
Factory Set Range:	See Gas Sensor Selection & Specification Table on back of data sheet
Accuracy Repeatability:	+/- 1% LEL Methane +/- 1% LEL Methane
Zero Drift:	< 2% of Range / Month at 68°F (20°C)
Response Time (T90):	< 30 Seconds, typical (< 10 seconds for 50% Full Scale Step Change)
Sensor Warm Up Time	24 Hours (Allow 24 hours before calibrating sensor after initial installation)
Sensor Type:	Dual Element Poison Resistant Catalytic Pellistor Bead
Sensor Gas Types:	Hydrocarbon Combustible Gases
Sensor Life Expectancy:	3 to 5 years, typical
Unit Shelf Life:	6 Months from date of purchase (Must be installed and operational)
Replacement Sensor:	Contact ACI
Recommended Maintenance:	Accuracy & Bump test every 3 months or as required by Code (Replace sensor as needed)
Enclosure Specifications (Type, Material Type, Flammability, NEMA/IP Rating, Explosion Proof):	Industrial Connection Head; Cast Aluminum Epoxy Coated; NEMA 4X (IP66) Weatherproof Rating Type 7 & 9 Explosion Proof Class 1 Div. 1, Groups B, C, D also 316 SS Sensor Housing Group A Rated; CSA, FM (Factory Mutual), EX (Explosion Proof), UL listed
Operating Temperature:	-40 to 122°F (-40 to 50°C)
Operating Humidity:	0 to 99% RH, non-condensing
Operating Atmospheric Pressure ¹:	14.696 psi (1.0132 bar) +/- 10%
Recommended Storage Temperature/Humidity:	32 to 68°F (0 to 20°C) 15 to 90% RH, Non-Condensing
Wiring Connections Wire Size:	Screw Terminal Blocks 16 to 24 AWG (0.51 to 1.30 mm) Shielded Twisted Pair
Terminal Block Torque Rating:	0.37 ft-lb (0.502 Nm) Nominal
Coverage Area Mounting Height:	See Gas Sensor Selection & Specification Table on back of data sheet
Approvals:	RoHS, CSA-4828-02 inspected to C22.2 No. 30 and C22.2 No. 142 (CSA File #: 088890 0 000)
Product Weight:	5.00 lbs (2.27 kg)
Product Dimensions (L x W x H):	Wall Mount Version: 10.70" (271.78 mm) x 5.71" (145.04 mm) x 4.25" (107.95 mm) Duct Mount Version: 7.50" (190.50 mm) x 5.71" (145.04 mm) x 7.50" (190.50 mm)

Note: When installed @ > 3000' above sea level, the gas transmitters must be verified for accuracy & re-calibrated as needed after installation





SENSOR SELECTION AND SPECIFICATION				COVERAGE AREA		
Gas Type	Symbol	100% LEL ¹ In % By Volume	Measurement Range	Square Footage	Radius	Mounting Height
Acetylene	C2H2	2.5 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Mid **
Benzene	C6H6	1.2 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
Cyclohexane	C6H12	1.3 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
Ethane	C2H6	3.0 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
Ethanol	C2H6O	3.3 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
Gasoline	---	1.3 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
Hexane	C6H14	1.1 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
Hydrogen	H2	4.0 %	0 to 100% LEL	7500 ft ² (696.7 m ²)	49 ft (14.9 m)	High **
Iso-Octane	C8H18	0.79 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
Iso-Propyl Alcohol	C3H8O	2.0 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
n-Butane	C4H10	1.9 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
n-Octane	C8H18	1.0 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
n-Pentane	C5H12	1.5 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
Methane	CH4	5.0 %	0 to 100% LEL	7500 ft ² (696.7 m ²)	49 ft (14.9 m)	High **
Nonane	C9H20	0.85 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
n-Propyl Alcohol	C3H8O	2.2 %	0 to 100% LEL	5000 ft ² (464.5 m ²)	40 ft (12.2 m)	Low **
Propane	C3H8	2.1 %	0 to 100% LEL	7500 ft ² (696.7 m ²)	49 ft (14.9 m)	High **

Note¹: Lower Explosive Limit (LEL) | **Note²:** Low = 1.0' (0.31m) above floor | Mid = 4.0 to 6.0' (1.20 to 1.83m) above floor | High = 0.5' to 1.5' (0.15 to 0.46m) below ceiling

CUSTOM ORDERING

Model # Example: **QTS 171 0 1 X S P 0 0 0 0**

	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.	K.	MODEL #
A. Sensor Series No Selection Required	QTS											QTS
B. Gas Transmitter No Selection Required	171 = Combustible Transmitter Series											171
C. Configuration Select One (1)	0 = Methane 2 = Ethane 4 = n-Butane 6 = n-Octane 8 = Gasoline 1 = Acetylene 3 = Propane 5 = n-Pentane 7 = Hydrogen 9 = Other (Please Advise)											
D. Factory Supplied No Selection Required	1 = Factory Provided											1
E. Revision No Selection Required	X = Default											X
F. Enclosure No Selection Required	S = Aluminum, Epoxy Coated Weatherproof Industrial NEMA 4X, 7, 9 Enclosure											S
G. Sensor Guard Select One (1)	0 = No Sensor Splash Guard P = Sensor Splash Guard											
H. Factory Supplied No Selection Required	0 = Default											0
I. Factory Supplied No Selection Required	0 = Default											0
J. Factory Supplied No Selection Required	0 = Default											0
K. Calibration/Options Select One (1)	0 = Default* X = Non-Standard Calibration (Specify) S = Special Options (Contact ACI)*											

Note²: All transmitters are calibrated using a correlation method with Methane Gas and detection constants as shown. Calibration with actual target gas is available upon special request

ACCESSORIES ORDERING

Model # Example: **79030-103 -OR- 126566**

Model #	Item #	Description
79030-103	126566	QTS-1710 Combustible Calibration Adaptor





QIRF

Infrared Refrigerant Detector



The QIRF Refrigerant Gas Detectors are the second generation of a proprietary designed gas detector that is easily configured to meet the International Mechanical Code, ASHRAE 15 and B52 requirements. These transmitters are engineered to address the deficiencies inherent with solid-state sensors. Infrared technology facilitates specific gas type refrigerant detection without any cross-sensitive interferences. Standard features include a digital display, three user configurable relays, buzzer, horn/strobe output, NEMA 4X enclosure and non-intrusive calibration. Sensor Housings are thermally controlled at elevated temperatures to eliminate errors due to condensation forming and from temperature fluctuations allowing operations in temperatures from -49 to 149°F (-45 to 65°C). Analog outputs of 4-20 mA and or 2-10 VDC are available along with RS-485 Communications that can be used with a Modbus RTU or proprietary OptoMux communication

protocol for use with any of the standalone gas controller such as the Q4C, M-Controller or Q-Controller. A Zero gas of 20.9% Oxygen with the balance Nitrogen should be used to perform a Zero calibration while a known concentration of any span gas can be used to perform yearly bump testing and calibration. Never use 100% Nitrogen gas to perform a Zero calibration on the QIRF transmitters. Calibration gases and a 0.4 to 0.6 liter/minute flow limiting gas regulator are not available through ACI and should be purchased through your local gas supply company or on-line companies such as Portagas® (Praxair®, Inc.) or Mesa Specialty Gases®. ACI also offers a full line of horns and strobes that can be used with the Gas detectors or building management system to alert building occupants of an alarm condition in order to meet the B-52 or other code requirements. Refer to all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products.

Applications: Mechanical Equipment Rooms, Propellant Filling Stations, Solvent Cleaning Stations, Cold Storage and Transport Facilities, Meat Packing Plants, Super Markets, Convenience Stores, Refrigerant Storage Locations, Chiller Plants, Manufacturing Plants, Pharmaceutical Labs, Other Specialty Applications using Halocarbons

The QIRF Refrigerant Detectors are 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 web site, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	VDC Supply Voltage: 24 VDC nominal (+18 to 30 VDC) VAC Supply Voltage: 24 VAC nominal, 50/60 Hz (+15 to 24 VAC, AC Power must not be grounded)
Resettable Fuse Protection (Polyswitch):	F1 on Display Board: 1.6 A F2 on Display Board: 50 mA (Resets once fault is cleared & power is removed)
Supply Current Power Consumption:	1.0 A maximum 27 VA
Analog Output Signals:	4-20 mA (4-wires) or 2 to 10 VDC (4-wires)
Output Load Impedance:	4-20 mA Output: 600 Ohms maximum 2-10 VDC Output: 3000 Ohms minimum
RS-485 Communication Protocols:	Modbus RTU / OptoMux (Proprietary Gas Controller Protocol for Q4C, M-Con. & Q-Con. only)
RS-485 Communication Baud Rates:	1200, 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600, 76800 Bits/Second (Default: 4800 BPS)
Refrigerant Types:	R11, R12, R22, R23, R32, R114, R116, R123, R134A, R141B, R402A, R404A, R407A, R407B, R407C, R407D, R407E, R407F, R408A, R409A, R410A, R422A, R438A, R448A, R449A, R452A, R453A, R507A, R508B, R513A, R514A, R1233ZD, R1234ZE
Factory Calibration Range:	0 to 1000 ppm for all standard Refrigerants except R123 (0 to 100 ppm); Others available
Accuracy Repeatability:	+/-3% of Reading +/-1% of Full Scale
Sensor Warm Up Time:	15 minutes @ 25 C using 24VDC power
Sensor Type:	Infrared, Temperature Controlled
Response Time (T90):	<30 seconds for 90% step change
Display:	2 x 8 Character Display with backlight
Keypad:	Four Magnetic Sensors with Magnetic Tool
Relays Contact Type Relay Contact Ratings:	Three SPDT (Form C) Dry Contacts 1.0 max. @ 30 VDC or 0.3A max. @ 125 VAC (Resistive Loads)
Relay Life Expectancy:	Mechanical: 50,000,000 operations minimum @ 36,000 operations/hour Electrical: 200,000 operations minimum @ rated load
Status LEDs:	Two Green LED's (Tx/Rx Communication Status); Three Red LED's (Relays 1, 2 & 3)
Buzzer:	80 dB at 3.94" (10 cm), 2700 Hz (3 Programmable Tones)
Coverage Area Mounting Height:	7500 ft ² (696.7 m ²) or 49 ft (14.9 m) Radius 6" (15.3 cm) to 18" (45.8 cm) above floor
Sensor Life Expectancy:	14 Years, typical
Recommended Maintenance:	Accuracy & Bump Test once per year or as required by Code
Enclosure Specifications (Material Type, Flammability, NEMA/IP Rating, Cover Torque Rating):	Plastic Enclosure; Polycarbonate/ABS Blend; UL94 5VA; NEMA 4, 4X 12 & 13(IP66); 2.5 lbs.-in (0.2825 Nm)
Enclosure Knockout:	7/8" Knockout (accepts 1/2" Conduit Fitting); Quantity: 1
Operating Temperature Humidity:	-49 to 149°F (-45 to 65°C) 5 to 95% RH, non-condensing



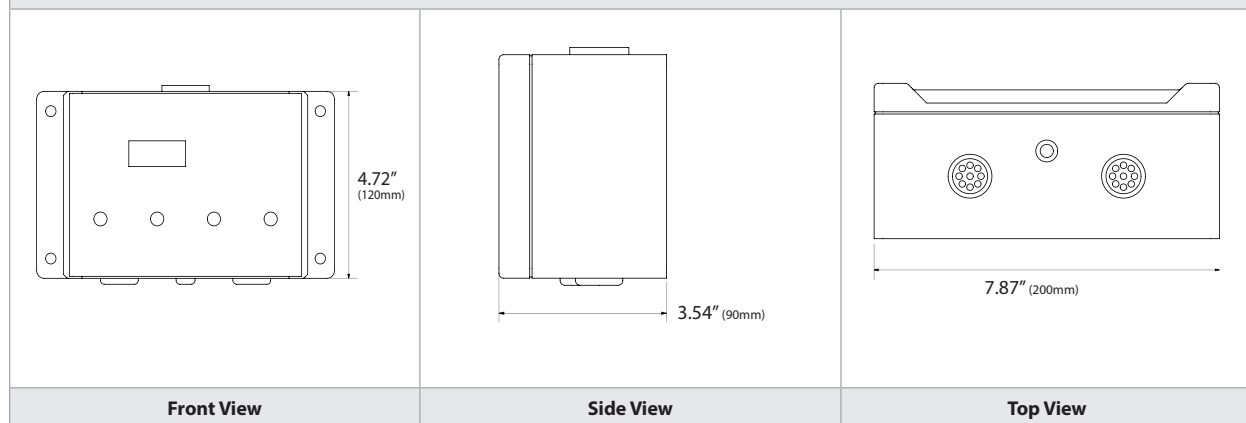


PRODUCT SPECIFICATIONS

Operating Atmospheric Pressure¹:	14.696 psi (1.0132 bar) +/-10%
Recommended Storage Temperature/ Humidity:	-49 to 158°F (-45 to 70°C) 5 to 95% RH, non-condensing
Wiring Connections Wire Size:	De-pluggable Screw Terminal Blocks 16 to 24 AWG (0.2047 to 1.301 mm) Shielded Twister Pair
Communications Cable:	Belden 9841 or Equivalent, 120 Ohms Input Impedance
Terminal Block Torque Rating:	0.37 ft-lb (0.502 Nm) Nominal
Approvals:	RoHS
Product Weight:	2.50 lbs (1.134 kg)
Product Dimensions (L x W x H):	7.87" (200 mm) x 4.72" (120 mm) x 3.54" (90 mm)

Note¹: When installed @ >3000' above sea level, the refrigerant detectors must be verified for accuracy & re-calibrated as needed after installation

DIMENSIONAL DRAWING



STANDARD ORDERING		MODEL #
A. Sensor Series <i>No Selection Required</i>	QIRF	QIRF
B. Refrigerant Code <i>Select One (1)</i>	Enter a "Refrigerant Code": R11, R12, R22, R23, R32, R114, R116, R123, R134A, R141B, R402A, R404A, R407A, R407B, R407C, R407D, R407E, R407F, R408A, R409A, R410A, R422A, R438A, R448A, R449A, R452A, R453A, R507A, R508B, R513A, R514A, R1233ZD, R1234ZE	
C. Revision <i>No Selection Required</i>	X = Factory Provided	X
D. Revision <i>No Selection Required</i>	O = Factory Provided	O



Q8/B8 SERIES

Combustible Gas Transmitter

The Q8/B8 Series of Explosion Proof Gas Detectors are used in applications that require a rugged enclosure that meets the Class 1 Division 1 requirements. Each unit comes standard with an integral clock, digital display of concentration, relay status, STEL, TWA, and peak daily values of the gas being detected. A three color backlight will flash depending on the level of alarm for operator safety. Setup and calibration is accomplished through non-intrusive magnetic switches that allow for programming of all parameters. A remote sensor option is available for toxic and combustible gases and should be used in applications where the main unit can be mounted at 3 to 6 feet off of the floor with the remote sensor being at the ceiling or floor levels to monitor the gas concentrations depending on the gas being monitored. Sensor types include electrochemical and catalytic bead sensors to meet the demand and performance requirements for particular

industries. The Q8 uses Optomux and Modbus RS-485 protocol, 4-20 mA, 1-5 or 2-10 VDC while the B8 uses BACnet™ MSTP(RS485) protocol to communicate directly with a BAS. The Q8/B8 also has three (3) SPDT Form 1C relays that are user adjustable. Refer to all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products. The Q8/B8-GENL can be ordered to monitor specific combustible gases such as Gasoline, Ethanol, Diesel or Jet fuel. Contact ACI for specific gases.

Applications: Mechanical Rooms, Warehouses, Refrigeration Plants, Industrial Plants, Process Monitoring, Leak Detection, Parking Garages, Auto/Truck Maintenance Facilities, Oil and Gas Industry

The Q8/B8 Series Gas Transmitters are covered by ACI's Two (2) Year Limited Warranty against defects in material and workmanship from the date of shipment with the exception of the Sensor Modules (Electrochemical/Toxic: Six Months and Catalytic/Combustible: One Year). The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage [Q8]:	VDC Supply Voltage: 24 VDC nominal (+18 to 30 VDC) VAC Supply Voltage: 24 VAC nominal (+15 to 24 VAC, AC Power must not be grounded)
Supply Voltage [B8]:	VDC Supply Voltage: 24 VDC nominal (+18 to 30 VDC) VAC Supply Voltage: 24 VAC (+15 to 24 VAC, AC power can be grounded or non-grounded)
Fuse Protection:	0.750A Polyswitch; (Automatically resets after fault is cleared & power to circuit is removed)
Supply Current Power Consumption:	0.3A maximum 8.4 VA
Analog Output Signals (Q8 Only):	4-20 mA, 1-5 VDC or 2-10 VDC (4-Wire Power, Power Ground, Output Signal, Output Signal Common)
Load Impedance:	4-20 mA Output: 600 Ohms maximum 1-5 VDC or 2-10 VDC: 3000 Ohms minimum
Communication Protocols:	Q8 Communication Protocols: RS-485 Modbus RT/OptoMux (Proprietary QEL Communication) B8 Communication Protocols: RS-485 Serial BACnet™ MS/TP (Master and Slave; Default: Master)
Q8 Communication Baud Rates:	1200, 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600, 76800 Bits/Second (Default: 4800)
B8 Communication Baud Rates:	9600, 19200, 38400, 76800 Bits/Second (Default: 38400)
Factory Calibration Range:	See Gas Sensor Selection & Specification Table on back of data sheet
Display:	LCD Graphic Display with backlight (Displays TWA, STEL and PEAK Daily Value)
Keypad:	Three (Non-Intrusive) Magnetic Switches
Relays Contact Type Relay Contact Ratings:	Three, SPDT (Form 1C) Dry Contact rated 1.0A max. @ 30 VDC or 0.3A max. @ 125 VAC (Resistive Load)
Status LEDs:	Two Green LED's (Tx/Rx Communication Status), Three Red LED's (Relays 1, 2 & 3 Status)
Factory Calibrated Range:	See Gas Sensor Selection & Specification Table on back of data sheet
Sensor Warm-Up Time:	24 Hours (Allow 24 hours before calibrating sensor after initial installation)
Sensor Type:	See Sensor Technology Type in Table on back of Product Data Sheet
Gas Type:	Combustible and Toxic Gases/Oxygen Sensor
Life Expectancy:	Electrochemical (Toxic): 2 to 3 Years, typical Oxygen/Hydrogen (Toxic): 18 months, typical Catalytic (Combustible): 3 to 5 years, typical
Unit Shelf Life:	Electrochemical (Toxic): 6 Months from date of purchase (Must be installed and operational) Catalytic (Combustible): 1 Year from date of purchase (Must be installed and operational)
Replacement Sensor:	See User's Manual or Contact ACI
Recommended Maintenance:	Catalytic (Combustible): Accuracy & Bump test every 3 months or as required by Code Electrochemical (Toxic): Accuracy & Bump test every 6 months or as required by Code Oxygen/Hydrogen (Toxic): Calibrate every 3 months
Enclosure Specifications (Type, Material Type, Flammability, NEMA/IP Rating, Explosion Proof):	Industrial Connection Head; Cast Aluminum Epoxy Coated NEMA 4X (IP66), Division 1 Division 2, ANSI/ISA 12.22.01 Class I, Zone 1, AEx d II C, IP66 Zone 1 CSA E60079-1 Ex d II C, Class I, Zone I, IP 66 CSA C22.2 No. 30 Class I, Groups A, B, C, D; Class II Groups E, F, G; Class III



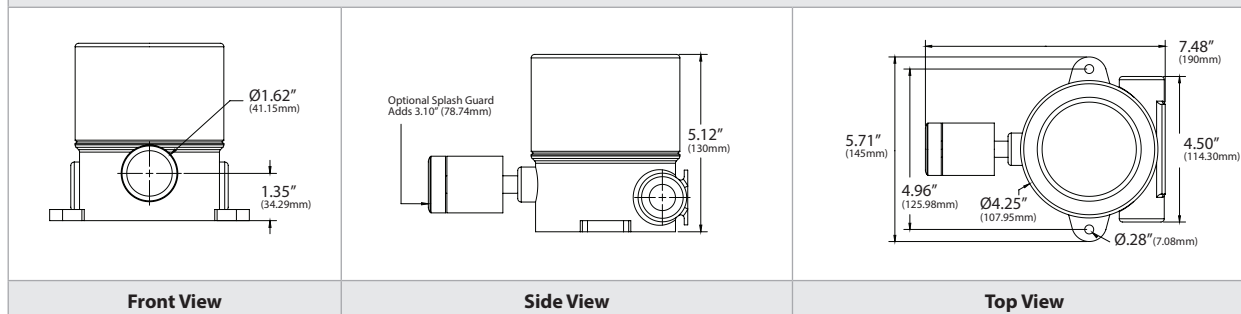


PRODUCT SPECIFICATIONS

Conduit Connection:	Two 3/4" NPT Threaded Openings
Operating Temperature Humidity:	See Sensor Selection & Specification Table on back of data sheet 5 to 95% RH, non-condensing
Operating Atmospheric Pressure¹:	14.696 psi (1.0132 bar) +/- 10%
Recommended Storage Temperature Humidity:	32 to 68°F (0 to 20°C) 5 to 95% RH, non-condensing
Wiring Connections Wire Size:	Depluggable Screw Terminal Blocks 16 to 24 AWG (0.51 to 1.30 mm) Shielded Twisted Pair
Communication Cable:	Belden 9841 or Equivalent, 120 Ohms Input Impedance
Terminal Block Torque Rating:	0.37 ft-lb (0.502 Nm) Nominal
Coverage Area Mounting Height:	See Gas Sensor Selection & Specification Table on back of data sheet
Approvals:	RoHS, CSA-Class 4828-02 inspected to C22.2 No. 30 and No. 142 (CSA File #: 088890_0_000)
Product Weight:	4.35 lbs. (1.973 kg)
Product Dimensions (L x W x H):	7.48" (190 mm) x 5.71" (145 mm) x 5.12" (130 mm)

Note¹: When installed @ >3000' above sea level, the gas transmitters must be verified for accuracy & re-calibrated as needed after installation

DIMENSIONAL DRAWING





SENSOR SELECTION AND SPECIFICATION

Gas Type	Gas Span Code	Combustible	Toxic	100% LEL ¹ in % By Vol.	Measurment Range	Operating Temp °F (°C)	Square Feet ft ² (m ²)	Radius ft (m)	Mounting Height
Acetone	CH3CO-100L	•		2.6%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Ammonia	NH3-100P		•	N/A	0-100 PPM	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	High ²
Ammonia	NH3-1000P		•	N/A	0-1000 PPM	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	High ²
Arsine	ASH3-1P		•	N/A	0-1 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Benzene	C6H6-100L	•		1.3%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Iso-Butane	C4H10-100L	•		1.8%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Butanol, n-Butane	BUTAN-100L	•		1.9%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Carbon Monoxide	CO-250P		•	N/A	0-250 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Carbon Monoxide	CO-1000P		•	N/A	0-1000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Chlorine	CL2-5P		•	N/A	0-5 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Chlorine Dioxide	CLO2-2P		•	N/A	0-2 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Diborane	B2H6-2P		•	N/A	0-2 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Mid ²
Ethylene	C2H4-100L	•		2.7%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Ethylene Oxide	ETO-20P		•	N/A	0-20 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Germane	GEH4-2P		•	N/A	0-2 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen	H2-1000P		•	N/A	0-1000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen	H2-2000P		•	N/A	0-2000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen	H2-100L	•		4.0%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	High ²
Hydrogen Bromide	HBR-30P		•	N/A	0-30 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen Chloride	HCL-30P		•	N/A	0-30 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Hydrogen Cyanide	HCN-50P		•	N/A	0-50 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Mid ²
Hydrogen Sulphide	H2S-25P		•	N/A	0-25 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Hydrogen Sulphide	H2S-100P		•	N/A	0-100 PPM	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Methane	CH4-100L	•		5.0%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	High ²
Methanol	CH3OH-100L	•		6.7%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Nitric Oxide	NO-100P		•	N/A	0-100 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Nitrogen Dioxide	NO2-10P		•	N/A	0-10 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Low ²
Oxygen ³	O2-25V		•	N/A	0-25% by Vol	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	Mid ²
Ozone	O3-1P		•	N/A	0-1 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	High ²
Iso-Pentane	C5H12-100L	•		1.4%	0-100% LEL	14 to 122 (-10 to 50)	5000 (464.5)	40 (12.2)	Low ²
Phosphine	PH3-1P		•	N/A	0-1 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Phosphine	PH3-5P		•	N/A	0-5 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low ²
Propane	C3H8-100L	•		2.1%	0-100% LEL	14 to 122 (-10 to 50)	7500 (696.7)	49 (14.9)	Low ²
Silane	SiH4-50P		•	N/A	0-50 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Mid ²
Sulphur Dioxide	SO2-6P		•	N/A	0-6 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low ²
Combustibles ¹	GENL-100L	•		Specify Gas	0-100% LEL	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Gas Dependent

Acetaldehyde, Benzene, Carbon Disulfide, Dioxane, Ethane, Ethanol, Ethylbenze, Gasoline, Heptane, Hexane, Ipa, Jet Fuel, Kerosene, Naphtha, Styrene, Toluene, Voc's, Xylenes, Acetylene, Diesel, Pentane, Ethyl Acetate, Propylene

Note 1: Lower Explosive Limit (LEL) | **Note 2:** Low = 0.5 to 1.5' (0.15 to 0.46m) above floor | Mid = 4.0 to 6.0' (1.20 to 1.83m) above floor | High = 0.5 to 1.5' (0.15 to 0.46m) below ceiling | **Note 3:** Oxygen sensors monitor oxygen depletion caused by numerous gases including: Nitrous Oxide, Helium, Nitrogen, Sulfur hexafluoride, Argon, Xenon, Neon.





CUSTOM ORDERING		Model # Example: B8 CO-250P O X	MODEL #
		A. B. C. D. E.	
A. Sensor Series <i>Select One (1)</i>	Q8 = Toxic/Combustible Gas Transmitter Series with Analog/Relay/Communicating Output Signals and Display B8 = Toxic/Combustible MS/TP BACnet™ Gas Detection Transmitter with Relays and LCD Display		
B. Gas Span Code	Enter a "Gas Span Code" from the Sensor Selection & Specification Table		
C. Enclosure <i>Select One (1)</i>	O = Standard Wall Mount Enclosure R = Remote Mount Sensor		
D. Revision <i>No Selection Required</i>	X = Factory Provided →		X
E. For GENL Sensors	Enter a "Gas Span Code" from the Sensor Selection & Specification Table (See Combustibles)		

ACCESSORIES ORDERING		
Model #	Item #	Description
GAS CAL KIT	148426	Cal Kit includes Carry Case, 0.5lpm regulator, C10 to CGA-600 adapter and tubing
79030-103	126566	Q8 Combustible Calibration Adapter
6395-0003	126254	Q8 Toxic calibration Adapter/Splash Guard
28030-012-000	150947	Q8 Combustible Splash Guard

Note: See GAS CAL KIT Data Sheet if required

ACCESSORIES ORDERING HORN STROBE		
Model #	Item #	Description
FSIG-SLM500A	136476	Streamline Horn and Strobe (Amber)
FSIG-SLM500B	142976	Streamline Horn and Strobe (Blue)
FSIG-SLM500C	150028	Streamline Horn and Strobe (Clear)
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





Q4C II Controller & Alarm Communicator

The Q4C II is a multi-channel controller display and alarm unit that utilizes digital communications to interface with a maximum of four (4) remote digital transmitter/sensors. This series provides reliable measurement of a wide variety of toxic gases such as CO, NO₂, NH₃, H₂S, SO₂, Refrigerants, and Combustibles. The RS-485 communication is connected via a 4-wire, multidrop daisy chain configuration to reduce the overall installation cost of the system. Alarm setpoints are set through the front keypad or the M-View software (Included) that is downloaded to the Q4C II from a PC or laptop computer. Common relay configurations include voting, averaging, delay on actuation and de-actuation, normally or not-normally energized and latching. The audible alarm has three buzzer settings; continuous, intermittent and double-tap intermittent. The Q4C II has a dedicated 24 VDC transistor output terminal for horn and strobe. Includes four (4) SPDT relays and an RS-485

Modbus output with BACnet IP option available. The Q4C II comes standard with a 128 X 32 backlit display, key pad, software and interface cable. 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

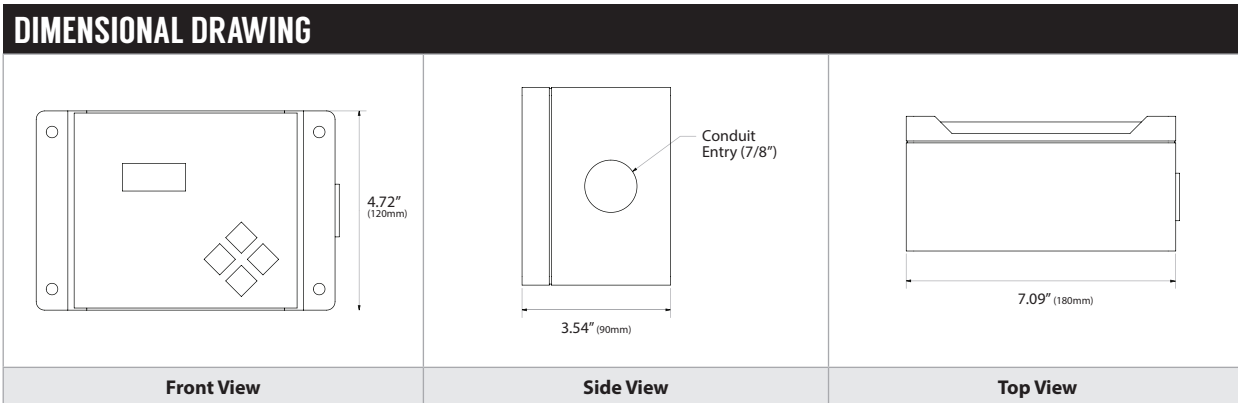
well as on ACI's website, The Q4C Series is covered by ACI's Two (2) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website,

PRODUCT SPECIFICATIONS	
Input Power¹:	18 – 30VDC, 24 VDC Nominal, 12 – 24VAC, 24VAC Nominal Half-wave or Full wave rectified
Current:	0.75 max (Fuse protected)
Enclosure:	IP66 & NEMA 4, 4X, 12 & 13 ratings UL listed 508 listed (File # E65324)
Enclosure Material:	ABS Plastic
Operating Temperature Range:	Industrial: -20° to +50° C (-4° to 122° F)
Operating Humidity Range:	Continuous 5 to 95% RH, non-condensing up to 31 C, decreasing linearly to 80% @ 40C
Input Types:	RS-485 digital port for up to 4 QEL transmitter/sensors USB programming port
Output Comm Ports:	Modbus RTU (Slave), BACnet IP (Optional)
LED Status Lights:	Eight (8) Status LEDs: RS-485 port TX/RX Status LED for Sensor Network RS-485 port TX/RX Status LED for Modbus or BAC-Box 4 Relay Status LEDs
Recommended Cable:	Power: Twisted shielded pair Communication: (RS-485) - Belden 9841 or equivalent
Panel Controls:	4X tactile and audible keypad
Audio/Visual Indicators:	Two (2) 24VDC transistor ports 250mA max (Fuse protected) each
Relay Outputs:	Four (4) SPDT 5A resistive @ 250VAC/30 VDC 3.7A Inductive @ 250VAC/30 VDC
Relay Assignment:	Independent, individually set to one or all transmitter/sensors
Time Delays:	0 – 60 Minutes On/Off delays
LCD Display:	128 x 32 LCD Display c/w Backlight
Product Dimensions:	7.09" (180.00 mm) x 4.72" (120.00 mm) x 3.54" (90.00 mm)
Product Weight:	1.87 lbs (4.12 kg)

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

Note¹: Refer to wiring diagram or contact ACI Technical Support for wiring connections





STANDARD ORDERING

Model #	Item #	Description
Q4C-II-X	150796	Controller with M-View Software and Programming Cable

ACCESSORIES ORDERING

Model #	Item #	Description
85530-010-000	150896	M-View USB Software
M-SWITCH	127160	M-Switch for M-Controller / Q4C Controller
5610-0101	150897	USB A to USB B M/M Programming Cable
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-SLM500C	150028	Streamline Horn and Strobe (Clear)
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



M-CONTROLLER

Multi-Channel Analog / Digital Controller

The M-Controller is a multi-channel controller and alarm unit that utilizes both digital and analog communications to interface with a maximum of 32 remote digital transmitter/sensors, and 8 analog transmitter/sensors. Common relay configurations include voting, averaging, delay on actuation and deactuation, normally/not-normally energized and latching. An additional feature includes 24 VDC transistor outputs for a horn and strobe. An RS-422 output responds as a RTU Slave using MODBUS protocol which allows the controller to provide read status information only. The M-Controller can be programmed with the onboard key pad or the M-View Software which is downloaded using the RS-232 interface. Also available is an analog output card that includes eight 4-20 mA analog outputs. Each analog output can be defined in complex fashions allowing

the averaging of several input signals and outputs a linear 4-20 mA signal.

M-Relay modules are designed to allow expandability for control to the M-Controller over an RS-485 communication link, which allows flexibility during installation and wiring. M-Relays operate on 24 VAC/VDC and may be powered via the port power of the M-Controller or directly from a local power source. Each relay module is addressed from 0 to 11 and is defined by a four position dipswitch. The M-Controller has three relays (1, 2, 3) after which the M-Relay can be added and will correspond with 4 through 99. The M-Relay module is available with 2, 4, 6, or 8 relays per module. 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 M-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 web site, workaci.com.

PRODUCT SPECIFICATIONS

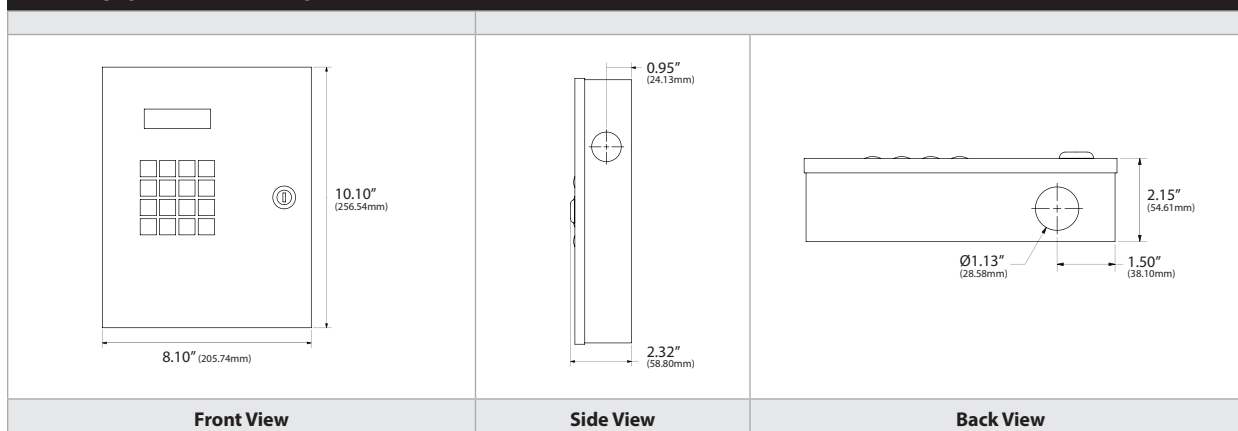
Supply Voltage:	24 VAC +/- 4V Floating; AC must not be grounded 24 VDC +/- 4V
Amps:	Controller: 1.0 A Horn & Strobe: 0.6 A Maximum Load per Channel: 2.0 A Maximum Allowed through Controller: 10.0 A
Operating Temperature:	-4°F to 122°F (-20°C to 50°C)
Operating Humidity:	5% to 95% RH Continuous non-condensing
Programming:	On-board keypad or M-View software (software and RJ-11 to serial cable included)
Communication Protocol:	Modbus Slave using Modbus RTU RS-422 port to host computer
RJ-11 Telephone Jack:	RS232 interface for uploading or downloading large configuration data bases using M-View Software can be used for Modbus RTU communication with BAS
Inputs:	Digital: 4 Parallel RS-485 ports allow up to 32 QEL gas sensors, and up to 99 relays Analog: 8 channels of 4-20 mA inputs with one common
Outputs:	Optional 8 analog channels of 4-20 mA signals with one common
Indicators:	5 Red LEDs: 3 Relay status, Hush and Fault
Display:	2 x 16 character display with backlight
Keypad:	4 x 4 tactile & audible keypad
On-Board Relays:	Three DPDT Form C, Dry Contact 5.0A resistive 240 VAC, 30 VDC 3.7A inductive 240 VAC, 30 VDC
Relay Life Expectancy:	Mechanical: Minimum 5,000,000
Time Delays:	Actuation / De-Actuation: 0 to 60 minutes
On-Board Buzzer:	90 db @ 12" (30 cm), 2700 Hz; 3 Buzzer tones
Horn & Strobe:	Two 24 VDC terminals provided 6 Watts each
Storage:	32°F to 68°F (0°C to 20°C) 0 to 99% RH Non-Condensing
Enclosure:	Steel, epoxy painted black, NEMA 1
Dimensions:	(H) 10.00" (254 mm) x (W) 8.00" (203 mm) x (D) 2.00" (51 mm)
Terminal Blocks:	Fixed, Power Wiring: 16 to 26 AWG (0.2 to 1.00 mm ²) Twisted Pair
Terminal Block Torque Rating:	0.37 ft-lbs (0.5n-3m) Nominal
Communication Wiring:	Belden 9841 or equal
Shipping Weight:	5.00 lbs (2268 g)
Options:	'P': Professional version of software for real time monitoring and data logging Horn & Strobe: See workaci.com/accessories/strobe and alarm Analog Output Card: 8 channel analog output with one common, 4-20 mA NEMA 4X Enclosure: Polycarbonate, flammability rating UL94V-0
Agency Approvals:	CSA NRTL/C, C22-205

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





DIMENSIONAL DRAWING



STANDARD ORDERING

Model # Example: **M-CONTROLLERX-000** -OR- **125945**

Model #	Item #	Description
M-CONTROLLERX-000	125945	M-Controller with M-View Software
M-CONTROLLERX-00P	142957	M-Controller with M-View Software & Real Time Monitoring
M-CONTROLLERX-T00	128896	M-Controller with M-View Software, Analog Output Card (Eight (8) 4-20 mA Output Channels)

ACCESSORIES ORDERING

Model # Example: **M-SWITCH** -OR- **127160**

Model #	Item #	Description
84330-013-000	126147	M-Controller Programming Cable (Included with M-Controller)
84330-014-000	132781	M-View CD for M-Controller / Q4C Controller
84330-101-00	137163	8 Channel Analog Output Card
84330-621-000	149993	NEMA 4X Enclosure for M-Controller
M-ANNUNCIATOR	135212	Annunciator Panel for M-Controller
M-RELAY-5X-2	125946	Relay, 2DPDT, 5 Amps for M-Controller
M-RELAY-5X-4	125947	Relay, 4DPDT, 5 Amps for M-Controller
M-RELAY-5X-6	138717	Relay, 6DPDT, 5 Amps for M-Controller
M-RELAY-5X-8	125948	Relay, 8DPDT, 5 Amps for M-Controller
M-SWITCH	127160	Manual Input Switch for M-Controller / Q4C Controller
M-TRANSFORMER	127162	Industrial Transformer, closed type, single phase, 120V to 24V, 250VA for M-Controller

ACCESSORIES ORDERING | HORN STROBE

Model # Example: **FSIG-SLM500A** -OR- **136476**

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 # Example: **FSIG-SLMBW-012-024GY** -OR- **136477**

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



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

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.

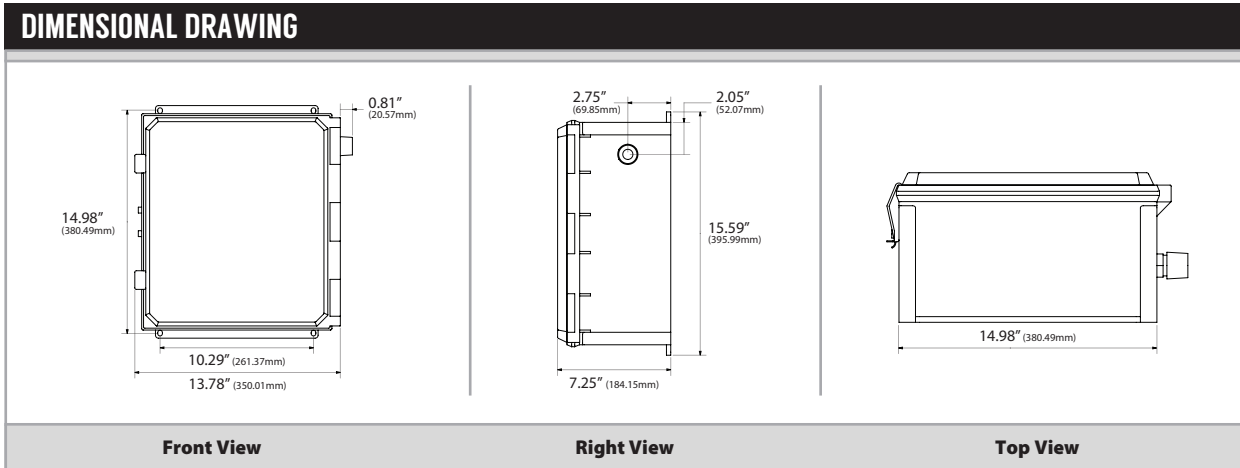
The Q-CONTROLLER covered by ACI's Two (2) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

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





STANDARD ORDERING

Model # Example: **Q-CONTROLLERA-000** -OR- **138070**

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

ACCESSORIES ORDERING

Model # Example: **Q-SWITCHA-0** -OR- **138897**

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 # Example: **FSIG-SLM500A** -OR- **136476**

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 # Example: **FSIG-SLMBW-012-024GY** -OR- **136477**

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





M-SWITCH, R-SWITCH

Microcontroller Based Switch

The M-Switch is a microcontroller based digital transmitter, which can provide a switch input for M-Controller System and Q4 Controller System to actuate or reset any assigned outputs, such as Relays, Buzzers and Strobe. M-Switch converts Switch Status to gas concentration and communicates with Controller System. It occupies one digital sensor address in the Controller System and works as a manual override switch to turn on a relay at the M-Controller or Q4C. The M-Switch has one switch onboard and contains two terminal blocks for connecting Remote Switches. An R-Switch connected to the Remote Switch Terminal Block, will have the

same function as the M-Switch. If an R-Switch is connected to the Reset Switch Terminal Block, the R-Switch will be used as a reset switch to reset latched switch. the M-Switch and R-Switch not only can provide multi-switch inputs and parallel switch inputs, it also provides a way to bring other devices switch outputs to M-Controller System or Q4 Controller System, such as actuating an M-Relay by customer's emergency switch, a timer/clock status, or actuating a fan by a temperature sensor status, etc. For instance, the M-Switch can be configured as Latched outside a machinery room to be capable of starting, but not stopping ventilation.

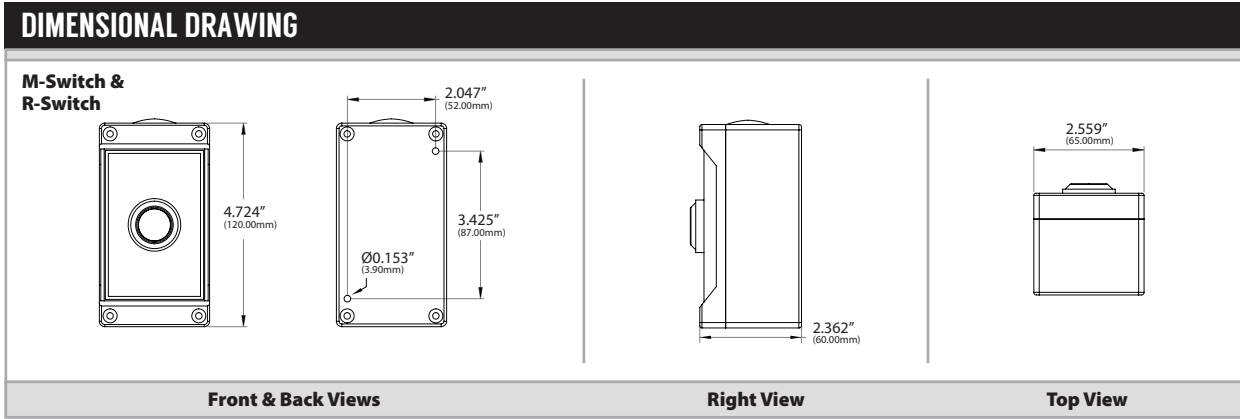
Applications: Testing System Outputs, such as Relays, Strobe, Horn & Fans, or Manual Actuation of the System for M-Controller & Q4 Controllers

The M-Switch and R-Switch are 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, www.workaci.com.

PRODUCT SPECIFICATIONS

Input Voltage:	24 VDC nominal, range 18 to 30 VDC; 24 VAC nominal, range 15 to 24 VAC 50/60 HZ AC must not be grounded
Wiring Connections:	De-Pluggable Screw Terminal Blocks
Wire Size:	16 to 24 AWG (0.2047 to 1.301 mm) Shielded Twisted Pair
Terminal Block Torque Rating:	0.37 ft-lb (0.502 Nm) Nominal
Communication Wire:	Belden 9841 or comparable wire
Fuse:	F1 Very Fast-Acting Fuse
Communication Protocol:	RS-485 with OptoMux protocol for use with M-Controller or Q4 controller systems Output 0 when switch is OFF Output 9999 when switch is ON Fixed Baud rate: 4800 bps
End-Of-Line Termination:	Jumper selectable 120Ω (Default OFF)
Addressing:	0 to 31 Dip Switch selectable for M-Controller, 0 to 3 for Q4C
Indicators:	Red LED = Switch ON, TX/RX
Onboard Switch Style:	Momentary Pushbutton with Splash Cover, Meets IP 65 of IEC60529 Specification
Switch Input:	Configurable: Momentary or ON/OFF; Latching or Non-Latching
Operating Temperature:	-49 to 149°F (-45 to 65°C)
Operating RH:	5% to 95% non-condensing
Storage Temperature:	-49 to 158°F (-45 to 70°C)
Storage Humidity:	5% to 95% non-condensing
Enclosure:	IP 66 & NEMA 4, 4X, 12 & 13 Polycarbonate Flammability UL94-5 VA
Enclosure Dimensions:	(L) 4.724" (120 mm) x (W) 2.559" (65 mm) x (D) 2.362" (60 mm)
Product Weight:	0.7 lbs (0.318 kg)





STANDARD ORDERING Model # Example: **M-SWITCH** -OR- **127160**

Model #	Item #	Description
M-SWITCH	127160	Microcontroller Based Switch
R-SWITCH	140640	Extension of an M-Switch, or used to reset a Latched M-Switch in a M-Controller or Q4C Gas System





STROBE AND ALARMS

Multifunctional LED Beacon/Sounder

The FSIG-SLM500 Series is a multifunctional LED beacon and sounder combination developed with a multiple input technology that allows three separate levels of alarm (alert, pre-alarm, alarm) controllable via independent electric contacts. Channel 1 includes a simulated strobe (triple flash) visual signal only. Channel 2 adds an audible tone, selectable from 32 tones via dip switch, to the simulated strobe effect. Channel 3 includes a steady light and a second, unique tone selectable from 32 different tones, for a total of 64 unique tones. The volume of a selected tone is adjustable (65 dBA to 105 dBA for the highest performing tone). Its enclosure is made from a self-extinguishing polycarbonate material with high impact and UV resistance. The mounting base and strobe/sounder are sold separately. An optional protective wire dome is available for use in applications to protect the horn and strobe from being damaged once installed in your building. Other options may be available upon request. Contact ACI to discuss your application in greater detail or for more

information regarding the strobes and audible alarm series.

Applications: Audible/Visual Alarms for Gas Detection and Alarm Systems, Visual Alarms, Audible Alarms, Equipment Status

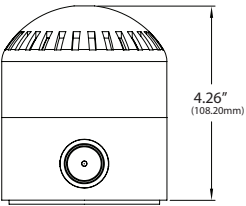
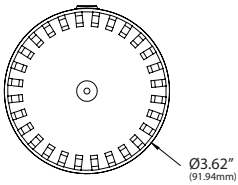
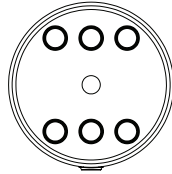
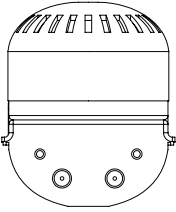
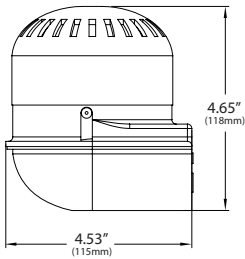
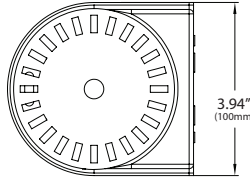
The LED Strobe and Alarm Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	12 to 24 VAC/VDC
Maximum Operating Current VA Rating:	12 VAC/VDC: 380 mA 6 VA 24 VAC/VDC: 460 mA 13 VA
Input Types Accepted:	Relay
Number of Channels:	Three (3) 1: Visual only 2: Visual and Tone 1 3: Visual and Tone 2
Light Source:	LED Array
Strobe Colors:	Amber, Blue, Clear, Green and Red
LED Lamp Life:	50,000 Hours
Luminous Intensity: Candelas Lumens	Amber: 65 817, Blue: 60 754, Clear: 300 3771, Green: 100 1257, Red: 80 1006
LED Strobe Flash Rate / Minute:	85 +/- 10 Flashes (Flash Mode Only)
Flash Patterns:	Three (3) Strobe (Default), Fade, and Steady
Tones:	64 options (Dip Switch selectable), three adjustable levels
Horn Decibels @ 1 meter (3.28'):	Adjustable from 65 to 105 dB
Operating Temperature:	-22 to 131°F (-30 to 55°C)
Mounting Base Material:	High Impact and UV Resistant, Self-Extinguishing Polycarbonate
Base Color:	Deep Base and Wall Mount: Gray
NEMA/IP Rating:	Type 3R (IP65)
Product Dimensions:	Strobe (Diameter x H): 3.9" (92 mm) x 2.44" (62 mm)
	Deep Base (Diameter x H): 3.62" (92 mm) x 1.81" (46 mm)
	Wall Mount Base (L x W x H): 4.52" (115 mm) x 3.93" (100 mm) x 2.04" (61 mm)
	Protective Dome (Diameter x H): 5.015" (127 mm) x 4.359" (111 mm)
Product Weights:	FSIG-SLM500 Series: 0.485 lbs. (0.22 kg) FSIG-SLMDB-012-024GY: 0.264 lbs. (0.12 kg)
	FSIG-SLMBW-012-024GY: 0.419 lbs. (0.19 kg)
Agency Approvals:	UL/cUL US (File# E162485), Audible and Visual Appliance Type 3P for Indoor/Outdoor, CE (2014/30/EU (EMC) and 2014/35/EU (Low Voltage), RoHS2





DIMENSIONAL DRAWING		
Horn/Strobe Deep Base		
		
Horn/Strobe Wall Mount		
		
Front View	Side View	Top View

STANDARD ORDERING HORN STROBE			Model # Example: FSIG-SLM500A -OR- 136476
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)	
FSIG-SLM500C	150028	Streamline Horn and Strobe (Clear)	

STANDARD ORDERING MOUNTING BASE			Model # Example: FSIG-SLMBW-012-024GY -OR- 136477
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	

ACCESSORIES DOME			Model # Example: FSIG-SLMDG2 -OR- 143149
Model #	Item #	Description	
FSIG-SLMDG2	143149	Optional Protective Dome for Deep Mounting Base and SLM500x Series Horn and Strobe	



LITESTAK

Indoor Stackable Status Indicator

The Litestak® status indicator is an indoor stackable 24VDC lighting option that provides a 360° visual signal. There can be up to five light modules or up to four light modules plus an optional sound module to create a dual purpose audible/visual status indicator. The light modules are available in five lens colors: Amber, Blue, Clear, Green and Red. The clear module or the sound module is always mounted at the top position of a Litestak® unit if used.

Individual light modules may be set to either steady or flash using the optional flasher. The light modules consist of two impact-resistant polycarbonate lens halves that snap apart to provide easy maintenance and interchangeability of colors. The flasher and sound module are sold separately.

The LSB base can be installed on a 3/4-inch NPT pipe mount or surface mounted and the LSBS for low profile surface mounting. The Litestak® stack should be mounted with the base at the bottom.

The Litestak 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 web site, workaci.com.

PRODUCT SPECIFICATIONS

Supply Voltage:	24 VDC
Operating Current*:	LSL Light Modules: 0.76 amps LHS Piezoelectric Horn: 70mA
Input Types:	Relay
Lamp Life:	2,500 Hours
Light Source:	Incandescent
Light Module Colors:	Amber, Blue, Clear, Green and Red
Horn Decibels:	Adjustable, up to 75-77 dBa @ 10' (85-87 dBa @ 1m)
Operating Temperature:	32-120°F (0-49°C)
Mounting Base Material:	Polycarbonate
Base Color:	Black
NEMA IP Rating:	NEMA 1 IP 10
Product Dimensions:	LSB Base, LSL Module, and LSH Piezoelectric Horn (D x H): 3.93" (99.8mm) x 3.25" (82.6mm) LSBS Base (D x H): 3.93" (33.8mm) x 3.25" (82.6mm)
Product Shipping Weight:	LSL Light Module: 0.8 lbs (0.4 kg) LBS Base: 1.0 lbs (0.4 kg) LSH Piezoelectric Horn: 0.65 lbs (0.3 kg)
Agency Approvals:	UL Listed, CSA Certified

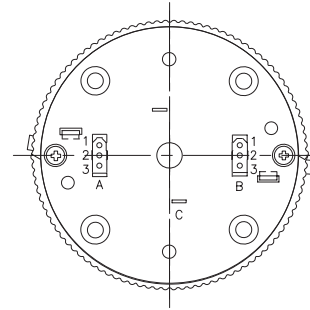
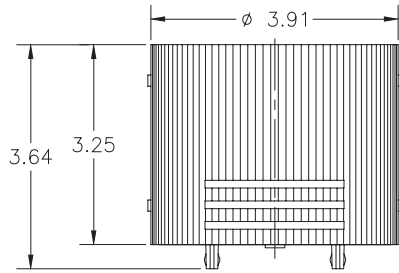
Note*: Operating current listed is for one module. For multiple modules, the current will have to be added together throughout the configuration to get the total operating current.



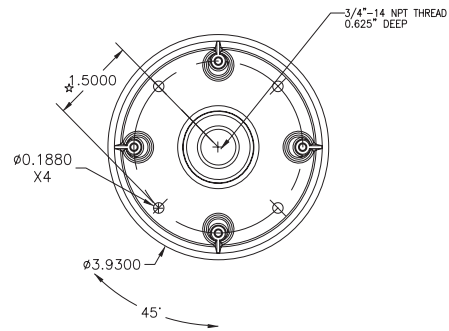
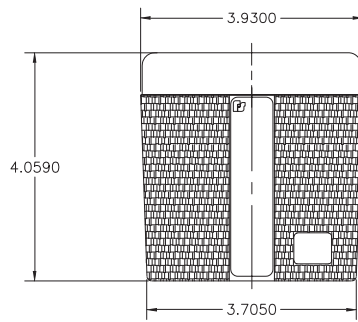


DIMENSIONS

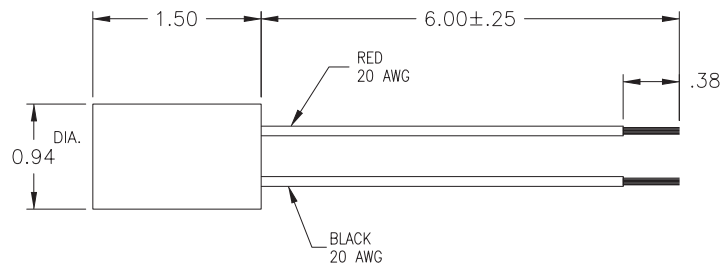
LSL Light Module and LSH Piezoelectric Horn



LSB Base



K8285237A Flasher module





STANDARD ORDERING | LIGHT MODULE

Model #	Item #	Description
FSIG-LSL-024A	148902	Light Module, Amber
FSIG-LSL-024B	148903	Light Module, Blue
FSIG-LSL-024C	148904	Light Module, Clear
FSIG-LSL-024G	148905	Light Module, Green
FSIG-LSL-024R	148906	Light Module, Red

STANDARD ORDERING | MOUNTING BASE

Model #	Item #	Description
FSIG-LSB-024-240	148898	Surface mount or 3/4" conduit mount
FSIG-LSBS	148899	Surface mount base

ACCESSORIES

Model #	Item #	Description
FSIG-K8285237A	149007	Flasher Module
FSIG-LSH-024	149008	Piezoelectric Horn





*The calibration adapter, zero and span gases are not included and must be ordered separately

GAS CAL KIT

Gas Calibration Kit

This kit is used for calibration or bump testing of Q5/B5, Q6/B6 series sensors, Q8/B8 series explosion-proof sensors, and the QTS-1700 series explosion proof combustible sensors. The GAS CAL KIT consists of one C10 0.5lpm regulator, one C10 to CGA-600 adapter, ten feet of 1/4" tubing and a carry case. The calibration adapter for series sensors needed is ordered separately. The carry case has spaces for three 17L or 34L cylinder of Zero and Span gas for easy transportation and storage of gas and calibration equipment. The Zero and Span calibration gases are not included with the Gas Cal Kit but can be ordered through ACI and drop shipped to the jobsite.

-A "bump test" (function check) is the application of target gas to a sensor to verify alarms, functionality and alarm response. Bump testing is performed upon system start-up or commissioning of the gas detection system or as routine maintenance throughout the year.

-A "calibration check" is challenging a sensor using a traceable source of known concentration test gas to verify that the response of the sensors is within the manufacturer's acceptable limits. If the calibration check results are not within the acceptable range of $\pm 10\%$ of the value of the gas applied, a full calibration should be performed. Calibration checks should be performed between full calibration.

-A "full calibration" is defined as the adjustment of an instrument's response to match a desired value compared to a known traceable concentration of test gas. Full calibration should be performed on a yearly basis or by building owner. The instructions for calibration can be found in the Q5/B5 user manual.

Gas tips:

Always use fresh calibration gas for calibration, bump testing, and for calibration verification. Do not use gas that is past its expiration date.

Note: Reactive gases such as Nitrogen Dioxide, Ammonia, Hydrogen Sulphide, etc. have a shorter shelf life, normally less than a year, than non-reactive gases. Reactive calibration gases with higher concentration could have longer shelf life than lower concentrations.

Zero gas can be 20.9% Oxygen or 100% Nitrogen.

Span gas is a specific concentration of the target gas that is at least half of the span of the sensor.

Install and remove the regulator and adapter as one unit. Installing the gas cylinder adapter alone will cause the gas in the cylinder to escape.

Bump Testing and Calibration Checks should be on a maintenance schedule to verify functionality.

Full calibration should be scheduled and performed at least once every year.

Recommended calibration of Oxygen/Hydrogen (Toxic) sensors is every three (3) months due to the short life span of the sensing element.

If sensor gives "Cal Error" message after attempted calibration, replace the Smart Sensor board. See Replacement Smart Sensor sheet for replacement part number.

Note: Further information (bump testing/calibration demo videos and a list of replacement sensors) can be found at: www.workaci.com.

STANDARD ORDERING

Model #	Item #	Description
GAS CAL KIT	148426	Carry Case, 0.5lpm Regulator, C10 to CGA-600 Adapter and Tubing

CAL ADAPTER ORDERING

Model #	Item #	Description
85930-006-000	128901	Q5/B5, Q6/B6 Calibration Adapter
79030-103	126566	Q8/B8, QTS-1710 Combustible Calibration Adapter
6395-0003	126254	Q8/B8 Toxic Calibration Adapter
83830-020-000	127649	CO-R, NO2-R, M5 Calibration Adapter

Note: The above adapters are required to connect to the corresponding ACI Gas Sensors.





CALIBRATION GASES					
Model #	Item #	Description	Balance	Valve	Shelf Life
H107220.9VN	148988	20.9% Oxygen, 34L, Certified	Nitrogen	CGA 600	3 years
H1066	148989	100% Nitrogen, 34L, Certified	Air	CGA 600	3 years
F10675PA	148986	5 ppm Nitrogen Dioxide, A34L, Certified	Air	C-10	1 year
F106710PA	148987	10 ppm Nitrogen Dioxide, A34L, Certified	Air	C-10	1 year
H101650PN	148990	50 ppm Carbon Monoxide, 34L, Certified	Nitrogen	CGA 600	3 years
H1016100PN	148991	100 ppm Carbon Monoxide, 34L, Certified	Nitrogen	CGA 600	3 years
H104950LA	148999	50% LEL Hydrogen, (2.00%) 34L, Certified	Air	CGA 600	3 years
H197150LA	149000	50% LEL Methane, (2.50%), 34L, Certified	Air	CGA 600	3 years
H1971125LA	149001	25% LEL Methane, (1.25%), 34L, Certified	Air	CGA 600	3 years
H10131000PN	149003	1000 ppm Carbon Dioxide, 34L, Certified	Nitrogen	CGA 600	3 years
F10795PN	149087	5 ppm Sulfur Dioxide, A34L, Certified	Nitrogen	C-10	2 Years
34LS-78A-1000	150759	1000 ppm R11 Refrigerant, 34L, Certified	Air Balance	CGA 600	4 Years
34LS-70A-1000	150760	1000 ppm, R134a Refrigerant, 34L, Certified	Air Balance	CGA 600	4 years
H1013750PN	149140	750 ppm Carbon Dioxide, 34L, Certified	Nitrogen	CGA 600	3 Years
F166050PN	150168	50 ppm Nitric Oxide, 34L, Certified	Nitrogen	C-10	1 Year
Z10175PN	150169	5 ppm Chlorine, 58L, Certified	Nitrogen	C-10	6 Months
H197120LA	150853	20% LEL Methane, (1.00%) 34L, Certified	Air	CGA 600	3 Years
H10491000PA	150888	1000 ppm Hydrogen, 34L, Certified	Air	CGA 600	3 Years

Note: Calibration gases are not covered by the ACI warranty