Q8 SERIES

Combustible Gas Transmitter

The Q8 Series of Explosion Proof Gas Detectors are used in applications that require a rugged enclosure that meets the Class 1 Division 2 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 and 3 SPDT Form 1C user adjustable relay contacts. Calibration gases and 0.2 to 1 liter/minute flow limiting gas regulators are not available through ACI and should be purchased through your local gas supply company or companies such as Portagas® (Praxair®, Inc.) or Mesa Specialty Gases®. 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

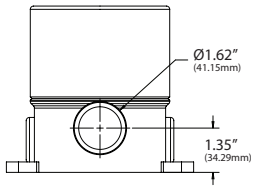
The Q8 Series Gas Transmitters are covered by ACI's Two (2) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com.

PRODUCT SPECIFICATIONS

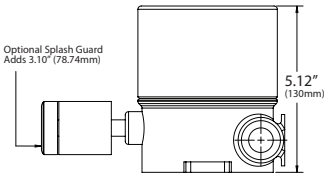
Supply Voltage:	**VDC Supply Voltage:** 24 VDC nominal (+18 to 30 VDC) **VAC Supply Voltage:** 24 VAC nominal (+15 to 24 VAC, AC Power must not be Grounded)
Fuse Protection:	0.750A Polyswitch; (Automatically resets after fault is cleared & power to circuit is removed)
Supply Current | Power Consumption:	0.3A maximum | 8.4 VA
Output Signals:	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:	RS-485 Modbus or OptoMux Proprietary Protocol (M-Controller, Q-Controller & Q4C Controller)
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 Contacts 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
Sensor Gas Types:	Combustible and Toxic Gases/Oxygen Sensor
Sensor Life Expectancy:	**Toxic/Electrochemical Sensors:** 2 to 3 Years , typical Oxygen/Hydrogen: 18 months, typical **Combustible/Catalytic:** 3 to 5 years, typical
Unit Shelf Life:	**Toxic:** 6 Months from date of purchase (Must be installed and operational) **Combustible:** 1 Year from Date of Purchase (Must be installed and operational)
Replacement Sensor:	See User's Manual or Contact ACI
Recommended Maintenance:	**Combustible Sensors:** Accuracy & Bump test every 3 months or as required by Code **Toxic Sensors:** Accuracy & Bump test every 6 months or as required by Code
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
Conduit Connection:	Two ¾" NPT Threaded Openings
Operating Temperature | Humidity:	See Sensor Selection & Specification Table on back of data sheet | 5 to 95% RH, non-condensing
Operating Atmospheric Pressure[1]:	14.696 psi (1.0132 bar) +/- 10%
Recommended Storage Temperature/Humidity:	32 to 68ºF (0 to 20ºC) | 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
Communications 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)

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

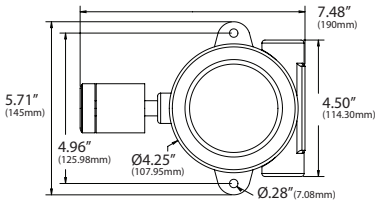
DIMENSIONAL DRAWING



Front View



Right View



Top View

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 ft² (m²)	Radius ft (m)	Mounting Height
Acetone	CH3CO-100L	•		2.6 %	0 - 100% LEL	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Low **
Ammonia	NH3-100P		•	N/A	0 - 100 PPM	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	High **
Ammonia	NH3-1000P		•	N/A	0 - 1000 PPM	-22 to 122 (-30 to 50)	7500 (696.7)	49 (14.9)	High **
Arsine	ASH3-1P		•	N/A	0 - 1 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low **
Benzene	C6H6-100L	•		1.3 %	0 - 100% LEL	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Low **
Iso-Butane	C4H10-100L	•		1.8 %	0 - 100% LEL	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Low **
Butanol, n-Butane	BUTAN-100L	•		1.9 %	0 - 100% LEL	-40 to 122 (-40 to 50)	5000 (464.5²)	40 (12.2)	Low **
Carbon Monoxide	CO-250P		•	N/A	0 - 250 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid **
Carbon Monoxide	CO-1000P		•	N/A	0 - 1000 PPM	-4 to 122 (-20 to 50)	7500 (696.7²)	49 (14.9)	Mid **
Chlorine	CL2-5P		•	N/A	0 - 5 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low **
Chlorine Dioxide	CLO2-2P		•	N/A	0 - 2 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low **
Combustibles***	GENL-100L	•		Specify Gas	0 - 100% LEL	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Gas Dependent
Diborane	B2H6-2P		•	N/A	0 - 2 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Mid **
Ethylene	C2H4-100L	•		2.7 %	0 - 100% LEL	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Mid **
Germane	GEH4-2P		•	N/A	0 - 2 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low **
Hydrogen	H2-1000P		•	N/A	0 - 1000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	High **
Hydrogen	H2-2000P		•	N/A	0 - 2000 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	High **
Hydrogen	H2-100L	•		4.0 %	0 - 100% LEL	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	High **
Hydrogen Bromide	HBR-30P		•	N/A	0 - 30 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low **
Hydrogen Chloride	HCL-30P		•	N/A	0 - 30 PPM	-4 to 122 (-20 to -50)	5000 (464.5)	40 (12.2)	Mid **
Hydrogen Cyanide	HCN-50P		•	N/A	0 - 50 PPM	-4 to 122 (-20 to -50)	5000 (464.5)	40 (12.2)	Mid **
Hydrogen Sulphide	H2S-25P		•	N/A	0 - 25 PPM	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Low **
Hydrogen Sulphide	H2S-100P		•	N/A	0 - 100 PPM	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Low **
Methane	CH4-100L	•		5.0 %	0 - 100% LEL	-40 to 122 (-40 to 50)	7500 (696.7)	49 (14.9)	High **
Methanol	CH3OH-100L	•		6.7 %	0 - 100% LEL	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Low **
Nitric Oxide	NO-100P		•	N/A	0 - 100 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Mid **
Nitrogen Dioxide	NO2-10P		•	N/A	0 - 10 PPM	-4 to 122 (-20 to 50)	7500 (696.7)	49 (14.9)	Low **
Oxygen	O2-25V		•	N/A	0 - 25% by Vol	-40 to 122 (-40 to 50)	7500 (696.7)	40 (12.2)	Mid **
Ozone	O3-1P		•	N/A	0 - 1 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	High **
Iso-Pentane	C5H12-100L	•		1.4 %	0 - 100% LEL	-40 to 122 (-40 to 50)	5000 (464.5)	40 (12.2)	Low **
Phosphine	PH3-1P		•	N/A	0 - 1 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low **
Phosphine	PH3-5P		•	N/A	0 - 5 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Low **
Propane	C3H8-100L	•		2.1 %	0 – 100% LEL	-40 to 122 (-40 to 50)	7500 (696.7)	49 (14.9)	High **
Silane	SiH4-50P		•	N/A	0 - 50 PPM	-4 to 104 (-20 to 40)	5000 (464.5)	40 (12.2)	Mid **
Sulphur Dioxide	SO2-6P		•	N/A	0 - 6 PPM	-4 to 122 (-20 to 50)	5000 (464.5)	40 (12.2)	Low **

Note***:** Lower Explosive Limit (LEL) | **Note****:** 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

CUSTOM ORDERING

Model # Example: Q8 (A.) | CO-250P (B.) | O (C.) | X (D.)

		MODEL #
A. Sensor Series *No Selection Required*	**Q8** →	**Q8**
B. Gas Span Code *Select One (1)*	**Enter a "Gas Span Code" from the *Sensor Selection and Specification* Menu Above***	
C. Enclosure *Select One (1)*	**O** = Standard Wall Mount Enclosure | **R** = Remote Mount Sensor	
D. Revision *No Selection Required*	**X** = Factory Provided →	**X**

Note*: All "GENL-100L" must have combustible gas to be monitored specified when ordering

ACCESSORIES ORDERING

Model # Example: 79030-103 -OR- 126566

Model #	Item #	Description
79030-103	126566	Q8 Combustible Calibration Adapter

RoHS COMPLIANT 2002/95/EC