Q6/B6 SERIES

Toxic/Combustible Gas Transmitter

B6, Q6R

Q6, Q6R

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.

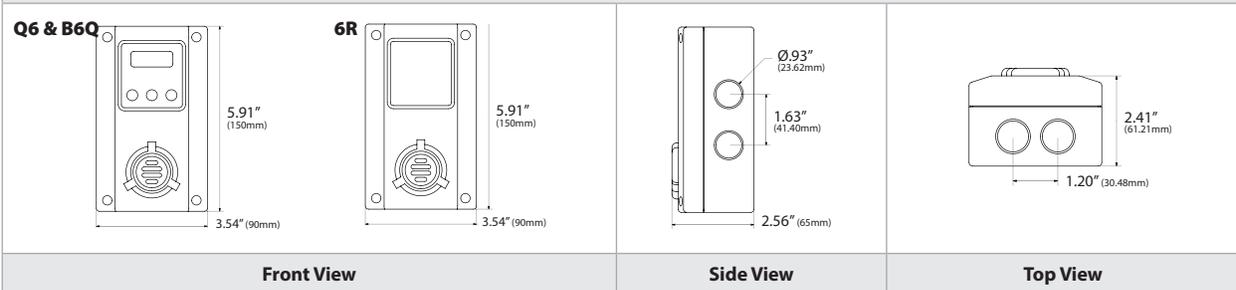## PRODUCT SPECIFICATIONS

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:	**Electochemical (Toxic):** 2 to 3 Years, typical | **Oxygen/Hydrogen (Toxic):** 18 months, typical **Catalytic (Combustible):** 3 years, typical | **CO:** 7 years, typical **Infrared:** >5 Years
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 **Infrared:** Accuracy and Bump Test yearly

Automation Components, Inc.

PRODUCT SPECIFICATIONS

Enclosure Specifications (Material Type, Flammability, NEMA/IP Rating):	Plastic Enclosure; Ploycarbonate Lexan; UL94 V-0, NEMA 4, 4X, 12 and 13 (IP66)
Operating Environment:	Indoor use only
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 Pressure[1]:	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
Termical Block Torque Rating:	0.37 ft-lb (0.502 Nm) Nominal

DIMENSIONAL DRAWING

Q6 & B6Q
5.91" (150mm)
3.54" (90mm)

6R
5.91" (150mm)
3.54" (90mm)

Ø.93" (23.62mm)
1.63" (41.40mm)
2.56" (65mm)

2.41" (61.21mm)
1.20" (30.48mm)

Front View	Side View	Top View

SENSOR SELECTION AND SPECIFICATION

GAS ##

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)	Low[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.

Automation Components, Inc.

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 *Select One (1)*	**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 adapter 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)
85930-106-000	151085	Remote Calibration Adapter

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