

Industrial  
NEMA 4XCommercial  
NEMA 4X

# QTS-6000 SERIES

## Toxic Gas Transmitter

The QTS-6000 Series features a 2-Wire, 4 to 20 mA loop powered output signal and is available in both Commercial and Industrial style enclosures without a display. This series incorporates an Electrochemical sensor which has a typical two to three year life expectancy. All of the sensors can be easily replaced in the field since the sensors are plugged into an on-board socket or with an integrated sensor assembly for use in the Industrial enclosures. The QTS-6000 is factory configured and can be field calibrated using the Zero and Span adjustment potentiometers. The commercial grade unit is offered in either a general purpose wall or a duct mount version that includes a flow through pitot tube sampling kit with 18" (0.46 m) of tubing. The tubing length on

the duct mount versions should be kept to less than a maximum of 5' (1.53m) in length in order to not affect the response time. The Industrial grade units include an Aluminum or 316 Stainless Steel enclosure that should be selected based upon the type of gas and environment being monitored. General calibration and bump testing should be completed every 3 months in Hazardous or Explosive type atmospheres while the Commercial grade products should be tested every 6 months. 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®. 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-6000 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](http://www.workaci.com).**

### PRODUCT SPECIFICATIONS

<b>Supply Voltage   Protection:</b>	<b>+24 VDC nominal (+12 to 36 VDC Load Dependent)   0.5A Socketed Pico Fuse</b>
<b>Supply Current   Power Consumption:</b>	<b>25 mA maximum   0.9 Watts maximum</b>
<b>Maximum Load (@ 24 VDC):</b>	600 Ohms
<b>Output Signal:</b>	4-20 mA (2-Wire, Loop Powered)
<b>Factory Set Range:</b>	See Gas Sensor Selection & Specification Table on back of data sheet
<b>Accuracy   Repeatability:</b>	<b>+/- 2.5% of Reading   +/- 1% of Reading</b>
<b>Response Time (T90):</b>	< 60 Seconds, typical
<b>RFI/EMI Protection:</b>	4.0 Watts @ 1m (3.28 ft) Radiated
<b>Sensor Type:</b>	Electrochemical, non-consuming
<b>Sensor Life Expectancy:</b>	2 to 3 years, typical
<b>Unit Shelf Life:</b>	6 Months from date of purchase (Must be installed and operational)
<b>Replacement Sensor:</b>	Contact ACI
<b>Recommended Maintenance:</b>	Accuracy & Bump test every 3 to 6 months or as required by Code   Replace sensor as needed
<b>Enclosure Specifications (Type, Material Type, Flammability, NEMA/IP Rating, Explosion Proof):</b>	<p><b>Commercial "C":</b> General Purpose (Wall Mount); ABS Plastic, UL94 V-0; NEMA 1 (IP10)</p> <p><b>Commercial "D":</b> General Purpose (Duct Mount); ABS Plastic, UL94 V-0; NEMA 1 (IP10)</p> <p><b>Commercial "N":</b> Weatherproof (Wall Mount); ABS Plastic; UL94 V-0; NEMA 4X (IP56)</p> <p><b>Industrial "E":</b> Industrial Connection Head; Aluminum (Epoxy Coated); NEMA 4X (IP56) and Enclosure meets Type 7 &amp; 9 Explosion Proof Class 1 Div. 1, Groups B, C, D also Group A; CSA, FM (Factory Mutual), EX (Explosion Proof), UL listed</p> <p><b>Industrial "S":</b> Industrial Connection Head; 316 Stainless Steel; NEMA 4X (IP56) and Enclosure meets Type 7 &amp; 9 Explosion Proof Class 1 Div. 1, Groups B, C, D also Group A; CSA, FM (Factory Mutual), EX (Explosion Proof), UL listed</p>
<b>Operating Environment:</b>	Indoor use only
<b>Intrinsic Safety Barrier Requirement<sup>2</sup>:</b>	28.5 VDC maximum and 300 minimum load
<b>Operating Temperature:</b>	See Gas Sensor Selection & Specification Table on back of data sheet
<b>Operating Humidity:</b>	0 to 90% RH, non-condensing (Continuous); 0 to 95% RH, non-condensing (Intermittent)
<b>Operating Atmospheric Pressure<sup>1</sup>:</b>	14.696 psi (1.0132 bar) +/- 10%
<b>Recommended Storage Temperature/Humidity:</b>	32 to 68°F (0 to 20°C)   15 to 90% RH, Non-Condensing
<b>Wiring Connections   Wire Size:</b>	Screw Terminal Blocks, 16 to 24 AWG (0.51 to 1.30 mm) Shielded Twisted Pair
<b>Terminal Block Torque Rating:</b>	0.37 ft-lb (0.502 Nm) Nominal
<b>Coverage Area   Mounting Height:</b>	See Gas Sensor Selection & Specification Table on back of data sheet
<b>Approvals:</b>	RoHS, CSA-4828-02 (CSA File #: 088890 0 000 for Industrial Enclosure Options Only)
<b>Product Weight:</b>	<p><b>Industrial "E"/"S" Enclosures:</b> 5.00 lbs (2.27kg)</p> <p><b>Commercial "C"/"D"/"N" Enclosures:</b> 2.00 lbs (0.91kg)</p> <p><b>Commercial "C" Enclosure:</b> 6.60" (167.64 mm) x 4.23" (107.44 mm) x 2.60" (66.04 mm)</p> <p><b>Commercial "D" &amp; "N" Enclosure:</b> 6.60" (167.64 mm) x 4.23" (107.44 mm) x 3.70" (93.98 mm)</p> <p><b>Industrial "E" &amp; "S" Enclosure:</b> 10.70" (271.78 mm) x 5.71" (145.04 mm) x 4.25" (107.95 mm)</p>
<b>Product Dimensions (L x W x H):</b>	

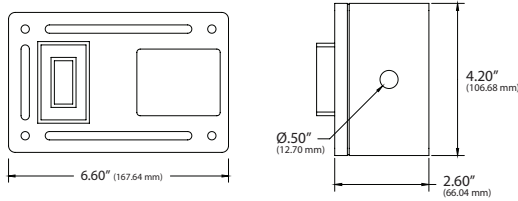
**Note1:** The Cl<sub>2</sub>, ClO<sub>2</sub>, HCl, SO<sub>2</sub>, NO<sub>2</sub>, NH<sub>3</sub>, and O<sub>3</sub> sensor assemblies are NOT explosion-proof rated | **Note2:** Requirements to meet when installed with CSA Approved Intrinsic Safety Barriers in Class A, B, C & D Certified environments | **Note3:** When installed @ > 3000' above sea level, the gas transmitters must be verified for accuracy & re-calibrated as needed after installation.





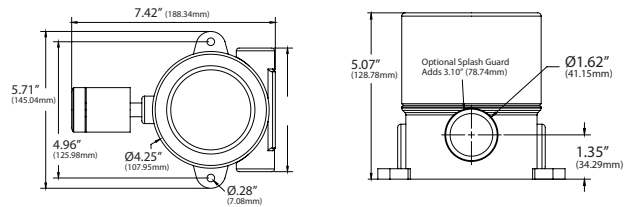
**DIMENSIONAL DRAWING**

**Commercial NEMA 4X**



Top & Front View

**Industrial NEMA 4X**



Top & Front View

**SENSOR SELECTION AND SPECIFICATION**

Gas Type	Symbol	Gas Type	Measurement	Square Footage	Radius	Operating Temp	Mounting Height
Transmitter Only	N/A	000	N/A	N/A	N/A	N/A	N/A
Hydrogen Sulphide	H2S	110	0 to 25 ppm	5000 ft2 (464.5 m <sup>2</sup> )	40 ft (12.2 m)	-40 to 122°F (-40 to 50°C)	Low **
Hydrogen Cyanide	HCN	115	0 to 20 ppm	5000 ft2 (464.5 m <sup>2</sup> )	40 ft (12.2 m)	-4 to 122°F (-20 to 50°C)	Mid **
Chlorine	Cl2	120	0 to 3 ppm	5000 ft2 (464.5 m <sup>2</sup> )	40 ft (12.2 m)	-4 to 122°F (-20 to 50°C)	Low **
Chlorine Dioxide	ClO2	123	0 to 1 ppm	5000 ft2 (464.5 m <sup>2</sup> )	40 ft (12.2 m)	-4 to 122°F (-20 to 50°C)	Low **
Sulphur Dioxide	SO2	140	0 to 6 ppm	5000 ft2 (464.5 m <sup>2</sup> )	40 ft (12.2 m)	-4 to 122°F (-20 to 50°C)	Low **
Nitrogen Dioxide	NO2	150	0 to 6 ppm	7500 ft2 (696.7 m <sup>2</sup> )	49 ft (14.9 m)	-4 to 122°F (-20 to 50°C)	Low **
Carbon Monoxide	CO	160	0 to 250 ppm	7500 ft2 (696.7 m <sup>2</sup> )	49 ft (14.9 m)	-4 to 122°F (-20 to 50°C)	Mid **
Hydrogen	H2	211	0 to 2000 ppm	7500 ft2 (696.7 m <sup>2</sup> )	49 ft (14.9 m)	-4 to 122°F (-20 to 50°C)	High **
Ammonia	NH3	220	0 to 50 ppm	7500 ft2 (696.7 m <sup>2</sup> )	49 ft (14.9 m)	-13 to 86°F (-25 to 30°C)	High **
Ozone	O3	240	0 to 3 ppm	5000 ft2 (464.5 m <sup>2</sup> )	40 ft (12.2 m)	-4 to 122°F (-20 to 50°C)	Mid **

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: **QTS 61 120 X S 0 0 0 G 0 0**

**MODEL #**

<b>A. Sensor Series</b> <i>No Selection Required</i>	QTS	QTS
<b>B. Gas Transmitter</b> <i>No Selection Required</i>	61 = Non Indicating 4-20 mA Analog Output	61
<b>C. Configuration</b> <i>Select One (1)</i>	000 = Transmitter Only      140 = Sulphur Dioxide      211 = Hydrogen 110 = Hydrogen Sulphide      150 = Nitrogen Dioxide      220 = Ammonia 115 = Hydrogen Cyanide      160 = Carbon Monoxide      240 = Ozone 120 = Chlorine 123 = Chlorine Dioxide	
<b>D. Revision</b> <i>No Selection Required</i>	X = Factory Provided	X
<b>E. Enclosure</b> <i>No Selection Required</i>	C = Commercial NEMA 1      E = Industrial NEMA 4X, 7, 9 (Aluminum) N = Commercial NEMA 4X, Splash Guard      S = Industrial NEMA 4X, 7, 9 (316 S.S.) D = Commercial NEMA 1 (Duct Mount; Pitot Tube)	
<b>F. Factory Supplied</b> <i>No Selection Required</i>	0 = Default	0
<b>G. Factory Supplied</b> <i>No Selection Required</i>	0 = Default	0
<b>H. Factory Supplied</b> <i>No Selection Required</i>	0 = Default	0
<b>I. Splash Guard</b> <i>Select One (1)</i>	0 = No Splash Guard   G = Splash Guard (Industrial Enclosures, options E& S above only)	
<b>J. Factory Supplied</b> <i>No Selection Required</i>	0 = Default	0
<b>K. Special Features</b> <i>Select One (1)</i>	0 = No Special Calibration   X = Non-Standard Calibration   S = Special (Consult Factory)	

**ACCESSORIES ORDERING**

Model # Example: **6395-0003 -OR- 126254**

Model #	Item #	Description
6395-0003	126254	Gas Calibration Adaptor

