



QTS - 1300

QTS - 1300 OXYGEN TRANSMITTER / SENSORS

The QTS-1300 Series is the latest advancement in low cost analog output oxygen transmitters. The compact sensor elements have a typical life span of two to ten years, are easily field replaceable, and do not require electrolyte replenishment. With rapid response to the target gas and stable zero readings, these sensors retain their sensitivity to oxygen. The two wire transmitters are available in a variety of ABS or explosion- proof Nema rated enclosures. The transmitter operates on a power supply range of 12-36 VDC with an output of 4-20mA DC into 750 Ohms (at 24 VDC), making it useable with any standard intrinsic safety barrier. With integral RFI and EMI protection, this is the most robust transmitter available in its class.



MODEL NUMBER ORDERING CODE

Q T S - 1 3 1 X - 0 0

Transmitter Type

Non-indicating Analog Output

Gas Type

(See Gas Selection Table for #)

Revision (Factory Provided)

X

Enclosure

Commercial Nema 1

C

Commercial Nema 4x c/w splash guard

N

Commercial Nema 1 Ductmount

D

Industrial Nema 4x,7,9 c/w Alum. sensor housing

E (note 1)

Industrial Nema 4x,7,9 c/w S.S. sensor housing

S (note 1)

Options (Enter 0 for No Selection)

Conformal Coating

W

Splash Guard for Industrial Enclosure

G

Low Temperature Heater Option (-40°C, note 2)

L

Non-Standard Calibration

X

Special (Consult Factory)

S

SENSOR SELECTION AND SPECIFICATION TABLE

GAS	Sym	Model Code	Standard Cal (v/v)	Temp Range °C (Note 3)
Oxygen	O ₂	00	0 to 25%	-20° to +50°
Oxygen	O ₂	10	0 to 25%	+5° to +40°

Note 3: -20°C = -4°F +40°C = +104°F
 +5°C = +41°F +50°C = +122°F

QTS-13101 is recommended for unoccupied areas such as mechanical rooms or chiller rooms.

Temperature operating range given in degrees Celcius.
See chart below for Fahrenheit equivalent

°C	-40°	-25°	-20°	0°	+30°	+50°
°F	-40°	-13°	-4°	32°	+86°	+122°

Note 1 - Model Code 10 not available in explosion proof enclosures

Note 2 - Available only in type N or C enclosures ONLY. Requires a power supply.

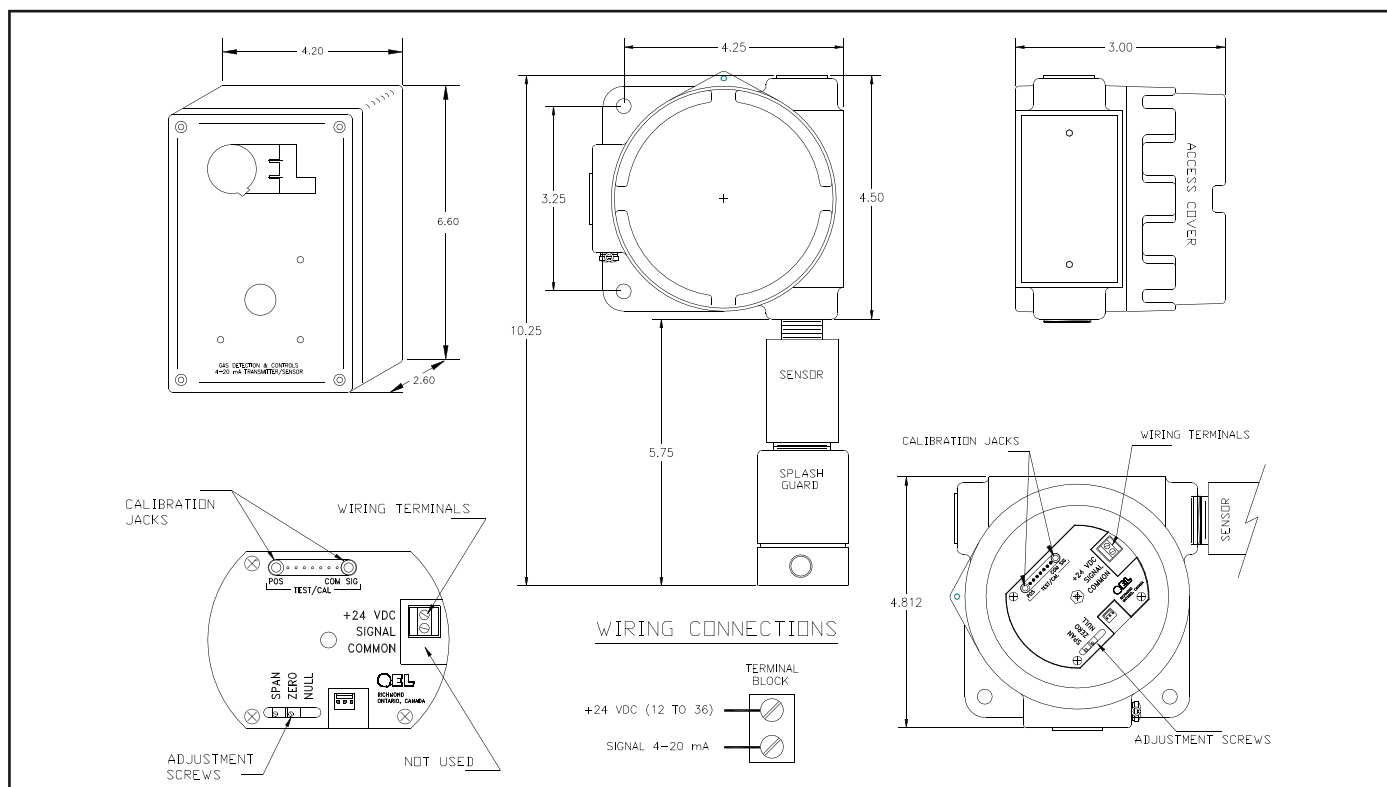
PRINCIPLE OF OPERATION

Electrochemical Oxygen Sensors are micro-fuel cells designed to be maintenance free and stable for long periods. Gas continuously enters the self-contained cell through a flow limiting diffusion barrier. The target gas reacts within the electrolyte, setting up a microamp current flow between the electrodes. No fluid replenishment is necessary as these cells are not self consuming. The cell electrodes degrade with time, resulting in typical working lifetimes of 2 to 10 years depending upon the model selected.

The QTS-1300 Series transmitter is powered by a nominal 24 VDC external power supply in a two wire connection. It transmits a 4 to 20 mA signal through the 2 wires over the calibrated range of the sensor selected. The transmitter is factory configured and calibrated for the sensor selected when ordered as a complete assembly. The model QTS-13001 sensor plugs into the transmitter board or into an integrally mounted sensor assembly on the industrial enclosure. The QTS 13101 sensor assembly is lid-mounted with leads and connector for board connection. Solderless shorting links configure the board for a specific sensor type. Calibration is achieved through a simple zero and span adjustment using the appropriate calibration gas.

SPECIFICATIONS

Input Power:	12 to 36 VDC	Response Time:	Typical less than 60 seconds for 90% response to a step change
Fuse:	0.5 Amp socketed pico fuse	Sensor Life:	Typical 2 to 10 years
Output Signal:	4 to 20 mA DC into 750 ohms at 24 VDC, Two-wire configuration	Sensor Gas Types:	Field configurable for any sensor from Sensor Selection Table
RFI / EMI Protection:	4.0 Watt at 1 meter radiated	Temperature - Sensor:	See Sensor Selection Table
Enclosure Rating:	C, D - NEMA Type 1 General Purpose N - NEMA Type 4X Weatherproof E - NEMA Type 4X Weatherproof, Type 7 and 9 Explosion Proof; Class 1, Div. 1, Groups B,C,D Aluminum Sensor Housing also Group A rated. S - Same as E above except with 316 Stainless Steel Sensor Housing	Temp. - Transmitter:	-40° to +50° C (-40° to +122° F)
Encl. Materials:	C, N, D - ABS Plastic E,S - Cast Aluminum, Epoxy Coated	Humidity - Sensor:	15 to 90% RH continuous operating, non-condensing,
Sensor Technology:	Electrochemical, non-consuming	Humidity - Transmitter:	0 to 99% RH, non-condensing, operating and storage
		Pressure:	Atmospheric $\pm 10\%$
		Accuracy:	$\pm 2.5\%$ of Reading
		Repeatability:	$\pm 1.0\%$



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Read and understand fully all instructions before using these products.

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