



# QTS-8000

## *Microprocessor Based Toxic or Combustible Sensor*

The QTS-8000 series is a digitally controlled, microprocessor based "Smart Sensor" used for the detection and data transmission of toxic or combustible gases. When configured with the extended feature option, it acts as a controller, complete with 2 relays, adjustable setpoints and RS-485 communication. Calibration and relay logic configuration is non-intrusive via a keypad activated through the glass cover by a magnetic tool. The electrochemical sensor elements, for detection of toxic gases, have a typical life of 2 to 3 years, are easily field replaceable, and do not require electrolyte replacement. The catalytic bead sensors for combustible gases are highly poison resistant and have a similar life expectancy. The enclosure is rated Class I, Div I, Groups B, C & D.

The QTS-8000 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, [www.workaci.com](http://www.workaci.com).



## Specifications

|  |   |
|--|---|
| <b>Power</b>                                 | 24 VDC, 18-30 VDC   |
| <b>Fuse</b>                                  | 1.0A socketed Pico fuse   |
| <b>Output Signals</b>                        | 4-20 mA or 0-10V  |
| <b>Enclosure</b>                             | NEMA 4X, 7 & 9 Explosion Proof Class 1, Div 1, Groups B, C & D Copper free aluminum |
| <b>Sensor Housing</b>                        | Stainless Steel   |
| <b>Display</b>                               | Alphanumeric LCD backlit display, 2 lines by 8 characters                           |
| <b>Calibration</b>                           | Non-intrusive (Magnetic Keypad)   |
| <b>Sensor Technologies</b>                   | Electrochemical Fuel Cell, Catalytic Bead   |
| <b>Humidity</b>                              | Transmitter (0-99%, non-condensing), Electrochemical (15-90% non-condensing)        |
| <b>Pressure</b>                              | Atmospheric +/-10%  |
| <b>Repeatability</b>                         | +/-1%   |
| <b>AC Power</b>                              | 24 VAC Nominal, 15-24 VAC   |
| <b>Relays (Extended Feature)</b>             | 2 SPDT, 115 VAC, 30 VDC, 1A   |
| <b>Communications (Extended Feature)</b>     | RS-485: Modbus Slave, Opto-22 Slave   |
| <b>Product Dimensions (Extended Feature)</b> | (L) 7.75" (W) 5.25" (H) 4.80"   |

## Ordering

Select one Gas Type (A), one Guard (B), one Feature (C) & one Calibration (D). **NOTE:** All transmitters are calibrated using a correlation method with methane calibration gases, and detection constants as shown. Parts per million and 100% LEL in percent volumes are shown in the Gas Type (A) chart below. Calibration with actual target gas is available upon special request.

| A Gas Type   | B Guard                                    | C Feature                            | D Calibration                          |
|--|--|--------------------------------------|--|
| <input type="radio"/> 110 (Hydrogen Sulphide) (Toxic) (Range: 0-25 ppm)            | <input type="radio"/> P (Protective Guard) | <input type="radio"/> R (2 Relays)   | <input type="radio"/> X (Non-Standard) |
| <input type="radio"/> 115 (Hydrogen Cyanide) (Toxic) (Range: 0-20 ppm)             | <input type="radio"/> G (Splash Guard)     | <input type="radio"/> 0 (No Feature) | <input type="radio"/> S (Special)      |
| <input type="radio"/> 120 (Chlorine) (Toxic) (Range: 0-3 ppm)                      | <input type="radio"/> 0 (No Guard)         |                                      | <input type="radio"/> 0 (None)         |
| <input type="radio"/> 123 (Chlorine Dioxide) (Toxic) (Range: 0-1 ppm)              |  |                                      |  |
| <input type="radio"/> 125 (Hydrogen Chloride) (Toxic) (Range: 0-10 ppm)            |  |                                      |  |
| <input type="radio"/> 130 (Oxygen) (Toxic) (Range: 0-25% Volume)                   |  |                                      |  |
| <input type="radio"/> 140 (Sulphur Dioxide) (Toxic) (Range: 0-6 ppm)               |  |                                      |  |
| <input type="radio"/> 150 (Nitrogen Dioxide) (Toxic) (Range: 0-6 ppm)              |  |                                      |  |
| <input type="radio"/> 160 (Carbon Monoxide) (Toxic) (Range: 0-250 ppm)             |  |                                      |  |
| <input type="radio"/> 190 (Nitric Oxide) (Toxic) (Range: 0-100 ppm)                |  |                                      |  |
| <input type="radio"/> 211 (Hydrogen) (Toxic) (Range: 0-2000 ppm)                   |  |                                      |  |
| <input type="radio"/> 220 (Ammonia) (Toxic) (Range: 0-50 ppm)                      |  |                                      |  |
| <input type="radio"/> 240 (Ozone) (Toxic) (Range: 0-2 ppm)                         |  |                                      |  |
| <input type="radio"/> 170 (Methane) (Combustible) (Volume: 5.0%) (Detection: 112)  |  |                                      |  |
| <input type="radio"/> 171 (Acetylene) (Combustible) (Volume: 2.5%) (Detection: 63) |  |                                      |  |
| <input type="radio"/> 172 (Ethane) (Combustible) (Volume: 3.0%) (Detection: 76)    |  |                                      |  |
| <input type="radio"/> 173 (Propane) (Combustible) (Volume: 2.1%) (Detection: 62)   |  |                                      |  |
| <input type="radio"/> 174 (n-Butane) (Combustible) (Volume: 1.6%) (Detection: 66)  |  |                                      |  |
| <input type="radio"/> 175 (n-Pentane) (Combustible) (Volume: 1.5%) (Detection: 51) |  |                                      |  |
| <input type="radio"/> 176 (n-Octane) (Combustible) (Volume: 1.0%) (Detection: 42)  |  |                                      |  |
| <input type="radio"/> 177 (Hydrogen) (Combustible) (Volume: 4.0%) (Detection: 86)  |  |                                      |  |
| <input type="radio"/> 178 (Gasoline) (Combustible) (Volume: 1.3%) (Detection: 44)  |  |                                      |  |

## Build your part number

After completing (A), (B), (C) & (D) from the above table, fill in the Part Number Table below. The "Series & "Enclosure Type" are factory defaults. An example part number is offered.

QTS-81 - - X - S - - - - 0 - 0 - - - 0

|        |          |                  |           |          |          |                  |                  |          |                  |
|--------|----------|------------------|-----------|----------|----------|------------------|------------------|----------|------------------|
| Series | <b>A</b> | Factory Provided | Enclosure | <b>B</b> | <b>C</b> | Factory Provided | Factory Provided | <b>D</b> | Factory Provided |
|--------|----------|------------------|-----------|----------|----------|------------------|------------------|----------|------------------|

EXAMPLE: QTS-81 - 115 - X - S - G - 0 - 0 - S - 0

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