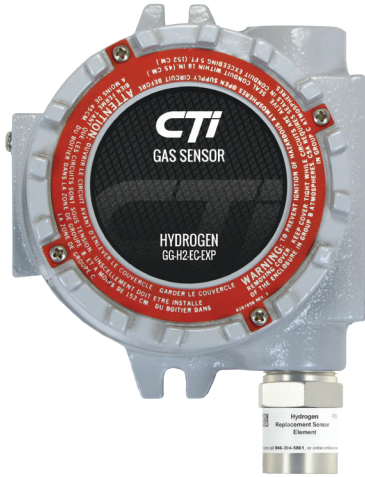# GG-H$_2$-EC-EXP

EXPLOSION-PROOF HYDROGEN SENSOR

Key Features

- Explosion-proof enclosure for classified areas
- Hydrogen specific electrochemical sensor technology
- Electrochemical Sensor un-harmed from sulfur off-gasing
- 0-2,000 ppm and 0-10,000 ppm ranges
- Electronics potted to eliminate internal corrosion
- Industry standard 24VDC, linear 4-20 mA output
- Operating temperature from -4°F to +122°F
- Accurately monitor H2 levels for personnel protection
- No false alarms from interference gases
- Real-time continuous monitoring for early leak detection

Avoid potentially explosive hydrogen gas buildup.
Poison-proof, explosion-proof design.

The GG-H2-EC-EXP is designed for detection of potentially explosive hydrogen gas in hazardous areas. The standard detection range of 0-10,000 ppm provides accurate concentrations and the ability to react before the levels reach the LEL. An alternate range of 0-2,000 ppm is also available for other applications.

The GG-H2-EC-EXP utilizes a proven hydrogen specifc electrochemical sensor for detecting hydrogen gas concentrations. No false alarms due to cross-sensitivities from other gases, and no false alarms from temperature or humidity fluctuations.

The GG-H2-ECEXP provides an industry standard linear 4/20 mA output signal proportional to ppm concentration of hydrogen. Long sensor life with minimal span adjustment can be expected in most battery room applications. The sensor is designed for simple calibration and the sensor head is easily field replaceable.

Applications

- Battery Charging Rooms
- Steel Industry
- Refineries
- Perimeter Monitoring
- Heat Treatment
- Sea Vessels

Benefits

- Low cost explosion protection
- No false alarms from interference gases
- Simple operation & calibration

AUTHORIZED DISTRIBUTOR:
GasDetectorsUSA.com
Houston, Texas USA
sales@GasDetectorsUSA.com
832-615-3588

CALIBRATION TECHNOLOGIES INC.
GAS DETECTION SPECIALISTS

920 N Trade Winds Pkwy, Columbia, MO 65201   866-394-5861   www.CTIengineering.com   sales@CTIengineering.com

The International Fire Code section 608.6.1 states "*the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1% (25%LEL) of the total volume of the room***" or "***continuous ventilation shall be provided at a rate of not less than 1 cfm per square foot of floor area in the room***".**

Hydrogen gas is much lighter than air and will tend to accumulate in areas by the ceiling. For optimum detection, mount the sensor at a height not lower than a few feet from the highest point in the room, keeping accessibility in mind. As a general rule of thumb, try to mount sensors within 30 feet of potential H2 sources.

The **GG-H2-EC-EXP** is useful for ventilation activation, and also for alarm outputs such as horn/strobes, phone dialers and other alarm functions.

Typical sensor element life is 3 years, with minimal cross-sensitivity to other gases. Field replaceable sensor element keeps long term maintenance simple and low cost. Every circuit board is potted to completely eliminate corrosion to the electronic components and copper tracing.

Ordering Information

The **GG-H2-EC-EXP** is delivered calibrated and ready to install. The assembly includes sensor and potted transmitter mounted inside an explosion-proof enclosure. Use the model numbers below to order.

Order #:   GG-H2-EC-2000-EXP
GG-H2-EC-10000-EXP
GG-H2-EC-RC-EXP (replacement sensor)

replacement sensor element

SPECIFICATIONS

Due to ongoing research and product improvement, specifications are subject to change

Input Power:
+24 VDC, 50 mA

Detection Principle:
Electrochemical

Detection Method:
Diffusion

Gases:
Hydrogen (H2)

Ranges:
0-2,000 ppm
0-10,000 ppm (standard) (1% Vol (25%LEL))

Output Signal:
Linear 4/20 mA (max input impedance: 700 Ohms)

Linearity:
+/- 0.5% of full-scale

Repeatability:
+/- 1% of full-scale

Response Time:
T50 = less than 10 seconds
T90 = less than 20 seconds

Accuracy:
+/- 5% of full-scale

Zero Drift:
Less than 0.1% of full-scale per month, non-cumulative

Span Drift:
Application dependent, but generally less than 3% per month

Temperature Range:
-4°F to +122°F (-20°C to +50°C)

Humidity Range:
5% to 95% non-condensing

Wiring Connections:
3 conductor, shielded, stranded, 20 AWG cable (General Cable C2525A or equivalent) up to 1500 ft

Terminal Block Plugs: (Field Wiring)
26-12 AWG, torque 4 lbs-in

Weight:
3.75 lbs

Dimensions:
6.75" high x 5.25" wide x 4.5" deep

Enclosure:
Copper-free aluminum body, epoxy powder coat finish, neoprene gasket, for hazardous areas.
NEC/CEC:
  Class I, Division 1 & 2, Groups B, C, D
  Class II, Division 1, Groups E, F, G
  Class II, Division 2, Groups F, G
  Class III
NEMA/EEMAC: 3, 4, 4X, 7BCD, 9EFG
UL Standard: 1203
CSA Standard: C22.2 No. 30
FM Classification No.: 3615
ATEX Certificate KEMA 02 ATEX 2265U
IEC Standards EN:60079-0, EN:60079-1, EN:60529

Warranty:
2 years (including sensor element)