

HY-OPTIMA™ 1700 Intrinsically Safe Process Hydrogen Monitor

Description

H2scan's HY-OPTIMA™ 1700 in-line, real time hydrogen-specific process monitors are designed for ease of use, interface flexibility and true process control. The HY-OPTIMA™ 1700 is an intrinsically safe, solid state sensor that is configured to operate in process gas streams with up to 95% relative humidity and temperatures up to 100°C. It is ideal for hydrogen production and petrochemical applications where real time measurements of hydrogen can increase process plant efficiencies, improve diagnostics and enhance maintenance management translating into higher profitability.

Performance

Hydrogen Sensitivity Range:
0.5% to 100% hydrogen by volume at 1 ATM
Typical Response Time: T90 less than 30 sec
Ingress Protection: IP64 capable
Calibration Interval: 90 days
Product Life Expectancy: 10 years
Accuracy: $\pm (0.03 \times \text{indication} + 0.2)$ percent
hydrogen by volume

Interface Options

Power Barrier Input Voltage: 24 VDC nominal
Power Barrier Input Voltage Range: 20 VDC to 28 VDC
Intrinsically Safe Sensor Input Voltage: 10 VDC
Sensor Input Voltage Range: 5 VDC to 28 VDC
Input Power: 10 W
Analog Outputs: 4 mA to 20 mA
Serial Communication: RS422

Operating Conditions

Operating Humidity: 0% to 95% RH
Flow Rate: 0.1 slpm to 50 slpm
Pressure: 0 to 7 bar gauge, 0 to 100 psi guage
Process Gas Temperature Range: -20°C to 100°C
Operating Temperature Range: -20°C to 40°C
Storage Temperature Range: -40°C to 50°C
Calibration Background Gas: Nitrogen

Certification

CE 0359 Ex
II 1 G, Ex ia II H2, d+d IIB T3
II 2 G, Ex ib II H2, ib d IIB T3
ITS07ATEX25634X

Figure 1 shows the hazardous area designations for this apparatus. Note that the sensor probe tip is rated for Category 1 (Zone 0) and the electronics assembly is rated for Category 2 (Zone 1).

Included Accessories

Intrinsically Safe Power Barrier
4 m Power / Analog Cable
Adapter Fitting

- ½ in. MNPT thread
- ½ in. FNPT thread
- -8 SAE/MS thread size
- many other industry standards

Optional Accessories

Intrinsically Safe Analog Output Barrier
Intrinsically Safe Serial Interface Barrier
4 m RS422 Serial Interface Cable

Dimensions

Total Length: 10.3 in.
Length of Enclosure: 6.8 in.
Length of Tube: 2.9 in.
Width: 3.4 in.
Depth: 1.4 in.



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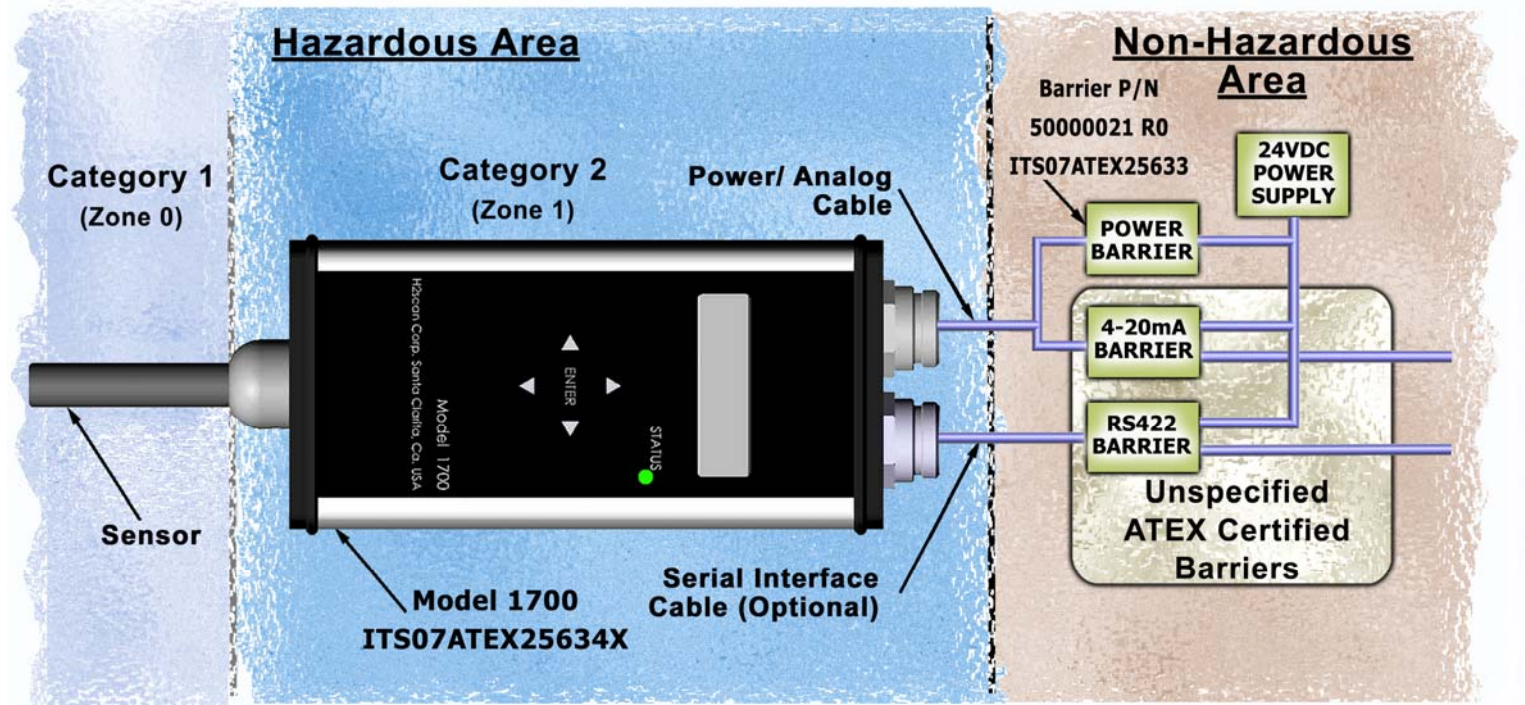


Figure 1: Hazardous Area Installation and Attachment

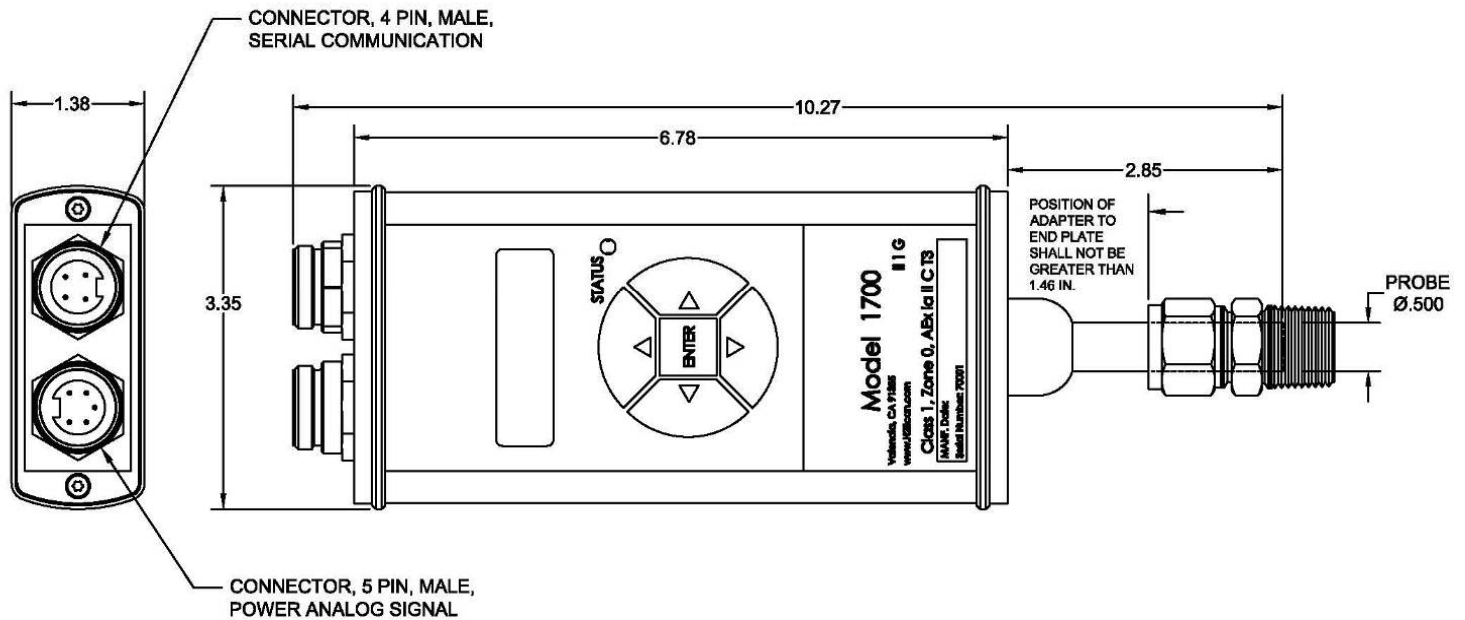


Figure 2: Dimensions (inches)