

HY-OPTIMA™ 1700 Intrinsically Safe Process Hydrogen Analyzer

Description

H2scan's HY-OPTIMA™ 1700 in-line, real time hydrogen-specific process analyzers are designed for ease of use, interface flexibility and true process control. The HY-OPTIMA™ 1700 is an intrinsically safe device that incorporates our patented solid-state sensor and is configured to operate in background gas streams with up to 95% relative humidity and temperatures up to 100°C. The HY-OPTIMA™ 1700 is ideal for process gas streams containing virtually no contaminants and where real time continuous 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
Response Time: T90 < 30 sec
Ingress Protection: IP64 capable
Recommended Verification Interval: 90 days
Product Life Expectancy: 10 years

Accuracy(*):

± 0.3% absolute for 0.5 to 10% H2
± 1.0% absolute for 10 to 100% H2

Drift/week:

± 0.2% absolute for 0.5 to 10% H2
± 0.4% absolute for 10 to 100% H2

Repeatability:

± 0.2% absolute for 0.5 to 10% H2
± 0.4% absolute for 10 to 100% H2

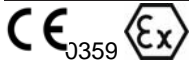
Linearity:

± 0.2% absolute for 0.5-10% H2
± 0.4% absolute for 10-100% H2

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 Output: 4 mA to 20 mA
Serial Communication: RS422

Certifications



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

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 gauge
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

Included Accessories

Intrinsically Safe Power Barrier
Armored Power / Analog Cable: 4 m
Calibration Cup

Optional Accessories

Single Channel Intrinsically Safe Analog Output Barrier
(with or without relays)
Single Channel Intrinsically Safe RS422 Serial Interface
Barrier
Serial Interface Cable: 4 m (custom lengths available)
Armored Power / Analog Cable (custom lengths available)

Adapter Fittings

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

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.



* Sensor performance specifications are only valid for units configured for a maximum 65°C dry process stream temperature. All figures assume pressure compensation, operating in ambient that do not contain Oxygen and are in addition to any errors in the gasses used. The accuracy is specified for serial port output only.

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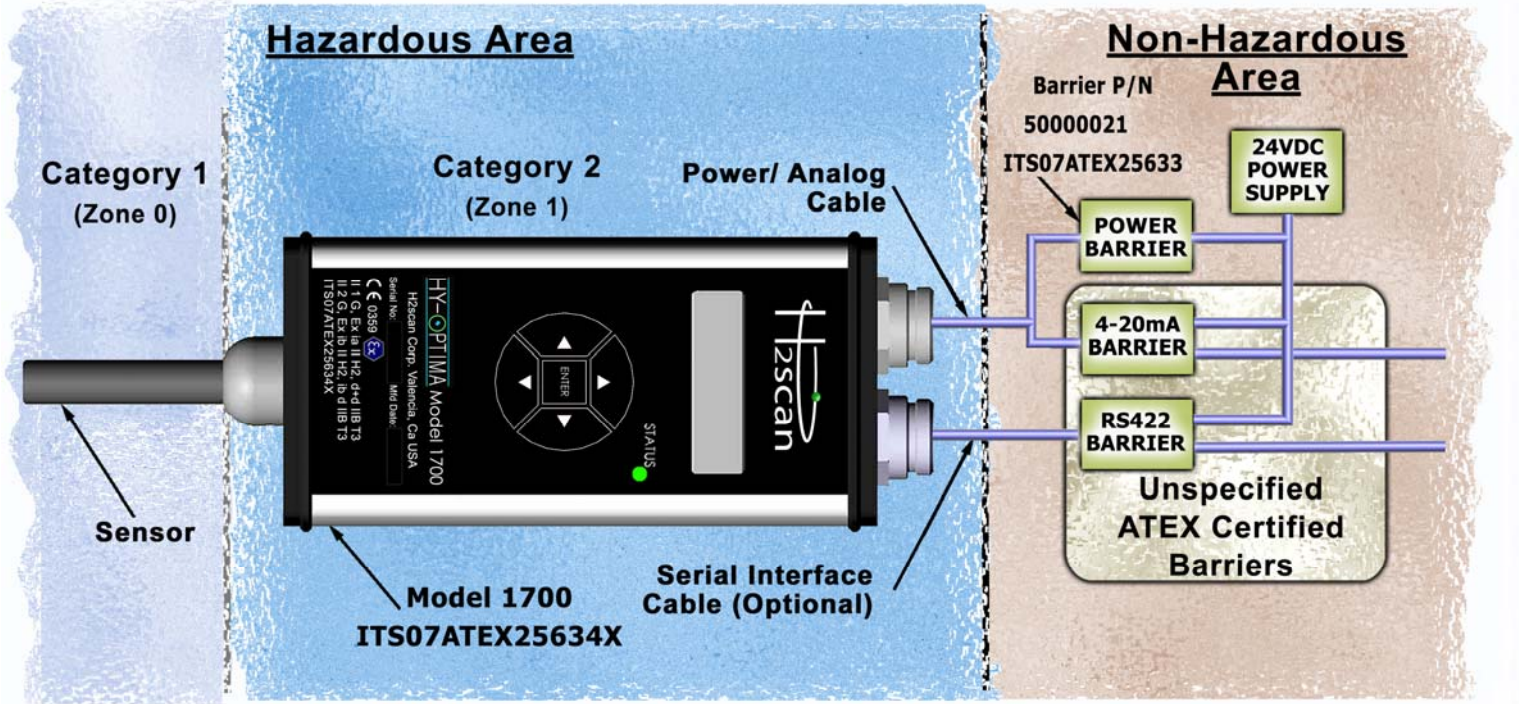


Figure 1: Hazardous Area Installation and Attachment

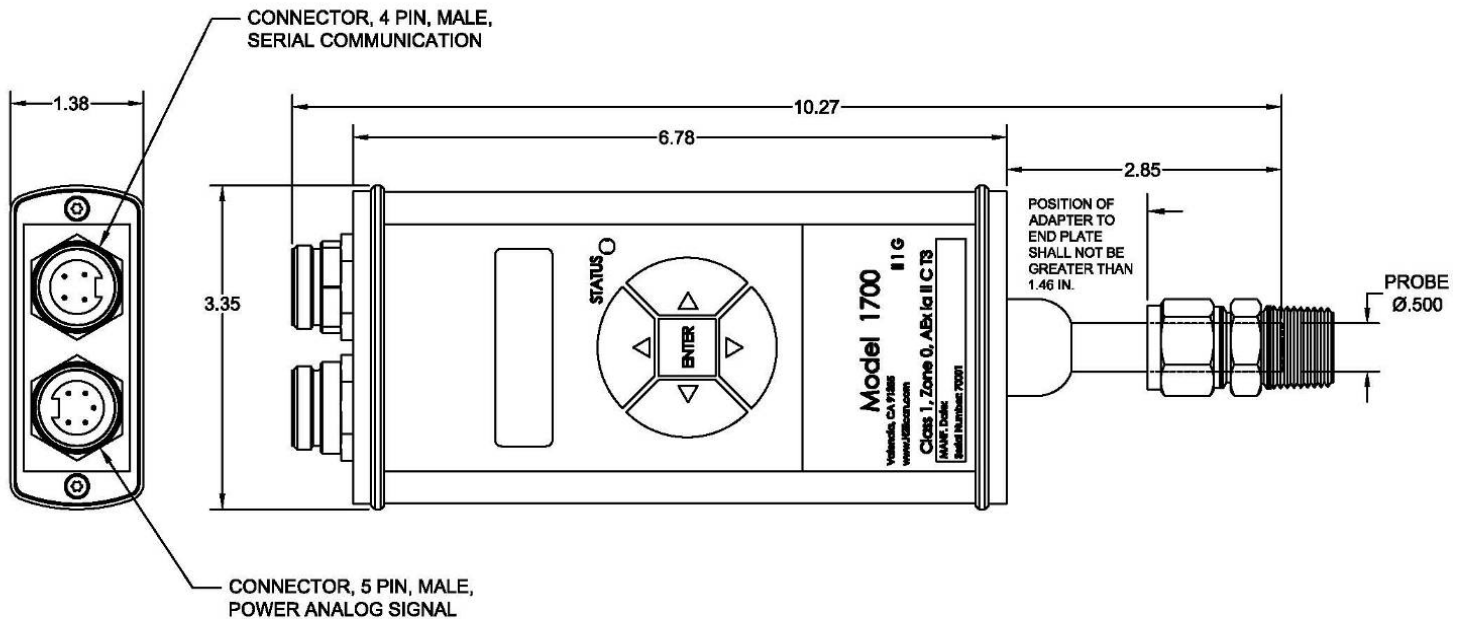


Figure 2: Dimensions (inches)