

HY-OPTIMA™ 740 Process Hydrogen Analyzer

- CO Tolerance and Enhanced H₂S Tolerance

Description

H2scan's Series 700 in-line, real-time hydrogen specific process analyzers are designed for ease of use, interface flexibility and true process control. The HY-OPTIMA™ 740 is a solid-state sensor configured to operate in background gas streams having carbon monoxide concentrations up to 100 ppm, sulfur stream concentrations up to 1000 ppm, up to 95% relative humidity, and temperatures up to 100°C. The HY-OPTIMA™ 740 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 at 1 ATM on a volume basis in a single or multi-component gas background

Response Time: T90 less than 30 sec

Ingress Protection: IP64 capable

Recommended Verification Interval: 90 days

Product Life Expectancy: 10 years

Accuracy(*):

± 0.15% absolute for 0.5 to 10% H₂

± 0.50% absolute for 10 to 100% H₂

Drift/week:

± 0.10% absolute for 0.5 to 10% H₂

± 0.20% absolute for 10 to 100% H₂

Repeatability:

± 0.10% absolute for 0.5 to 10% H₂

± 0.20% absolute for 10 to 100% H₂

Linearity:

± 0.10% absolute for 0.5-10% H₂

± 0.20% absolute for 10-100% H₂

Interface Options

Input Voltage Range: 8 VDC to 13 VDC

Input Current: 1.0 A

Analog Outputs:

Output Voltages - OR - Output Currents

• 0 VDC to 5 VDC

• 1 VDC to 5 VDC

• 0 VDC to 4 VDC

• 0.5 VDC to 4.5 VDC

• User-specific VDC range

• 4 mA to 20 mA

• 0 mA to 20 mA

• User-specific mA range

Serial Communication Options: RS232 or RS422

Relay Contacts: Two programmable 60 VDC / 1 A SPDT relays with both normally open (N.O.) and normally closed (N.C.) contacts

Operating Conditions

Process Gas Tolerance:

CO tolerance < 100 ppm

H₂S tolerance < 1000 ppm

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

Adapter Fittings

½ in. MNPT thread

½ in. FNPT thread

-8 SAE/MS thread size

... and many other industry standards

Dimensions

Total Length: 9.1 in.

Length of Enclosure: 6.7 in.

Length of Tube: 2.4 in.

Width: 3.4 in.

Depth: 1.4 in.

Certification:



* 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.