

## HY-OPTIMA™ 740 In-line Process Hydrogen Analyzer (%H<sub>2</sub>S & CO)

- CO Tolerance and Enhanced H<sub>2</sub>S 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 20% by volume, hydrogen sulfide stream concentrations up to 10% by volume, 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 60 sec

Ingress Protection: IP64 capable

Recommended Verification Interval: 90 days

Product Life Expectancy: 10 years

#### Accuracy(\*):

± 0.3% absolute for 0.5 to 10% H<sub>2</sub>

± 1.0% absolute for 10 to 100% H<sub>2</sub>

#### Drift/week:

± 0.2% absolute for 0.5 to 10% H<sub>2</sub>

± 0.4% absolute for 10 to 100% H<sub>2</sub>

#### Repeatability:

± 0.10% absolute for 0.5 to 10% H<sub>2</sub>

± 0.20% absolute for 10 to 100% H<sub>2</sub>

#### Linearity:

± 0.10% absolute for 0.5-10% H<sub>2</sub>

± 0.20% absolute for 10-100% H<sub>2</sub>

### 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

**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.

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Specifications subject to change without prior notice  
90000018 R6

### Operating Conditions

Process Gas Tolerance:

*CO tolerance up to 20% by volume*

*H<sub>2</sub>S tolerance up to 10% by volume*

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.

