

Sensores catalíticos

Catalytic Sensors and Accessories



Features

- Extra Strong Support Post
- Large Active Bead Surface Area
- Precious Metals Used for All Components Mounted in Teflon Body
- Active and Reference Beads Matched by Size and Resistance
- Teflon Barrier Protects Active and Reference Beads
- Ultra Poison Resistant Active Bead
- Glass Coated Reference Bead

Benefits

- Protects beads from shock and vibration, avoiding damage
- Large signal-to-noise ratio for stable performance and long sensor life
- Functions well in corrosive and aggressive environments
- Eliminates signal drift due to temperature and humidity changes
- Eliminates heat transfer maximizing output signal
- Long sensor life in poisonous atmospheres
- Eliminates open drift due to reference bead detecting gas

Description

General Monitors electrocatalytic gas sensors are supplied as original equipment on all of our products worldwide. The sensor's sensitivity, reliability and longevity make it the first choice for most users of the catalytic oxidation gas detection principle.

The electrocatalytic sensor forms one half of a Wheatstone Bridge circuit where the change in resistance of a platinum coil within a catalyst-impregnated ceramic bead indicates the presence of flammable gas. It achieves the measurement by a proportional change in the resistance of the coil as the coil temperature rises. The other arm of the Bridge circuit is part of the control electronics; (either control card or field transmitter type) so it is important that the two arms be carefully matched. It is therefore our policy to supply our catalytic sensors, and our replacement sensors, only for General Monitors equipment. Failure to adhere to this policy can lead to incorrect use and could cause devastating equipment malfunctions.

Every component of our catalytic sensors is manufactured in-house to ensure optimum performance. Careful matching of the active and reference elements ("beads") result in a sensor that has negligible zero drift with respect to changes in humidity, pressure and temperature. Consequently, we can offer sensors which maintain base-line stability over a temperature range of -65°F to 400°F (-55°C to 200°C) and have negligible zero drift over a 12-month period.

The key design features, with the corresponding benefits, are summarized above. There are small design differences according to the approval type and junction box used, but all General Monitors plants and sales offices can provide all types on demand. All have the same outstanding properties and a typical operational life of 3-5 years.

Approvals range from FM to CSA in North America to CENELEC/ATEX and Gosstandart for Europe and Russia. Sensor bodies are in corrosion resistant aluminum alloy or a 316 grade stainless steel. A wide variety of accessories are available to provide additional protection against airborne contaminants or for mounting in ducts or sample lines.

Applications

- Gas Processing Plants
- Oil and Gas Exploration and Production
- Ethylene Processes
- Vinyl Chloride Monomer Processes
- Hydrogen Detection
- Compressor Stations
- LNG Plants
- Sewage and Water Treatment Plants
- Gas Turbines
- Solvent Extraction Plants

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Selection of Correct Sensor Technology

General Monitors offices and their authorized representatives and distributors can offer helpful suggestions as to the most appropriate detector technology to select. Although Infrared technology works well in many environments, it cannot cope with severe environments (such as high temperature, wind blown dusts, strong vibrations), nor detect the broad range of gases that catalytic detection can. Both types of detection technology are necessary in today's applications.



Combustible Gas Sensors			
Sensor P/N	Description	Sensor P/N	Description
10001-1	General Purpose, Aluminum body, CSA, FM approved	10102-1	Sensor Simulator
10001-1R	General Purpose, Poison Resistant, Aluminum body, CSA, FM approved	10164-1	Hydrogen specific, Aluminum body, CSA approved
10014-1	General Purpose, High temperature to 400°F (200°C), Aluminum body, CSA, FM approved	11159-1	Stainless steel body, (max. 120°C) ATEX, GOST, CSA approved.
10014-1R	General Purpose, Poison Resistant, High temperature to 400°F (200°C), Aluminum body, CSA, FM approved	11159-2	Stainless steel body, (max. 180°C) High temperature. ATEX, GOST, CSA approved.
10015-1	Aluminum body, High temperature (max. 120°C) CSA approved	11159-3	Stainless steel body, (max. 120°C) Super poison resistant. ATEX, GOST, CSA approved.
10022-1	Aluminum body, sintered. CSA approved, Group A	11159-1L	Stainless steel body, (max. 120°C) ATEX, GOST, CSA approved. (With lugs)
10058-1	Stainless steel body, CSA approved	11159-2L	Stainless steel body, (max. 180°C) High temperature. ATEX, GOST, CSA approved. (With lugs)
10058-1R	Stainless steel body, Poison Resistant, CSA approved	11159-3L	Stainless steel body, (max. 120°C) super poison resistant. ATEX, GOST, CSA approved. (W/lugs)

- Measuring range: 0-100% LEL
- Type: Continuous diffusion, low temperature catalytic bead; hydrocarbon sensors; high temperature hydrocarbon sensors
- Response Time: Typically 6-second time constant when exposed to 50% LEL of methane gas. (CSA)
T50 < 10 seconds for ATEX & European Flame Arrester type.
- Zero Drift: Less than 5% per year
- Temperature: -65°F to +200°F (-55°C to +93°C) High temperature sensor to +400°F (200°C) (CSA)
-40°F to + 248°F (-40°C to + 120°C) High temperature sensor up to + 356°F (+180°C). ATEX
- Sensor Drive: 300mA DC
- Life: Three to five years, normal service
- Electrical Classification: NEC and CSA, Class I, Div. 1, Groups B, C and D; or ATEX IIG EEx d IIC
- Warranty: Two years

Sensor Housings:



P/N 10252-1, CSA, explosion-proof housing

P/N 10252-3, CSA, high temperature housing



P/N B13-020, ATEX, polyester housing



P/N B13-021, ATEX, high temperature housing

