



## SATELLITE, GAS DETECTOR - MODEL HVS400



### Features

- LCD Indicator
- 2-Wire Loop-Powered
- 4-20mA Analog Output
- Adjustment-free Calibration
- Multiple Gases Available
- Compact Size

### Benefits

- Display indicates status, fault and calibration cues
- Eliminates the need for output loop supply reducing installation and cabling costs
- Industry standard output for remote alarm and fault indication
- Lower calibration costs
- Provides a variety of applications to a broad range of industries
- Permits sensor usage in space-restrictive areas

### Description

The Halogen Valve Systems' Satellite gas detector (Model HVS400) continuously monitors for a variety of hazardous and toxic gases providing a 4-20 mA analog output signal.

The Satellite utilizes electrochemical cell technology to detect toxic gases in the parts-per-million (ppm) range. The Satellite detects: ammonia, carbon monoxide, chlorine, chlorine dioxide, hydrogen chloride, hydrogen sulfide, nitric oxide, nitrogen dioxide, ozone and sulfur dioxide.

The Satellite's electronics are encapsulated within a chemically resistant plastic housing with detector information processed at the point of detection. The loop-powered Satellite provides 4-20mA output signal proportional to 0 to 100% full scale gas concentration at the detector. Another feature is the LCD indicator which provides status, fault, and calibration cues.

The Satellite Hazardous and Toxic Gas Detector can be used in general purpose, intrinsically safe, increased safety or explosion-proof areas when used with appropriate accessories.

### Applications

- Water Treatment Facilities
- Wastewater Treatment Facilities
- Hazardous Gas Use Facilities

### Requiring Gas Detection for:

- Toxic gas storage rooms
- Toxic gas use rooms
- Laboratory facilities
- Toxic gas perimeter areas
- Confined hazardous gas areas

# SATELLITE, GAS DETECTOR

## System Specifications

**Sensor Type:** Electrochemical cell

### Measuring Ranges:

Ammonia*	0-50, 0-100 ppm
Carbon Monoxide	0-100, 0-500 ppm
Chlorine*	0-10 ppm
Chlorine Dioxide*	0-3 ppm
Hydrogen Chloride*	0-20ppm
Hydrogen Sulfide	0-20, 0-50ppm 0-100ppm
Nitric Oxide	0-100ppm
Nitrogen Dioxide	0-20ppm
Ozone	0-1 ppm
Sulfur Dioxide	0-20 ppm

**Repeatability:** ±2% of full scale (FS) for all gases except ± 0.1ppm for O<sub>3</sub> and ± 0.2ppm for ClO<sub>2</sub>

### Typical Response Time:

(with 100% FS gas applied)  
CO, H<sub>2</sub>S, NO<sub>2</sub>: T90 < 30 sec,  
NO, SO<sub>2</sub>: T90 < 10 sec,  
HCl: T90 < 100 sec.  
Cl<sub>2</sub>, ClO<sub>2</sub>: T90 < 60 sec,  
O<sub>3</sub>: T90 < 90 sec,  
NH<sub>3</sub>: T90 < 120 sec

**Zero Drift:** < 5% per year

**Accessories:** Flow block, splash guard, junction box

**Warranty:** One year (cell)  
Two years (electronics)

**Approvals:** CSA, UL, CUL, ATEX and CE Marking.  
Entity approved, intrinsically safe

## Environmental Specifications

### Operating Temperature

**Range:**  
Ammonia -4°F to 122°F (-20°C to 50°C)  
-4°F to 104°F (-20°C to 40°C)

### Storage Temperature

**Range:** -4°F to 122°F (-20°C to 50°C)

### Storage Temperature

**Range (cells)\*:**  
32°F to +68°F (0°C to +20°C)

### Operating Humidity

**Range:** 15% to 90% RH, non-condensing

### Pressure

**Range:** Atmospheric ± 10%

## Mechanical Specifications

**Diameter:** 1.75 inches (44mm)

**Length:** 4.5 inches (114mm)

**Weight:** 0.5 lbs. (.23 kg)

**Mounting:** 3/4" NPT

**Housing:** Chemically Resistant Plastic

## Electrical Specifications

**Input Power:** 10-35 VDC  
3.5 to 22mA loop-powered

**Analog Signal:** 0-20mA (600 ohms max @ 24 VDC)  
(120 ohms max @ 10 VDC)  
Fault 3.50mA  
Start up 3.60mA  
Cal 3.75mA  
0-100% full scale 4-20mA  
(proportional)  
Over-range 22mA

**Classification:** Class I, Division 1 & 2, Groups A, B, C & D, Class II, Groups E, F, & G, Class III  
EEx ia IIC T6  
IP67, Type 4X

### RFI/EMI

**Protection:** Complies with EN50081-2, EN50082-2

### Status

**Indicators:** Liquid crystal display (LCD) status, fault and calibration cues

### Faults

**Monitored:** Calibration, sensor removal/open circuit

### Standard

**Configuration:** HVS400-xx-0-xx (xx=sensor type)

*Specifications subject to change without notice.*

**Represented by:**

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\*\* Electrochemical cells are sensitive to changes in humidity, particularly at temperatures above 25°C. For these applications, consult our factory