

IR4000

Point Infrared
Combustible Gas
Detection System



The Reliable and Flexible Safety
Solution That's Low Maintenance



GENERAL MONITORS
Protection for life.

Multi-Point Gas Detection That's

Fast Set-Up, Low Maintenance, Cost-Effective

The innovative Model IR400 Point Infrared Combustible Gas Detector and the Models IR4000M and IR4000S Display Monitors provide superior safety monitoring in hazardous environments with a highly scalable product suite that is ideal for complex multi-point systems or simple single-point applications.

IR400 Point IR Detector

The Model IR400 Detector comes factory pre-calibrated, takes only minutes to set-up, operates with less than 4.8 W of power, requires little maintenance, and is inexpensive to operate and maintain. Other Model IR400 advanced features include:

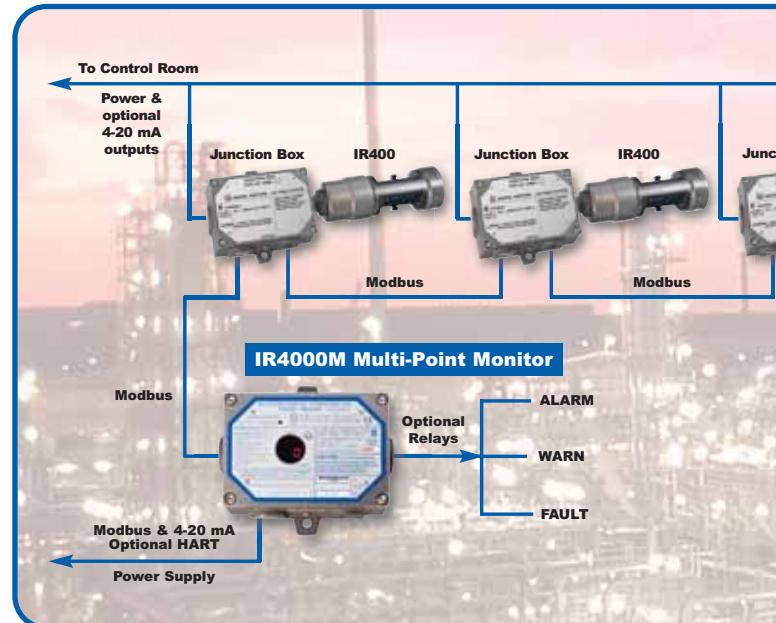
- > Fail-to-safe operation for high reliability
- > Event logging for easy record-keeping
- > 4-20 mA signal for remote alarm and fault indication
- > Built-in RS485 interface for ease of communication
- > Dual Modbus interface
- > HART® communication
- > Heated optics that eliminate condensation
- > Dirty optics indicator for preventive maintenance
- > IP66, Type 4X ratings for rugged processes

The microprocessor-based Model IR400 continuously monitors combustible gases in the lower explosive limit (LEL) range and provides a 4-20 mA analog output signal proportional to the 0 to 100% LEL concentration. The IR400 operates with a 20-36 VDC power supply, which may be supplied by the customer or General Monitors.

Versatility with Configuration Flexibility

The IR400, IR4000S, and IR4000M are modular by design and can be installed in a wide range of configurations to meet individual process or plant requirements from the simplest of single-point local monitoring stations to large integrated fire and gas systems:

- > IR400 → Direct Connect to PLC or DCS
- > IR400 → IR4000M → 8-Point Gas Detection System
- > IR400 → IR4000S → Single-Point Gas Detection
- > IR400 → DC110 or DC130 → Readout/Relay Module
- > IR400 → TA102A Trip Amplifier → Zero-Two Series System
- > IR400 → HazardWatch Fire and Gas System



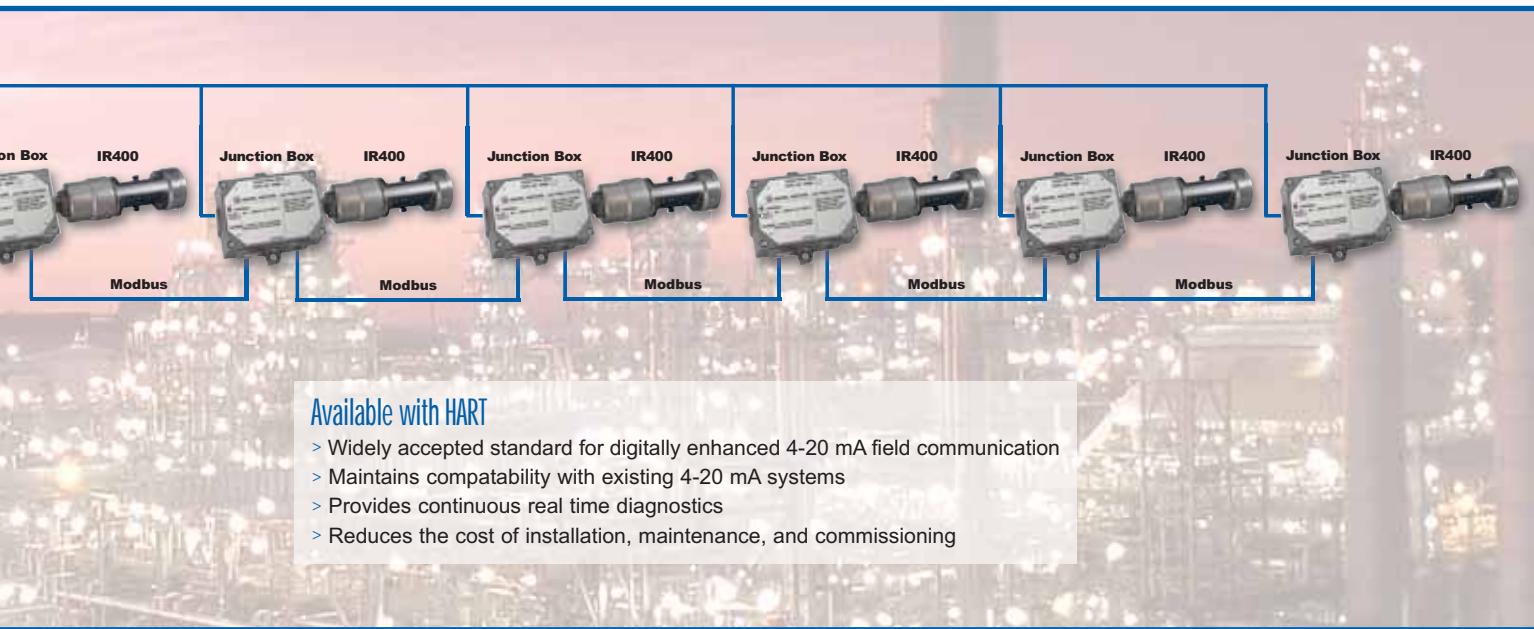
IR4000M Multi-Point Monitor



Installing a new multi-point combustible gas detection system to protect complex processes or large plants is now easier than ever with the IR400 Detector and IR4000M Multi-Point Monitor. The Model IR4000M is a three-digit LED display and relay module that features a data concentrator designed for use with the IR400 Detector. It provides monitoring and control functions for up to eight IR400 point detectors via a single command. Model IR4000M key features include:

- > Complete integrated gas detection system with voting
- > Connect as many as eight IR400 point IR gas detectors
- > Data concentrator reads status for eight IR400's at once via a single command
- > Calibrate, gas check and zero multiple IR400's based on a single command
- > Scalable operation that requires no programming
- > Explosion-proof enclosure certified for hazardous locations
- > Bright LED local display shows gas concentrations in % LEL
- > Optional 8 Amp relays reduce wiring, enclosures and need for a PLC

Reliable, Scalable, and Simple



Available with HART

- > Widely accepted standard for digitally enhanced 4-20 mA field communication
- > Maintains compatibility with existing 4-20 mA systems
- > Provides continuous real time diagnostics
- > Reduces the cost of installation, maintenance, and commissioning

IR4000S Single-Point Monitor



The IR4000S Single-Point Monitor is a three-digit LED display and user interface for the IR400 Detector. It is an easy-to-use solution for single-point combustible gas detection where a local display unit is required.

Infrared Combustible Gas Detection

Infrared gas detection sensing is based on the ability of hydrocarbon gases to absorb IR radiation. Almost all hydrocarbon gases absorb IR at approximately 3.4 μm . The IR400 detects hydrocarbon gas by measuring the absorption of IR radiation passing through a volume of gas using a dual-beam, single-detector method. The IR detector measures the intensity of two wavelengths,

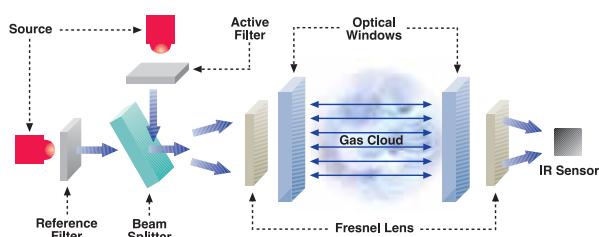
one at the absorption wavelength of target gases and another outside of the absorption wavelength. The gas concentration is determined by measuring the absorbance of infrared radiation at the target wavelength and comparing its value to a reference.

Ideal for Hazardous Industries

The versatile IR400, IR4000M, and IR4000S are suitable for a wide range of hazardous industry processes and plant applications:

- > Aerospace
- > Electric Power Generation
- > LNG/LPG Processing & Storage
- > Oil & Gas Production
- > Petrochemical Refining
- > Pipelines
- > Wastewater Treatment

IR Sensor Theory of Operation



Certifications

The Models IR400, IR4000M, and IR4000S include the following industry approvals:

- > ATEX
- > CE Marking
- > IECEx
- > CSA
- > FM

The IR400 detector is SIL 3 rated and the IR4000S/M monitors are rated SIL 2 capable.

Global Service.

Anytime, Anywhere.



Responsive, Expert Service

No matter where you are, 24-hour technical service and support is available from General Monitors. Our two manufacturing and six sales and service facilities are located for efficient support worldwide.

Quality Commitment

General Monitors brings a respected reputation for quality and reliability to the gas and flame detector market. We are ISO 9001:2000 certified, utilizing continuous process improvement quality programs.





Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



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Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.