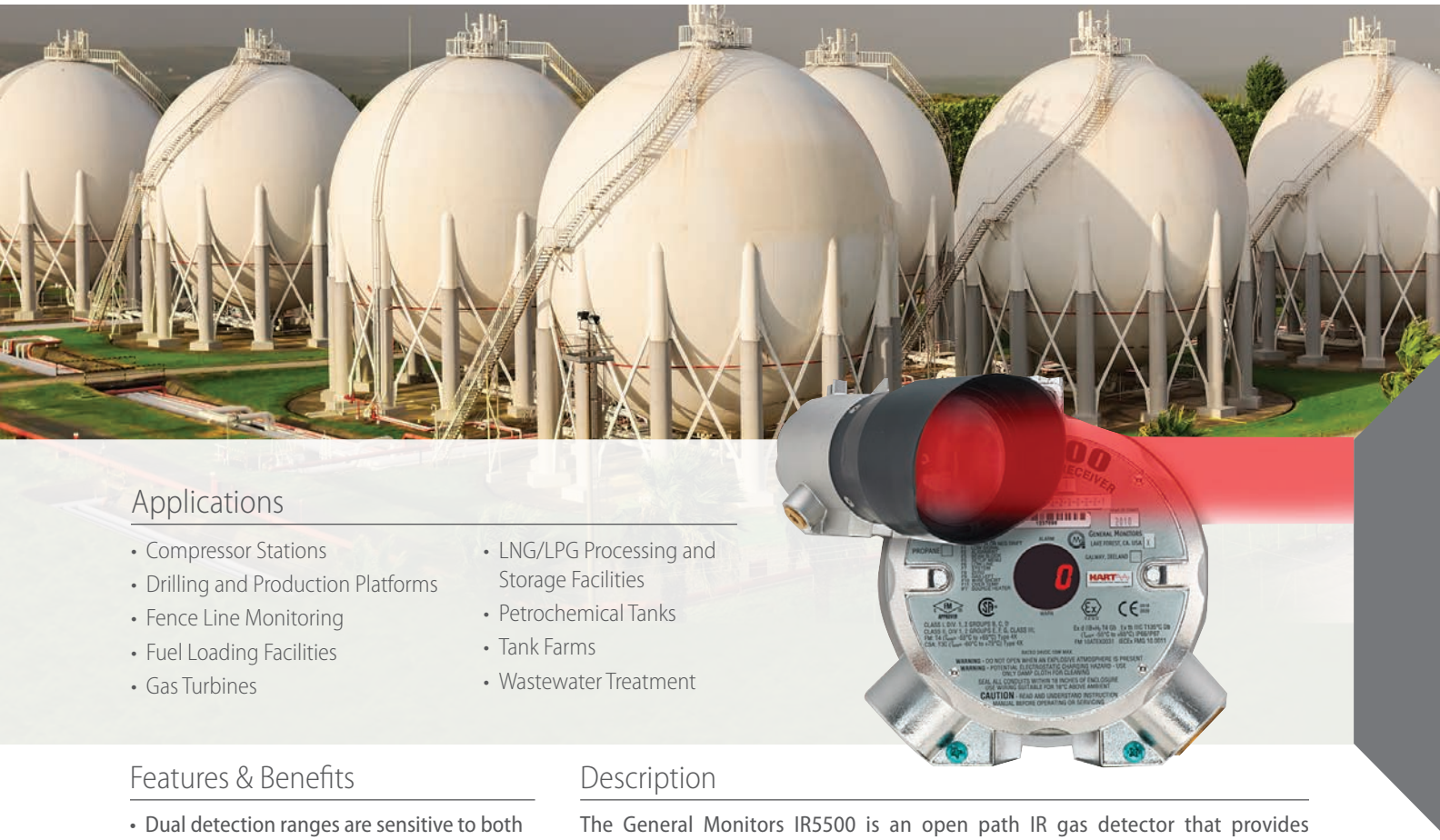
Model **IR5500**

Open Path Infrared Gas Detector

General Monitors



Applications

- Compressor Stations
- Drilling and Production Platforms
- Fence Line Monitoring
- Fuel Loading Facilities
- Gas Turbines
- LNG/LPG Processing and Storage Facilities
- Petrochemical Tanks
- Tank Farms
- Wastewater Treatment

Features & Benefits

- Dual detection ranges are sensitive to both small (ppm•meter) and large (LEL•meter) gas leaks
- Performance approved for use in harsh environments
- Single detection beam improves accuracy and reduces drift
- Continuous self-check provides fail to safe operation
- Multiple communication outputs provides complete status and control capability in the control room
- Unitized display allows ease of operation
- Automatic gain control compensates for dirty optics, rain, and fog

Description

The General Monitors IR5500 is an open path IR gas detector that provides continuous monitoring of hydrocarbon gas concentrations. The system consists of an IR source and receiver which continuously monitors for light hydrocarbons in both the 0 to 5000 ppm meter and 0 to 5 LEL meter range. A 0 to 2000 ppm meter and 0 to 1 LEL meter range is also available for monitoring heavy hydrocarbons. The IR5500 provides two 4 to 20 mA analog signals proportional to each of the above ranges, in addition to a digital display and relay contacts.

The IR5500 is easily aligned using the digital display and adjustable mounting arms, therefore it does not require any bulky setup equipment (e.g. digital volt meters, handheld alignment aids). The IR5500's sensitivity can be checked by placing a test gas film in front of the receiver.

The IR5500 is calibrated at the factory and needs no further calibration. It also requires little maintenance save for a periodic visual inspection, test gas film check, and cleaning of the windows to assure dependable performance.

Sensor data and status information from the IR5500 can be transmitted up to 9,000 feet to any industrial analog to digital (A/D) converter for use in multipoint computer-based monitoring.

MSA
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General Monitors by MSA

System Specifications	
SENSOR TYPE	Infrared Absorption
DUAL RANGES METHANE PROPANE	 0 to 5000 ppm• meter 0 to 5 LEL• meter 0 to 2000 ppm• meter 0 to 1 LEL• meter *Consult factory for other hydrocarbon gases available*
PATH LENGTHS	5-30 m, 20-100 m, 80-150 m
RESPONSE TIME	T90 ≤ 3 s
REPEATABILITY	≤ ±5%
LINEARITY	≤ ±5% of full scale for each scale or ±10% of applied gas, whichever is greater
CLASSIFICATION HAZ LOC PERFORMANCE VERIFIED	CSA/FM: Class I, Div 1 & 2, Groups B, C, & D; Class II, Div 1 & 2, Groups E, F, & G Class III; Type 4X T3C (Tamb=-60°C to +75°C) T4 (Tamb=-50°C to +65°C) ATEX/IECEx: II 2 G D, Ex d IIB+H2 T4 Gb Ex tb IIIC T135°C Db, IP66/67 (Tamb=-55°C to +65°C)
CALIBRATION	No calibration required. Field background zero adjustment provided
MODES	Setup, alignment, test mode
ACCESSORIES	Test gas films, mounting arm, mounting base, scope, attenuation plate
WARRANTY	Two years
APPROVALS	CSA, FM, ATEX, IECEx, DNV-GL, INMETRO, EAC, CE. SIL 3 suitable. HART registered.

Mechanical Specifications	
HOUSING	316 stainless steel
SOURCE	5.3" dia. x 12.4" length (135 mm dia. x 315 mm length)
RECEIVER	5.3" dia. x 12.4" length (135 mm dia. x 315 mm length)
WEIGHT	Source: 12.20 lb (5.53 kg) Receiver: 12.34 lb (5.60 kg)
CONDUIT ENTRIES (2)	¾" NPT (standard), M25 (optional)

Environmental Specifications	
OPERATING TEMPERATURE RANGE	-67°F to +149°F (-55°C to +65°C)
OPERATING HUMIDITY RANGE	10-95% RH, non-condensing

Electrical Specifications		
INPUT POWER	20 to 36 VDC range, 24 VDC nominal 24 VDC @ 12 W (max.) – source 24 VDC @ 10 W (max.) – receiver (w/relays) *Consult factory for lower power consumption options for other configurations*	
DUAL ANALOG SIGNALS	700 ohm load max.	
	0-5000 ppm• meter	***0-5 LEL• meter***
0 MA*	Startup/Fault	Startup/Fault
1.5 MA*	Test Gas/Setup	Test Gas/Setup
2 MA*	Beam Block	Beam Block
4-20 MA**	0-5000 ppm• m	0-5 LEL• m
4-12 MA***	0-5000 ppm• m	—
12-20 MA***	—	0-5 LEL• m
21.7 MA	Over-range	Over-range
RELAY RATINGS	8 A @ 250 VAC/8 A @ 30 VDC res. max. Four (4) SPDT - Fault; ppm Warning, LEL Warning; and Alarm	
RS-485 OUTPUT	Modbus RTU with block and single data transfer modes	
BAUD RATE	2400, 4800, 9600, 19200, or 38400 BPS	
HART	Fully HART compliant	
EMC PROTECTION	Complies with EN 61000-6-4 and EN 50270	
SAMPLE CABLE DISTANCES	For cable resistance of 3 ohms/1,000 ft, maximum distance between IR5500 and power source @ 24 VDC: 14 AWG - 1,330 ft (405 m) - receiver, 14 AWG - 1,040 (317 m) - source.	
DIGITAL DISPLAY	LED indication of scale displayed; Two digit, seven segment (auto range change)	
STANDARD CONFIGURATION	**IR5500-1-1-1-1-2-2-1-1-1-1** Methane, Dual 0-20 mA, HART, relays, mounting arm, 20-100 m path length	

** HART units can be configured to never output current less than 3.5 mA if the host equipment is incapable of working below this level.*
*** 0 to 2000 ppm• meter and 0 to 1 LEL• meter on propane unit.*
**** Using optional split range.*

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Corporate Headquarters:
MSA
1000 Cranberry Woods Drive
Cranberry Township, PA 16066
United States
+1-724-776-8600
info.us@MSAsafety.com

Design Center:
General Monitors
26776 Simpatica Circle
Lake Forest, CA 92630
United States
+1-949-581-4464
info.gm@MSAsafety.com

Additional locations can be found on our web site:
www.MSAsafety.com