MSA
The Safety Company

Laser-Focused Gas Detection: Senscient ELDS™ Open Path Gas Detector

Providing Fast, Reliable Detection

SAFEGUARDING
PEOPLE, PLACES & THE PLANET

Laser Sharp Detection for Challenging Environments

Traditional open path gas detection (OPGD); using flash lamp/dual wavelength infrared technology, has protected plant and personnel from the risks of flammable gas releases since the late 1980s.

MSA Senscient laser-based OPGD launched in 2009 to complement traditional OPGD by being target gas specific for a range of flammable or toxic gases. It typically offers increased sensitivity and a faster speed of response than the next best alternatives.

Detectable Gas Options

- Methane
- Ethylene
- Ammonia
- Carbon Dioxide
- Hydrogen Sulfide
- Hydrogen Chloride
- Sour Gas (CH_4+H_2S)

Global Certification

Transmitter and receiver assemblies are hazardous area certified to international and regional standards.

Path Lengths

Path lengths of up to 200 m (656 ft.) can be achieved (gas dependent).

Transmitter

Eye safe, solid-state laser diode source generates infrared light at a specific absorption wavelength of the target gas.

High Sensitivity

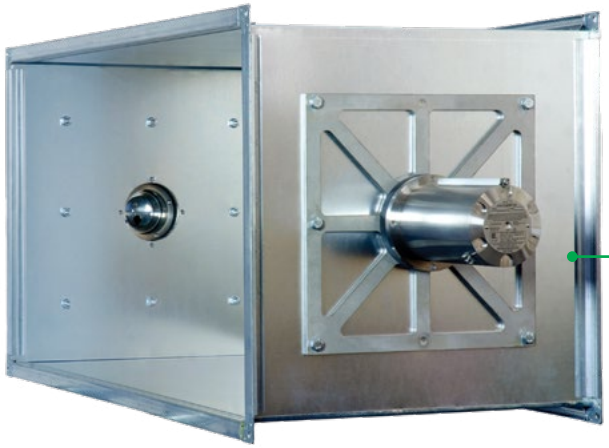
Up to 220 times more sensitive to flammable gases than traditional OPGD providing increased site safety.

Target Gas Reference Cell

Sealed for life and housed within the transmitter, ensures laser wavelength lock, eliminating unrevealed detection failure, associated with laser drift.

Markets

Oil & Gas · Petrochemical · Chemical · Gas Distribution · Power Generation · Carbon Capture & Storage · Fertilizer Manufacturing



CH_4 Methane Air Intake Version

Fast *(<1 s)* detection, with high sensitivity *(0-10% LEL)* and tolerant to duct vibration.

Enhanced Laser Diode Spectroscopy (ELDS)

Patented detection technology that uses multi-point harmonic verification to eliminate false alarms and verify the presence of the target gas.

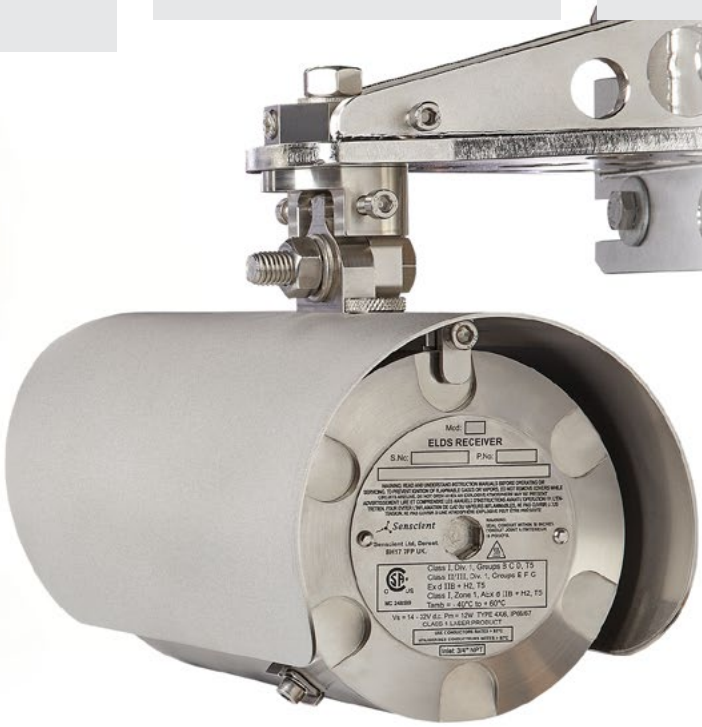
Highest Availability in Fog and Rain

Optimized wavelength selection minimizes fog, rain, snow, and steam interference.

SimuGas™ Integral Self-Test

SAFETY INTEGRITY

Daily automatic or on-demand, end to end self-testing, eliminating routine gas testing.



No Consumable Sensing Elements

Reduces routine maintenance costs associated with other toxic gas detection technologies.

Bluetooth Interface

Enables self-test activation, event log retrieval, and fault diagnostics.

Control System Integration

Industry standard analog+HART, and digital outputs make easy integration with legacy control systems.

Applications

Perimeter Fence Lines | Process Areas | Tank Farms | Pipe Racks | Pump Rows | Air Intakes | Roads & Walkways

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Key Features

DETECTABLE GASES	Methane, Ethylene, Ammonia, Carbon Dioxide, Hydrogen Sulfide, Hydrogen Chloride, Sour Gas *(CH_4 + H_2S)*
UNITS OF MEASURE	*(configuration / gas dependent)*
FLAMMABLE	LEL.m, % LEL *(cross duct)*, ppm.m
TOXIC	ppm.m
PATH LENGTHS	*(configuration / gas dependent)*
OPEN AREA DEVICE	5.0 – 200 m (16.4 ft. – 656 ft.)
CROSS DUCT DEVICE	0.5 – 5.0 m (1.6 ft. – 16.4 ft.)
APPROVALS	
HAZARDOUS AREAS	IEC, ATEX, UKCA, UL/CSA, INMETRO
PERFORMANCE	FM 6325 (CH_4)
SPEED OF RESPONSE (T_{90})	
FLAMMABLE	<1 s cross duct, <3 s (methane, ethylene)
TOXIC	<5 s
ENVIRONMENTAL PROTECTION	IP66/67
	316L SS enclosures & brackets

OPERATING TEMPERATURE	-40°C to +60°C (-40°F to +140°F) (ambient)
ELECTRICAL	*(No Tx, Rx communication cable required)*
TX	18-32 VDC 12W max
RX	18-32 VDC 10W max
OUTPUTS	4-20 mA + HART
	Sub 4 mA low signal, beam block and fault alarms
	Modbus RTU
MECHANICAL	*(Tx & Rx)*
DIMENSIONS	~140 mm dia. x ~300 mm (~5.5" dia. x ~11.8")
WEIGHT	~12 kg (~26.5 lb.) each, including bracket
OPTICAL	Eye safe laser to IEC 60825-1
	Condensation free heated optics
	Up to 95% obscuration tolerance
	±0.5 degree misalignment tolerance *(open area devices)*
	±2.5 degree misalignment tolerance *(cross duct devices)*