



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



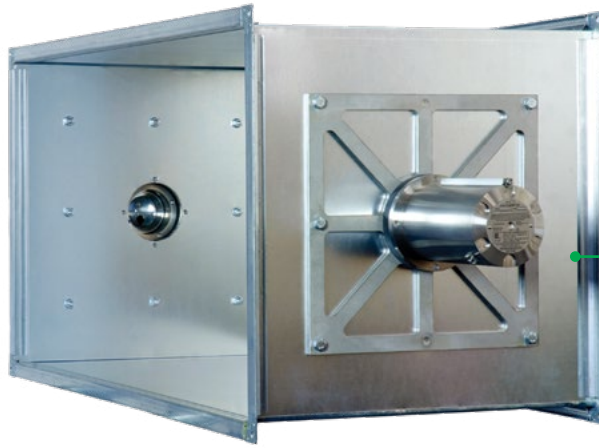
Power Generation



Carbon Capture & Storage



Fertilizer Manufacturing



CH₄ Methane Air Intake Version

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

Enhanced Laser Diode Spectroscopy (ELDS)

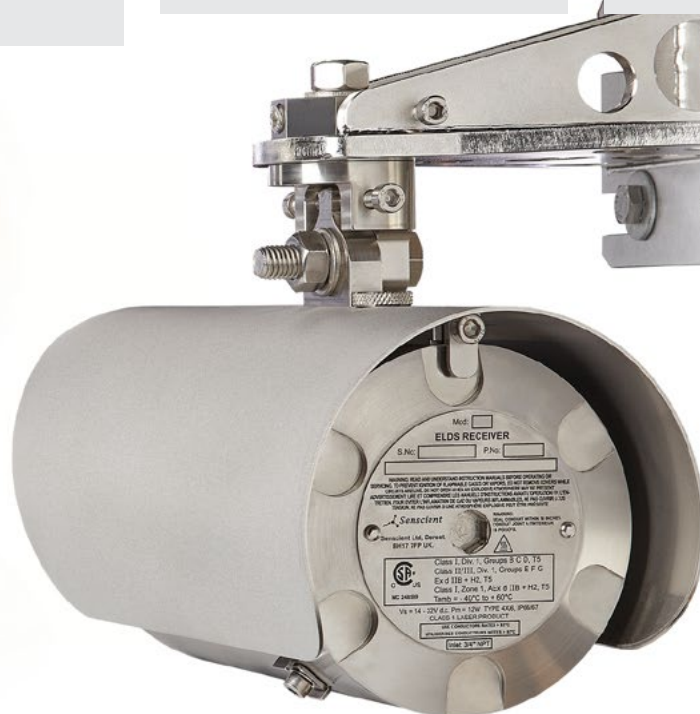
Patented detection technology that uses multi-point harmonic verification to eliminate false alarms and verify the presence of the target gas.

Highest Availability in Fog and Rain

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

SimuGas™ Integral Self-Test

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



Key Features

DETECTABLE GASES	Methane, Ethylene, Ammonia, Carbon Dioxide, Hydrogen Sulfide, Hydrogen Chloride, Sour Gas ($CH_4 + H_2S$)	OPERATING TEMPERATURE	-40°C to +60°C (-40°F to +140°F) (ambient)
UNITS OF MEASURE	(configuration / gas dependent)	ELECTRICAL	(No Tx, Rx communication cable required)
FLAMMABLE	LEL.m, % LEL (cross duct), ppm.m	TX	18-32 VDC 12W max
TOXIC	ppm.m	RX	18-32 VDC 10W max
PATH LENGTHS	(configuration / gas dependent)	OUTPUTS	4-20 mA + HART
OPEN AREA DEVICE	5.0 – 200 m (16.4 ft. – 656 ft.)		Sub 4 mA low signal, beam block and fault alarms
CROSS DUCT DEVICE	0.5 – 5.0 m (1.6 ft. – 16.4 ft.)		Modbus RTU
APPROVALS		MECHANICAL	(Tx & Rx)
HAZARDOUS AREAS	IEC, ATEX, UKCA, UL/CSA, INMETRO	DIMENSIONS	-140 mm dia. x -300 mm (-5.5" dia. x -11.8")
PERFORMANCE	FM 6325 (CH_4)	WEIGHT	-12 kg (-26.5 lb.) each, including bracket
SPEED OF RESPONSE (T_{90})		OPTICAL	Eye safe laser to IEC 60825-1
FLAMMABLE	<1 s cross duct, <3 s (methane, ethylene)		Condensation free heated optics
TOXIC	<5 s		Up to 95% obscuration tolerance
ENVIRONMENTAL PROTECTION	IP66/67		±0.5 degree misalignment tolerance (open area devices)
	316L SS enclosures & brackets		±2.5 degree misalignment tolerance (cross duct devices)

See [Senscient ELDS gas-specific product data sheets](#) for more details.

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice. MSA is a registered trademark of MSA Technology, LLC in the US, Europe, and other Countries. For all other trademarks visit <https://us.msasafety.com/Trademarks>.

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