MSA
The Safety Company

SENSCIENT ELDS™

HYDROGEN FLUORIDE SPECIFIC OPEN PATH DETECTOR

Open path Hydrogen Fluoride (HF) gas detectors are used to monitor for fugitive emissions, protect personnel, and warn of plant failure by detecting leaks faster and over a larger area than is feasible with point detection. These devices are typically located around the perimeter of a plant, process or storage area; or positioned in close proximity to specific items of a plant, that pose a real risk of gas escape: e.g. compressors, pump sets, pressure reducers, valves and pipe flanges.

ADVANCED SENSING TECHNOLOGY

HARMONIC FINGERPRINT™

SimuGas™ SAFETY INTEGRITY

Harmonic Fingerprint™ Much like forensic fingerprint ID, the Harmonic Fingerprint™ uses multiple identifiers in the absorption analysis of the target gas to eliminate false alarms.

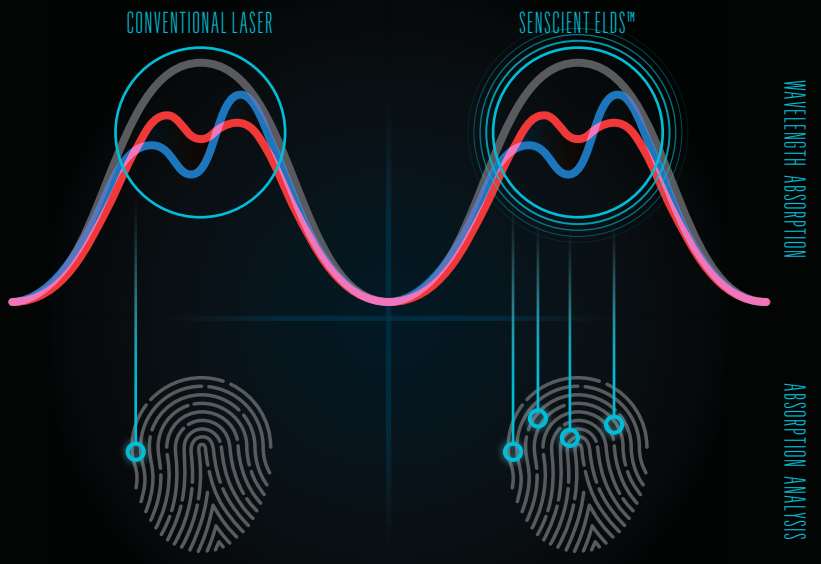
SimuGas™ Only the Senscient ELDS™ can check and record functional tests automatically everyday.

Zero Maintenance The system does not require consumable sensing elements or calibrations, significantly reducing operation costs for time and materials spent on maintenance.

Tuneable Lasers Class 1 eye safe lasers penetrate thick fog, heavy rain, and snow further than differential infrared based detectors.

Bluetooth® Stay Connected. Work Smarter. Bluetooth wireless technology for faster commissioning and troubleshooting while keeping workers out of harms way.

Lock Cell A real target gas sample eliminates laser drift and maintains Harmonic Fingerprint™ lock continuously all day.



Single point verification
Low false alarm rejection

Four point verification
Highest false alarm rejection

NO GAS · TARGET GAS · INTERFERENT GAS · HARMONIC IDENTIFIER

TECHNICAL SPECIFICATIONS

Specifications

GAS	HYDROGEN FLUORIDE (HF)
RANGES	0-25 ppm.m (5-60 m ONLY) 0-50 ppm.m 0-200 ppm.m 0-1000 ppm.m
PATH LENGTH	5-60 m OR 60-120 m (16-197 FT OR 197-394 FT)
FORMAT	INDIVIDUAL TRANSMITTER (Tx) & RECEIVER (Rx)

Performance

RESPONSE TIME	T90 ≤ 3 SECONDS
REPEATABILITY	<± 5% FSD
LINEARITY	<± 5% FSD

Environmental

INGRESS PROTECTION	IP66/67 NEMA TYPE 4/4X/6
ENCLOSURE MATERIAL	316L STAINLESS STEEL
LENS MATERIAL Tx	FACETED OPTICAL GLASS
LENS MATERIAL Rx	ASPHERIC OPTICAL GLASS
OPERATING TEMPERATURE	-55°C TO +60°C (AMBIENT) [-67°F TO 140°F]
HUMIDITY	0 - 100% RH (NON-CONDENSING)
VIBRATION	10 - 150 Hz, 2 g
EMC	EN50270

Certification/Approvals

CSA AND UL:	**CUSTOMS UNION OF RUSSIA,**
CLASS I DIV 1 GROUPS B, C & D T5	**KAZAKHSTAN & BELARUS:**
CLASS II DIV 1 GROUPS E, F & G T5	EAC EX TR CU CoC
CLASS III DIV 1	IExdIIBT5/H2X
Ex d IIB + H_2 T5	ENTRY: M25
CLASS I, ZONE 1, AEx d IIB + H_2 T5	
Tamb = -40°C TO +60°C [-40°F TO 140°F]	**INMETRO:**
ENTRY: 3/4" NPT	Ex d IIB + H_2 T5 Gb
	Ex tb IIIC T100°C Db IP66/67
ATEX / IECEX:	Tamb: -40°C TO +60°C [-40°F TO 140°F]
II 2 GD Ex d IIB + H_2 T5	ENTRY: M25
Tamb -40°C TO +60°C Gb [-40°F TO 140°F]	
Ex tb IIIC T100°C [212°F]	
Tamb = -40°C TO +60°C [-40°F TO 140°F]	
Db IP66/67	
ENTRY: M25	

Safety Integrity

SUITABLE FOR USE IN SIL2 SAFETY SYSTEMS PER IEC 61508

Electrical

OPERATING VOLTAGE	Tx & Rx +24VDC (+18 TO +32 V DC)
POWER CONSUMPTION	Tx = 12 W (MAX), Rx = 10 W (MAX)
OUTPUTS (ANALOG x 2)	4-20 mA, CONFIGURABLE FOR 2 WIRE ISOLATED OR SINGLE WIRE, SINK OR SOURCE.
LOW SIGNAL	3 mA (CONFIGURABLE 1 TO 4 mA)
BEAM BLOCK	2.5 mA (CONFIGURABLE 0 TO 3.5 mA)
INHIBIT	2 mA (CONFIGURABLE 1 TO 3.5 mA)
FAULT	0.5 mA (CONFIGURABLE 0 TO 1 m)
OVER RANGE	21.5 mA (CONFIGURABLE 20 TO 21.9 mA)
OUTPUT (DIGITAL x 2)	HART 7.1 & MODBUS RTU SUPPORTED

Mechanical

SIZE	Tx/Rx 140 MM DIA. X 300 MM [5.5" DIA X 11.8"]
WEIGHT	Tx/Rx 12 KG [26.5 LB] EACH (C/W BRACKET)
SUN / DELUGE PROTECTION	Tx & Rx SUPPLIED WITH SUN SHIELD/DELUGE PROTECTION
MOUNTING	Tx & Rx SUPPLIED WITH MOUNTING BRACKETS INCORPORATING FIXING HOLES / SLOTS FOR FLAT SURFACE OR METAL POLE MOUNTING. (NOTE: MOUNTING POLES SHOULD BE OF 4" TO 6" [100MM TO 150MM] DIAMETER. FIXING BOLTS / U BOLTS ARE NOT SUPPLIED)

Optical

USES HARMONIC FINGERPRINT™ TO ENSURE NO FALSE ALARMS DURING ADVERSE ENVIRONMENTAL CONDITIONS, MISALIGNMENT OR PARTIAL OBSCURATION.

ALIGNMENT	± 0.5°
OBSCURATION	OPERATES UP TO 95%
HEATED OPTICS	Tx & Rx LENSES ARE CONTINUOUSLY HEATED
LASER BEAM	CLASS 1 (EYE SAFE) IEC 60825-1
FDA ACCESSION NO.	1410373-000 (FOR IMPORTS INTO USA)

Calibration

FACTORY CALIBRATED FOR LIFE, NO ROUTINE CALIBRATION REQUIRED.

Ordering Information

TO ORDER / SPECIFY:	SENSCIENT ELDS
GAS TYPE:	HF
MEASURING RANGE:	E.G. 0-50 ppm.m
PATH LENGTH:	E.G. 5-60 m
CERTIFICATION:	E.G. ATEX

Accessories

APPROVED INTERFACE TERMINAL (PC)
INTERFACE TERMINAL (TABLET)
OPTICAL ALIGNMENT SCOPE
GASSING CELL (OPTIONAL)
SNOW COWL (OPTIONAL)

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