



SENSCIENT ELDS™

AMMONIA SPECIFIC OPEN PATH DETECTOR

Open path ammonia (NH₃) 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.

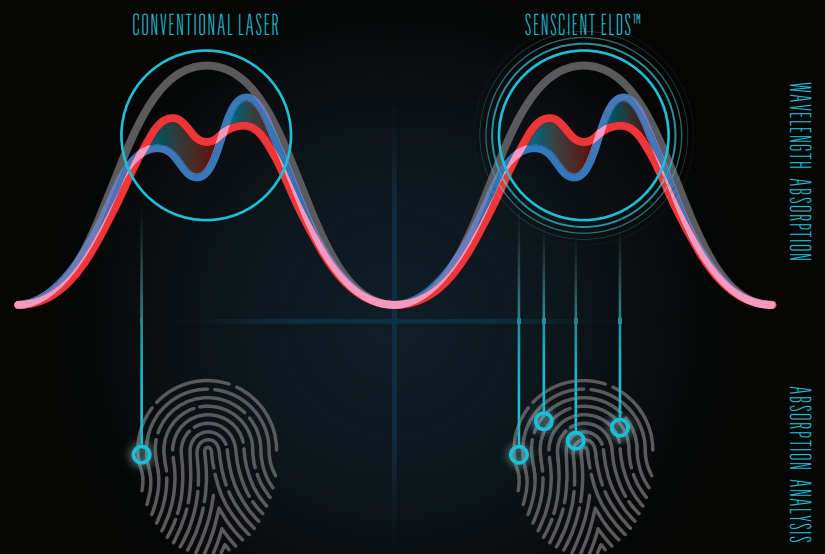
SimuGas™ Only the Senscient ELDS™ can check and record functional tests automatically everyday.

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 | AMMONIA (NH ₃) |
| RANGES | 0-200 ppm.m - SEE NOTE 1 BELOW 0-1000 ppm.m 0-5000 ppm.m 0-15000 ppm.m - SEE NOTE 2 BELOW |
| PATH LENGTH | 5-40 m OR 40-120 m (16-131 FT OR 131-394 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 | IEExd IIB T5/H2X |
| Ex d IIB + H2 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 Exd 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 mA) |
| 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: | SENSICIENT ELDS |
| GAS TYPE: | NH ₃ |
| MEASURING RANGE: | E.G. 0-1000 ppm.m |
| PATH LENGTH: | E.G. 5-40 m |
| CERTIFICATION: | E.G. ATEX |

Accessories

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

Notes

NOTE 1: AVAILABLE IN 5-40 m RANGE ONLY
NOTE 1: AVAILABLE IN 40-120 m RANGE ONLY

Note: This bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products. Specifications subject to change without notice.

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