

# SENSCIENT ELDS™

## METHANE SPECIFIC CROSS DUCT (XC) DETECTION

The XC cross duct methane (CH<sub>4</sub>) gas detector is used for applications where there is expected to be background concentrations of CH<sub>4</sub> and the objective is to detect significant changes to these levels (e.g. coal mine exhaust ventilation). These devices are typically mounted onto opposing side walls of ventilation ducting to provide earlier detection and fast activation of process executive actions.

## 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.

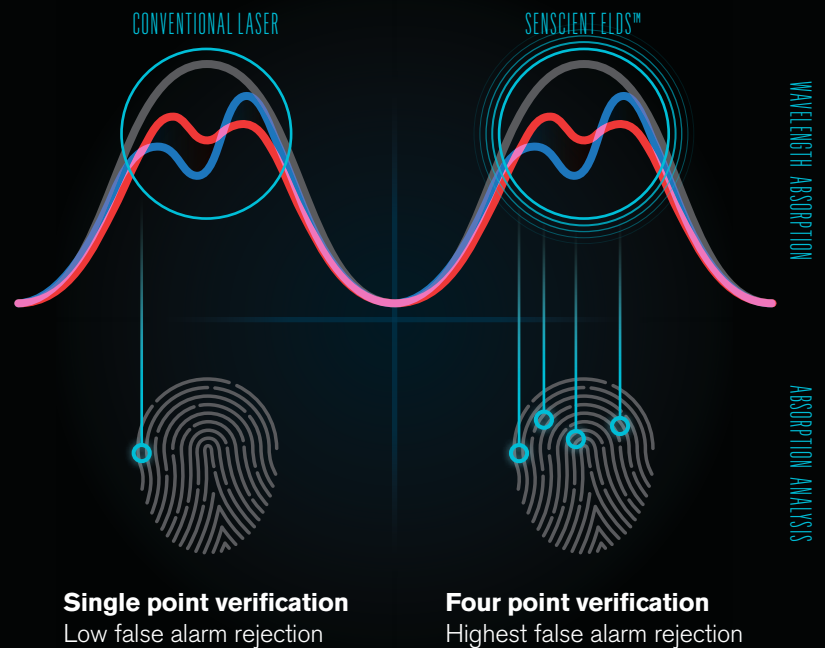
**Zero Maintenance** The system does not require consumable sensing elements or calibrations, significantly reducing operation costs for time and materials spent on maintenance.

**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.

**Fastest Response** Less than one second response time for increased safety.



— NO GAS    — TARGET GAS    — INTERFERENT GAS  
○ HARMONIC IDENTIFIER

# TECHNICAL SPECIFICATIONS



## Specifications

GAS	METHANE (CH <sub>4</sub> )
RANGES	0-25% LEL 0-100% LEL
PATH LENGTH	0.5-5 m (1.6-16 FT)
FORMAT	INDIVIDUAL TRANSMITTER (Tx) & RECEIVER (Rx)

## Performance

RESPONSE TIME	T90 ≤ 0.25 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

<b>CSA AND UL:</b>	<b>CUSTOMS UNION OF RUSSIA,</b>
CLASS I DIV 1 GROUPS B, C & D T5	<b>KAZAKHSTAN &amp; BELARUS:</b>
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 + H <sub>2</sub> T5	ENTRY: M25
CLASS I, ZONE 1, AEx d IIB + H <sub>2</sub> T5	
Tamb = -40°C TO +60°C [-40°F TO 140°F]	<b>INMETRO:</b>
ENTRY: 3/4" NPT	Ex d IIB + H <sub>2</sub> T5 Gb
	Ex tb IIIC T100°C Db IP66/67
<b>ATEX / IECEX:</b>	Tamb: -40°C TO +60°C [-40°F TO 140°F]
II 2 GD Exd IIB + H <sub>2</sub> 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	BOTH Tx & Rx UNITS REQUIRE A MOUNTING PLATE (ORDERED SEPARATELY), FOR FLAT DUCT WALL FIXING. (FIXING BOLTS ARE NOT SUPPLIED). MOUNTING PLATES ARE AVAILABLE IN THREE SIZE OPTIONS: 180 MM X 180 MM [7.1" X 7.1"], 1.6 kg [3.5 LB] 250 MM X 250 MM [9.8" X 9.8"], 2.7 kg [2.7 LB] 400 MM X 400 MM [15.7" X 15.7"], 5.5 kg [12.1 LB]

## Optical

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

ALIGNMENT	± 2.5°
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 XC
GAS TYPE:	CH <sub>4</sub>
MEASURING RANGE:	E.G. 0-25% LEL
PATH LENGTH:	E.G. 0.5-5 m
CERTIFICATION:	E.G. ATEX
MOUNTING PLATE:	E.G. 250 mm x 250 mm

## Accessories

APPROVED INTERFACE TERMINAL (PC)  
INTERFACE TERMINAL (TABLET)  
ALIGNMENT ADJUSTMENT BUSHINGS  
GASSING CELL (OPTIONAL)

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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