



Hydrogen Cyanide (HCN) Monitor

- 0.1 ppbv detection level at 1 Hz measurement rate
- Rugged and reliable



Hydrogen Cyanide Monitor

The hydrogen cyanide (HCN) laser diode based cavity-enhanced absorption sensor for ambient, air condition, airborne and vehicle-mounted measurements from TDL Sensors Ltd.

Features

- Limit of detection **0.1 ppbv** at a 1Hz measurement rate
- Absolute measurements (
- Very low maintenance
- Negligible drift
- Low operating cost

Applications

- Safety
- Security
- Air quality monitoring on sites
- Ambient HCN monitoring across roads, cities and undergrounds transportation systems
- HCN isotope measurements

Ordering Options

4-20mA, RS485

GPRS modem or Ethernet

Hydrogen Cyanide Diode Laser Gas Sensor offers:

- In-situ, real-time absolute concentration measurements
- 0.1 ppbv sensitivity
- Very low maintenance
- Negligible drift

Specifications

Measurement	
HCN detection limit*	0.1 ppbv at 1 s averaging and a DFB laser at 1548.7 nm ($S \approx 7.9 \times 10^{-20} \text{ cm}^{-1}/(\text{molecule cm}^{-2})$)
Accuracy	2% of reading
Linearity	Better than 1%
Resolution	< detection limit values
Response time (T₉₀)	<2s (depending on air flow rate and application conditions)
Optical cell volume	<90 cm ³ at cavity base length of 28.2 cm
Input/Output	
Analogue output	4–20mA current loop (optional)
Digital output	RS232, RS485, modbus (optional), ethernet (optional)
Relay output	SPCO rated, 24VDC/280VAC 2A (optional) – maximum of 4
Analogue input	4–20mA process temperature and pressure reading (optional)
Display	Graphic back lit LCD
Power	
Power supply	85 - 254 VAC, 50/60 Hz @100VA or 24VDC (optional)
Maintenance	
Interval	Every 6–12 months is recommended
Remote maintenance	Engineer can check via (optional) GPRS modem or Ethernet (optional)
Certification	
Laser class	Class 1
Warm up time	Typically <10 minutes

*Defined for mirror reflectivity of 0.99982, separated by a distance of 28.2 cm, HCN linestrength at 296 K and typical observed experimental noise-equivalent cavity output absorption of $6.3 \times 10^{-5} \text{ Hz}^{-1/2}$.

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