



TDL100-CS

- Cross-stack
- Interference free
- In-situ & fast response
NH₃, HCl, HF, Moisture, CO, O₂



The **TDL100-CS** from TDL Sensors Ltd is a Tunable Diode Laser Gas Sensor for Combustion Monitoring & Control.

TDL100-CS Tunable Diode Laser Gas Sensor



Tunable Diode Laser Gas Sensors offer:

- Measurements are free from interference by other gases
- In-situ, real-time measurements
- Very low maintenance
- Negligible drift

Features

- **TDL100-CS** is a cross-stack gas monitor
- Measurements are free from interference by other gases
- In-situ measurement, no sampling lines
- Fast response
- Reliable
- Operates under high dust loads

Applications

- Waste-to-Energy Production, Waste Incineration
- Optimising combustion in Boilers, Furnaces, Kilns
- Steel Industry (Blast Furnace, Coke Ovens)
- Power Plants
- CEMS

Ordering Options

Ammonia + Moisture
Hydrogen Chloride + Moisture
Hydrogen Fluoride + Moisture
Ammonia + Moisture + Oxygen
Hydrogen Chloride + Moisture + Oxygen
Hydrogen Fluoride + Moisture + Oxygen
Hydrogen Chloride + Hydrogen Fluoride + Moisture
Carbon Monoxide + Oxygen

Specifications

Measurement	
Optical pathlength	Up to 15m
Detection limit*	
NH₃, HCl, HF, H₂O, CO, CO₂, O₂	0.2ppm, 0.1ppm, 0.05ppm, 0.1%, 100ppm, 100ppm, 0.02%
Temperature (max)	1500°C
Accuracy	2% of reading
Linearity	Better than 1%
Resolution	<0.05% (O ₂), <0.01% (CO), <0.01% (CO ₂),
Span drift	< 4% of measuring range between maintenance intervals
Zero drift	Negligible (< 2% of measuring range between maintenance intervals)
Response time (T₉₀)	<2s (depending on application conditions)
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
Installation	
Flange size	ANSI 4" 150lbf
Purge gas	Instrument air (dry and oil free) or nitrogen (dry and oil free) or blower (dry and oil free)
Purge flow	10 – 100l/min (depends on application conditions)
Warm up time	Typically <15 minutes
Environmental	
Operating temperature	-20°C to +55°C
Storage temperature	-20°C to +55°C
Enclosure	IP67 rated
Dimensions	
Length	Depends on specific application

* Defined for 1m pathlength at 296K and 1 bar. Limit depends on individual application.

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