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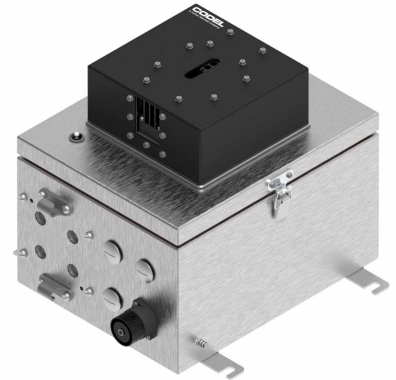
A Forbes Marshall Company

TunnelTech 900 Series - Visibility, CO, NO, NO2, SO2 Monitor

A low cost precision road & rail tunnel monitor using proven technology to provide accurate and rapid results.

The TunnelTech 900 is an all-in-one Visibility and air quality monitor based on backscatter light measurement technology for visibility and electrochemical cell technology for gas measurements.

It offers reliable visibility measurement and optional electrochemical cells to deliver superb and reliable gas measurement at a very competitive price.



- ✓ No fog interference with optional heater
- ✓ Visibility, smoke detection compact analyser
- ✓ Advanced electrochemical cell technology
- ✓ Easy installation with minimal wiring required
- ✓ Minimal maintenance requirements
- ✓ Easy to calibrate

ISO 9001:2015
Quality Certification

ISO 14001:2015
Environmental Certification

Monitoring Solutions



www.codel.co.uk

Designed exclusively for road and rail tunnel applications building on years of experience and proven technology.

Uses the latest Electrochemical Cell Technology for the measurement of CO, NO, NO₂, SO₂ and backscatter technology for visibility.



Multi-cell gas analyser in a compact tunnel sensor.

Class leading accuracy, repeatability and resolution using advanced electrochemical cell and backscatter technology

Adaptable fitting feature allows for replacement of any type of existing multi-cell analyser

Easy, quick release mounting arrangement for simple installation

The TunnelTech 900 Air Quality Monitor, is an essential part of any road or rail tunnel safety system. Firstly, it monitors the atmosphere within the tunnel and ensures that the tunnel ventilation system provides sufficient clean air to protect tunnel users health and for drivers to clearly see the road ahead.

The TunnelTech 900 analyser electrochemical cell technology determines CO, NO, NO₂, and SO₂ concentrations, utilising backscatter technology for visibility measurements. Reliability levels are extremely high and maintenance requirements are very low.

Designed for it's accuracy and ease of use the TunnelTech 900 single cell gas analyser is the perfect replacement for existing current multi-cell analysers.

It's adaptable fitting feature allows the analyser to replace any type of existing multi-cell analyser with an easy installation process requiring minimal wiring.

Technical Specification

Sensor Unit

Gas Species Options	Visibility (standard), CO, NO, NO ₂ & SO ₂ (optional)				
Measuring units	m ⁻¹ (K factor) / E/m for visibility, ppm for CO, NO, NO ₂ , SO ₂ .				
Calibration					
Measurement	Visibility	CO	NO	NO₂	SO₂
Measurement Principal	Backscatter	EC	EC	EC	EC
Nominal Measurement Range	0 to 0.015 m ⁻¹	0 to 500 ppm	0 to 30 ppm	0 to 20 ppm	0 to 50 ppm
Measurement Range (Typical)	0 to 0.015 m ⁻¹	0 to 300 ppm	0 to 30 ppm	0 to 5 ppm	0 to 20 ppm
Detection Limit	0.0001 m ⁻¹	0.5 ppm	0.5 ppm	0.1 ppm	0.5 ppm
Response Time	30 seconds				
Zero Drift	< +/- 0.001 m ⁻¹	< +/- 100 ppb	< +/- 50 ppb	< +/- 20 ppb	< +/- 20 ppb
Measurement Drift	< 10% Per Year	< 10% Per Year	< 20% Per Year	< 20% Per Year	< 15% Per Year
Accuracy	0.0001 m ⁻¹	0.5 ppm	0.5 ppm	0.1 ppm	0.5 ppm
Power supply	24V DC				
Ambient Conditions	-20°C to +60°C				
Construction	SS316L (Standard) Silver / Brushed Metal SS316Ti (Optional Brackets)				

Compliances

EMC	Designed to EN50270:2015
IK Code	IK07
Enclosure IP	Designed to IP69K
Tunnel Regulations Guideline	RABT 2006, RVS 09.02.22 2007 and EN50545

Customer Interface

Display	Monochrome LCD Display & Keypad Membrane
LED	Tricolour LED enabled

Output

Analogue Outputs (Optional)	Up to 6 mA Loop outputs - 4-20mA Passive or Active Max Load 500Ω, isolated, fully configurable Up to 6 Relay outputs - SPCO, Max Load 500mA @ 60V DC, configurable as alarm contacts
Span Check	NO, NO ₂ , CO, SO ₂ via calibration tool (Optional)
Serial Communication Port	RS485 ModBUS RTU
Screen Protector	Optional

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