

CODEL

A Forbes Marshall Company

Product Brochure

TunnelTech 500

CO, NO & NO2 Air Quality Monitor



A cost-effective precision road & rail tunnel monitor using well-proven technology providing accurate and rapid results.

ISO 9001:2015

Quality Certification

ISO 14001:2015

Environmental Certification

Monitoring Solutions



www.codel.co.uk

TunnelTech 500

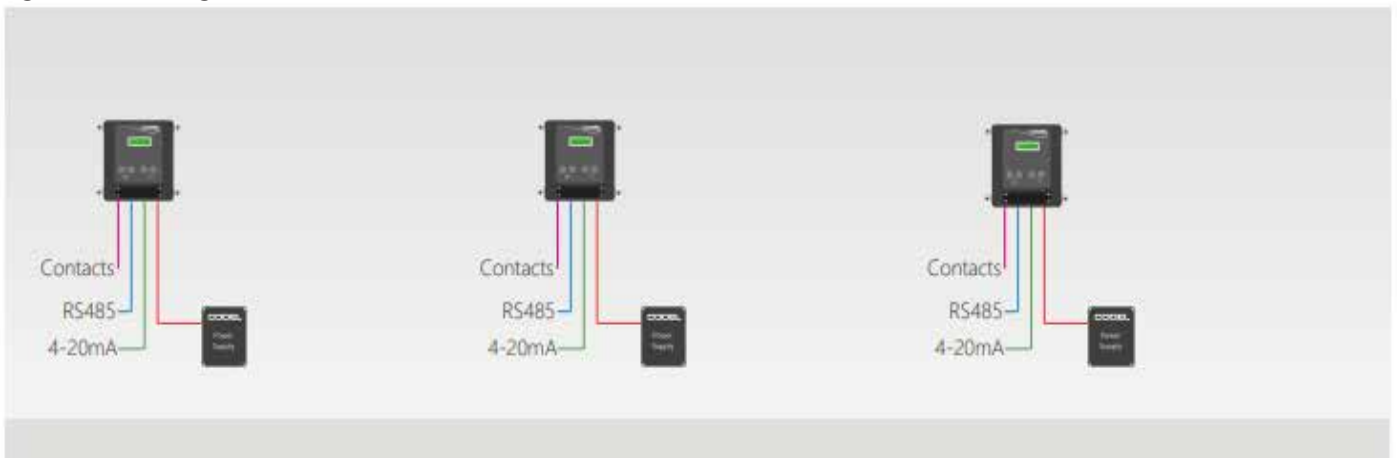
The TunnelTech 500 Air Quality Monitor, is an essential part of any road or rail tunnel safety system. Firstly, it monitors the atmosphere within the tunnel and ensures that the tunnel ventilation system provides sufficient clean air to protect tunnel users health and for drivers to clearly see the road ahead.

The TunnelTech 500 analyser electrochemical cell technology determines CO, NO & NO2 concentrations. As there are no moving parts, reliability levels are very high and maintenance requirements are low.

Optional 4-20mA and contact outputs are available to be mounted either directly in the sensor heads or in the TunnelTech remote display panel providing flexibility of installation and reduced cabling costs.

In addition, IP65 rated enclosures are constructed to resist attack from aggressive gases, road salt and the effects of heat.

System Layout - Stand-alone systems



The TunnelTech 500 Series consist of varying configurations such as:

TunnelTech 501 : CO · NO · NO2

TunnelTech 502 : CO · NO

TunnelTech 503 : CO

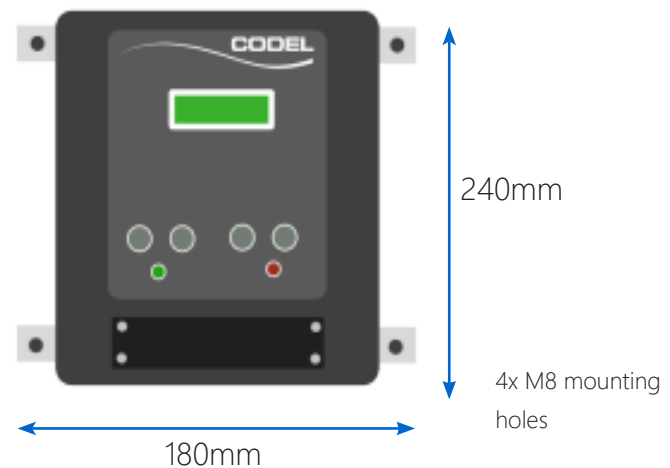
TunnelTech 504 : NO

TunnelTech 505 : NO2

TunnelTech 506 : CO · NO2

TunnelTech 507 : NO · NO2

Easy mounting arrangement for a simple installation



- ▶ Easy to calibrate
- ▶ Class leading NO2 Measurement
- ▶ Measure CO, NO & NO2 in one compact sensor

- ▶ Minimal maintenance requirements
- ▶ Advanced electrochemical cell technology
- ▶ Integrated display and keypad, no external computer required

Technical Specification

Sensor Unit

Gas Species Options Single or multi-gas measurements available: CO, NO₂ & NO

Measuring units ppm for CO & NO, PPb for NO₂

Calibration Manual zero and span check

Measurement	Carbon Monoxide (CO)	Nitric Oxide (NO)	Nitric Dioxide (NO₂)
Measurement Technique	Electrochemical Cell	Electrochemical Cell	Electrochemical Cell
Measurement Range (typical)	0 - 300ppm	0 - 30ppm	0 - 5/10ppm
Accuracy	1ppm	1ppm	< 100ppb
Resolution	< 0.1ppm	< 0.1ppm	1ppb
Response Time	< 1 Minute	< 1 Minute	< 1 Minute
Detection Limit	< 2ppm	< 2ppm	10ppb
Zero Drift	< 1ppm per month	< 1ppm per month	< 0.05ppm per month
Measurement Drift	< 5% per year	< 5% per year	< 5% per year

Calibration Flowrate 0.5 l/mn

Power Supply 24V DC, 30 VA from separate power supply

Ambient Conditions -20°C to +55°C

Compliances

EMC EN61326-1:2006 & EN50270:2006 directive compliant

Low Voltage 73/23/EEC directive compliant

IK Code IK07 to EN62262

Enclosure IP Corrosion resistant epoxy coated aluminium housing sealed to IP66 (EN60529). S/S version available in 316L (1.4404) or Ti (1.4571) to IP6K9K (EN60529)

Customer Interface

Serial Data Bi-directional RS485 Modbus Protocol

Display 32 Character alpha-numeric back-lit LCD

Keypad 4-key soft-touch entry

Optional Items

Power Supply 90/264V AC, 47-63Hz, (24V DC @ 2.5A)

Tunnel Display Unit For local display of sensors outputs

Analogue Outputs 2 or 4 x 4-20mA current outputs as standard, isolated, 500Ω load max, fully configurable

Relay Outputs 2 or 4 x volt-free SPCO contacts, 50V, 1A max, configurable as alarm contacts

Span Check NO, NO₂, CO span check using bottled audit gases

CODEL

A Forbes Marshall Company

CODEL International LTD
Unit 4
Station Road
Bakewell, Derbyshire
DE45 1GE

Tel : +44 (0)1629 814351
Fax : +44 (0)1629 566307
Web : www.codel.co.uk
email : Sales@codel.co.uk



Distributor

Monitoring Solutions



www.codel.co.uk