

The TunnelTech 700 A low cost precision road & rail tunnel monitor using well proven technology providing accurate and rapid results.

The TunnelTech 700 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 user's health and for drivers to clearly see the road ahead.

The TunnelTech 700 analyzer uses electrochemical cell technology to determine CO, NO & NO<sub>2</sub> concentrations, and optical attenuation to measure visibility levels. As there are no moving parts, reliability levels are very high and maintenance requirements are low. Visibility sight tubes are utilized to ensure that airborne dust and contaminants do not reach the optical windows and cause drift.

**Features**

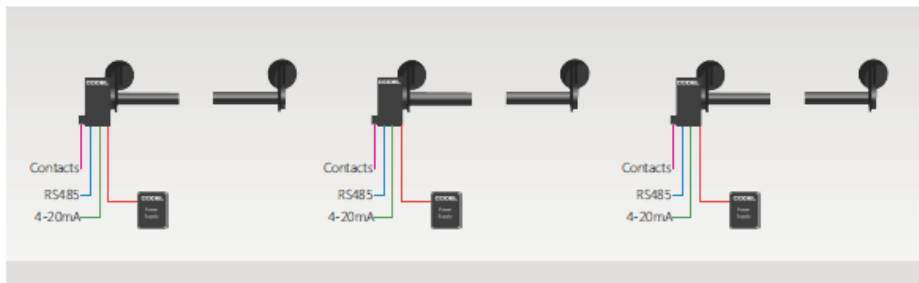
- > Measure CO, NO, NO<sub>2</sub> & Visibility in one compact sensor
- > Advanced electrochemical cell technology
- > High-resolution measurement
- > Minimal maintenance requirements
- > Available in 316 Stainless Steel



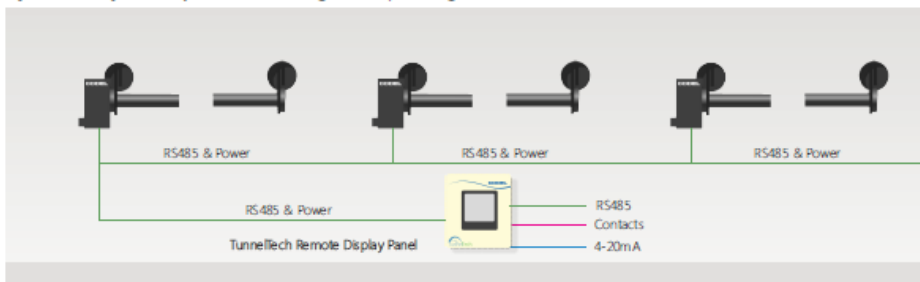
**APPLICATIONS:**

- > Rail Road Tunnels
- > Road Tunnels

System Layout Option 1 - Stand-alone systems



System Layout Option 2 - Integrated package



**MONITORING SOLUTIONS**

Complete source for all your Continuous Emissions Monitoring (CEMS) needs:

- > Both Dilution and Extraction CEMS systems
- > Data Acquisition Systems (DAS)
- > Flow Monitoring
- > Opacity Monitoring
- > Oxygen Monitoring Systems
- > Particulate (PM) Monitoring
- > Process Monitoring Systems

**Sensor Unit**

Measurement	Carbon Monoxide (CO) TunnelTech 701, 702, 703, 706,	Nitric Oxide (NO) TunnelTech 701, 702, 704, 707	Nitric Dioxide (NO <sub>2</sub> ) TunnelTech 701, 705, 706, 707	Visibility TunnelTech 700 Series - all
Measurement Technique	Electrochemical Cell			LED Transmittivity
Measurement range (typical)	0 – 300 ppm	0 – 30 ppm	0 - 5/10 ppm	0 - 0.015 m <sup>-1</sup>
Accuracy	+/- 2 ppm or 2% span	+/- 2 ppm or 2% span	100 ppb	+/- 0.002 m <sup>-1</sup>
Resolution	+/- 1 ppm	1 ppm	5 0 ppb	+/- 0.001 m <sup>-1</sup>
Response Time	30 Seconds	30 Seconds	30 Seconds	10s - 2min Selectable

**Ambient Temperature** -4°F to 122°F

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

**Construction**  
 - Corrosion resistant epoxy coated aluminum housing sealed to IP66  
 - Optional 316 Stainless Steel and 316 Stainless Steel TI for heads & Brackets

**Calibration** Automatic zero calibration - manual span check

**Path Length** 3m (6m folded beam)

**Measuring units** ppm for CO & NO, m<sup>-1</sup> or m for visibility, ppb for NO<sub>2</sub>

**Gas Species Options** Single or multi-gas measurements available: CO, NO<sub>2</sub>, NO & Visibility

**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

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

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

**Check Filter** Visibility span check optical cell available in different values

**Span Check** NO, NO<sub>2</sub>, CO span check using bottled audit gases

Austin, TX | Indianapolis, IN | Pittsburgh, PA | Pensacola, FL | Casper, WY

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