

## Tunnel Atmosphere Monitoring

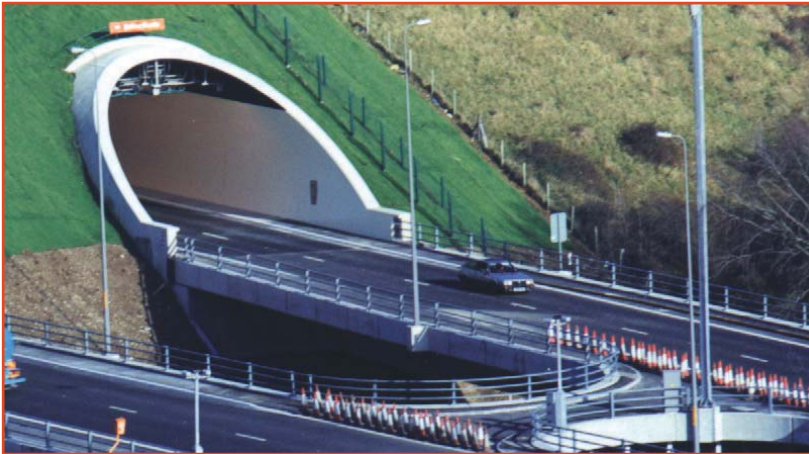
# TunnelCraft III Air Quality Monitor for Visibility

### Low-Cost Precision Sensors

The Air Quality Monitor (AQM) is a compact instrument consisting of a transceiver that projects visible light beams to a reflector unit mounted 3m away. The reflected light is received by the transceiver and the specific absorption is measured to determine the visibility dimming coefficient within the path of the beam.

Light transmission is from a high-power modulated LED enabling high accuracy measurements to be obtained without interference from other light sources, such as vehicle headlights, within the tunnel.

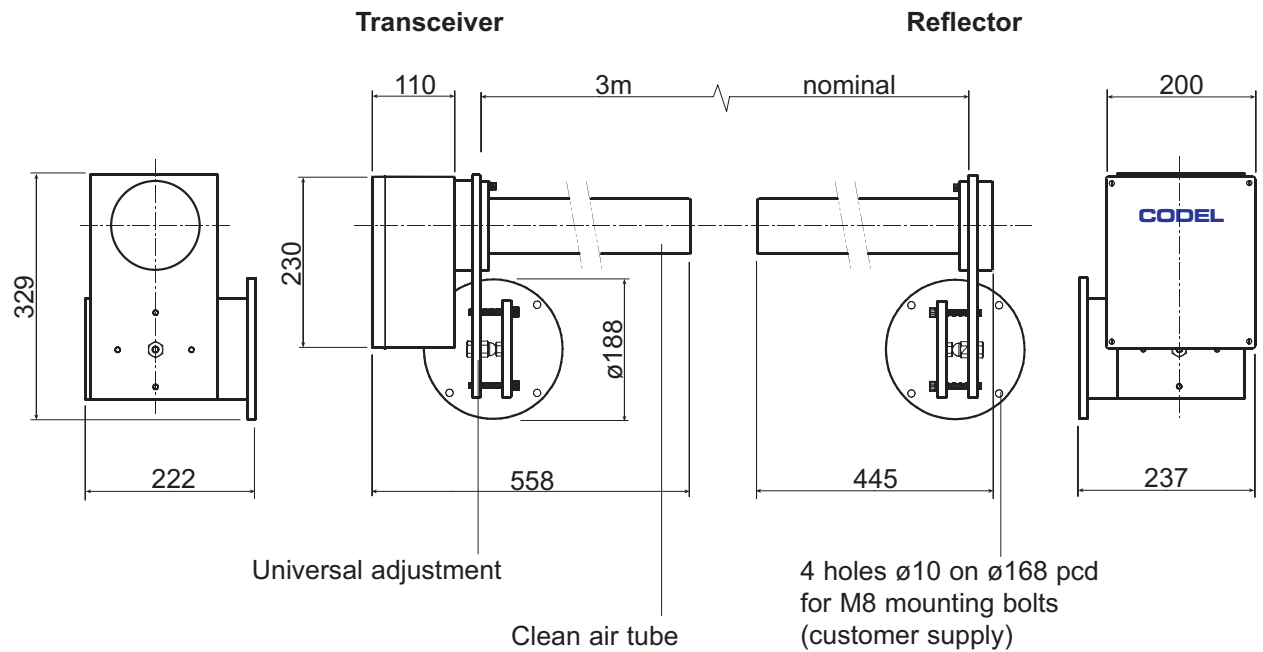
- high resolution measurement of visibility
- designed to withstand the harshest of tunnel environments
- precision 0.0002m-1
- routine maintenance limited to annual cleaning of optical surfaces
- modular construction ensures simple installation and cabling
- IP67 ingress protection rating EN60529
- measurement totally unaffected by strong light sources



## No.1 in Tunnel Atmosphere Monitoring



## Overall Unit Dimensions



## Specification

### AirQuality Monitor

Measurement: 3m (6m folded beam)  
Path

Measurement: visibility :  $0-15 \times 10^{-3} \text{ m}^{-1}$   
Range

Accuracy : visibility :  $\pm 0.2 \times 10^{-3} \text{ m}^{-1}$

Power : 12V DC, 20VA from separate  
Requirement power supply unit

Averaging : selectable 1 to 60 minutes  
Time

Ambient :  $-20^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$   
Temperature

### Construction

Housing : corrosion resistant epoxy coated  
aluminium sealed to IP67

### Communications & Outputs

Local : RS232 (optional RS485) serial  
Comms. interface via plug & socket

Analogue : 3 x 4-20mA, max. load  $500\Omega$

Logic : 3 x volt-free contacts SPCO, 0.25A  
@ 125V AC, 1A @ 30V DC, 0.25A  
@ 100V DC

### Compliances

EMC : 89/336/EEC directive compliant

Low Voltage : 73/23/EEC directive compliant

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