CODEL
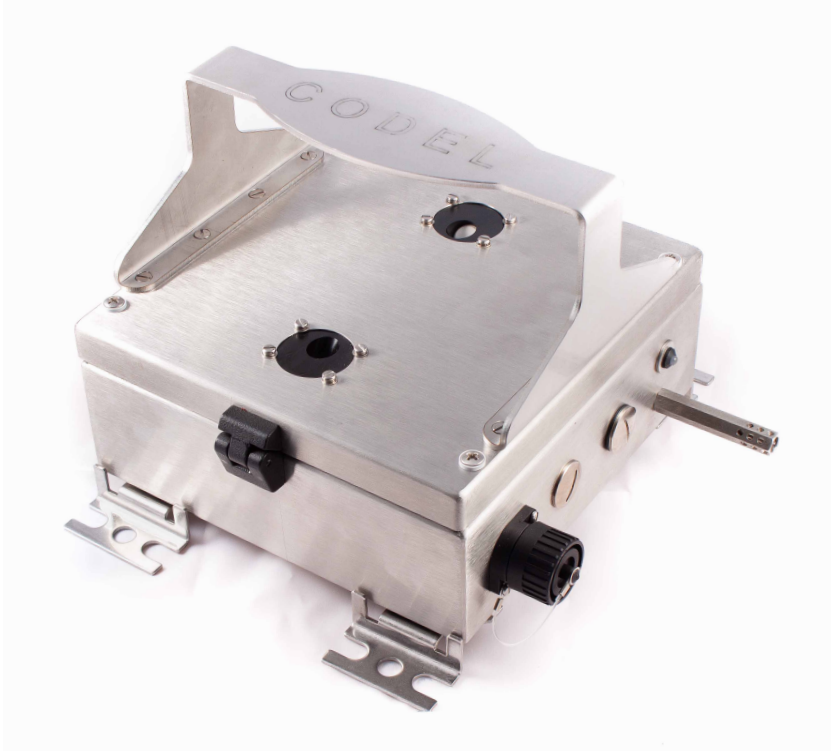## A Forbes Marshall Company

TunnelTech 305 Series - Stainless Steel Air Flow Monitor

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

The TunnelTech 305 is an advanced technology air flow monitor developed to provide superb accuracy and reliability at a very competitive price.

✓ Single point ultrasonic measurement technology

✓ Uninterrupted by traffic flow and sound reflections

✓ No moving components providing maintenance free operation

✓ Stainless steel construction

✓ Integral temperature measurement

ISO **9001:2015**
Quality Certification

ISO 14001:2015
Environmental Certification

Monitoring Solutions

TunnelTech

www.codel.co.uk

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

Fully configurable analogue and alarm outputs are provided. An RS485 link can be utilised to deliver data via MODBUS protocol to a SCADA system located in the tunnel control centre.

Integral temperature measurement and stainless steel construction.

The TunnelTech 305 Air Flow Monitor, is an essential part of any road or rail tunnel safety system. Firstly, it monitors the air flow measurement as well as the direction of flow inside 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 305 uses ultrasonic technology to ensure high accuracy and having no moving parts, reliability levels are very high and maintenance requirements are very low.

The sensor is constructed using stainless steel for ultimate protection against the harsh environments found in tunnels.

Fully configurable analogue and alarm outputs are provided. An RS485 link can be utilised to deliver via MODBUS protocol to a SCADA system located in the tunnel control centre.

The TunnelTech 305 contains no moving components and requires no routine maintenance.

Technical Specification

Sensor Unit

Measurements	Air flow, direction and temperature	
	Flow	Temperature
Flow Units	m/s (Meters per Second)	°C (Degrees Celsius)
Measurement Technique	Ultrasonic time of flight	PT100
Measurement Range (typical*)	-20 to +20 m/s (Max -60 to + 60 m/s)	-20°C to +65°C
Accuracy	±0.1 m/s	±0.1 °C
Response Time	Minimum of 1 second	Minimum of 1 second
Resolution	±0.01 m/s	±0.01 °C
Operating Temperature	-20°C to +65°C	
Power supply requirement	9 to 36V DC, 1% pk-pk, 20 MHz bandwidth (5VA Max) from separate power supply	
Construction	SS316L / (Ti optional)	
Protection	Certified to IP67 and IP69K - Optional heated sensors to prevent ice build up.	

Compliances

EMC	Designed to EN50270:2015
Low Voltage	Designed to 73/23/EEC (as per datasheet) or 73/23/EEC Low voltage & 89/336/EEC -EMC (as per manual)

Customer Interface

Flow Analogue outputs	1 x 4-20mA current output, 500Ω max load, range 0 to 20m/sec - Configurable
Temp. Analogue outputs	1 x 4-20mA current output, 500Ω max load, range -20°C to +50°C - Configurable
Fault Status	3.2mA Fault Condition
Relay Outputs	2 x volt-free SP contacts, 60V 500mA max, for flow direction and alarm
Communications Port	RS485 for local communication with laptop or modbus RTU protocol
System Status	Multi colour visual health indicator
Weight	4kg
Dimensions	255 x 285 x 170 (mm)
Mounting	Supplied 316L Bracket with quick release system

Optional Items

Power Supply	110/240V AC, 50-60Hz, 60W 12V DC @5A (or 24V DC @ 2.5A)
Tunnel Display Unit	For local display of sensors outputs

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