

## Opacity Monitor

Used for non-compliance applications, the ET101/102 is a simple, reliable, cost effective way to measure opacity or dust in a stack or duct.

### DESCRIPTION

The ET101/102 Opacity Monitor is a single-pass transmissometer consisting of visible light transmitter and receiver arrangement with digital data processing in a local display unit. The monitors can display data in opacity, extinction or dust density in  $\text{mg}/\text{m}^3$  or normalized dust density in  $\text{mg}/\text{Nm}^3$ .

Using analog inputs from a process, the ET102 offers normalization of the opacity data from temperature, oxygen, pressure and water vapor.

### FEATURES AND BENEFITS:

- Simple installation for low initial cost
- Proven technology offers low maintenance and high reliability
- High-efficiency air purges minimize lens contamination
- Data in percentage opacity,  $\text{mg}/\text{m}^3$ ,  $\text{mg}/\text{Nm}^3$  dust for optimum flexibility



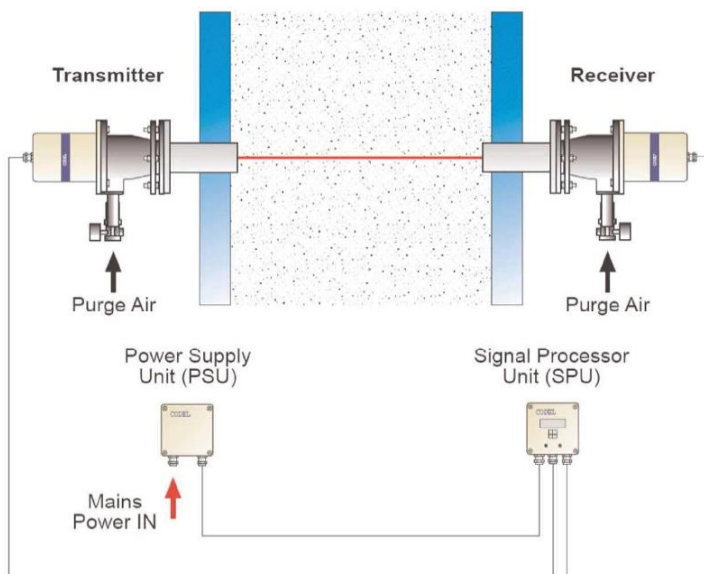
### APPLICATIONS

- Coal and Fuel-oil Fired Plants
- Wood Fired Plants
- Converter Plants
- Pulp & Paper Plants
- Processing Plants
- Asphalt Plants
- Cement Plants
- Any plant requiring opacity or dust monitoring

### 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





Opacity Monitor

**TECHNICAL SPECIFICATIONS**

**Measurements**

Operating Principle	Single pass transmissometer
Light Source	Modulated high-intensity LED at 637 nm wavelength
Span	Fully selectable in % opacity, extinction, mg/m3 & mg/Nm3
Averaging	4 rolling averages selectable from 10 secs to 30 days
Accuracy	±0.2% opacity
Drift	<1% opacity per month
Resolution	0.1% opacity
Optical Path Length	1.6 feet - 49 feet

**Input & Outputs**

Analog Outputs	2 x 4-20 mA current outputs, isolated, 500 0 load max., fully configurable from keypad
Digital Outputs	2 x volt-free SPCO contacts, 50V, 1A max., configurable as alarm contacts 1 x volt-free SPCO contact, 50V, 1A max. for data valid
Digital Inputs (102 only)	4 x 4-20 mA inputs for normalization data, temperature, oxygen, pressure & water vapor

**General**

Display	32-character alpha-numeric back-lit LCD
Keypad	4-key soft-touch entry
Construction	Epoxy-coated aluminum to IP67
Ambient Temperature	-4° F to 158° F
Power	76 to 265 Volts AC@ 50/60Hz, 20VA
Air Purge Requirements	Compressed air, 1 liter/sec@ 1 bar
Options	Heated flanges to prevent condensation on lenses