



Continuous Emission Monitoring

Model 1010 Cross-Duct CO Analyser

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With no sampling system to maintain, CODEL cross-duct monitors are easy to install and simple to operate – vital for plant where there may be little or no technical support available.

The CODEL 1010 analyser may be used as a complete stand alone monitor or as part of an integrated emission monitoring, logging and reporting system. The instrument is particularly suited to large/dirty processes.

The CODEL Model 1010 projects an infrared beam across the duct and through the flue gas to a receiver unit. The light beam is tuned to a specific wavelength where CO molecules absorb light energy. The more molecules there are in the light beam the greater the absorption.

The wavelength is chosen specifically to ensure that there is no interference from other gases or water vapour.

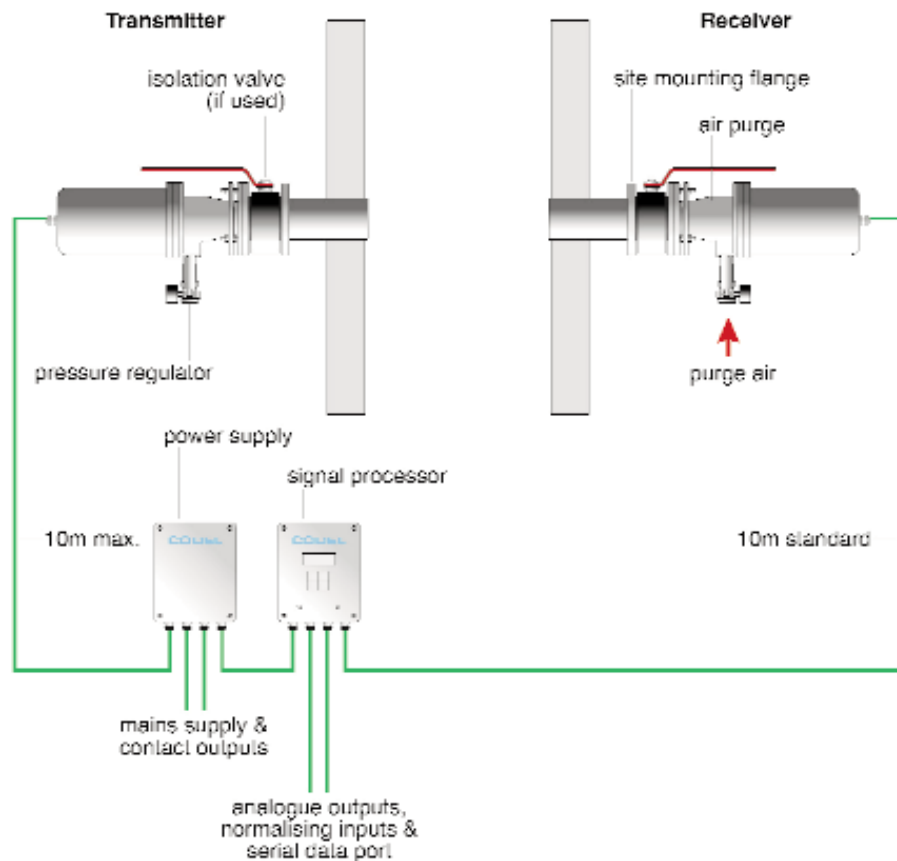
To isolate the interference for dust particles the Model 1010 also uses the principle of Gas Filter Correlation (GFC) where a live and reference measurement are generated in the receiver. The live measurement is

sensitive to changes in energy caused by CO or dust. The reference channel is de-sensitised to CO using a high concentration gas cell. The difference between the live and reference channels is, therefore, a function of CO concentration.

- highly efficient air purges for minimal lens contamination
- automatic on-line zero calibration using integral reference gas cell
- real-time normalisation to standard reference conditions
- low maintenance - only simple, infrequent checks to windows are required
- data presentation in ppm, mg/m³ or mg/Nm³



Operating Principle



Specification

Range	: 0 to 6000ppm.m	Plant Status	: isolated field contact Input
Averaging	: 4 rolling averages selectable from 10 seconds to 30 days	Serial Port	: 4-wire, current-loop based, 2-way comms. up to 1000m
Accuracy	: +/-2% of measurement or +/-5ppm.m whichever is the greater	Path Length	: 0.5 to 8m
Analogue Output	: 0/4-20mA isolated, 500Ω	Flue Gas Temperature	: 0 to 650°C
Contact Output	: volt-free contact, 250V/10A	Construction	: cast aluminium, fully sealed to IP65
Data Valid Output	: volt-free contact, 250V/10A	Ambient Temperature	: -20°C to +70°C
Normalising Inputs	: 4-20mA serial inputs via keypad for oxygen, temperature & pressure	Power	: 110/220V, 50/60Hz, 50VA (variations of +/-20%)
		Purge Air Consumption	: 1 litre/second/purge

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