LAND®

AMETEK®



MILLWATCH/ SILOWATCH

Detect early-stage combustion inside mills and silos

The analyzer extracts sample gases from the mill outlet or silo headspace and continuously monitors the levels of carbon monoxide (CO) to provide an early indication that unwanted oxidation or early-stage combustion is occurring. This provides an early warning so that preventative action can be taken before a dangerous condition occurs. Automatic calibration using a certified calibration gas cylinder confirms correct operation and maintains integrity.

There is very little CO in ambient air, so CO measurement provides a sensitive method to detect early-stage combustion. The system will detect changes significantly faster than temperature measurement - in time to prevent damage.

Millwatch and Silowatch are advanced systems designed to monitor carbon monoxide (CO) concentrations in mills, silos, and fuel bins to detect early signs of combustion, enabling preventative action before a fire or explosion occurs. Millwatch is typically installed on horizontal and vertical mills at the classifier outlet, while Silowatch is used for coal storage in silos and pulverized fuel bins, and can also identify CO emissions from early-stage biomass combustion. A rapid rise in CO levels signals that combustion is underway, helping operators take timely measures to increase plant safety and minimize downtime. An optional sensor allows oxygen (O_2) measurement in inerted silos, adding another layer of protection.

CO gas detection offers a fast, sensitive means to detect the presence of oxidising coal and biomass.



FEATURES & BENEFITS

- **Fast response** CO emissions from early-stage combustion, giving fast indication of an unsafe condition (T90 typically < 45 seconds).
- **High Sensitivity detection limit of 2 ppm** ensures reliable monitoring where no significant CO is present in ambient air.
- **Protects Assets & Reduces Downtime** provides time to take preventative action, safeguarding expensive equipment and maintaining operational continuity.
- **Twin stream option** allows CO monitoring in adjacent mills or silos
- **Designed for Harsh Environments** specifically engineered for coal mills, silos, and biomass storage; rugged sample probe with abrasion protection ensures durability.
- **Continuous Monitoring** no multiplexing monitoring for maximum reliability.
- **Easy Integration** standard analog and discrete contact outputs connect directly to plant operating systems.
- **Automatic Calibration** verifies correct operation for consistent performance.

See degrees differently.

SPECIFICATIONS

Measurement Range

CO Measurement Ranges:	0-100 up to 2000 ppm in 50 ppm steps
Resolution:	1 ppm / 1 mg/m^3
Optional O_2 Ranges:	0 - 5 % to 0 - 25 %
Calibration	
Calibration Method:	Automatic 2-point calibration span and zero
User Interface	
Type:	LCD with backlight 4 x 20 character, 8 access keys
Outputs/Inputs	
Analog Output:	4 to 20 mA isolated current loop for each CO & O_2 measurement
Relay Outputs:	2 x Level Alarms; System OK; Calibration/Maintenance
Relay Rating:	Isolated changeover (Type C) 1 A @ 240 V a.c. or 5 A @ 240 V d.c.
Environmental	
System Enclosure:	Painted steel, sealed IP65 / NEMA 4
Ambient Temperature:	0 to 45 °C / 32 to 113 ° F standard; to -20 ° C / -4 ° F with optional case heater; to 50 ° C / 122 ° F with optional vortex cooler
Compliance	
EMC:	Conforms to EN-50 081 & EN-50 082
Electrical Safety:	Conforms to EN-61010-2
Power	
Power Supply:	100 - 120 V a.c. or 190 to 240 V a.c., 50-60 Hz, 300 VA
Gas and Air Requirements	
Instrument Air (cooling):	5 - 10 bar / 70 - 150 psi clean and dry, 300 l/min/10.5 cfm
Calibration Gas:	100 ppm to 500 ppm CO, balance nitrogen recommended 2 bar / 30 psi 20 liters (0.7 cu.ft.) per calibration approx.
Mechanical	
Size (H x W x D):	600 x 600 x 350 mm / 24 x 24 x 14 in.
Weight:	53 kg / 117 lb.
Options:	Twin Stream CO System Sample Probe and Lines Heating / Cooling Oxygen measurement (Single Stream only)

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We are fully committed to Quality Assurance. See all our accreditations at **AMETEK-LAND.COM/QUALITY**

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