



TELEDYNE INSTRUMENTS
Advanced Pollution Instrumentation
A Teledyne Technologies Company

MODEL **360E**

Gas Filter Correlation CO₂ Analyzer



- ▶▶ **Ranges, 0-2 ppm to 0-2000 ppm, user selectable**
- ▶▶ **Gas Filter Wheel for CO₂ specific measurement**
- ▶▶ **GFC wheel guaranteed for 5 years**
- ▶▶ **Multi-tasking software allows viewing of test variables during operation**
- ▶▶ **Continuous self checking with alarms**
- ▶▶ **Bi-directional RS-232 / RS-485 / Ethernet**
- ▶▶ **Digital status outputs indicate instrument operating condition**
- ▶▶ **Adaptive signal filtering optimizes response time**
- ▶▶ **Temperature & Pressure compensation**
- ▶▶ **Internal data logging with 1 min to 24 hour averages**
- ▶▶ **APIcom remote operation software**

The Model 360E measures carbon dioxide (CO₂) by comparing infrared energy absorbed by a sample to that absorbed by a reference according to the Beer-Lambert law. This is accomplished by using a Gas Filter Wheel which alternately allows a high energy infrared light source to pass through a CO₂-filled chamber and a chamber with no CO₂ present.

The light then travels through the sample cell, which has a folded path. The energy loss through the sample cell is compared with the zero reference signal provided by the gas filter to produce an output proportional to concentration, with little effect from interfering gases within the sample. A nitrogen purge system is provided for the GFC wheel assembly to eliminate the effects of ambient CO₂, if necessary.

This design produces superior zero and span stability and a high signal-to-noise ratio, allowing excellent sensitivity. Multi-tasking software gives real time indication of numerous operating parameters and provides automatic alarms if diagnostic limits are exceeded.

Built-in data acquisition and internal memory allow logging multiple parameters including average and instantaneous values, calibration data, and operating parameters. Stored data can be retrieved via the RS-232 port, optional Ethernet port, or from the front panel.

The Model 360E features rugged construction and is designed to perform with a minimum of attention. Regular maintenance is greatly simplified through the use of modularized construction.

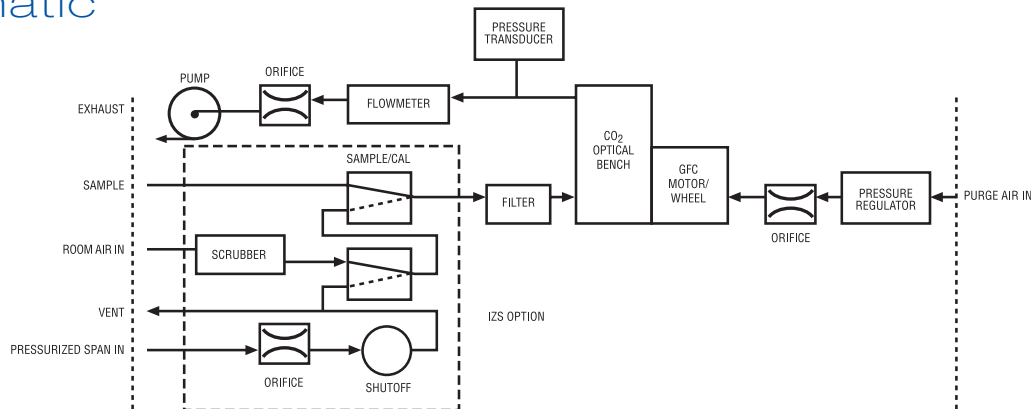


MODEL 360E Gas Filter Correlation CO₂ Analyzer

Specifications

Ranges:	0-2 ppm to 0-2000 ppm full scale, user selectable Dual ranges and auto ranging supported	Dimensions (HxWxD):	7" (178 mm) x 17" (432 mm) x 23.5" (597 mm)
Units:	ppb, ppm, µg/m ³ , mg/m ³ , %	Weight:	40 lbs (17 kg)
Zero Noise:	< 0.1 ppm (RMS)	Power:	100V - 120V, 220V - 240V, 50/60 Hz, 250W
Span Noise:	< 1.0% of reading above 100 ppm (RMS)	Analog Outputs:	10V, 5V, 1V, 100 mV, selectable
Lower Detectable Limit (LDL):	0.2 ppm	Current Output:	Optional 4-20 mA isolated outputs (select up to 3 channels)
Zero Drift:	< 0.25 ppm/24 hours, < 0.5 ppm/7 days	Recorder Offset:	±10%
Span Drift:	< 0.5% of reading/24 hours, < 1% of reading/7 days	Serial Outputs:	Serial Port 1: RS-232 (DB-9M) Serial Port 2: standard RS-232 or optional RS-485 (DB-9F), Ethernet
Lag Time:	10 seconds	Status (Digital)	8 outputs, 6 inputs (opto-isolated), 4 alarm outputs (optional)
Rise and Fall Time:	< 60 seconds to 95%	Approvals:	CE
Linearity:	1% of full scale		
Precision:	0.5% of reading		
Sample Flow Rate:	800 cc/min ±10%		
Operating Temperature Range:	5 - 40°C	NOTE: The values expressed above are in accordance with EPA definitions. All error specifications are based on constant conditions.	

Schematic



How to Order

Model 360E Gas Filter Correlation CO₂ Analyzer includes:

- Internal pump
- Auto ranging and dual ranges
- 47mm diameter particulate filter
- 8 isolated digital status outputs
- 6 isolated digital inputs
- Bi-directional RS-232

Specify input AC voltage & frequency:

- 100V / 50Hz
- 100V / 60Hz
- 220V / 50Hz
- 115V / 60Hz
- 230V / 50Hz (CE)
- 220V / 60Hz
- 240V / 50Hz

Specify output DC voltage:

- 10V
- 5V
- 1V
- 100mV

Optional Equipment:

- Rack mount brackets (19") with chassis slides
- Rack mount brackets only
- 4-20 mA isolated outputs (specify up to three channels)
- Multi-drop RS-232 connection
- Ethernet port (replaces one serial port)

Calibration Options:

- Stainless steel valves for selection of customer-supplied zero and span gas
- Shut-off valve and flow control for external span gas cylinder
- Internal zero air scrubber

Accessories:

- RS-232 Cable
- Expendables Kit
- Spare Parts Kit

Specifications subject to change without notice. M360E/01.07



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