Transmitter with display

The Model C12-17 is a stand-alone gas transmitter designed to detect potentially hazardous concentrations of combustible gases in ambient air. Gases and hydrocarbon vapors such as methane, propane, butane, gasoline, toluene, hydrogen, and many others can be reliably monitored in process buildings, analyzer enclosures, pump stations, and gas compressor stations. In fact, anywhere gases or vapors may build up to explosive levels can be readily monitored using this transmitter.

C12-17 Combustible Gas Transmitters are three-wire transmitters, operating from 24 VDC power supplies and transmitting a 4-20 mA signal proportional to 0-100% LEL (Lower Explosive Limit) of a particular gas or vapor. The transmitter is available either as a blind transmitter or with integral LCD display that provides local indication of gas concentration, visible through the glass window in the explosion-proof housing.

Units supplied with the integral display also contain a single alarm setpoint and relay for local alarm purposes. This integral relay is a latching alarm that can be reset with a magnetic tool without opening the enclosure.

C12-17 transmitters can be connected directly to PLC, DCS, or computer based alarm systems without additional hardware. If complete alarm systems are needed, ATI can supply Series B14 modular alarm receivers or Series C14 Multi-point scanning alarm units to provide all required alarm functions.

Sensor Operation

Combustible gas sensors are made up of two matched sensing elements, one active and one passive. Both are electrically heated and form two legs of a Wheatstone bridge circuit. When combustible gas contacts the sensor, the active element catalyzes the oxidation of gas, heating the active element and changing it's resistance. The passive element remains unchanged, resulting in a change in the bridge circuit that is proportional to the gas concentration.

Explosion-proof sensor assemblies are made of 316 stainless steel for maximum corrosion protection. A sinter bonded flame arrestor provides the gas diffusion path to the sensing elements while maintaining the flame-proof integrity of the assembly. Sensing elements are specially designed for maximum poison resistance and long life in harsh industrial environments, with sensor life typically 2 years or more.

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Specifications

Gas Type:	Calibrated for methane unless otherwise ordered.	**Power:**	12-30 VDC, 100 mA maximum
Display:	3-digit LCD optional	**Enclosure:**	Explosion-proof, Class 1, Div 1, Groups B, C, & D
Range:	0-100% LEL	**Alarm:**	Optional single alarm available
Response Time (T90):	10 seconds	**Alarm Relay:**	SPDT, 5 Amp @ 220 VAC non-inductive, latching
Accuracy:	Generally ±5% of value, but limited by available calibration gas accuracy.	**Sensor:**	316 stainless steel
Electronic Repeatability:	±1%	**Controls:**	Potentiometer zero and span adjustment Potentiometer alarm setpoint adjustment Magnetic reset switch for latching alarm relay
Electronic Linearity:	±0.5%	**Operating Temperature:**	-40° to +70°C
Zero Drift:	Less than 2% full scale per month	**Weight:**	3 lbs (1.3 kg)
Span Drift:	Less than 3% per month		
Output:	Powered 4-20 mA, 675 ohms maximum at 24 VDC		

Ordering Information: Model C12-17-DDDD-E-F

Suffix DDDD - Range
0100 - 0-100% LEL
0050 - 0-50% LEL

Suffix C - Sensor Style
1 - Standard
2 - Remote sensor with junction box

Suffix E - Units of Measurement
1 - No display
2 - Integral display & alarm relay

Accessories
00-0258 - Calibration adapter
00-0261 - Splash guard/remote calibration adapter
00-0298 - Sensor flow assembly

Transmitter without display

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