

SAE-1111/1112/1162 Carbon Monoxide (CO) Detectors

Description

These detectors are designed to sense and transmit CO (carbon monoxide) gas levels to any compatible electronic analog control or building automation system for the control of ventilation equipment in industrial and commercial applications. They are for use in any industrial or commercial indoor environment where accurate CO detection is required.

The detector uses an electrochemical sensor to monitor the carbon monoxide level and outputs a field-selectable 0–5 VDC, 0–10 VDC, or 4–20 mA signal. The sensing range and output may be scaled to either 0–100, 0–150, 0–300, 0–400 or 0–500 ppm via the on-board menu. A front panel LCD is standard to ensure easy setup and operation. Models are available for either surface or duct mounting.

Other standard features include a backlight for the LCD, a front panel test switch, status indication, and an alarm buzzer. The test function may also be controlled remotely with a digital input signal.

Features

- Electrochemical sensing element with range of up to 0–500 ppm with ±5 ppm or 5% accuracy
- Powered by either 24 (±20%) VAC or 24 (±10%) VDC source
- Field-selectable analog output signal
- ♦ Audible alarm
- Front-panel backlit LCD display, test button, and status indicator
- Menu-driven configuration set-up and testing
- Optional on-board relays with field-adjustable trip points (SAE-1112/1162)

Models

SAE-1111	Space CO sensor (replaces older SAE-1101)
SAE-1112	Space CO sensor with two relays (replaces SAE-1102)
SAE-1162	Duct CO sensor with two relays (replaces SAE-1151/1152)



Specifications

Gas Detected	Carbon Monoxide (CO)	
Sensing Element	Electrochemical	
Range	Selectable 0–100, 0–150, 0–300, 0–400, or 0–500 ppm	
Sample Method	Diffusion or flow-through sample tube for duct-mount	
Accuracy	±5 ppm or 5% of reading (whichever is greater) @ 32 to 122° F (0 to 50° C)	
Life Expectancy	5 to 7 years in air (all commer- cial CO sensors have a finite life and must be replaced peri- odically to ensure reliable op- eration in detecting conditions that are potentially hazardous to human health and safety)	
Typical Coverage Area 7500 ft ² (700 m ²)		
Operation Conditi	ons –4 to 122° F (–20 to 50° C),	
	10 to 90% RH, non-condens- ing, 0.9 to 1.1 atm	
Stability	<5% signal loss/year	
Response Time	< 35 seconds for 90% step change	
Power Supply	24 (±20%) VAC or 24 (±10%) VDC (non-isolated half-wave rectified)	
Consumption	100 mA max. with all options on	

Protection Circuitr	y Reverse voltage protected
	and output limited
Output Signal	Selectable 4–20 mA (sourc- ing), 0–5 VDC, or 0–10 VDC
Output Drive Capa	bility 450 ohm max. for cur-
	rent output, 10K ohm min. for
	voltage output
Output Resolution	10 bit PWM (±0.4 ppm)
Warm-up Time	2 minutes
LCD Display	Displays ppm and menu
	parameters 1 ppm resolution,
	35 mm W x 15 mm H (1.4" x
	0.6"), alphanumeric two-line
	eight-character with backlight
Status LED	Two color (red/green) on front
	panel
Test Switch	Performs I/O tests, front panel
	and remote connection
Alarm (Buzzer)	
Sound Level	85 db @ 10 feet
Trip Point	Programmable 20 to 500 ppm
	in 10 ppm increments
Delay	Programmable 0 to 10 min-
	utes in 1 minute increments
Optional Relay Ou	tputs
Configuration	Two form "C" contacts (NO
	and NC), 5 A @ 250 VAC, 5 A
	@ 30 VDC, power factor = 1
Trip Point	Programmable 25 to 500 ppm
	in 10 ppm increments
Hysteresis/Deadb	and Programmable 10 to 100
	ppm in 1 ppm increments
Delay	Programmable 0 to 10 min-
	utes in 1 ppm increments
Wiring Connection	AWG)
Enclosure Ratings	ABS, UL94-V, IP65, NEMA 4x
Regulatory	Sensor is UL Recognized
	Component for ANSI/UL-
	2034, UL-2075, E240671;
	SASO PCP Registration KSA
	R-103265; CE and RoHS Com-
	pliant

Dimensions



Accessories

XEE-6111-050	Transformer, 120-to-24 VAC, 50 VA, single-hub
XEE-6112-050	Transformer, 120-to-24 VAC, 50 VA, dual-hub

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