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

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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)

RoHS COMPLIANT

CE

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 commercial CO sensors have a finite life and must be replaced periodically to ensure reliable operation in detecting conditions that are potentially hazardous to human health and safety)
Typical Coverage Area	7500 ft² (700 m²)
Operation Conditions	–4 to 122° F (–20 to 50° C), 10 to 90% RH, non-condensing, 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

Specifications and design subject to change without notice.

Protection Circuitry Reverse voltage protected and output limited

Output Signal Selectable 4–20 mA (sourcing), 0–5 VDC, or 0–10 VDC

Output Drive Capability 450 ohm max. for current 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 minutes in 1 minute increments

Optional Relay Outputs

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/Deadband Programmable 10 to 100 ppm in 1 ppm increments

Delay Programmable 0 to 10 minutes in 1 ppm increments

Wiring Connections Screw terminal block (14–22 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 Compliant
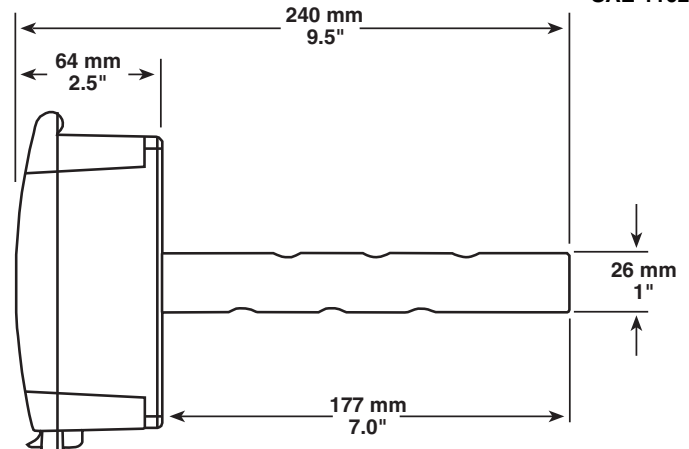
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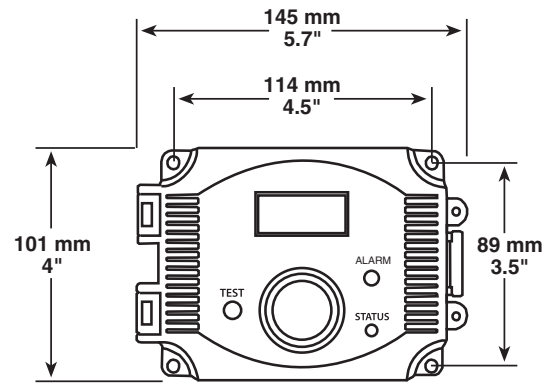
SAE-1111/1112
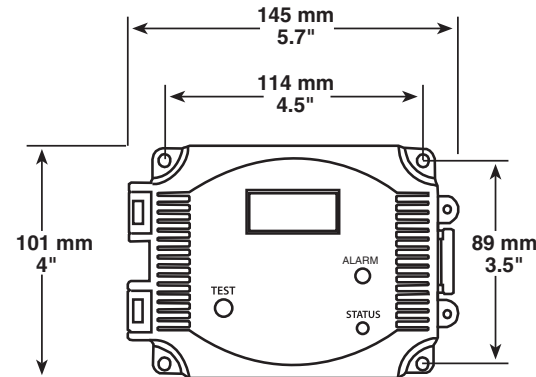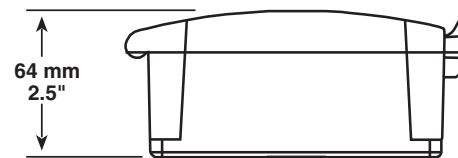
SAE-1162

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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