



# GAS & SPECIALTY SENSORS

## CARBON MONOXIDE SENSOR *KCO SERIES*

### DESCRIPTION

The **KCO Series Carbon Monoxide Sensors** are available in analog or relay versions. The sensors are provided in heavy-duty steel enclosures, and the sensors use low-temperature components that are ideal for open parking garages in cold climates.

The **KCO Series Carbon Monoxide Sensors** is designed to be used as part of a control system that helps to prevent the formation of a hazardous environment when properly installed and maintained. For more information on the proper application and use of this product please read "Environmental Safety Devices" in our technical reference section.



KCO-R-H



KCO-A-H

Note: Front covers are blank

### FEATURES

- Two-stage alarming (KCO-R)
- 0-200 ppm 4-20 mA output (KCO-A)
- Microprocessor controlled recalibration (KCO-A)
- Heavy-duty enclosures
- Operating temperature down to -4°F (-20°C)
- Low-temperature option available -20°F (-29°C)
- Temperature and humidity compensated

### SPECIFICATIONS

#### Supply Voltage

KCO-A	24 VAC @ 10 VA ±20%
KCO-R	24 VAC @ 10 VAC ±20% or 24 VDC @ 260 mA ±20%

Signal Output (KCO-A) 4-20 mA

#### Maximum Output

Impedance 500 max

Accuracy ±5%

Drift ±10% 2 years

#### Measurement Range

KCO-A 0-200 ppm

KCO-R 0-250 ppm

Sensor Technology Solid-state metal oxide semiconductor

Sensor Life Expectancy 10 years

#### Visual Indication

Warning	Amber
Alarm	Red
Power on	Flashing Green/red
Warm Up Time	30 seconds
Response Time	<30 sec
Time Delay (KCO-A)	10 minutes
Relay Output (KCO-R)	120 VAC, 2A resistive
Alarm Setpoints (KCO-R)	Warning 50 ppm, alarm 100 ppm (reset 5-10 ppm change)
Operating Humidity	5% to 95% noncondensing
Operating Temperature	-4° to 185°F (-20° to 85°C)
Weight	2.0 lb (0.9 kg)
Warranty	1.5 year

### INSTALLATION

#### KCO-R

The **KCO-R** is a two-stage carbon monoxide sensor with a relay output for each stage. If the CO level rises above the warning stage setpoint for over 30 seconds, the warning relay, amber warning LED, and a three-minute minimum "on" timer will activate. Once below the setpoint, the relay and LED will reset. If the concentration continues to rise and exceeds the alarm stage setpoint for 10 minutes, the alarm stage relay and red LED will activate. Calibration of the unit requires the application of a **hydrated** test gas.

#### KCO-A

The **KCO-A** is a microprocessor-controlled sensor with a 4-20 mA analog output based on a 0-200 ppm sensing range. The microprocessor controls the heating of the sensor and subsequent reading of the CO level. The microprocessor compensates for any drift in the sensor over time. The microprocessor system includes self-diagnostic, self-restarting, and remote failure reporting. The output signal will drop below 4 mA if a fault is discovered. If power problems cause the unit to malfunction, the unit will self-check and restart. Calibration of the unit requires the application of a **hydrated** test gas, and the push of a button performs the recalibration.

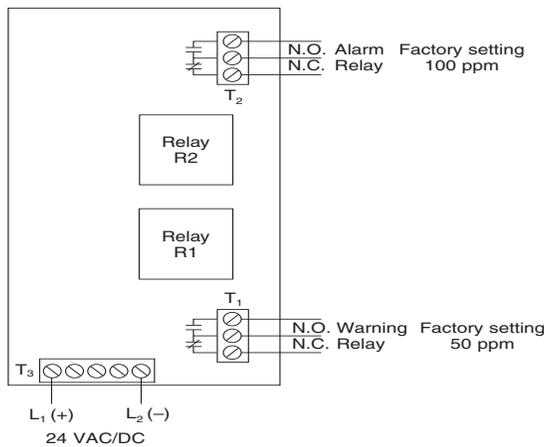


### INSTALLATION

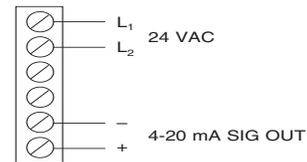
The **KCO Series** senses levels of CO for up to 5000 ft<sup>2</sup> (465m<sup>2</sup>) of coverage if there is normal air circulation within the area. Mount on a wall or column approximately 5' (1.52m) above the floor. The sensors should not be mounted in corners where airflow could be restricted.

**CAUTION: Not for diesel fume applications.**

### WIRING



**KCO-R**



**KCO-A**

### ORDERING INFORMATION

MODEL	DESCRIPTION
<b>KCO</b>	<b>R</b> Relay output carbon monoxide sensor
	<b>A</b> Analog output carbon monoxide sensor
	<b>H</b> Hinged-cover enclosure
	<b>LT</b> Low-temperature option -20°F (-29°C)
	<b>50 ppm</b> 50/100 ppm relay settings (KCO-R only)

**KCO - R - H - [ ] - 50 ppm** *Example: KCO-RH-50 ppm* Carbon monoxide sensor with relay output and hinged cover enclosure.

### RELATED PRODUCTS

		PAGE
<b>GAS-CO-100</b>	100 ppm carbon monoxide (CO) in air, 17L	
<b>GAS-CO-200</b>	200 ppm carbon monoxide (C) in air, 17L	
<b>GAS-CO-25</b>	25 ppm carbon monoxide (CO) in air, 17L	
<b>GAS-CO-50</b>	50 ppm carbon monoxide (CO) in air, 17L	
<b>UCK-1</b>	Universal calibration kit for non-corrosive gases (N <sub>2</sub> , CO <sub>2</sub> , CH <sub>4</sub> , H <sub>2</sub> , O <sub>2</sub> , CO, and refrigerants)	<b>374</b>

### ACCESSORIES

<b>691-K0A</b>	Control transformer, 120:24 VAC, 40 VA, Class 2
<b>DCP-1.5-W</b>	Power supply, 24 VAC IN to 24 VDC OUT
<b>DCPA-1.2</b>	Power supply, 120 VAC IN to 24 VAC/24 VDC OUT