

# CO2 SENSORS/CONTROLLERS

## SPECIFICATION SHEET



### DESCRIPTION

RenewAire's CO2 monitor uses a highly accurate and reliable non-dispersive infrared (NDIR) sensor. Featuring **state-of-the-art digital linearization and temperature-compensated circuitry**, it is available in an attractive, low-profile enclosure for room applications or a duct-mount version.

When paired with RenewAire's Integrated Programmable Controls, the monitor provides a linear analog signal output (0–10 VDC) proportional to CO2 levels. These sensors may also be used in stand-alone applications to provide a binary on/off signal or a 0–10 VDC/4–20mA control signal directly to a fan based on the CO2 setpoint.

### FEATURES

- ◆ Field Selectable Signal Output
- ◆ Programmable Span
- ◆ Relay and Analog Control Outputs

PART NUMBER	DESCRIPTION
131304	CO2 Sensor, Wall Mount, CO2-W, with display
131305	CO2 Sensor, Duct Mount, CO2-D, with display

SPECIFICATIONS	
Range	0–2000 ppm
Accuracy: Wall Mount	±30 ppm + 3% of reading (with Auto Cal on)
Accuracy: Duct Mount	±75 ppm (400–1000 ppm); ±10% of reading (>1000 ppm)
Sensor	Non-Dispersive Infrared (NDIR), diffusion sampling
Sensor Coverage Area	1000 ft <sup>2</sup> (100 m <sup>2</sup> ) typical
Temperature Dependence	0.2% Full Scale per °C
Stability: Wall Mount	< 2% FS over life of sensor
Stability: Duct Mount	< 5% FS over life of sensor (10 years typical)
Sensor Life Span	15 years typical
Pressure Dependence	0.13% of reading per mm Hg

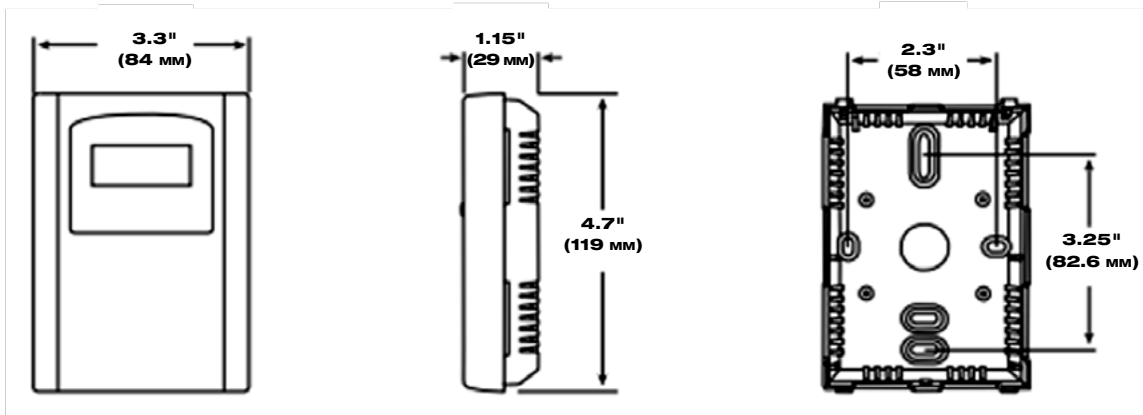
## SPECIFICATIONS CONT.

<b>Altitude Correction</b>	Programmable from 0–5000 ft via keypad
<b>Response Time</b>	< 2 minutes for 90% step change typical
<b>Warm-up Time</b>	< 2 minutes
<b>Power Supply</b>	20–28 VAC/DC (non-isolated half-wave rectified)
<b>Output Signals</b>	0–10 Vdc (default); 0–5 Vdc or 4–20 mA active (sourcing), selectable
<b>Consumption</b>	100 mA max @ 24 VDC; 185 mA max @ 24 Vac (with all options)
<b>Output Drive Capability</b>	Current: 550 ohms max; Voltage: 10K ohm min
<b>Output Resolution</b>	10-bit PWM
<b>Protection Circuitry</b>	Reverse voltage and overvoltage protected
<b>Operation Conditions</b>	32°–122°F (0°–50°C), 0–95% RH non-condensing
<b>Wiring Connections</b>	Screw terminal block (14 to 22 AWG)
<b>Enclosure: Wall Mount</b>	NEMA 1 (IP30)
<b>Enclosure: Duct Mount</b>	Grey polycarbonate with gasket, UL94-V0, IP65 (NEMA 4X)
<b>Duct Hardware</b>	F-style includes thread adapter (1/2" NPT to M16) and cable gland
<b>Duct Enclosure Size</b>	4.585" W x 4.43" H x 2.115" D (116.5 W x 112.5 H x 53.7 D mm)
<b>Probe: Duct Mount</b>	6" L x 0.85" D (152 mm L x 21.6 mm D)
<b>Country of Origin</b>	Canada
<b>LCD Display</b>	2 Line, 8 Character alpha numeric
<b>Resolution</b>	1 ppm CO2
<b>Size</b>	1.4" W x 0.6" H (35 mm x 15 mm) Alphanumeric, 2-line x 8-character
<b>Backlight</b>	Enable or disable via keypad
<b>Relay Output</b>	Form A (N.O.) 2 amps @ 140 VAC/30 VDC
<b>Contact Ratings</b>	Form A contact (N.O.), 2 Amps @ 140 VAC, 2 Amps @ 30 VDC
<b>Relay Trip Point</b>	Programmable 500–1500 ppm
<b>Relay Hysteresis</b>	Programmable 25–200 ppm

## DIMENSIONS

Dimensions are shown in inches and mm, unless stated otherwise.

### CO2 WALL MOUNT SENSOR (CO2-W)



## DIMENSIONS

Dimensions are shown in inches and mm, unless stated otherwise.

### CO2 DUCT MOUNT SENSOR (CO2-D)

