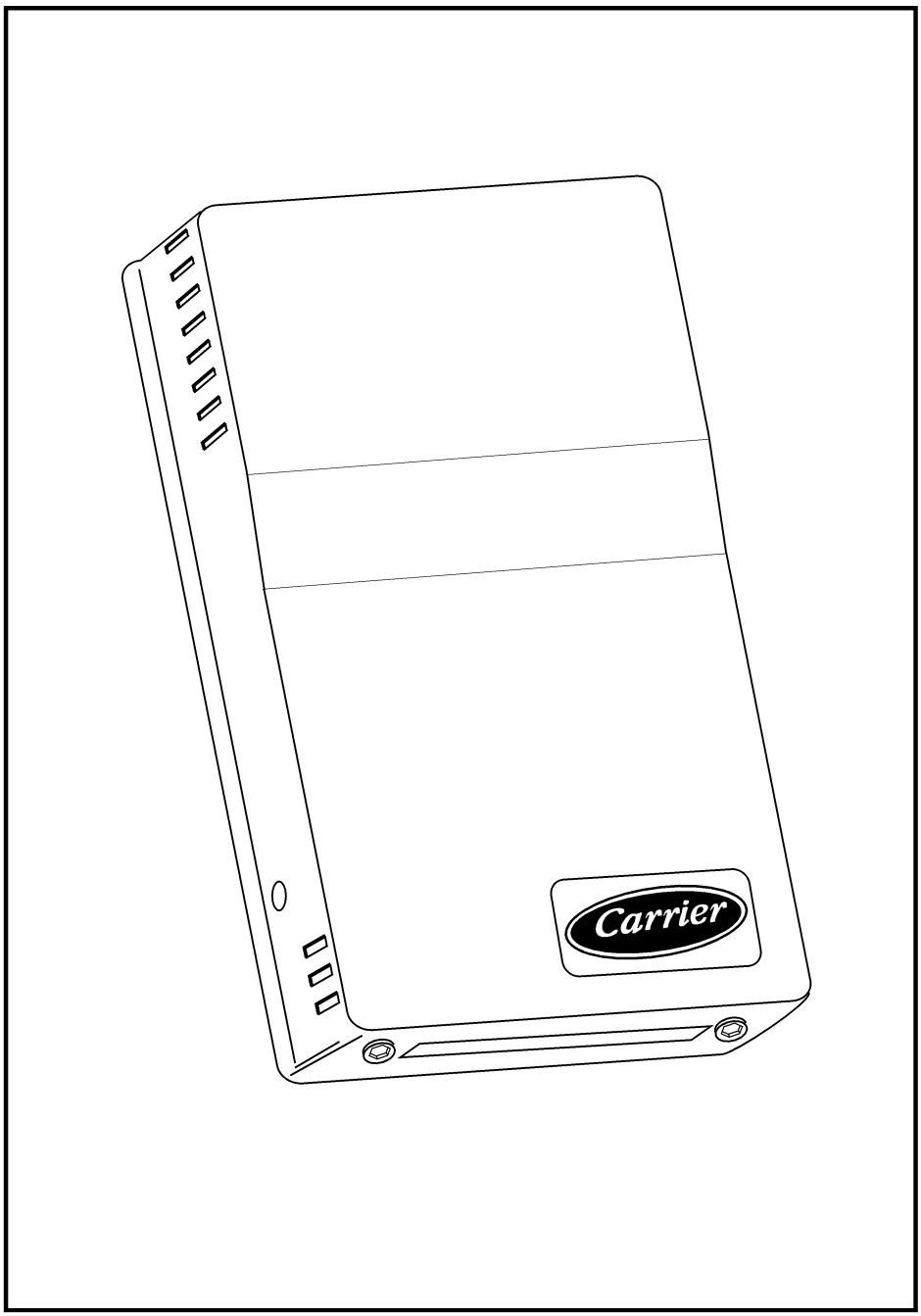
Product Specification

CO_2 and Space Temperature Sensors

Part No. 33ZCT55CO2, 33ZCT56CO2



The CO_2 and space temperature sensors are comprised of two sensors housed in one unit. They are designed to monitor carbon dioxide (CO_2) levels in the air and measure the interior building temperature.

The sensors use Single Beam Absorption Infrared™ diffusion technology to measure CO_2 levels and a 10K thermistor for measuring space temperature. The CO_2 levels can then be used as input into a CCN (Carrier Comfort Network) controller to control the ventilation damper position and ensure an adequate level of outside air in the building as well as space temperature control function.

Features/Benefits

The CO_2 and space temperature sensors offer the following advantages:

- combined CO_2 measurement range of 0 to 2000 ppm and a 10K thermistor temperature sensor
- patented ABC Logic™ (Automatic Background Calibration) self-calibration provides lifetime calibration
- sleek, low profile
- mounting plate with terminal blocks for easy installation and wiring
- versatile sensor options including 4 to 20 mA or 0 to 10 v output
- set point adjustment potentiometer with a nominal resistance of 100K Ohm ±10% (available on P/N 33ZCT56CO2)
- push button override
- locking cover (Allen screws)

Specifications

CO_2 AND SPACE TEMPERATURE SENSOR SPECIFICATIONS
P/N 33ZCT55CO2 AND 33ZCT56CO2

Sensing Method	Single Beam Absorption Infrared™ Patented TEMA self calibration software and 10K temperature sensor	
Sample Method	Diffusion	
Measurement Range	0 to 2000 ppm	
Sensitivity	± 20 ppm	
Accuracy	± 100 ppm 60 to 90 F: 760 mmHg (15 to 32 C)	
Pressure Dependency	0.13% of reading per mmHg	
Response Time 0 to 90% Step Change	<2 minutes	
Warm-Up Time at 77 F (25 C)	<2 minutes	
Operating Conditions	32 to 122 F (0° to 50 C) 0 to 99% RH, non-condensing	
Storage Temperatures	–4 to +158 F (–20 to 70 C)	
Agency Certification	FCC Part 15 Class B/CE/CA Energy Commission	
Calibration/Interval	Lifetime self-calibrating after 14 days of run time.*	
Power	18-30 VAC RMS, 50/60 Hz — half wave rectified (dedicated) 18-42 VDC polarity protected (dedicated) 1.75 VA maximum average power 2.75 VA peak power	
Analog CO_2 Output	4-20 mA (RImax = 500 Ohms) and 0-10 V (Source 100 mA, Sink 10 mA)	
Temperature Sensor	10 K Ohm Thermistor, 10K Ohm ± 2.5% at 77 F (25 C)	
Temperature Control (P/N 33ZCT56CO2 only)	Equipped with a slide potentiometer.	
	Positions	Resistance
	Left (Stop)	0 Kohms (+ 5 Kohms)
	Right (Stop)	100 Kohms ± 10 Kohms
Override Control	Equipped with a push button that when depressed shorts out its internal thermistor.	
Reliability	Meets applicable Carrier reliability requirements	

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FCC — Federal Communications Commission
RH — Relative Humidity
RMS — Root Mean Square
TEMA — Time Extended Measurement

*Automatic background calibration (ABC) logic is a patented self-calibration procedure that is designed to be used in applications where CO_2 concentrations will drop to outdoor ambient conditions (approximately 400 ppm) at least 3 times in a 14-day period (typically during unoccupied periods).

→ CO_2 AND SPACE TEMPERATURE SENSOR ELECTRICAL CONNECTIONS

CONNECTOR	TERMINAL DESIGNATION
J1	2-Pin Power Terminal 1 — 24VAC (+) (Dedicated Power Supply) 2 — 24VAC (–) (Dedicated Power Supply)
J3	RJ14 Connector CCN Service Communication 1 — Not Used 2 — CCN (+) 3 — CCN Ground 4 — Not Used 5 — CCN (–) 6 — Not Used
J4	3-Pin Terminal Signal Out 1 — 4-20 mA CO2 Output 2 — Common CO2 Output 3 — 0-10VDC CO2 Output
J5	3-Pin Terminal Temp Sensor 1 — Temperature Offset 2 — Common 3 — Thermistor
J6	3-Pin Terminal CCN Communications 1 — CCN (+) 2 — CCN Ground 3 — CCN (–)

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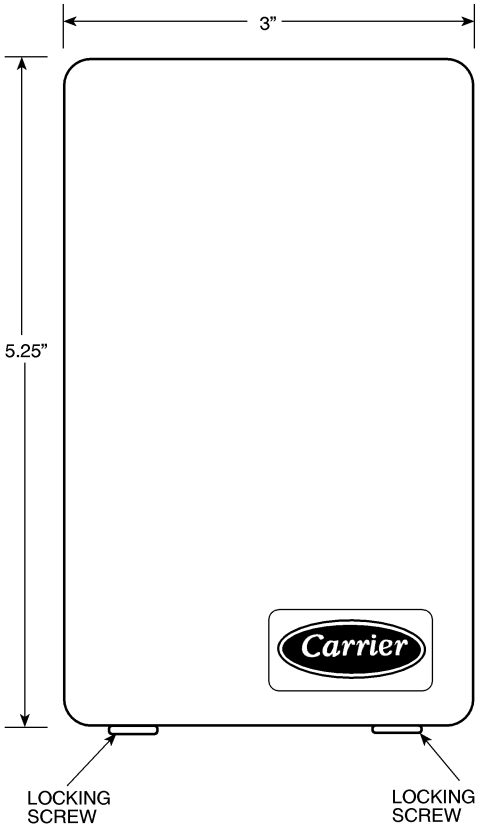
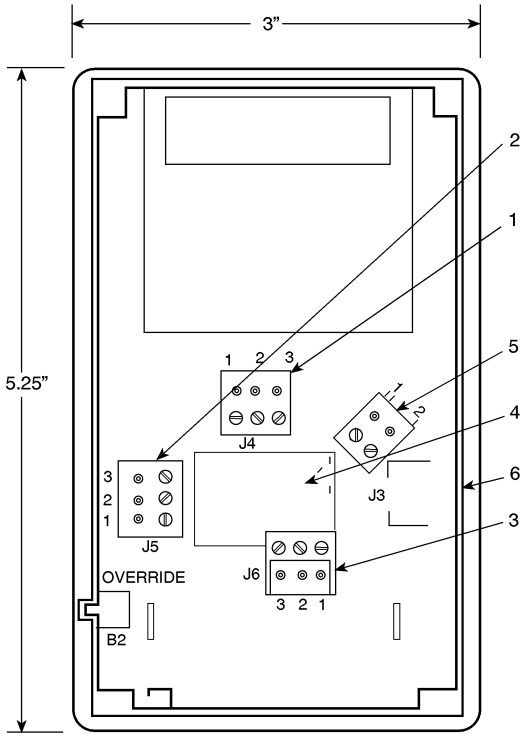
CCN — Carrier Comfort Network

Dimensions



SENSOR CASE TOP



SENSOR BASE
(Model 33ZCT55CO2 Shown)

NOTE: Dimensions are in inches.

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1 — 3-Pin Terminal Block — Signal Out
2 — 3-Pin Terminal Block — Temp Sensor
3 — 3-Pin Terminal Block — CCN
4 — Wiring Access — 1.21 in. x .75 in.
5 — 2-Pin Terminal Block — Power In
6 — RJ14 Connector — Service Communication