

# CT1R and CT1W Select Series Recessed/CO<sub>2</sub>/Temperature

LCD display with field calibration menu  
2000/5000/10,000 ppm CO<sub>2</sub>  
Integrated set-point relay



## DESCRIPTION

Senva CO<sub>2</sub> sensors maximize energy savings by ensuring optimal ventilation. Measuring exhaled CO<sub>2</sub> levels ensures air is conditioned only when needed. The CT1R is a flush mount design sensor with NDIR sensing element and features that include an optional LCD and setpoint relay, menu selectable auto-calibration and provision to offset the reading +/- 250ppm. Now available with a dual-channel CO<sub>2</sub> (DT1R) element for more accurate sensing in continuously occupied spaces and greenhouses.

## APPLICATIONS

- Ventillation control in response to occupancy
- Facilitates compliance with ASHRAE 62.1 standard for air quality
- Offices, conference rooms, and public assembly areas
- Hospitals, continuous occupation (dual channel version)
- Greenhouses (dual channel version)

## FEATURES

### The industry's best looking CO<sub>2</sub> sensor meets demanding architectural standards.

- Fits in most standard j-box or low voltage brackets.
- No exposed screws; unobtrusive tamper resistant design

### Easy to install and maintain

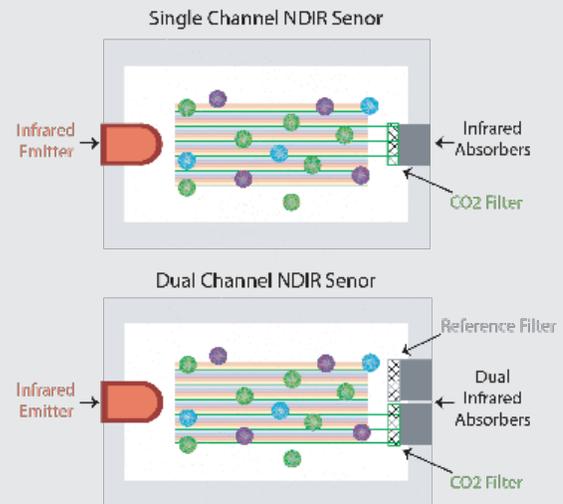
- Integrated display and push-button menus for field selectable scale, calibration, and operational modes
- Dual 4-20mA and 0-5V/0-10V output (switch selectable)
- Integrated high-reliability solid-state set-point relay is ideal for direct control applications; easy to set up thanks to LCD

### High reliability reduces call backs

- Non-dispersive infrared sensing element (NDIR)
- 15+ year life expectancy on CO<sub>2</sub> sensing element
- Industry leading 7-year limited warranty on electronics (NDIR module 2 years)

### High accuracy for improved system performance

- Selectable auto-calibration mode returns sensor to baseline values
- ±30ppm, ±3% of reading



### NEW! Dual Channel CO<sub>2</sub> Option

- Senva's dual channel CO<sub>2</sub> sensor allows for more accurate CO<sub>2</sub> sensing in continuously occupied spaces and greenhouses.
- Dual channel technology employs a calibrated reference chamber within the sensing element to minimize drift.



7 year limited warranty

ORDERING

CT1  -  3  -

Enclosure

W = Wall/Surface  
R = Recessed

Temperature

A = None  
B = Transmitter  
C = 100Pt (385)  
D = 1000Pt (385)  
E = 10k type 2  
F = 10k type 3  
G = 10k type 3 w/11k shunt  
H = 3k  
I = 2k2  
J = 1k8  
K = 20k

Output Type

3 = 3-wire 4-20mA,  
0-5V, 0-10V

Display (LCD)

D = Display + Setpoint Relay  
X = None

Dual Channel

D = Dual Channel CO2 Element  
Blank = None

SPECIFICATIONS

Power Supply	12-30VDC/24VAC <sup>(1)</sup> , 100mA max.	
Analog Outputs	Analog 3-wire 4-20mA and 0-5V/0-10V <sup>(2)</sup> (dip switch selectable)	
Digital Setpoint Output	Output scaling 0 - 2000 (default) or 0 - 5000 ppm (selectable)	
Digital Setpoint Output	Programmable Solid-state, 1A @ 30VAC/DC, N.O. on LCD version only.	
Sensor Performance	Type Non-dispersive Infrared (NDIR)	
	Accuracy (Standard)	±(30ppm + 3% of reading) (400-2000ppm), @ -10-50°C ±(50ppm + 5% of reading) (2000-5000ppm), @ -10-50°C ±(100ppm + 10% of reading) (5000-10000ppm), @ 0-50C
	Accuracy (Dual Channel)	±(30ppm + 3% of reading) (0-2000ppm), @ 0-50C ±(50ppm + 3% of reading) (2000-5000ppm), @ -10-50C ±(100ppm + 10% of reading) (5000-10000ppm), @ 0-50C
	Drift with ABC disabled (Standard)	35ppm/month <sup>(3)</sup>
	Drift with ABC disabled (Dual Channel)	5ppm/month <sup>(3)</sup>
	Range 0-2000/5000ppm; Programmable up to 10,000ppm	
	Response time 60s to 90% reading	
	Output update rate 1s	
	SPH, Setpoint, Hi (On point) 500ppm to full-scale (800ppm default)	
	SPL, Setpoint, Lo (Off point) 400ppm to full-scale (700ppm default)	
LCD Menu Setup Parameters	SCL, Scaling 0-2000ppm, 0-5000ppm, 0-10000ppm (2000ppm default)	
	ADJ, Adjustment Offset adjustment +/-250ppm (0 default)	
	CAL, Calibration mode Automatic mode ON or OFF (default=ON)	
	RUN, Run mode Displays CO2 in ppm	
Operating Environment	Temperature 14 to 122°F (-10 to 50°C)	
	Humidity 0-95% non-condensing	
Enclosure	Material ABS Plastic	
	Dimensions (fits low-voltage bracket) 5.7" h x 3.0" w x 1.7" d (1.07d" for surface mount)	

Need surface-mount?

- Order the CT1W



(1) One side of transformer secondary is connected to signal common. Dedicated transformer is recommended.  
(2) 15-30VDC/24VAC power supply voltage required for 10 volt output.

DIMENSIONS

CT1R

CT1W

