

NEW CT1R SELECT CO₂/TEMP SENSOR

The new Senva CT1R series comes in our newly engineered enclosure making it the most attractive and quickest-installed CO₂ sensor on the market.

KEY IMPROVEMENTS

- NEW!** Attractive and durable low-profile design
- NEW!** Re-engineered enclosure mounts easily in junction boxes
- NEW!** Innovative drywall clamps allow unobtrusive and secure mounting without a junction box
- NEW!** Flexible 3-wire output accommodates 0-5V, 0-10V, and 3-wire 4-20mA analog signals
- NEW!** Choose the thermistor that works best for your application or choose a temperature transmitter
 - Optional LCD display
 - 7-year limited warranty on electronics; 2-year on elements



Attractive and low-profile design



Innovative drywall clamps for unobtrusive installation

OBSELETE PRODUCTS

The CT1R Select Series will improve and replace the CO₂RL and CO₂-VAL series. Equivalent products can be found below.



Obsolete Product	Replacement	LCD	Setpoint Relay
CO ₂ RL	CT1R-A3D	Yes	Yes
CO ₂ -VAL	CT1R-A3X	No	No

NEW PRODUCTS

Thermistor options are now available and can be selected using the following ordering table.

CT1R -

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



CT1R Select Series Recessed Wall CO₂/Temperature



LCD display with field calibration menu
2000/5000/10,000 ppm CO₂
Integrated set-point relay

DESCRIPTION

Senva CO₂ sensors maximize energy savings by ensuring optimal ventilation. Measuring exhaled CO₂ 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 CO₂ (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)

FEATURES

The industry's best looking CO₂ 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

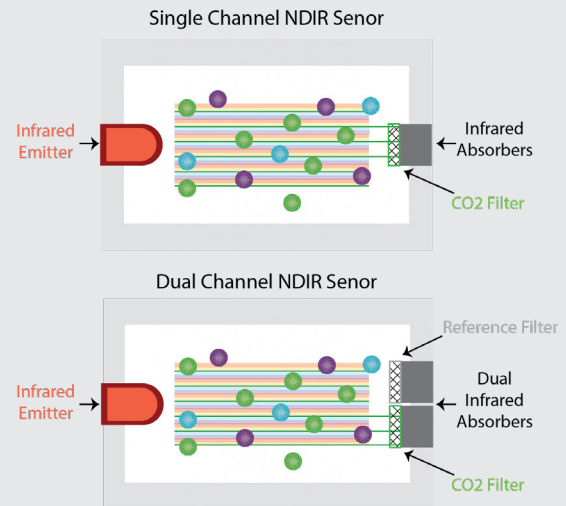
- Integrated display and push-button menus for field selectable scale, calibration, and operational modes
- Dual 4-20mA and 0-5V/0-10V output (switch selectable)
- Integrated high-reliability solid-state set-point relay is ideal for direct control applications; easy to set up thanks to LCD

High reliability reduces call backs

- Non-dispersive infrared sensing element (NDIR)
- 15+ year life expectancy on CO₂ 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 CO₂ Option

- Senva's dual channel CO₂ sensor allows for more accurate CO₂ 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

 CT1R - **3**

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

SPECIFICATIONS

Power Supply		12-30VDC/24VAC ⁽¹⁾ , 100mA max.
Analog Outputs	Analog	3-wire 4-20mA and 0-5V/0-10V ⁽²⁾ (dip switch selectable)
	Output scaling	0 - 2000 (default) or 0 - 5000 ppm (selectable)
Digital Setpoint Output	Programmable	Solid-state, 1A @ 30VAC/DC, N.O.
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 ⁽³⁾
	Drift with ABC disabled (Dual Channel)	5ppm/month ⁽³⁾
	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	SC _L , Scaling	0-2000ppm, 0-5000ppm, 0-10000ppm (2000ppm default)
	Rd _U , Adjustment	Offset adjustment +/-250ppm (0 default)
	CR _L , Calibration mode	Automatic mode ON or OFF (default=ON)
	r _U n, 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)	4.7" h x 2.9" w x 1.24" d (0.48" wall profile)

DUAL CHANNEL OPTION

 CT1R - **3** - **D**

(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

