CT1D Series

CT1D CO2 Temp Duct Sensor

- Optional LCD display with field calibration menu
- Adjustable for ranges of 2000, 5000, or 10,000 ppm CO2
- Integrated set-point relay
- Field replaceable NDIR element

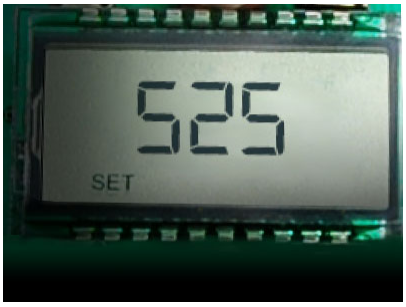
DESCRIPTION

Self-calibrating NDIR sensor for high accuracy. An optional built-in LCD display makes set up a snap, and a standard solid-state setpoint relay makes demand ventilation easy. Probe is non-directional for accurate readings and ease of installation. Dual 4-20mA and 0-10/5 vdc outputs.

APPLICATIONS

- Controlling ventilation in response to occupancy
- Facilitates compliance with ASHRAE 62.1 standard for air quality
- Offices, conference rooms, and public assembly areas

Field replaceable CO2 element for lower total lifetime cost



LCD with menu to confirm readings

Made in the USA - 7-year Warranty

FEATURES

- Integrated display and push-button menus for field selectable scale, calibration, and operational modes
- Dual 4-20mA and 0-5V/0-10V output (jumper selectable)
- Integrated high-reliability solid-state set-point relay is ideal for direct control applications; easy to set up thanks to LCD
- Non-dispersive infrared sensing element (NDIR)
- Field replaceable CO2 sensor
- 15+ year life expectancy on CO2 sensing element
- Industry leading 7-year limited warranty on electronics; NDIR module 3 years
- Selectable auto-calibration mode returns sensor to baseline values
- ±30ppm, ±3% of reading

ORDERING

CT1 [D] - [ ] [3] [ ] - [ ]

Enclosure
D= Duct
H = Hose Barb

Temperature
A= None
B= Transmitter*
C= 100PtRTD
D= 1000PtRTD
E= 10K Type 2
F= 10K Type 3
G= 10K W/ 11K
H= 3K
I = 2K2
J = 1K8
K = 20K
L= 100K

Output
3= 4-20mA, 0-5V, 0-10V 3-Wire Connection

Display
X= None
D=Display

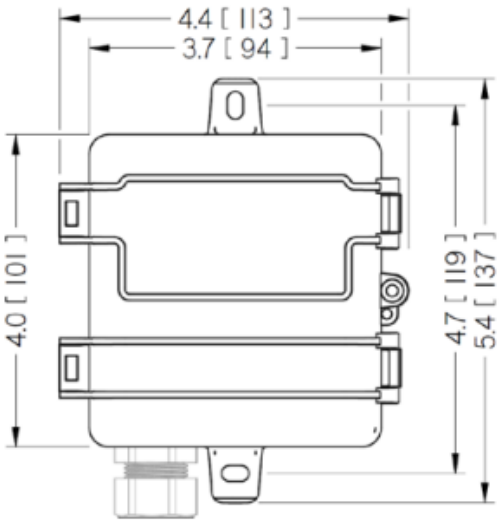
Dual Channel
Blank = NDIR
D = Dual Channel

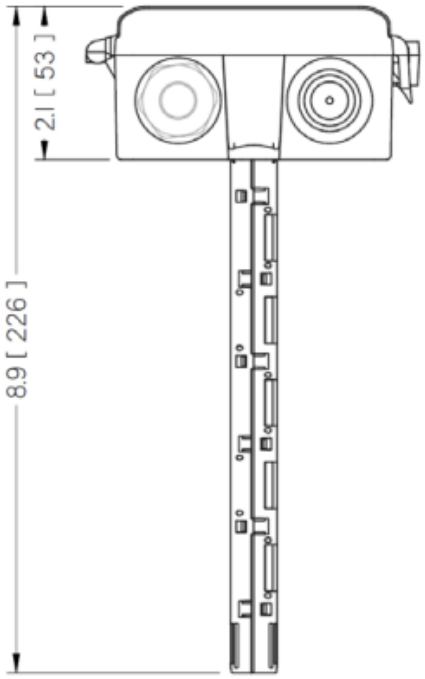
* Order B=transmitter to display temperature reading; thermistor and RTD options will not display temperature on LCD

Replacement Sensors:

AQS - [CO2]	Replacement CO2 Sensor
AQS - [D] [CO2]	Replacement Dual CO2 Sensor

DIMENSIONS





Warning: The datasheet is designed for reference only. Refer to installation instructions that accompany the product and heed all safety instructions. Product improvement is a continuing process at Senva. Changes may occur to products without prior notice.

SPECIFICATIONS

Power Supply		12-30VDC/24VAC(1), 100mA max.
Analog Outputs	Dual Analog	3-wire 4-20mA and 0-5V/0-10V (2) (jumper)
	Output scaling	0 - 2000 or 0 - 5000 ppm (selectable)
Set-point Relay	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, 0-85%RH
		±50ppm, ±5% of reading (2000-5000ppm), @-10-50°C, 0-85%RH
		±100ppm, ±10% of reading (5000-10000ppm), @ 0-50°C, 0-85%RH
	Accuracy (Dual Channel)	±30ppm, ±3% of reading (400-2000ppm), @ 0-50°C, 0-85%RH
		±50ppm, ±3% of reading (2000-5000ppm), @-10-50°C, 0-85%RH
		±100ppm, ±10% of reading (5000-10000ppm), @ 0-50°C, 0-85%RH
	Drift with ABC disabled (standard)	35 ppm/month
	Drift with ABC disabled (Dual Channel)	5 ppm/month
	Pressure Dependency	+1% reading per kPa (0.143PSI) deviation from nominal (101kPa,14.7PSI)
	Response time	60 seconds to 90% reading
	Sample rate	1 second
	Output update rate	1 second
	Element Operating Environment	4 to 122°F (-20 to 50°C), 0 to 95% RH
LCD Menu Setup Parameters	SPH, Setpoint, Hi (On point)	500ppm to full-scale (800ppm default)
	SPL, Setpoint, Lo (Off point)	400ppm to full-scale-50 (700ppm default)
	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 122F (-10 to 50C)
	Humidity	0-95% non-condensing
Enclosure	Material	ABS/Polycarbonate
	Dimensions	4.0’ h x 4.4”w x 2.1”d (+6.8” probe)

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.
3. Operating outside of element operating environment may result in reduced accuracy.
4. Time for reaching 63% of reading at 25oC and 1 m/s airflow.
5. It is not recommended to de-activate ABC (auto-calibration) except for continously occupied spaces or greenhouses. Drift ratings may vary based on environment

** Product improvement is a continual process at Senva and product features and specification may change without prior notice. Refer to instructions that accompany the product for installation and wiring.*