

# INSTALLATION INSTRUCTIONS

## CHTWL Series Room CO2/RH/T combo sensor



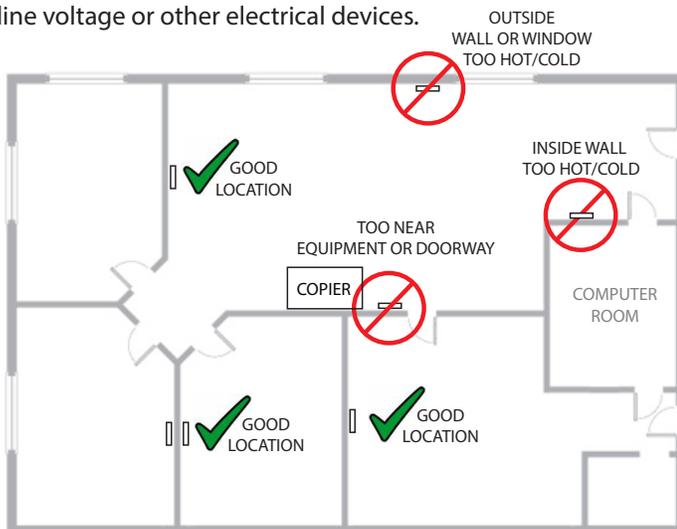
### IMPORTANT WARNINGS

- Only qualified trade installers should install this product
- This product is not intended for life-safety applications
- Do not install in hazardous or classified locations
- The installer is responsible for all applicable codes
- De-energize power supply prior to installation or service

### INSTALLATION

① **IMPORTANT!** Locate sensor in an area away from ventilation sources and heat generating equipment and appliances. Sensor should be mounted at light switch height in a vertical orientation. Use insulating material behind sensor to ensure reading accuracy.

NOTE: Do not install sensor in multi-gang electrical boxes with line voltage or other electrical devices.

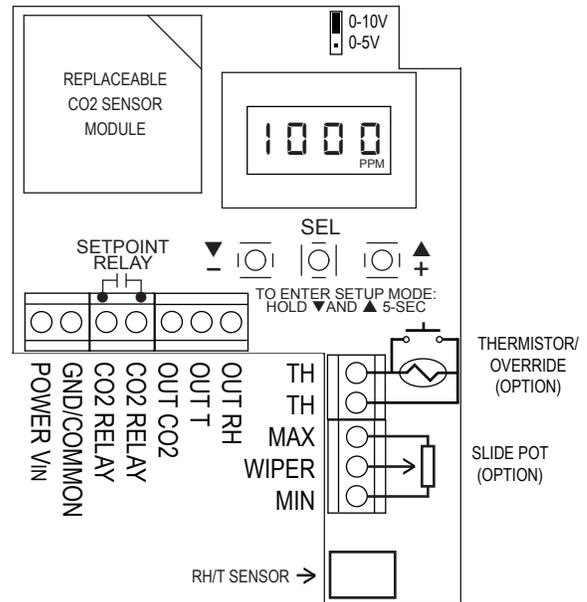


#### PRODUCT APPLICATION LIMITATION:

Senva products are not designed for life or safety applications. Senva products are not intended for use in critical applications such as nuclear facilities, human implantable device or life support. Senva is not liable, in whole or in part, for any claims or damages arising from such uses.

### INSTALLATION (CONTINUED)

- ② Wire sensor according to the product labeling.
- ③ Install sensor to wall or j-box using screws provided.
- ④ Move jumper to select 5v or 10v.



⑤ Apply power to sensor to complete optional setup functions:

HOLD ▼ AND ▲ FOR 5-SECONDS TO ENTER SETUP MENU.

PRESS ▼ OR ▲ TO CHOOSE PARAMETER TO ADJUST.

- SPH Setpoint, Hi (Closed above this level)
- SPL Setpoint, Lo (Open below this level)
- SCL Scaling "2" = 2000ppm, "5" = 5000ppm
- ADJ Manual calibration adjustment +/-250ppm
- CAL Automatic calibration - ON/OFF/RST (reset)
- FOC Temperature units °F or °C
- RUN Exit setup mode - display actual CO2 ppm

PRESS **SELECT** TO EDIT SELECTED PARAMETER

PRESS ▼ OR ▲ TO CHANGE VALUE

PRESS **SELECT** TO RETURN TO PARAMETER MENU

WHEN SETUP IS COMPLETE, SELECT **RUN**, OR WAIT FOR SETUP MODE TO AUTOMATICALLY TIME-OUT AND REVERT TO RUN MODE.

⑥ Install cover to back plate by engaging hinge at top first, then gently rocking bottom end closed. Optionally secure with screw provided. Snap in desired bezel to conceal or reveal LCD.

## SPECIFICATIONS

Power supply		12-30vdc/24vac <sup>(1)</sup> , 100mA max.
Outputs	Voltage Only	3-wire 0-5v/0-10v <sup>(2)</sup> (jumper)
	Type	Non-dispersive Infrared (NDIR)
CO <sub>2</sub>	Accuracy	+/-40ppm, +/-3% of reading
	Response time	60 seconds to 90% reading
	Update rate	3 seconds
	Output scaling	0-2000ppm (default), 0-5000ppm (option)
	Programmable set-point output	Solid-state, 1A@30VAC/DC, N.O.
	Accuracy	2% models, +/-2% over 10 to 90% range 3% models, +/-3% over 20 to 80% range
	Resolution	0.05%RH
Relative Humidity	Hysteresis	+/-1%RH
	Non-linearity	Factory linearized <1%RH
	Temperature coefficient	Fully compensated by on-board sensor
	Response time <sup>(3)</sup>	30s
	Output update rate	2s
	Operating range	0 to 100%RH (non-condensing)
	Long term drift	<0.5%RH per year
	Operating conditions <sup>(4)</sup>	-20 to 60°C @ RH >90%
		-20 to 80°C @ RH = 50%
	Temperature (Transmitter)	Scaling
Accuracy, (-20 to 70oC range)		2% models, <+/-1°C; 0.5°C typ@25°C 3% models, <+/-2°C; 0.5°C typ@25°C
Resolution		0.01°C
Repeatability		+/-0.1°C
Response time <sup>(2)</sup>		30s
Output update rate		2s
Operating range		-40 to 120°C (sensor only)
Operating Environment	Temperature	32 to 122°F (0-50°C)
	Humidity	0-95%RH, non-condensing
Enclosure	Material	ABS Plastic
	Dimensions	4.85"h x 3.25"w x 1.19"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.

(3) Time for reaching 63% of reading at 25oC and 1 m/s airflow.

(4) Long term exposures to conditions outside normal range or high humidity may temporarily offset the RH reading (+3%RH after 60 hours.)

### Automatic CO<sub>2</sub> Calibration feature:

When  $\bar{E}RL$  mode is set to ON, the sensor will automatically track low ambient CO<sub>2</sub> levels and gradually make adjustments to compensate for sensor drift due to long-term aging of the IR light source. In applications where CO<sub>2</sub> levels are continuously elevated, or spaces are occupied day and night, it is recommended to leave the automatic calibration OFF. If the sensor module is replaced in the field, the automatic adjustments can be reset by selecting the RST (reset) option in the  $\bar{E}RL$  menu.

## TROUBLESHOOTING

Symptom	Solution
No output	Check wiring. Ensure power supply meets requirements.
Reading error	Verify unit is located away from hot/cold sources.

Symptom	Solution
Reading error	Verify control panel software is configured for correctly.
	Verify accuracy of test instrument.
	Install insulation behind sensor to prevent air flow from inside wall.