

# INSTALLATION INSTRUCTIONS

## VT0D Economy Series Duct VOC Transmitters



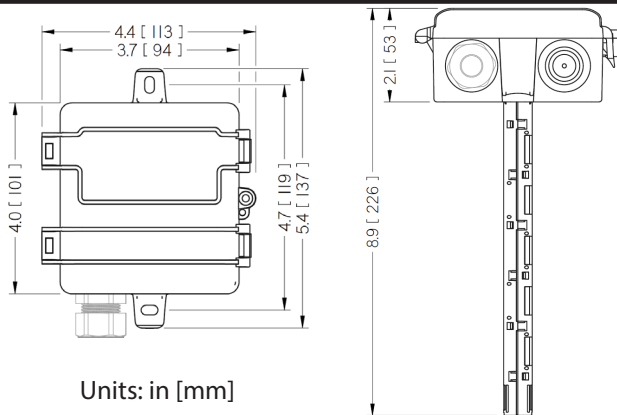
### IMPORTANT WARNINGS

- 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

### 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.

### DIMENSIONS



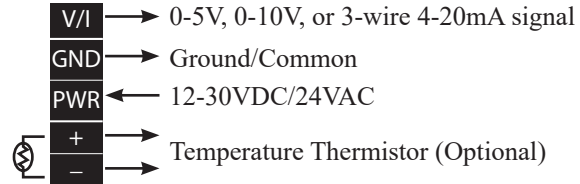
### CALIBRATION

No field calibration is necessary or recommended.

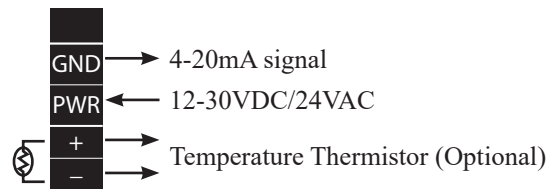
### INSTALLATION

1. Drill a 3/4" hole in duct. Install sensor using gasket and screws provided. The pickup tube will ensure adequate air flow regardless of air flow direction.
2. If installing with a conduit adapter, remove and replace the factory-installed cable gland.
3. Wire sensor as shown.

#### 3-wire:



#### 2-wire:



5. Apply power to sensor.
6. Tighten cable gland firmly around wires. If installing with a conduit adapter, seal wire entry to prevent conduit air from affecting sensor readings or operation.
7. Close lid and tighten screw. Cover must be securely installed to prevent moisture from entering enclosure.

### TROUBLESHOOTING

Symptom	Solution
No output	Check wiring. Ensure power supply meets requirements.
Temp or VOC reading error	Verify control panel software is configured for correct output scaling.
	Verify accuracy of test instrument. Observe installation guidelines
	Verify unit is located away from sources of hot/cold.
	Install insulation foam gasket provided to prevent thermal conduction from inside wall.

## SPECIFICATIONS

Power Supply	12-30VDC/24VAC <sup>(1)</sup> , 24mA max	
Output	Analog outputs	0-10V, 0-5V, 2-wire or 3-wire 4-20mA
Output scaling	VOC intensity	0-500 (relative intensity)
Thermistor Options	Yes, see ordering table on left	
VOC Sensor Performance	Type	MOS
	Gas	Ethanol
	Range	0-1000ppm of ethanol equivalent
	Response Time	<10s
	Humidity Compensation	Yes
Enclosure	Dimensions	4.0"h x 4.4"w x 2.1"d (+6.8" probe)
	Unit RH Rating	0 to 90% RH (operating) ;0- to 80% (storage)
	Unit Temp Rating	14 to 122°F (-10 to 50°C) (operating) ;5 to 30°C (storage)
Compliance	CE	

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

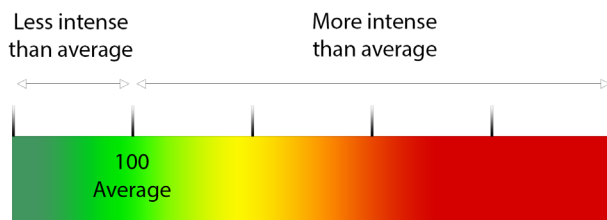
## VOC READINGS

The output of this product has been converted from a raw Ethanol concentration into an intensity value, ranging from 0-500. An environment with normal air quality will typically read about 100 on this scale (7.2mA when using 4-20mA scale, 2V on a 0-10V scale, or 1V on a 0-5V scale). Suggested control actions are listed below.

Upon initialization, the sensor will quickly adapt to the installation environment. However, for the first 1.5 hours of initialization, only large changes will be transmitted. After the first 1.5 hours, smaller changes will also be recognized. If initialization is done in polluted air, initialization may take longer.

This sensor does not detect absolute VOC, only changes in its intensity based on a 24 hour cycle. If multiple sensors have different histories, it may take 1 to 12 hours for their readings to converge.

VOC Level	Suggested Action
0-200	None, air quality is good
200-300	Ventilate, purify
300-500	Ventilate, purify intensely



## VOC SOURCES

VOC means volatile organic compounds which can be found in a number of harmful and other gases, odors, and smoke. This product senses ethanol which is a product of many contaminants, some of which are listed below for reference.

VOC Contaminant	Sources
Harmful Gases	Paints, glues, solvents, furniture, mattresses, carpet, flooring, building products
Other gases	Alcohol, cleaners, perfume, cooking smells
Odors	Rotten food, flatulence, breath, cosmetics, pet pee
Smoke	Cigarette smoke