

INSTALLATION INSTRUCTIONS

HD, Duct Mount RH and RH/T Transmitters



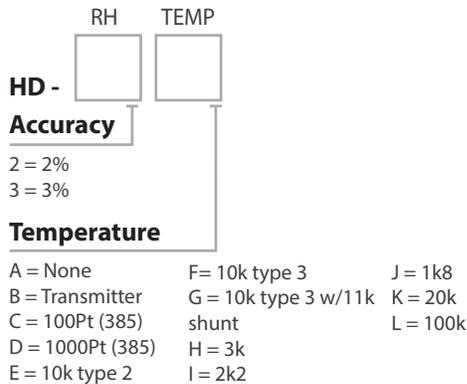
IMPORTANT WARNINGS

- 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

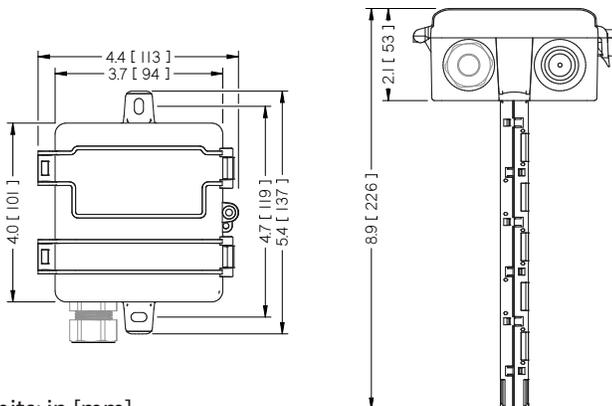
PRODUCT APPLICATION LIMITATION:

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.

PRODUCT IDENTIFICATION



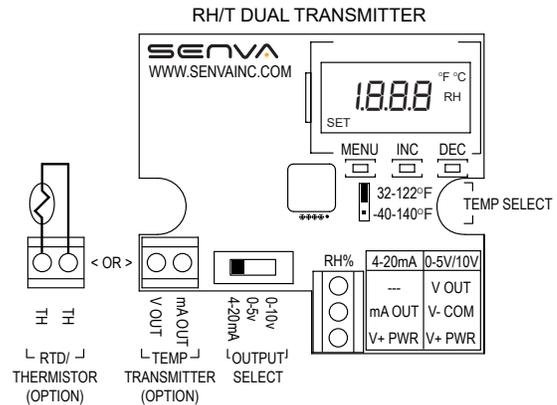
DIMENSIONS



Units: in [mm]

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. Select output type using "OUTPUT SELECT" switch (not applicable for thermistors.)
4. Wire sensor as appropriate for the selected output type.
5. Temperature transmitter models only: Select temperature output range using "TEMP SELECT" jumper. Not applicable to thermistors.



4-20mA wiring:

mA OUT = 4-20mA output return
V+ PWR = Loop supply voltage

0-5V/0-10V wiring:

V OUT = Voltage output, 0-5 or 10VDC
V- COM = Ground/Common
V+ PWR = Power supply voltage

6. Apply power to sensor.
7. 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.
8. Close lid and tighten screw. Cover must be securely installed to prevent moisture from entering enclosure.

OPERATION

In normal operation, display toggles between %RH and Temp.

For manual offset⁽¹⁾, press MENU button to select parameter to set:

Temp units	°F or °C
RH offset	-5 to 5% RH in 0.1% RH increments
Temp offset ⁽²⁾	-5 to 5° in 0.1° increments

Press INC or DEC to change value of selected parameter. Press MENU button to move to next parameter. Settings are saved automatically.

(1) See CALIBRATION section prior to making adjustments.
(2) Temperature offset does not apply to thermistors.

SPECIFICATIONS

Power supply	3-wire voltage mode (0-5V/10V) 2-wire current mode (4-20mA)	12-30VDC/24VAC ⁽¹⁾ , 15mA max. 12-30VDC, 30mA max.
Outputs	RH and Temperature (option)	3-wire 0-5V/10V ⁽⁴⁾ or 2-wire 4-20mA
Output scaling	RH	0-100%RH
	Temp. transmitter (jumper selectable)	32~122°F (0~50°C) or -40~140 °F (-40~60°C)
Thermistor/RTD options		See ordering table
Media filter		PBT with water vapor-permeable membrane
Relative Humidity	Accuracy	2% models: ±2% over 10 to 90% range 3% models: ±3% over 20 to 80% range
	Resolution	0.05%RH
	Hysteresis	±1%RH
	Non-linearity	Factory linearized <1%RH
	Temperature coefficient	Fully compensated by on-board sensor
	Response time ⁽²⁾	30s
	Output update rate	2s
	Operating range	0 to 100%RH (non-condensing)
	Long term drift	<0.5%RH per year
	Operating conditions ⁽³⁾	-4 to 140°F (-20 to 60°C) @ RH >90% -4 to 158°F (-20 to 70°C) @ RH = 50%
Temperature (Transmitter)	Accuracy (-20 to 70°C 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 ⁽²⁾	30s
	Output update rate	2s
	Operating range	-40 to 158°F (-40 to 70°C)
Enclosure	Materials	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) Time for reaching 63% of reading at 25°C and 1 m/s airflow.

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

(4) 15-30VDC/24VAC power supply voltage required for 10 volt output.

TROUBLESHOOTING

Symptom	Solution
No output	Check wiring. Ensure power supply meets requirements.
Temp or RH reading error	Verify control panel software is configured for correct output scaling.
	Verify accuracy of test instrument. Observe installation and calibration guidelines.
	Verify unit is securely installed on duct without excessive air leakage.
	Offset calibration only if necessary.
Sensor damage, contamination, or long-term drift	Replace sensor element. Consult factory for ordering information.

CALIBRATION

Senva RH sensors are factory calibrated to NIST traceable standards. No field calibration is necessary or recommended. However, to facilitate compliance with commissioning requirements field calibration offsets are allowed.

1. Locate calibration instrument and sensor in close proximity to each other in a controlled environment free of drafts, people, and equipment to reduce influence on RH and temperature.
2. Allow both readings to stabilize (10-30 minutes). Compare reading of sensor to calibration instrument, and calculate difference.
3. Refer to OPERATION section to change offsets as needed. Setting an offset of zero restores factory calibration.