

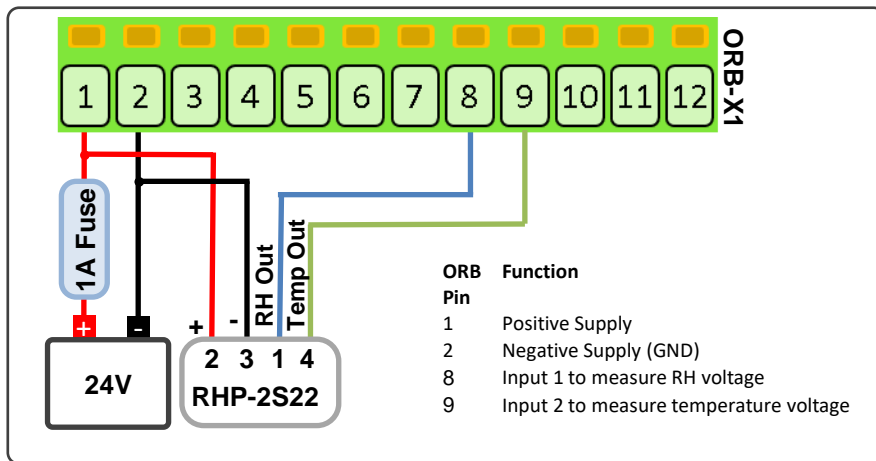
TT012: Precision Temperature and Humidity Sensor

This technical tip shows how to connect a precision temperature and humidity sensor to the ORB-X1. The sensor and ORB are powered from an external 24V power source. The voltage outputs from the sensor are measured with two of the ORB inputs.

Extensions: The ORB output could be used to drive an external warning beacon or siren. The ORB could power the sensor from a current output and could warn if the sensor is drawing no current, indicating a broken wire.

Sensor Parameters

Part Number	RHP-2S22
Type	Temperature and humidity sensor
Output	0-10V out, 2% accurate
Calibration	0V to 10V represents 0 to 100% RH, -40 to 60°C
Part Number	Dwyer RHP-2S22
Supplied by	New England Instruments (www.newenglandinstrument.com)



Setting (input 1 and 2)	Value (Input 1 / 2)	Comment
Name	Relative Humidity / Temperature	A meaningful name for the sensor data.
Interval	1	Means the sensor is sampled on every base interval.
Mode	Analog	Analog mode enables absolute voltage measurement
Calibration Low In / High In	0 / 10	The sensor delivers 0 to 10V depending on RH and temp value
Calibration Low Out / High Out	0 / 100 -40 / 60	0 to 10V output represents 0 to 100% relative humidity 0 to 10V output represents -40 to 60°C
Unit	%, deg C	Humidity measured in % and temperature in deg C
Alarm	Enabled	An alarm will be issued if the level goes outside limits
Warning / Alarm	Enabled	Enable as desired, enabled in this application
Warning Low	30 20	Provide warning when humidity is below 30% Provide warning when temperature is below 20 deg C
Warning High	80 28	Provide warning when humidity is above 80% Provide warning when temperature is above 28 deg C
Alarm Low	20 18	Provide alarm when humidity is below 20% Provide alarm when temperature is below 18 deg C
Alarm High	90 30	Provide alarm when humidity is above 90% Provide alarm when temperature is above 30 deg C