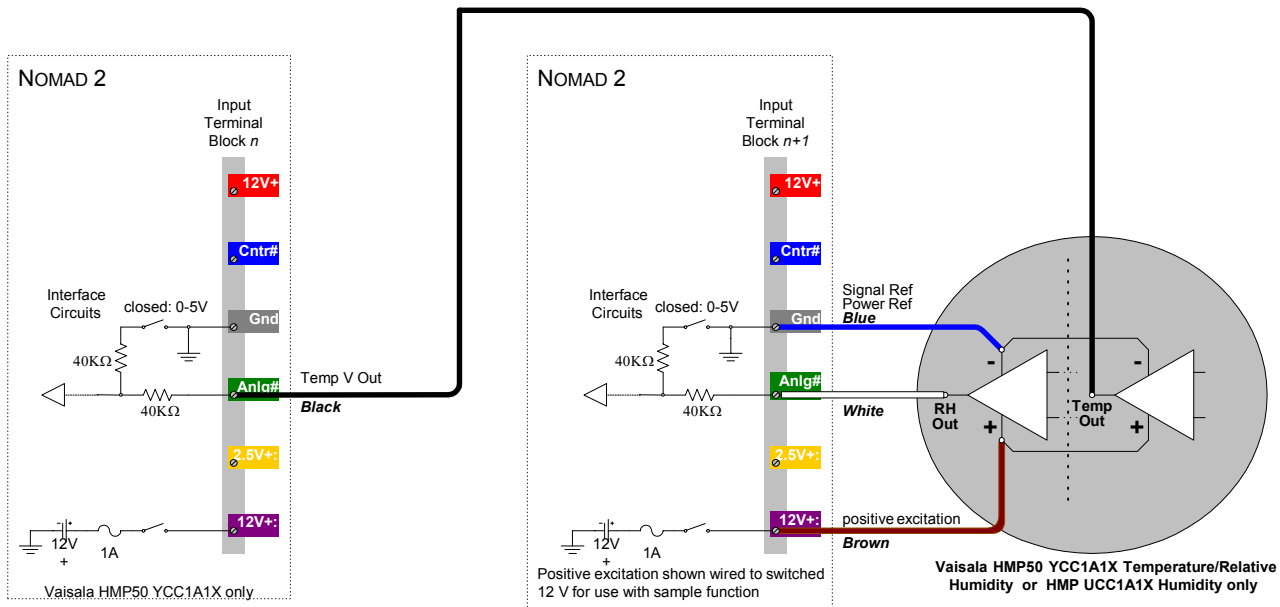
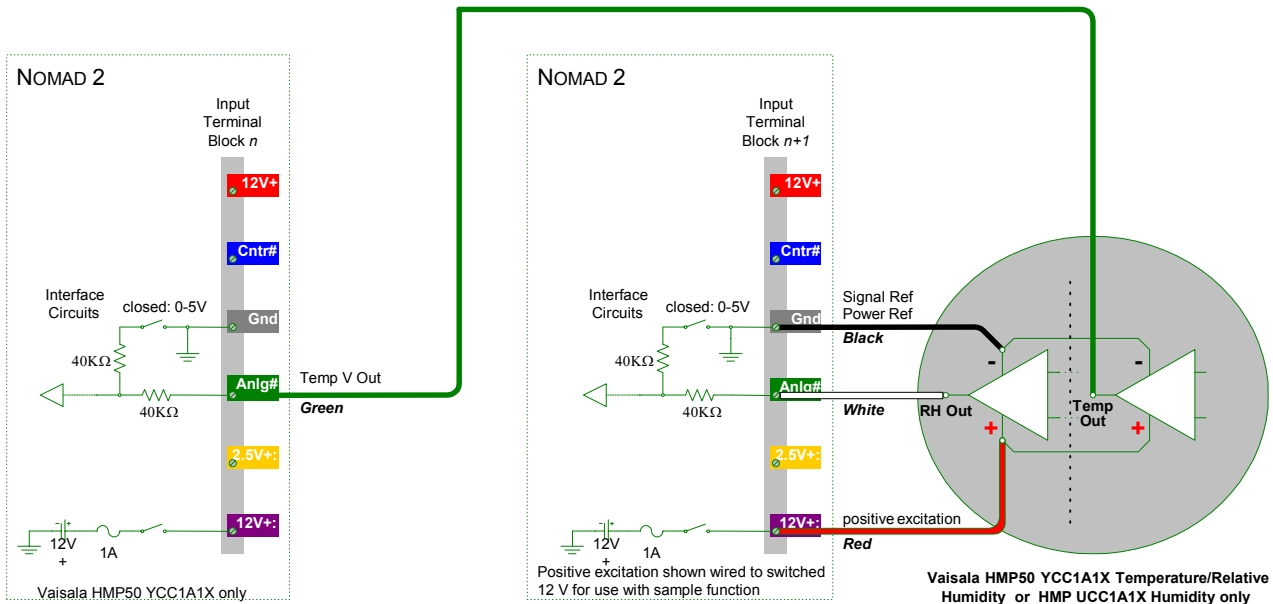


## USING THE VAISALA HMP50 TEMPERATURE & HUMIDITY OR HUMIDITY SENSOR WITH NOMAD 2

The Vaisala HMP50 YCC1A1X Temperature/Relative Humidity Probe has two 0-5V DC outputs. It is supplied from Vaisala with a 3-meter length of 4-conductor cable. In some cases SWI splices a longer cable to meet customer/site requirements. When wiring the sensor to the Nomad 2, first determine if you are wiring the 3-meter cable or the spliced cable and use the applicable color code below. Wire the device to the Nomad 2 interface board as shown below.



Wiring colors with 3 meter cable from Vaisala



Wiring colors with cable spliced on by SWI

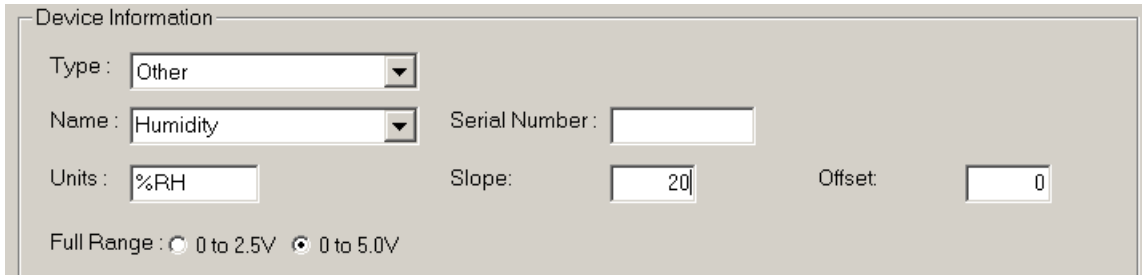
The HMP50 UCC1A1X Relative Humidity sensor is similar but does not have a temperature sensor. It is wired as shown except there is no sensor or signal for temperature as noted.

Notice that the 12-volt power supplied to the sensor is switched in the example above so you must use the “sample”, or Maximum data tracks. Refer to part 3.3.8.d of the Nomad 2 manual for more information. If you need to sample temperature and humidity once per second and record averages or other data, wire the sensor to the red 12 V position at the top of the interface board connectors. This sensor uses approximately 2 milliamps continuously when wired directly to 12 V but only 1/500<sup>th</sup> of that amount when wired to switched power.

**Configuring Relative Humidity with Nomad Desktop**

Vaisala specifies that the output of the relative humidity sensor is 0 to 100% RH, so 5V = 100%, Using the equation [relative humidity in %] = RH<sub>out</sub> [Volts] × Slope [% per Volt] + Offset [%], the Full Range, Slope, and Offset are as follows:

<u>Output</u>	<u>Full Range</u>	<u>Slope</u>	<u>Offset</u>
0-5V DC	0 to 5.0V	20 %/V	0 %



Note: When configuring the device information in Nomad Desktop, make sure to select 0-5V Full Range and select device Type “Other”, Humidity, and Units of %RH as shown above.

**Configuring Temperature with Nomad Desktop**

1) Centigrade. The output of the temperature transducer is -40° to +60°C. Using the equation [temperature in °C] = Temp<sub>out</sub> [Volts] × Slope [°C per Volt] + Offset [°C], the Full Range, Slope, and Offset are as follows:

<u>Output</u>	<u>Full Range</u>	<u>Slope</u>	<u>Offset</u>
0-5V DC	0 to 5.0V	20 °C/V	-40°C

2) Farenheit. The output of the temperature transducer is -40° to +140°F. Using the equation [temperature in °F] = Temp<sub>out</sub> [Volts] × Slope [°F per Volt] + Offset [°F], the Full Range, Slope, and Offset are as follows:

<u>Output</u>	<u>Full Range</u>	<u>Slope</u>	<u>Offset</u>
0-5V DC	0 to 5.0V	36 °F/V	-40°F

Device Information

Type:

Name:  Serial Number:

Units:  Slope:  °C/V Offset:

Full Range:  0 to 2.5V  0 to 5.0V

Station Height:  Feet Azimuth:

Note: When configuring the device information in Nomad Desktop, make sure to select 0-5V Full Range, select Units - either °C or °F, and enter Slope, and Offset for your case. Also, you have the option of replacing the Name text "Other Model" with RMY HMP50YCC1A1X or something similar if you choose.

KEC 4/2006