

Using the RM Young Wind Monitor with the Symphonie Logger

Introduction

The RM Young model 05103 Wind Monitor combines a propeller anemometer and a wind vane in one sensor. The wind direction (azimuth) sensor of the Wind Monitor is compatible with standard RNRG SymphoniePLUS3, SymphoniePLUS or Symphonie logger direction vane channels. The Wind Monitor wind speed sensor's high frequency output requires a modified SCM card (#3746). This SCM card has been modified to be compatible with the Wind Monitor anemometer section. This application note supplements your Symphonie logger User's Manual and explains how to connect the sensor to the logger and how to scale and process the data.

Channel configuration

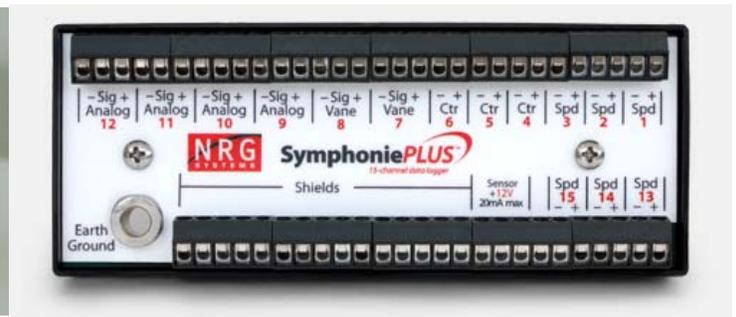
This modified wind speed SCM card may be used in any of the counter SCM sockets, configuring channel 4, 5, or 6 for the Wind Monitor speed signal. This discussion assumes that you will use channel 4 for the Wind Monitor speed channel. If you use channel 5 or 6, select that channel number when configuring or reading the Wind Monitor speed.

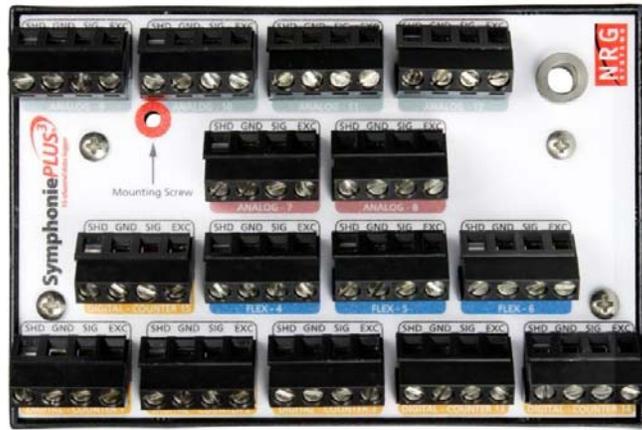
The wind direction (azimuth) sensor of the Wind Monitor is compatible with standard RNRG logger direction vane channels. The Symphonie, SymphoniePLUS, and SymphoniePLUS3 loggers have six analog channels, numbered 7 to 12. Channels 7 and 8 are pre-configured for wind direction; you can use any of channels 9 to 12 for wind direction when you install a Wind Vane SCM card. This note assumes that you will use channel 8 for the RMY Wind monitor's direction signal. If you use another channel, select that channel number when configuring or reading the Wind Monitor direction.

Refer to your logger User's Manual for more information on SCMs and configuring Symphonie logger channels.

Wiring the Input signals to the logger

All sensor signal connections are made to the wiring panel on the Symphonie logger. Refer to these diagrams for terminal names and positions.





As always, ensure that the logger ground wire is connected to a suitable earth ground before connecting sensors. Make sure that you discharge any static electricity by touching the earth ground before handling the sensor wires.

To connect the sensor, first connect the cable shield from the Wind Monitor's Earth terminal (Labeled "SPARE" on the Wind Monitor) to any of the "Shields" terminals on the wiring panel. Wire the Wind Monitor's "AZ REF" terminal to the Vane channel "-" or "GND" terminal. Wire the Wind Monitor's "AZ SIG" terminal to the Vane channel "Sig" terminal. Wire the Wind Monitor's "AZ EXC" terminal to the Vane channel "+" or "EXC" terminal.

To connect the wind speed signal, wire the Wind Monitor's "WS SIG" terminal to the "+" terminal of the wind speed channel. Wire the Wind Monitor's "WS REF" terminal to the "-" terminal of the wind speed channel.

Scaling and Display of the data

As with all sensors, the Symphonie logger calculates and stores data in raw units, no scaling is applied to the data in the logger. Descriptive and scaling information entered into the logger is used to display present values, and is stored with the data for later use. Refer to your logger User's Manual for more details on entering values into the Symphonie logger.

When the logger is started, it will identify the wind speed channel as an "RNRG 40C Anemometer" by default. Press [Home][4][1][4], then press [SET] to change the settings for the wind speed channel. Enter a description. Press [SET] to set the scale factor. Enter the value from this table for the desired units.

To obtain...	Enter Scale Factor...
meters per second	0.0980
miles per hour	0.2192
km per hour	0.3528

Press [SET] to see the offset. Set the offset to 0.00. Press [SET] to see the units, enter the units you chose ("m/s, for example"). Press [SET]; enter a "sensor height" if desired. Press [SET]; enter a "sensor serial number" if desired. Press [SET] to complete the settings for the channel.

To confirm proper operation, press [Home][1], and then use the down arrow key to view the present value of channel 4.

By default, the logger will identify the Wind Monitor direction channel as a "#200P Wind Vane". Press [Home][4][2][8] then press [SET] to change the settings for the wind direction channel. Enter a description. Press [SET] to see the default wind direction scale factor 0.351. Leave this unchanged, press [SET] to see the default offset of 0.00. Leave this unchanged; press [SET] to see the default units "deg". Leave this unchanged;

press [SET]; enter a “sensor height” if desired. Press [SET]; enter a “sensor serial number” if desired. Press [SET] to complete the settings for channel 9.

To confirm proper operation, press [Home][1], and then use the down arrow key to view the present value of channel 9.

Data Processing

When creating the site in Symphonie Data Retriever (SDR), the site parameters entered at the logger will be transferred to the site editor automatically. If desired, you can make additions or corrections to the site parameters before saving the site.

There are no special considerations for processing this data. Refer to the User’s Manual for more information on using SDR for data scaling, data viewing, and other site data processing.