

WIND RANGER

Upon application of power the Wind Ranger AQ-WR-1105 series of wind velocity set point controllers will display on the LCD the following power up message for five seconds. Note that the second line of the LCD may be slightly different than shown due to software and hardware upgrades.

AQUA ELECTRONICS
Aquar4 Rev.8b

The default running display will then appear on the LCD and the green LED ACTIVITY lamp will be on solid indicating the Wind Ranger is powered up and no stage activity is occurring. Note that the first line of the LCD display indicating the Wind Speed is a real time value of the current wind condition and values other than 00.0 may be displayed. The second line of the LCD displays the current first, second, and third wind speed stage setpoint values. The Wind Ranger is preprogrammed with setpoint values to aid in a quick no hassle installation.

Wind Speed 00.0 MPH
1st= 10 2nd= 25 3rd= 50

Should a wind a speed stage become active the LCD display will indicate on the second line with a flashing message the particular stage that is active. The second stage (2nd Stage Active) has priority over the first stage (1st Stage Active) display and the third stage (3rd Stage Active) has priority over the second stage (2nd Stage Active). The green ACTIVITY lamp will flash indicating what stage activity is occurring. There will be one flash per second indicating the (1st Stage Active), two flashes per second indicating the (2nd Stage Active), and three flashes per second indicating the (3rd Stage Active). The priorities are the same as those that occur on the LCD display. The LCD backlight will also be illuminated during any stage activity. Note that first line of the LCD display indicating the Wind Speed is a real time value of the current wind condition and values other shown may be displayed. When the setpoint activity has run its course the LCD display will revert to the default running display and the LCD backlight will be extinguished.

Wind Speed 10.0 MPH
1st Stage Active

Wind Speed 25.0 MPH
2nd Stage Active

**Wind Speed 50.0 MPH
3rd Stage Active**

In order to program the Wind Ranger control the MENU push button is used in concert with the setpoint ^ (increment) and v (decrement) arrow keys. Programming is not restricted and can be performed at any time. There are 17 displays, including those already discussed, associated with the Wind ranger. The MENU key is pressed to scroll the LCD display to the desired programming setpoint and/or function to view and/or alter. The LCD backlight will also be illuminated at this time. If no push button activity is detected IE: MENU, UP, and DOWN arrow keys, the LCD display will revert to the default running display.

A note about Stage 1, 2, and 3 Setpoints: The Stage Setpoint values will be automatically adjusted when required so that the Stage 1 Setpoint will always be less than or equal to the Stage 2 Setpoint and the Stage 2 Setpoint will always be less than or equal to the Stage 3 Setpoint. The Stage Setpoint being adjusted will dictate the ultimate Stage Setpoint value of the other two.

For example: Stage 1 Setpoint = 10 MPH
Stage 2 Setpoint = 25 MPH
Stage 3 Setpoint = 50 MPH

The Stage 2 Setpoint raised to 55 MPH. The Stage 3 Setpoint will be automatically adjusted to 55 MPH.

The displays the MENU push button accesses are as follows:

Stage 1 Setpoint:

The wind speed must be at or above this setpoint for the Stage 1 Dwell Time to commence.

1 MPH minimum wind speed.
99 MPH maximum wind speed.

**Stage 1 Setpoint
10 MPH**

Stage 1 Dwell Time:

The amount of time the wind speed must be consistently at or above the Stage 1 Setpoint for the Stage 1 On Time to commence and the stage 1 output relay to become active.

0 Mins 01 Secs minimum time.

9 Mins 59 Secs maximum time.

**Stage 1 Dwell Time
0 Mins 05 Secs**

Stage 1 On Time:

The amount of time the wind speed must be consistently below the Stage 1 Setpoint for the Stage 1 output relay to deactivate. The Stage One Dwell Time and the Stage 1 on time will also reset in readiness for a for a new stage 1 cycle.

0 Mins 01 Secs minimum time.

9 Mins 59 Secs maximum time.

**Stage 1 On Time
0 Mins 10 Secs**

Stage 2 Setpoint:

The wind speed must be at or above this setpoint for the Stage 2 Dwell Time to commence.

1 MPH minimum wind speed.

99 MPH maximum wind speed.

**Stage 2 Setpoint
25 MPH**

Stage 2 Dwell Time:

The amount of time the wind speed must be consistently at or above the Stage 2 Setpoint for the Stage 2 On Time to commence and the stage 2 output relay to become active.

0 Mins 01 Secs minimum time.

9 Mins 59 Secs maximum time.

**Stage 2 Dwell Time
0 Mins 05 Secs**

Stage 2 On Time:

The amount of time the wind speed must be consistently below the Stage 2 Setpoint for the Stage 2 output relay to deactivate. The Stage One Dwell Time and the Stage 2 on time will also reset in readiness for a for a new stage 2 cycle.

0 Mins 01 Secs minimum time.

9 Mins 59 Secs maximum time.

**Stage 2 On Time
0 Mins 15 Secs**

Stage 3 Setpoint:

The wind speed must be at or above this setpoint for the Stage 3 Dwell Time to commence.

1 MPH minimum wind speed.

99 MPH maximum wind speed.

**Stage 3 Setpoint
50 MPH**

Stage 3 Dwell Time:

The amount of time the wind speed must be consistently at or above the Stage 3 Setpoint for the Stage 3 On Time to commence and the stage 3 output relay to become active.

0 Mins 01 Secs minimum time.

9 Mins 59 Secs maximum time.

**Stage 3 Dwell Time
0 Mins 05 Secs**

Stage 3 On Time:

The amount of time the wind speed must be consistently below the Stage 3 Setpoint for the Stage 3 output relay to deactivate. The Stage 3 On Time will also reset in readiness for a for a new stage 3 cycle.

00 Hrs 00 Secs minimum time.

99 Hrs 59 Secs maximum time.

Note that a setting of 00 Hrs 00 Mins will latch the stage 3 output relay on indefinitely and requires the use of the Stage 3 Reset function as described in the forthcoming display.

Stage 3 On Time
1 Hrs 00 Mins

Stage Reset:

Performing the Stage Reset function will cause all stage 1,2 and 3 output relays to deactivate. The Stage 1, 2, and 3 Dwell Time and the Stage 1, 2 and 3 On Time will also reset in readiness for new stage cycles.

Pressing the Menu button will exit the Stage Reset function to the running display.

Pressing the ^ (increment) button will commence the stage reset function and will exit the Stage Reset display to the running display.

Stage Reset
Menu = NO , ^ = YES

Save Setpoints:

Performing the Save Setpoints function copies all setpoint values to the EEPROM where it is permanently saved. These saved setpoint values are recalled when the Wind Ranger is powered up. If changes are made to setpoint values and are not saved to the EEPROM the Wind Ranger will use these new setpoint values until loss and reapplication of power overwrites them with the values recalled from the EEPROM.

Pressing the Menu button will exit the Stage Reset function to the running display.

Pressing the ^ (increment) button will commence the Save Setpoints function and will exit the Stage Reset function to the Saving Setpoints display. After a delay of 2 seconds exit the Saving Setpoints display to the running display.

Save Setpoints ?
Menu = NO , ^ = YES

Saving Setpoints