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# COMPTUS C44-V2 Wind Alarm Controller Instruction Manual

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**Contents**

## Operation Instructions

The C44 V2 Wind Alarm controller is now powered by either 100-240 VAC (at 0.25A) or 277 VAC at 0.125A, or by 10-14 VDC. Do NOT power it with more than 14.5 VDC. Notice that there are separate terminal locations for AC versus DC power connections.

The control board works with the Comptus A75-104 Anemometer to monitor and react to wind speed. This new model can also incorporate the Comptus A75-302 Wind Direction Vane if wind direction needs to be monitored as well. Two onboard NO relays, each rated at 5A-30VDC or 10A-250VAC, are controlled by user-defined settings

through two alarms.

The use of the term Selecting here will mean to select the arrowed item by pressing down on the encoder switch and releasing it. In selecting items, True means YES or ON, False means NO or OFF.

The display is backlit and will show green when the controller is operating normally. The backlight will change to red if a fault in the system is detected and needs to be addressed. After a time, the backlight will turn off and the normal amber background will be showing. When first powered up, the screen will go though some steps and then show the home screen

where the wind speed (and wind direction, if configured that way) will be displayed. On the right side of the screen, you will see the number 1 with the number 2 below it (for Alarms 1 & 2), and next to each of those numbers will be an R (for Relay). The number will be in a black box if the alarm is enabled, otherwise it will mean the alarm is disabled. The R will be in a black box if it is triggered or activated. Otherwise, the relay is not triggered.

Home – alarm 1 enabled
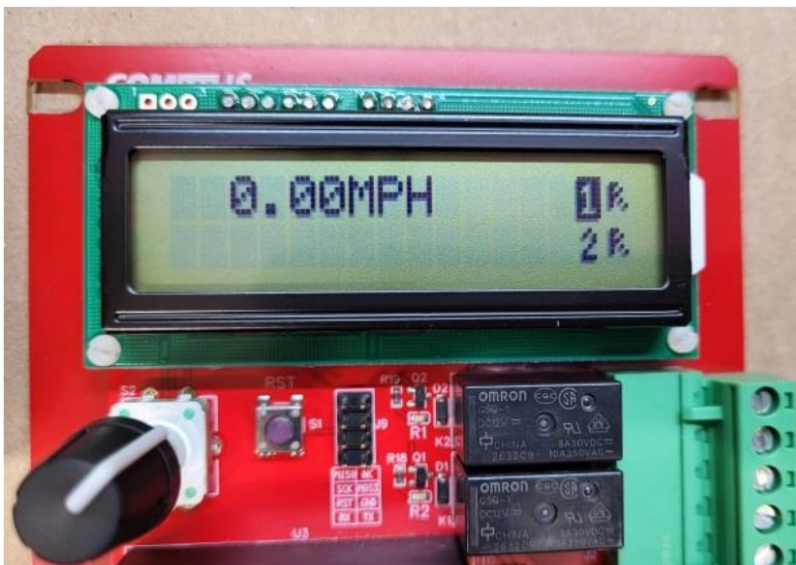


Home – alarms 1 & 2 enabled
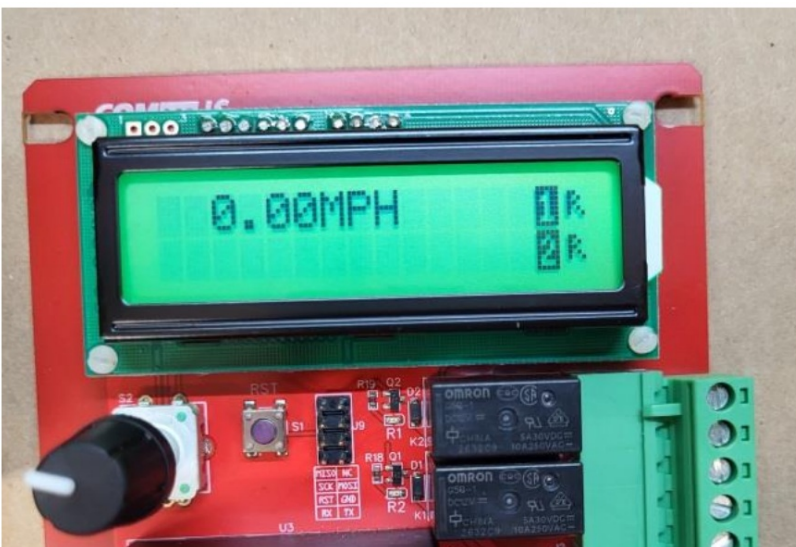


To make any changes, you need to enter a security PIN. To do this, press down then release the encoder button to show "Enter PIN". The security PIN is 3223. Rotate the encoder knob to change the first position to "3", then press and release the encoder to advance to the second position. Rotate the knob to display "2", then depress and release the encoder button to advance to the third position. Set the value to "2", then depress and release to get to the last position and set it to "3". Once done, depress and release the encoder button to exit the PIN setting. You are now at the first menu.

**Note** that once you have entered the PIN and are in the configuration mode, you will have some time to make any changes you need. If you walk away and leave the device for a period Comptus February 2023 of a minute or two, the configuration mode will time out and any changes you made will be discarded and the display will return to the home screen. This is an intentional safety featureso the C44 controller cannot accidently be left stuck in an inactive menu.

If the controller is operating and showing the home screen, then when you press down on the encoder switch, it disables all alarm conditions to go into programming or configuration mode. When you return to the home screen, all alarm configurations will resume their previous settings.

Cursor shown at 4th position



Start of first menu – alarms (alarm 1 arrowed)



The first menu has several functions. These are listed below in order of appearance. When you have an arrow in front of the menu item, you can select that and get into additional sub-menus for that item. You will always find the option to return to the previous menu.

Alarm 1 (to enable and set alarm conditions, fault detect, select sensor input, etc.) Alarm 2 (to enable and set alarm conditions, fault detect, select sensor input, etc.) Anem type (to choose between A75-104 coil and A75-101 reed switch) Anem units (MPH, M/S, KPH, FPS) Vane units (degrees or cardinal points) Contrast (screen contrast) (to reset all options to original programming from factory**) <Save/exit> (to save any and all configuration changes you have made) <Discard/exit> (to not save any changes and revert back to last saved settings)

Select anemometer units



Select to revert to defaults
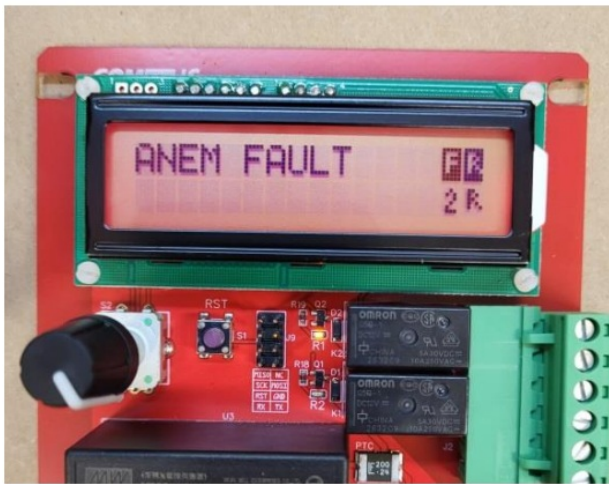


When you get through the full menu, it will loop back to the top of the list, and you will see Alarm 1(the listing wraps around).

If you elect to "Use defaults", then also go to the "Save/exit" step as well. Any changes to the configuration will only be made on a temporary copy of the configuration file unless you choose to "save/exit" which causes the live operating file to be upgraded.

It is suggested to set the anem units (and vane units if desired) before getting into the alarm sub-menus and setting the configurations. Note that if you select anem units as MPH, and configure the alarms that way, then later decide to change to M/S, the set points will all convert directly without having to go back through any of the sub-menus.

Selecting one of the Alarms will give you sub-menus with several items to configure for that alarm. These are listed below in order of appearance.

## GENERAL

Enabled (to enable or disable that alarm)
Complement (sets relay to NC – see other information further down) Use vane (elect to also use the wind vane for this alarm) FltClrRe Reset? (C44 requires a reset to clear a fault that has occurred)

## ANEM

Gust Thresh (instantaneous triggering to gust threshold – no averaging time used) Set Thresh (the speed when

exceeded for the duration time, will trigger the alarm) Set Dur (the amount of time speed must exceed Set thresh to cause alarm to trigger) Oneshot Dur (set amount of time alarm stays triggered, regardless of ongoing speed***) Reset Thresh (the speed when attained for the reset duration will cause alarm to cancel) Reset Dur (the amount of time speed must be below Reset thresh to cancel alarm

**VANE**
Direction (the angular center of the arc in degrees that is desired to trigger the alarm) Range (the total angle of the arc that is desired to trigger the alarm – low to high) Mirrored (the option to reflect the targeted arc by 180 degrees – in the opposite direction

Gust Ignore Dir (if enabled, then alarm is triggered regardless of wind direction)

Anem fault detected



Select "Set Threshold" – alarm on speed



Each alarm will always use the wind speed as input, but you can also add wind direction as an input. If you elect to "Use vane", it adds the wind vane as an input and the alarm condition is set up as an AND condition for triggering the alarm. In other words, the wind needs to be above the Set Thresh(old) AND the wind needs to be within the Direction and Range that was set for the vane to trigger the alarm. If the "Gust Ignore Dir" is enabled, then the alarm will trigger regardless of wind direction. If the "Gust Ignore Dir" is not enabled, then the alarm will only trigger if the "Set Thresh(old)" and "Set Dur(ation)" are met as well as the wind direction. (The gust event will not trigger the alarm by itself.)

Alarm set to turn on at 5.0 MPH



Select "Reset Threshold" – alarm off speed



When you select a function to configure, that will open another line where you can set the value you desire. To set the value, rotate the encoder to attain the value you want. Note that some values can be adjusted to tenths, while others are adjusted to whole integer values. Complement – this sets the relay to NC (normally closed) and keeps power through the relay unless the alarm condition is met. This may be desired for some applications where fail safes are needed to prevent damage or injury. In this situation, the alarm "R" on the screen will be in a black box when it is energized (not alarmed) and will be just the "R" when the alarm is triggered and the relay is de-energized.

Various things about wind vane configurations: Alarms are available with vane units set to Degrees or Cardinal Points. Degree settings go from 0 to 359 degrees; Cardinal points are the 16 compass points. When setting vane alarm points, the first step of "Direction" is for the center of the arc you wish to alarm. The second selection of "Range" is the angular width of the arc to be alarmed. Direction will be set using either Degrees or Cardinal Points. Range is set using only degrees (but works with Cardinal Points).

Example 1: You want to alarm wind direction from 120 degrees to 210 degrees. The center of this arc would be 165 degrees and the range would be 90 degrees (+/- 45 degrees from the center of 165). You would enter settings "165" and "90". Example 2: You want to alarm from NE (45 degrees) with 60 degrees off either side. Your first setting is "45" and your range is "120".

Mirrored (refers to wind vane alarm settings) – this option lets you set angle to one side, and then also set up the

same angle 180 degrees opposite to what you entered. Say you want to alarm off due East (90 degrees) with a narrow angle of 50 degrees. You enter the first value as "90" and the second value as "50".

This sets up the alarm to operate in the range of (90-25=) 65 degrees to (90+25=) 115 degrees. By choosing "Mirrored" you now also include the opposite side of the compass, that is an arc from (270-25=) 245 degrees to (270+25=) 295 degrees. Gust Thresh(old) – This is an alarm for an instantaneous gust that exceeds the value entered. While other wind speeds can be set up with a delay, or an averaging time (duration), the Gust will activate the alarm as soon as the set point is exceeded.

The alarm will reset when the Reset threshold is achieved with the corresponding Reset duration. ***Oneshot Dur(ation) – this is the amount of time the alarm will stay triggered once it had been activated. This will time out and cause the alarm to turn off once the time has been reached, even though the alarm reset duration will still be counting down until the Reset duration is achieved. In other words, the Oneshot dur overrides the set duration time for the relay to be activated but does not change the alarm "release" time. To prevent the Oneshot from being activated, set the "Oneshot Dur" to 0. Be aware that any of the "dur(ation)" settings can be set up for seconds, minutes or hours.

An example may be where you want to use the Oneshot relay latching option and have it stay on until someone manually resets it. In that case you can set a very long duration time lasting many hours. If you wish to override the Oneshot duration you can simply depress the encoder switch and it will reset everything to the pre-alarm settings. (You will see the "enter PIN screen for about 10 seconds and then it will return to the home screen.) Once all settings are entered, scroll to find through whichever menu you are in, and return to the first menu. Scroll (either down or up) to find <Save/exit> and select that function by pressing and releasing the encoder button.

This will result in a screen showing "Saving….Done!" and the time needed to execute the save. If you have not made any changes, but select this function anyway, you will see a screen message that says "No changes to be saved". Likewise, you have the option of electing to not save changes by using the <Discard/exit> function. In this case, if changes were made you will see a screen that says "Changes Discarded". If no changes were made, the screen will display "No changes to discard". This will tell you if you had inadvertently made any changes as you were going through the screens and menus.

Save your changes and return to home



Return to home without saving any changes

Save message displayed



Confirms no changes made



**Some final notes:**

- The Set duration and Reset durations do not need to be the same. They are completely independent of each other.
- If you want to guard against higher wind speeds and possibly lower sustained winds from a particular direction, use one alarm with a shorter Set duration to guard against the higher wind speeds (say, something like 20 MPH at 10 seconds) and use a lower Set duration when using the speed and direction combination (say, 14 MPH at 45 seconds).

**Costumer Support**

Comptus February 2023
**www.comptus.com**
603-726-7500

## Documents / Resources

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| COMPTUS<br>COMPTUS C44-V2<br>Operating Instructions Manual<br><br>Comptus February 2023   www.comptus.com   603-726-7500 | **COMPTUS C44-V2 Wind Alarm Controller** [pdf] Instruction Manual<br>C44-V2SD-N4PC, C44-V2SIS, C44-V2 Wind Alarm Controller, C44-V2, Wind Alarm Controller, Alarm Controller |

## References

- ∞ **Environmental Sensors, Weather Measuring Instruments - Comptus**
- ∞ **Environmental Sensors, Weather Measuring Instruments - Comptus**