

Frequently Asked Questions

How do I troubleshoot a “Heat Wheel Rotation Not Detected” alarm?

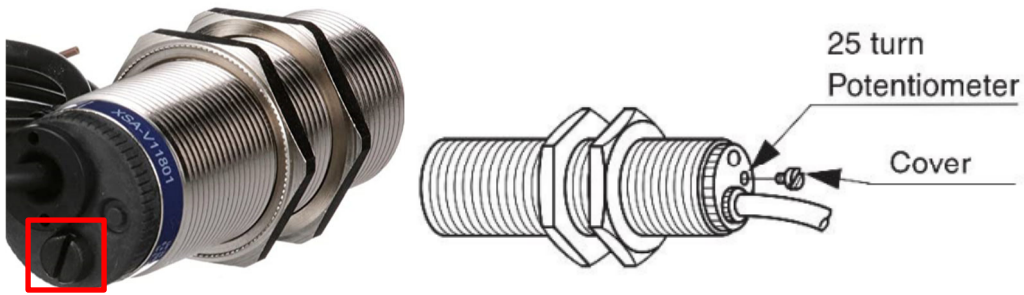
An alarm for “Heat Wheel Rotation Not Detected” implies that the main unit controller is expecting the wheel to be running, but not receiving proof that it is via the heat wheel rotation sensor. To troubleshoot this alarm, first determine whether the heat wheel (energy recovery wheel) is physically rotating.

Wheel is Rotating

1. Verified rotation sensor wiring matches schematic.
2. Verify that the wheel rotation sensor has power.
3. When the sensor has power and the wheel is rotating, check the status of the red LED on the back of the sensor.



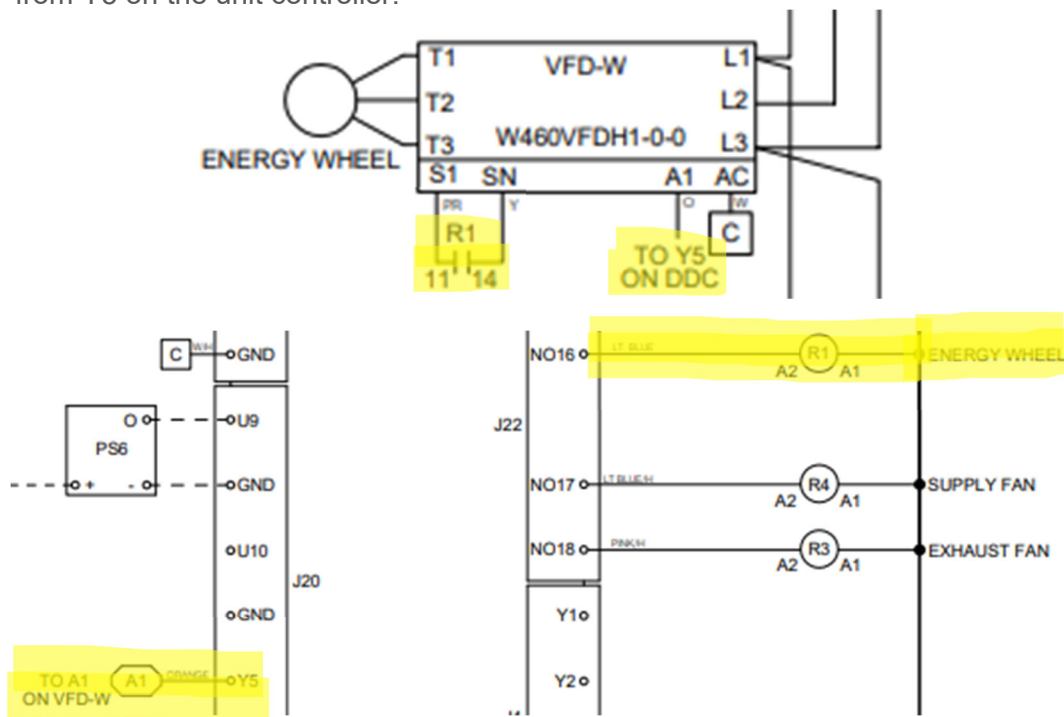
- a. If the LED is on solid red (not blinking), the wheel rotation sensor is calibrated to the proper wheel frequency. In this case, make sure it's internal contacts are closing. If the contacts are closing, the cause of the alarm is not the sensor itself, and additional wiring/relay troubleshooting must be completed.
- b. If the sensor has power, the wheel is rotating, and the LED is either off or blinking red, the wheel rotation sensor is either not installed the correct distance from the wheel spokes, the wheel rotation sensor must be calibrated to the proper wheel frequency, or the sensor is malfunctioning.
 - i. Cycle power to the unit. When power is first applied to the sensor, its LED should turn on red for a 9 second start up delay. If it does not, the sensor will need to be replaced.
 - ii. Make sure the rotation sensor is 4mm away from the spoke surface.
 - iii. The rotation sensor has a small, frequency adjustment dial/potentiometer located beneath a flat-head screwdriver cap. While the wheel is rotating, use a small controls screwdriver to adjust the frequency dial beneath the cap until the LED turns on red and stays on. Note: the frequency dial has a full 25 turn range from its lowest to highest frequency.



Wheel is Not Rotating

Heat wheel operation will vary depending on how the unit was ordered. Refer to the unit's wiring diagram for unit specifics on heat wheel control.

1. Verify that all wiring for the energy recovery wheel is correct per the schematic.
2. Verify that the heat wheel motor is receiving voltage to run.
 - a. If the heat wheel is commanded through a VFD, ensure the VFD is receiving its run command and speed signal (as applicable). In the wiring diagram example below, the heat wheel is commanded via a VFD that receives the run command from the R1 relay and the speed signal from Y5 on the unit controller.



3. Verify the heat wheel motor's windings are not open, shorted to each other, or shorted to ground.

For additional assistance, reach out to DOAS Technical Support.