

PRODUCT: VL4000 Spot Luminaires

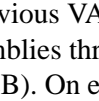
SUBJECT: Driver PCB Assemblies - LED Indicators and Their Meaning

OVERVIEW

This technical notice is for informational purposes only. No action is required.

Users and owners are not required to inspect the driver PCB assemblies in their VL4000 Spot Luminaires.

VL4000 SPOT LUMINAIRE DRIVER PCB ASSEMBLY LED INDICATORS

Unlike previous VARI*LITE fixtures, the VL4000 Series Luminaires offer distributed driver PCB assemblies throughout the fixture instead of being located on the luminaire's main control board (MCB). On each driver PCB assembly, there are blue LED indicators. This notice describes the operation of these LED indicators.

Driver PCB Assembly LED Indicators

The blue LED indicators on the driver PCB assemblies are provided for manual test of the sensor - to determine if the driver's corresponding sensor is being read or not. In certain instances, you will NEVER see the LED change during operation of the mechanism.

Optical Sensors

Dimmer, cyan, magenta, yellow, and CTO mechanisms use optical sensors.

These optical sensors are triggered during calibration (cal). On an optical sensor, the blue LED will be illuminated unless it is physically blocked. The sensor is blocked for these mechanisms during calibration. During cal, the mechanisms move into the sensor, which will cause the LED to go out. But they do not stay there very long. The colors will then move towards the center and actually hit against each other, so that we ensure a full range of travel on the mechanism. It is this position that software uses as the "base" (cal position). Meaning the following:

- From the cal position, the motor will move the mechanism to any programmed DMX position (as supplied from a DMX source).
- If the DMX value is "0", it will move to open. But this is based on the center position.
- The motor then moves its mechanism's assembly a set number of steps (corresponding to DMX input). There is a very good chance that this move does NOT cause the mechanism to move all the way into the sensor, so the LED will stay on (meaning the assembly is operating correctly).

The idea of the LED is that if there is a suspect sensor, a technician could disable the movement of the head motors and then move the assembly by hand into and out of the sensor to see if the LED goes out when the tab enters the sensor. For example, to check a suspect sensor on the dimmer assembly.

The animation arm positions, the frost and prism insertion, the zoom, the compensation lenses and the prism and frost divergence use optical sensors like the colors. These would also be assemblies

that do not run the blue LED's as you might expect them to. Prism and Frost divergence calibrate to the sensor position, but after that you cannot drive them that far back so you will never see those go out during operation. The compensation lens will trigger the sensor in multiple places during zoom operation. The prism and frost insertion may not trigger the sensor when they move out, only during calibration.

Hall Effect (Magnetic) Sensors

Gobo wheels and index, animation index, prism index, and fixed color wheels use hall effect sensors.

These mechanisms (for example, fixed color wheels) use a hall effect sensor to determine their position. Because the magnet always goes past the sensor, you will always see the LED come on - only when the magnet is aligned with the sensor.

In Conclusion

The LED indicators on the driver PCB assemblies should only be looked at when manually moving an assembly to see if sensor is triggering or watch them during calibration, but in some instances the sensor will move off before that LED will change.

Note: This information contained herein is covered during Vari-Lite Technical Training Courses. To learn more about Vari-Lite's technical training classes, please visit the Vari-Lite web site at www.vari-lite.com, and click the Support tab. On the Support page, locate the "Service Training" link for more information on training classes and available class dates.

CONTACT INFORMATION

If you have any questions or require more information regarding this technical notice, please contact Philips Vari-Lite technical support group at 1.214.647.7880.