LED Fixtures and Moving Lights Powered by ETC Dimmers

Often times we are asked if it is ok to plug a Moving Light or LED fixture into an ETC Sensor or Unison dimmer module. ETC LED and Moving Light fixtures support being powered from an ETC Sensor or Unison dimmer module set to Switched mode.

If an ETC LED fixture fails while it is plugged into an ETC dimmer set to Switched mode, ETC will warrant the fixture in that case. However, ETC will not cover under warranty any damage to the fixture caused by accidental dimming through improper configuration. To best prevent accidental damage to fixtures, ETC recommends using relay modules or ThruPower modules to power LED fixtures.

No matter what type of dimmer you are using, you must set the dimmer to not regulate the sine wave on the circuit that is providing power to the Fixture. To protect tungsten-halogen loads from fluctuating AC power levels, ETC dimmers normally regulate the output voltage to a specific level. This affects the sine wave. Most LED and Moving Light fixtures (including those made by ETC) require an un-regulated power source.

Voltage regulation is either on or off depending on a particular dimmer’s Control mode setting in the processor. The “Switched” Control mode will output un-regulated AC voltage - necessary for LED and Moving Light fixtures. The “Non-dim” Control mode will output regulated AC voltage - desirable for tungsten lamps that only want to be turned on and off, not dimmed, such as Cue lights.

“Switched” mode is not offered on Unison Legacy Racks and some software versions of SmartPacks, SmartBars, and SmartModules. On those products, the mode should be set to “Non-Dim”. For more information on these two modes, please see this Support Article.

It is important to remember that even in Switched or Non-Dim modes, when using a Phase Controlled Dimmer, the sine wave is not a pure sine wave. See: Dimming Information

The threshold level is the point where the dimmer processor will supply AC voltage. Any DMX level above the threshold will supply AC voltage, and any level below the threshold will not supply AC voltage. In many instances, it can be useful to change the threshold level from its default setting. Keep in mind that changing the threshold from the default 50% is not supported on all devices. You can find more detailed instructions on how to change these settings in your dimming processor User Manual.

Another option on some ETC dimmers is to set a Control mode of “Always-On”. This mode is also un-regulated; however, you will be unable to turn off the dimmer from your console or other DMX controller. If set to “Always-On”, the only way to turn off the power coming from the dimmer would be to turn off the breaker on the module.

In systems with Sensor3 dimmer racks, TR20SAF or “Thru-Power” modules may be used. This is a module combines the abilities of a Sensor D20, R20 and a CC20, all built into one unit. For more information on this module,
see this page.

These same options also apply to other loads such as motors, computers and TV's. The best course is to use a Relay module (R20) or constant current module (CC20), or in Sensor3 systems a Thru-Power Module. However, if you must use a dimmable module, make sure it is set to an un-regulated Control mode.