

PHILLIPS

Qwik Tech Tips

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FEATURED PRODUCT

LECTRAFLEX™ with QCP™

- QCP™ assemblies are field repairable in seconds!
- Plug is sealed for corrosion protection
- Spring-wrapped compression contact pins
- Chemical & abrasion resistant



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Lighting Technologies for Trailers

The following is a clear description of the differences in types of interior trailer lighting and how they operate. There are several technologies out there today which include fluorescent, incandescent, and LED. Each one of these has their trade-offs, and things to consider are cost effectiveness, life-cycle and if they are environmentally friendly.

Incandescent

Incandescent requires a lot of power and it has a lifespan of about 1,200 hours. They are very susceptible to breaking due to vibration and are somewhat sensitive to low temperatures and humidity, because of this, they should not be cycled frequently. Incandescent emits a lot of heat and not really ideal for the trailer application due to its high vibration and exposure to cold climates. They can draw anywhere from .33Amp for a marker light, up to 2.1Amp for a stop turn tail light.

Fluorescent

Fluorescent units use mercury, a hazardous material that needs to be disposed of properly when they fail; lifespan is approx. 8,000 hours. In the past these were mostly used for interior trailer lighting. Frequent cycling of these bulbs could decrease its lifespan dramatically. They are not recommended for extreme temperature applications because they may not perform in sub-zero temperature or above 120° F, and they are very sensitive when exposed to humidity. These draw on average 2.5Amp per light, and have about 1700 lumens.

LED (Light Emitting Diode)

LED lighting can be discarded with other electrical waste; lifespan 50,000 hours. They perform in any temperature or climate, and are not susceptible to vibration. LEDs don't put out as much heat as their counterparts and can be cycled quite often. They can draw anywhere from .12Amp for a marker light and up to .3Amp for a stop-tail turn. A small fraction compared to the incandescent equivalent.

LEDs are the new technology and continue to grow more efficient. They cost more in price; however from a reliability/replacement stand-point they are very reliable. Incandescents are sensitive to vibration and Fluorescents are sensitive to cycling, LEDs are not affected by either, and are priced accordingly.

LEDs require a "driver board" to control the LEDs and make sure they are being powered with-in their operating parameters. Depending on the manufacture of LED assembly, they all have unique features as to how they operate. Brightness, power consumption, number of LEDs being used, these are all things that the driver board is managing. Some domelights can offer the same amount of light output across any voltage range, however these require more current to compensate the loss in voltage. Other domelights will fluctuate the light output when the tractor voltage changes, thus causing a flickering effect. Another feature for interior domelights is that some units will shut-off when the voltage gets too low, this is to prevent further draining of the tractor battery. Other units will continue to draw down the truck battery, inevitable putting the tractor into a jump start situation.

Did ya know... The incandescent light bulbs will be phased out beginning in 2012.



- Incandescent lights are not ideal for trailer applications because they are negatively affected by exposure to low temperatures, humidity and vibrations.
- Incandescent light bulbs will be phased out beginning in 2012.
- Fluorescent lights contain hazardous material which needs to be disposed of properly when they fail. Fluorescent lights may not perform in sub-zero temperature or above 120° F, and they are very sensitive when exposed to humidity.
- LED lighting can be discarded with other electrical waste and have a lifespan 50,000 hours. They perform in any temperature or climate, and are not susceptible to vibration.
- LED lights are efficient because they draw fewer amps than other lighting and producing less heat.