

LEXELL LED KNOWLEDGES

>>[Build-in Driver V.S. Separating Driver Design](#)

Overview

LED does not require traditional ballast, only a small driver (transformer) which transforms Alternating Current to Direct Current, thus allow users to save more energy and reduce heat generated.

In current market, most LED manufacturers use build-in driver technology for LED T8 Tube products. The common ways is putting driver in one end of LED tube or back area of the tube as Figure 1 & Figure 2,



Figure 1. The driver installed in one end of the tube.

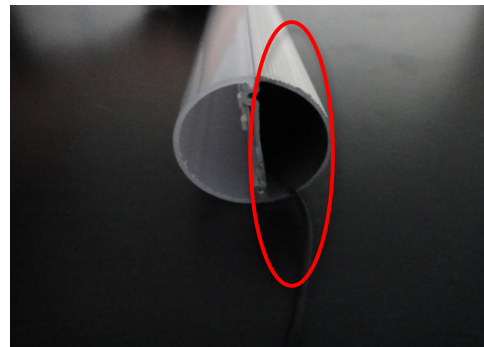


Figure 2. The driver installed at the back of the tube.

Problems of Build-in Driver

- **Insufficient Heat Release** – by building in driver into tube, the area for heat release will be sacrificed; the area is limited to 300cm² or less (figure 3). LED itself and driver will generate tremendous amount of heat while working, **how could huge amount of heat efficiently release in such tiny area?** The heat will accumulate inside and damage the life of the tube, this is why most of LED companies are only able to offer 3 years warranty or less.
- **High replacement cost** – The life of driver is much shorter than LED itself, once build-in driver failed, it will damage the LED unit, and the

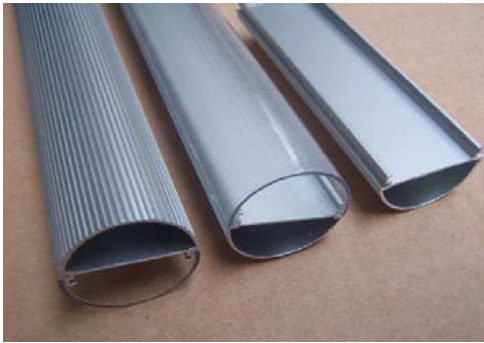


Figure 3. Buildin Driver, area for heat release is only 300cm² or less.



Figure 4. Separating Driver, area for heat release is up to 2100 cm²

Our solutions – Separating Driver and Tube,

- **More sufficient Heat Management:** By separating driver and tube, the heat releasing area only for LED can increase up to 2100cm² (figure 4) which is 7 times more than build-in driver tube; moreover the LED unit is fully contact with our self-developed aluminum heat sink, the heat can release in maximum efficiency and the life of tube is ensured. So we are able to offer 5-year warranty to all our clients.
- **Low replacement cost:** The LED theoretically can last up to 100,000 Hours, once the driver failed, only the driver needs to be replaced, nothing to do with LED tube. The cost of driver is only 20% of LED tube.