
Universal Douglas Driver Application Note: UL Listed Drivers in the SAM

Purpose:

This application note covers UL Listed and Recognized LED Drivers and how to locate UL Listed Universal Douglas LED Drivers in the UL Sign Components Manual (SAM).

UL Listed vs Recognized Components:

When LED Drivers were first introduced, they could only be qualified as UL Recognized components. Today, LED Drivers can be qualified as UL Recognized or UL Listed components. This can lead to some confusion, so it is important to understand the distinction.

UL recognized products are always intended to be later used in complete end-products and systems, and may require additional installation precautions such as cable trays or housing devices to protect the product from chemicals or liquids. Because these products are always used as “components”, the approvals are based primarily upon materials and construction, rather than to conformance to a particular product/industry standard.

If a device carries the “UL Listed” mark it means that the product has been tested by UL “to nationally recognized Safety Standards and has been found to be free from reasonably foreseeable risk of fire, electric shock and related hazards in a Division 2 environment.” Essentially, a “Listed” product is considered to be stand-alone with a specific function, tested against UL’s published and nationally-recognized standards for safety for a specific category of equipment.

Today, most LED Drivers introduced are UL Listed, which includes qualifying the drivers to “Class P”. The “Class P” program from UL established sets of environments and operating conditions for LED driver operation that the drivers are tested in. All Class P drivers receive a UL “listed” mark rather than a “recognized” mark. Drivers that are approved according to the Class P standards enable luminaire manufacturers to replace a listed Class P LED Driver with another of equivalent rating by any manufacturer, without the need for retesting or reviewing drivers and certification reports each time a new driver is utilized.

Sign Components Manual:

UL also maintains the Sign Components Manual, which is usually referred to as the “SAM”. Today, this takes the form of a searchable online database (<http://iq.ul.com/signs/>). Prior to 2015, this was maintained as a printable document that defined itself as follows:

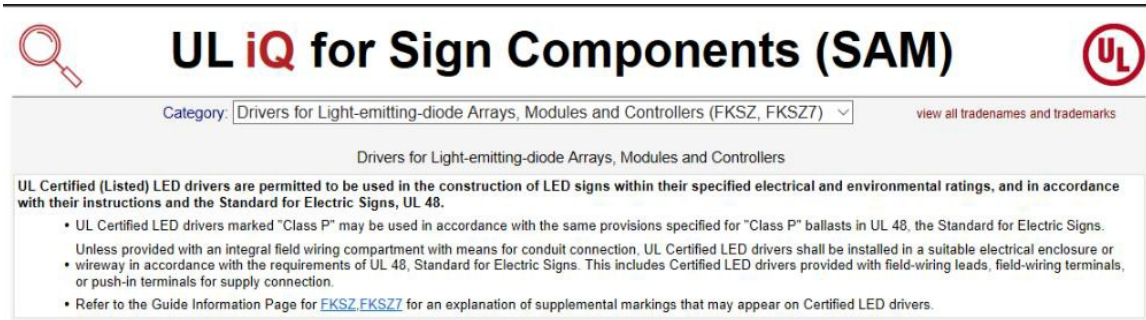
“This Manual authorizes manufacturers to use certain UL Recognized Components, Classified Components and other non-Listed products, when they are used under 1) the conditions expressed for the components in this Manual, 2) the installation instructions for the component, and 3) the requirements expressed in the Follow-Up Service Procedure, the associated Follow-Up and Inspection Instructions (Full Pages) and the UL Standard for Electric Signs (UL 48).”

The SAM is essentially intended to be an index of **UL Recognized components** that are approved for use in Electric sign construction and maintenance. This has led to some confusion because historically, LED Drivers were approved as recognized components and the model designation (catalog number) of the LED Driver would additionally have to be added to the SAM to be acceptable for use in Signs. Because of this, many sign builders and inspectors have become accustomed to searching for the model designation of the LED Driver in an older print copy of the SAM, or in the SAM UL iQ database of products to verify if a specific LED Driver is eligible for use in an electric sign. Searching by the model designation of Class P LED Drivers will not return any results, despite the fact that they are acceptable for usage in sign applications. This is because UL Listed or Class P LED Drivers no longer need to go through the additional step of being listed individually in the SAM by their model designations.

This can be verified by changing the Category drop down on the UL iQ SAM database to: “Drivers for Light-emitting-diode Arrays, Modules and Controllers (FKSZ, FKSZ7)”.

Drivers for Light-emitting-diode Arrays, Modules and Controllers (FKSZ, FKSZ7):

Since the implementation of the Class P program, qualifying LED drivers can be tested and approved under this more specific set of standards for “UL Listing” and therefore do not need to be specifically added to SAM for use in Signs. When the Category is changed to “Drivers for Light-emitting-diode Arrays, Modules and Controllers (FKSZ, FKSZ7)” in the UL iQ Database, the search functionality is removed and the following message is displayed that provides guidelines for usage of Class P LED drivers in signage applications:



An important item to note is: UL Listed LED Drivers marked “Class P” may be used in accordance with the same provisions specified for “Class P” ballasts in UL 48, the Standard for Electric Signs. Ballasts that were UL Listed and marked “Class P” were not visible by model designation in the SAM or the SAM UL iQ Database and UL Listed and marked “Class P” LED Drivers follow the same process.

How to Verify if a LED Driver is UL Listed and marked “Class P”:

LED Drivers that were approved as UL Recognized or UL Listed will have the following marks:



Example of UL Recognized mark.



Example of UL Listed mark.

In addition, UL Listed drivers are required to have “Class P” and “For Connections, Use Wire Rated for at Least 90°C (194°F) or equivalent.” included on the product label. A LED Driver with the UL Listed mark can be used in a sign in accordance with the SAM instructions displayed for Category: “Drivers for Light-emitting-diode Arrays, Modules and Controllers (FKSZ, FKSZ7)”

A UL Listed LED Driver can be found through the general UL iQ for Solid State Lighting database (<http://iq.ul.com/ssl/>). From this database, the model designation or catalog number of the UL Listed LED Driver can be searched. LED Drivers found here are permitted to be used in the construction of LED signs within their specified electrical and environmental ratings, and in accordance with their instructions and the Standard for Electric Signs, UL 48.