

ENLIGHTED IoT Ready Profile 0 Driver Requirements Specification

Rev 1.0

The conventional method of connecting the Enlighted sensor to a luminaire (light fixture) is to use a Control Unit (CU) to supply power to the sensor, ensure that sensor can turn the fixture completely off, measure actual power consumed by the fixture and to provide a wiring method to connect the sensor controls to the fixture wiring. If 'hard' energy metering (determination of fixture power consumption by actual measurement) is not a system requirement, then an alternative method of connecting the Enlighted sensor directly to a driver is possible, saving the cost of and space taken by the CU. This method requires a driver that can be dimmed to off, as well as providing an auxiliary DC output voltage to power the sensor. Enlighted refers to such a driver as a Profile 0 driver. This document provides the technical requirements that a profile 0 driver must meet to ensure proper operation in an Enlighted system.

Profile 0 Driver Requirements:

1. The driver provides an "AUX output" constant voltage power supply with an output voltage between 12 and 30 VDC at a current of 20mA to power the sensor:
 - a. The AUX output must meet UL requirements for a CLASS 2 power supply and must be identified as such on the driver markings.
 - b. The AUX output should be short circuit protected with automatic recovery from overload.
 - c. The AUX output open circuit voltage should not exceed 30VDC.
2. The driver provides a constant current 'dimnable' output.
3. 0-10V dimming control voltage with Dim-to-Off.
4. Linear dimming curve:
 - a. 10V will cause the maximum driver output
 - b. 1V will cause minimum driver output.
5. The control voltage (0-10V) Dim-to-Off threshold is above 0.8V and below 1.0V.
 - a. LED output must turn off by 0.8V as 0-10V is decreasing
 - b. LED output must turn on by 1.0V as 0-10V is increasing
 - c. These thresholds must be maintained over the specified operating temperature range of the driver
6. The control voltage (0-10V) terminals of the driver source or sink no more than 2mA.
7. The driver AC input power when in 'standby' (LED output off, AUX output driving 20mA) should be under 1.0W, preferably under 0.5W.

A typical Profile 0 fixture line diagram is listed below for reference (the diagram shows how the AUX and dimming port of the driver as specified above is interfaced to the Enlighted sensor).

LINE DIAGRAM - IoT Ready Profile \emptyset Driver w/ SU-5 Sensors

PROFILE \emptyset DRIVER NOTES:	SENSOR	CABLE TYPE
1. Driver must be 0-10V "Dim-to-Off" type with 0.8V maximum turn-off threshold.	SU-5E	CBL-5E-5W-30N
2. Driver must provide an auxiliary power output providing 12-30VDC at up to 20mA for the Enlighted sensor	SU-5S-H	CBL-FJ45-5W-7F
3. Follow driver manufacturer's guidelines for proper LED wiring	SU-5S-LRW	CBL-FJ45-5W-7F
	SU-5S-LRB	CBL-FJ45-5W-7F
	SU-5S-HRW	CBL-FJ45-5W-7F
	SU-5S-HRB	CBL-FJ45-5W-7F

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2. Driver must provide an auxiliary power output providing 12-30VDC at up to 20mA for the Enlighted sensor

3. Follow driver manufacturer's guidelines for proper LED wiring

PROFILE \emptyset DRIVER

ENLIGHTED SENSOR UNIT

NOTE: Install in accordance with National and Local Electrical Codes in compliance with AHJ requirements.

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