

LED Engine Retrofit Kits for Ceiling & Wall Luminaires

The Simple, Field-Installable Solution for Converting Existing Luminaires to LED

**FIELD
INSTALLABLE**



- Highly efficient LED technology reduces energy costs
- Protect your investment by preserving existing luminaires
- No bulbs to change means lower maintenance costs
- Simple installation can be done in the field in minutes
- ENERGY STAR® Luminaire 2.0 Listed (for rebate programs)
- Flicker Free

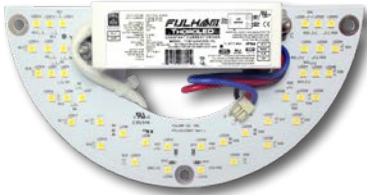
Retrofitting existing fixtures to efficient LED technology has never been easier. Fulham ThoroLED Retrofit Kits are available in round, half-round, or rectangular configurations to fit most standard fixtures. As cULus Classified Kits, they are suited for either field installation or factory retrofits. 0-10V and TRIAC dimmable models, as well as a wide range of color temperature options, are available.



LED Engine Retrofit Kits Product Overview

Technical Details

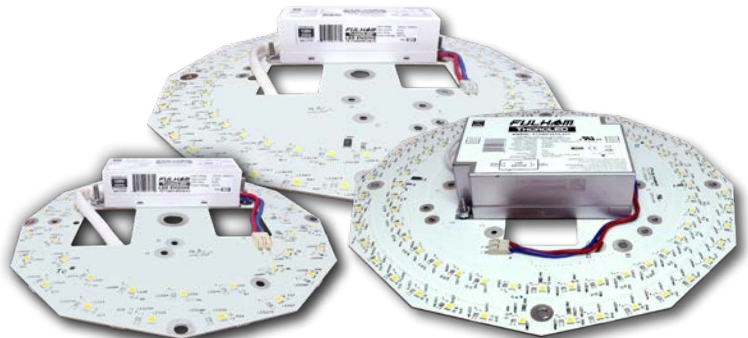
| | |
|--|---|
| Beam Angle | 120° |
| CRI | 80 Standard, 90 Available |
| Operating Ambient Temperature Range (Ta) | -31°F to + 113°F (-35°C to + 45°C) |
| Estimated Lumen Maintenance (L70) | >50,000 hours at Max Tc |
| Color Consistency | Binning per ANSI C78.377-2008; 7 SDCM |
| Maximum Screw Installation Torque | 35 in-oz. |
| Safety/Compliance | Class 2 Lighting System; cULus File # E365124 (UL 1598C); ENERGY STAR; RoHS Compliant; FCC Part 15B |
| Warranty | 5 years @ Max Tc from the date of manufacture |



Half-Round
(7" dia.)



Rectangular
(4" x 7")



Round
(7" dia. or 9" dia.)

Part Numbering Key

TK

ThoroLED
Engine Kit

T

Control
T = TRIAC
M = 0-10V
Blank = Non-Dim

120

Input Voltage
120 = 120VAC
UNV = 120~277VAC

021

**LED Module
Rated Power**
011 = 11W
013 = 13W
021 = 21W
025 = 25W
032 = 32W
039 = 39W

RD

Shape
RD = Round
HR = Half-Round
RT = Rectangular

30

**Color
Temperature**
Standard:
27 = 2700K
30 = 3000K
40 = 4000K
Custom:
35 = 3500K
50 = 5000K

0

Configuration
0 = Standard 80 CRI
1 = 90 CRI
2 = 80 CRI &
Conformal Coating (Outdoor)
3 = 90 CRI &
Conformal Coating (Outdoor)

1

Generation
Round = 1
Half-Round = 1
Rectangular = 6

Kit Includes*:



LED Engine



Installation
Hardware



Required UL
Classified Labels



Installation Instructions

*Actual components vary based on engine type



LED Engine Retrofit Kits for Wall-Mounted Luminaires

| Product Models - Half-Round | | | | | | | | | |
|--------------------------------|----------------|---------------------------|------------------|-----------------|--------------------------|----------------------------|-------------------------------|---------------------------|------------------------|
| Model Number (Complete Kit) | Input Watts | Input Voltage (VAC) | Lumens@ 4000K | Dimming Type | Dimensions | Max Case Temp (Tc) | Model Number (Engine Only) | ENERGY STAR Listed* | ENERGY STAR CSD* |
| TKMUNV011HRxxx1 | 11 | UNV | 1155 | 0-10V | 7" diameter x 1.22" H | 90°C Module 90°C Driver | TEMUNV011HRxxx1 | | |
| TKT120013HRxxx1 | 13 | 120 | 1445 | TRIAC | 7" diameter x 1.22" H | 90°C Module 88°C Driver | TET120013HRxxx1 | | ✓ |
| TKMUNV013HRxxx1 | 13 | UNV | 1445 | 0-10V | 7" diameter x 1.22" H | 90°C Module 90°C Driver | TEMUNV013HRxxx1 | | ✓ |
| Product Models - Rectangular | | | | | | | | | |
| TKMUNV011RTxxx6 | 11 | UNV | 1155 | 0-10V | 7" L x 4" W x 1.22" H | 90°C Module 90°C Driver | TEMUNV011RTxxx6 | | |
| TKT120013RTxxx6 | 13 | 120 | 1445 | TRIAC | 7" L x 4" W x 1.22" H | 90°C Module 88°C Driver | TET120013RTxxx6 | | ✓ |
| TKMUNV013RTxxx6 | 13 | UNV | 1445 | 0-10V | 7" L x 4" W x 1.22" H | 90°C Module 90°C Driver | TEMUNV013RTxxx6 | | ✓ |



LED Engine Retrofit Kits for Ceiling-Mounted Luminaires

| Product Models - Round | | | | | | | | | |
|--------------------------------|----------------|---------------------------|------------------|-----------------|----------|----------------------------|-------------------------------|---------------------------|------------------------|
| Model Number (Complete Kit) | Input Watts | Input Voltage (VAC) | Lumens@ 4000K | Dimming Type | Diameter | Max Case Temp (Tc) | Model Number (Engine Only) | ENERGY STAR Listed* | ENERGY STAR CSD* |
| TKMUNV011RDxxx1 | 11 | UNV | 1155 | 0-10V | 7" | 90°C Module 90°C Driver | TEMUNV011RDxxx1 | | ✓ |
| TKT120013RDxxx1 | 13 | 120 | 1445 | TRIAC | 7" | 90°C Module 88°C Driver | TET120013RDxxx1 | | ✓ |
| TKMUNV013RDxxx1 | 13 | UNV | 1445 | 0-10V | 7" | 90°C Module 90°C Driver | TEMUNV013RDxxx1 | | ✓ |
| TKT120021RDxxx1 | 21 | 120 | 2305 | TRIAC | 9" | 90°C Module 80°C Driver | TET120021RDxxx1 | | ✓ |
| TKMUNV021RDxxx1 | 21 | UNV | 2305 | 0-10V | 9" | 90°C Module 86°C Driver | TEMUNV021RDxxx1 | | ✓ |
| TKT120025RDxxx1 | 25 | 120 | 2880 | TRIAC | 9" | 90°C Module 80°C Driver | TET120025RDxxx1 | | ✓ |
| TKMUNV025RDxxx1 | 25 | UNV | 2880 | 0-10V | 9" | 90°C Module 86°C Driver | TEMUNV025RDxxx1 | | ✓ |
| TKMUNV032RDxxx1 | 32 | UNV | 3200 | 0-10V | 9" | 90°C Module 90°C Driver | TEMUNV032RDxxx1 | | ✓ |
| TKUNV032RDxxx1 | 32 | UNV | 3200 | Non- dimming | 9" | 90°C Module 90°C Driver | TEUNV032RDxxx1 | | ✓ |
| TKMUNV039RDxxx1 | 39 | UNV | 4000 | 0-10V | 9" | 90°C Module 90°C Driver | TEMUNV039RDxxx1 | | ✓ |
| TKUNV039RDxxx1 | 39 | UNV | 4000 | Non- dimming | 9" | 90°C Module 90°C Driver | TEUNV039RDxxx1 | | ✓ |

* ENERGY STAR designations: Listed = Luminaire 2.0. CSD= Certified Subcomponent Database

Why Convert To LED?

Fulham's **ThoroLED Retrofit Kits** combine all the elements of an LED lighting system in one easy-to-install kit. The system is based on a specially designed ThoroLED module, available in several shapes and wattages, a range of color temperatures, and either 80 or 90 CRI. A ThoroLED driver is then mounted directly on the module. This marriage of Fulham components ensures maximum efficiency and reliability. Hardware, installation instructions, and required UL labels are included with the kit. The result is a complete solution for converting existing luminaires to highly efficient LED.

ENERGY STAR®

Fulham LED Retrofit Kits are certified to ENERGY STAR Luminaire 2.0 specifications and/or included in the ENERGY STAR Certified Subcomponent Database, facilitating use of valuable rebate programs.

High Efficiency

Fulham's LED Engine Retrofit Kits typically offer at least twice the lumens per watt of less efficient fluorescent lamps.

Installation

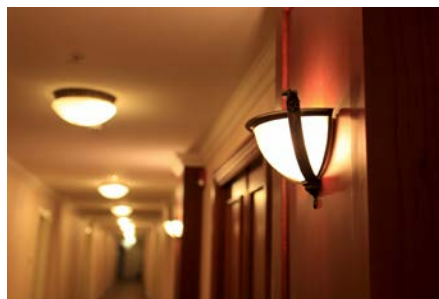
Takes a matter of minutes, making ThoroLED Retrofit Kits ideal for high volume projects like hotels and office buildings.

Maintenance

LED fixtures have a significantly longer lifetime (50,000 hours at L70) than fluorescent lamps, reducing the number of lamp changes.

Aesthetics

LED Retrofit Kits provide a fuller, more even light than traditional fluorescent lamps, with the small profile of the drivers eliminating shadows on the inside of the luminaire.



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