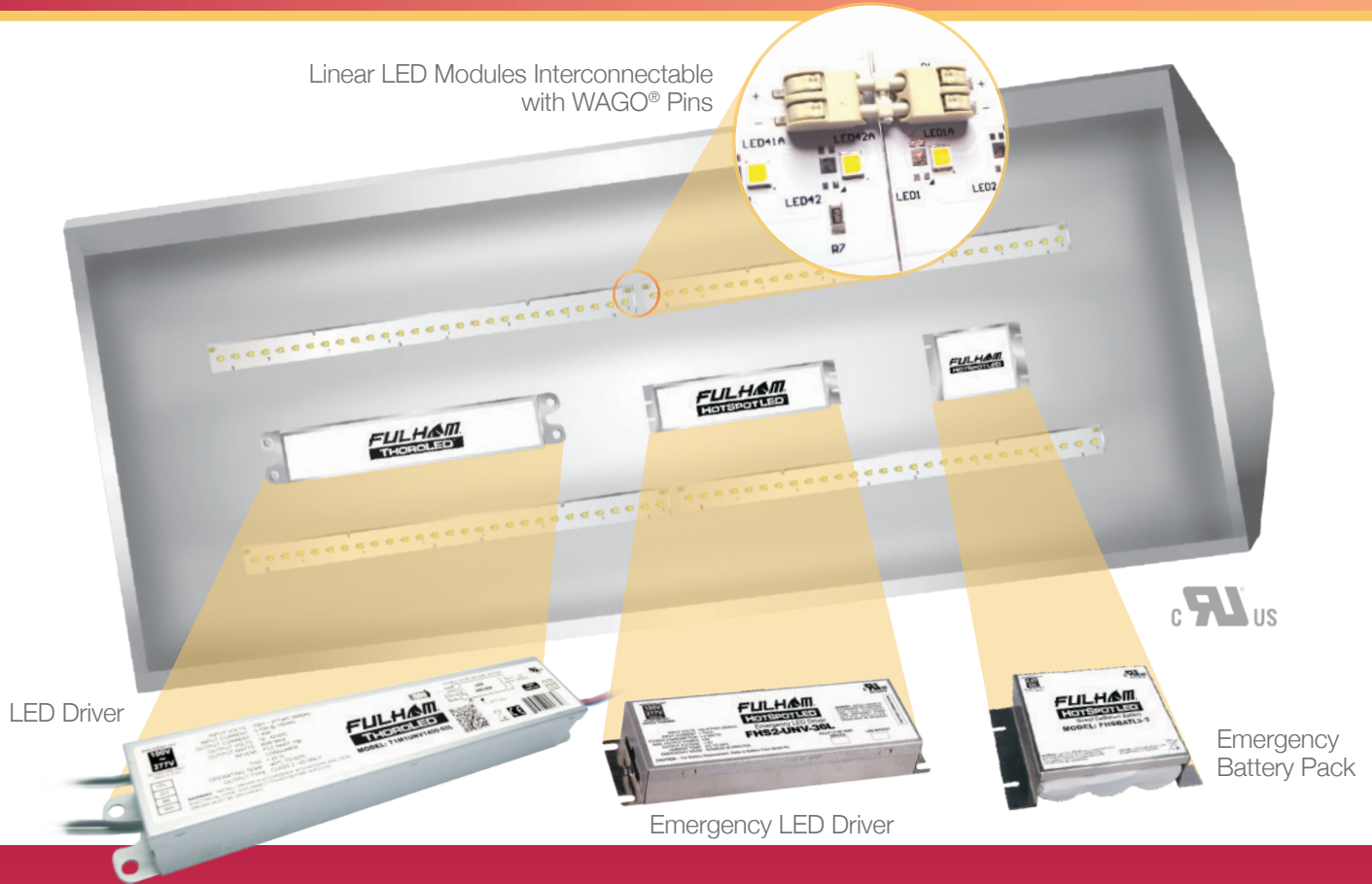


Linear LED Modules Interconnectable
 with WAGO® Pins



LED MODULES, LED DRIVERS & LED EMERGENCY SYSTEMS

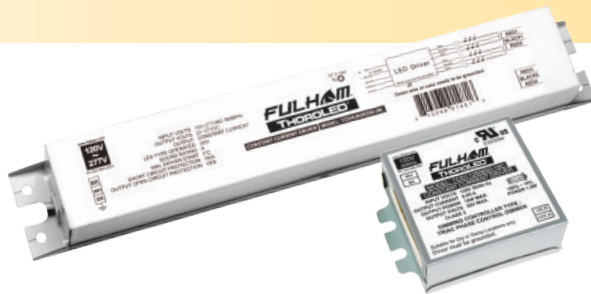
ThoroLED™ LED Modules and Drivers, and the HotSpot2™ LED Emergency Lighting System

- High efficiency 11" and 22" constant current LED linear modules
- Wide range of ThoroLED™ drivers, including 0-10V and TRIAC dimming, UNV and 120V
- The HotSpot2™ system provides emergency LED lighting using the fixture's existing modules during power outages
- Suitable for DLC and ENERGY STAR® compliant luminaires
- Applications include 2x2, 2x4 and 1x4 troffers and other linear fixtures



FULHAM
THOROLED LED Drivers

- 120V and UNV input models
- 0-10V and TRIAC Dimmable options
- Output wattage range: 9W-100W



FULHAM
THOROLED Constant Current Linear Modules

- High density, high brightness chip array
- Suitable for DLC and ENERGY STAR® compliant luminaires
- Available in common CCTs (2700-6500K)



	TM21 LED Modules	TM42 LED Modules
Max Lumen & Power Output @ 1050 mA*	1225 lumens, 10.4W	2450 lumens, 20.8W
Max Lumen & Power Output @ 700 mA*	850 lumens, 6.7W	1700 lumens, 13.3W
Maximum Operating Voltage	9.5V DC	19.8V DC
Case Temperature (Tc) Max	90°C	
Beam Angle	120°	
CRI Available Options	80, 90	
Estimated Lumen Maintenance (L70)	>50,000 hours at max Tc	
Overall Size (L x W x H)	11" x 1.4" x .24" (including connector)	22" x 1.4" x .24" (including connector)

* Bare module output at Tc Mod = 25°C; 4000K/80 CRI

Part Numbering Matrix

TM **42** **LN** **05** **27** - **2** **0** **1** **C**

ThoroLED Module

Length
21 = 11"
42 = 22"

Linear

LED Wattage

Color Temperature
27 = 2700K
30 = 3000K
35 = 3500K
40 = 4000K
50 = 5000K
65 = 6500K

Termination

0 = 22 AWG Wire Standard Leads
2 = Double Pole Connector

CRI

0 = 80
1 = 90

Board Material

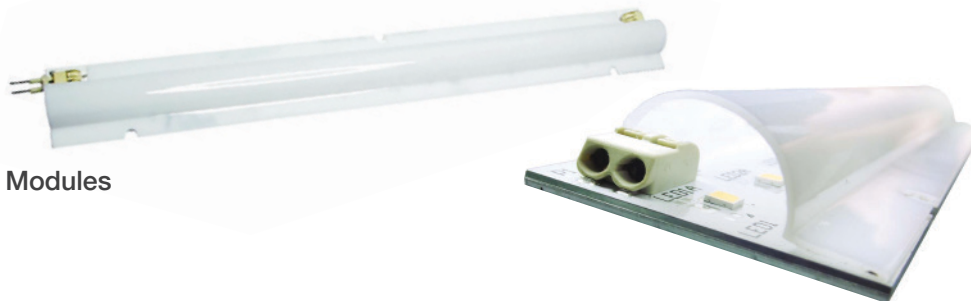
1 = MCPCB
2 = FR4

Module Options

Blank = Standard
C = Conformal Coating
T = 3M Double-Sided Tape
B = Both Coating and Tape

11" & 22" Diffuser Lenses

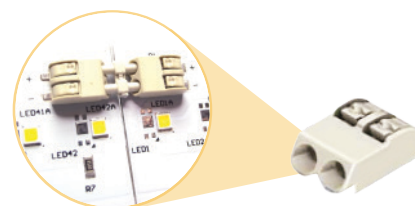
- 11" part number: TLE-OPT-002
- 22" part number: TLE-OPT-001
- White polycarbonate diffuser lens
- Use same mounting holes as LED Modules

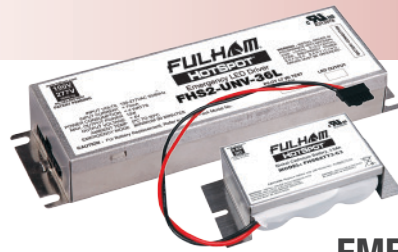


Modules connected with WAGO® connectors for ease of use.



- Double pins used to connect modules in parallel. WAGO® part number: 2060-902





Fulham's **HotSpot2** is an LED Emergency Lighting System that uses the LED modules within an existing fixture to provide emergency lighting as required. A variety of batteries are available to meet various runtime and light output requirements.

- Revolutionary Design for Extreme Versatility
- Superior Adaptability
- High Level of Safety Operation and Function
- High Efficiency
- Patent-Pending

Contact Fulham for details on selecting the correct HotSpot2 Battery and Wiring Harness for your ThoroLED Driver/Module combination.

EMERGENCY BATTERY PACK OPTIONS

Model #	Chemistry	Max Load for 90 min.	Recharge Time
FHSBATT8-AA.9	NiCd	4W	24Hrs
FHSBATT8-C3	NiCd	16W	32Hrs
FHSBATT8-C3L**	NiCd	16W	32Hrs
FHSBATT8-D4	NiCd	20W	32Hrs
FHSBATL3-1	LiFePo4	4W	24Hrs
FHSBATL3-1.5	LiFePo4	8W	24Hrs
FHSBATL3-1.5S**	LiFePo4	8W	24Hrs
FHSBATL3-3	LiFePo4	16W	32Hrs
FHSBATL6-.6	LiFePo4	6W	24Hrs
FHSBATL6-1.5	LiFePo4	16W	32Hrs
FHSBATL6-1.5L**	LiFePo4	16W	32Hrs
FHSBATL6-1.5S**	LiFePo4	16W	32Hrs
FHSBATL6-3	LiFePo4	20W	48Hrs
FHSBATL6-3L**	LiFePo4	20W	48Hrs
FHSBATL9-.6	LiFePo4	10W	24Hrs
FHSBATCC3-3**	LiFePO4	16W	32hrs

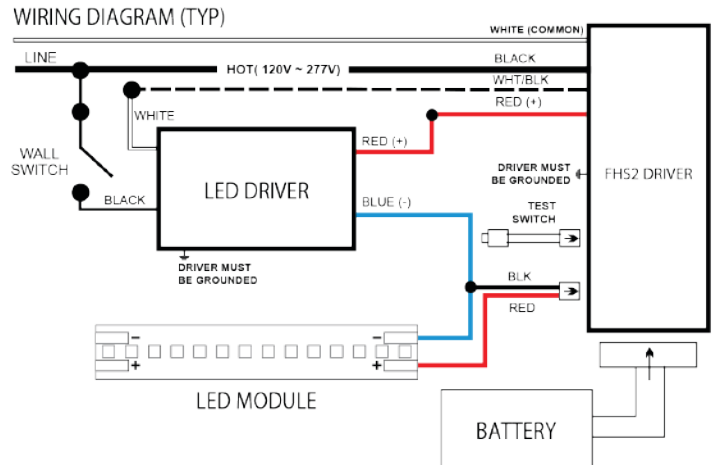
** L = Linear profile. S = Stick profile.
 FHSBATCC3-3 = Low temperature battery (down to -20°C)
 Contact Fulham for availability.

EMERGENCY LED DRIVERS

Model	FHS2-UNV-36L	FHS2-UNV-56S*
Input Voltage	100-277VAC	
Input Frequency	50/60Hz	
Input Current	0.07 A	
Surge Protection	C62.41 (MOV)	
Over Current Protection	Fuse	
Recharge Time	24 - 48 Hrs	
LED Connection	Series	
LED Output Protection	Self Resetting PTC	
Output Classification	UL1310/Class 2	
Illumination Time	90 - 350 Minutes	
LED Currents	100 mA - 700 mA	
Total LED Power	20W	
Output Working Voltage	11 - 36 VDC	11 - 56 VDC
Dimensions (L x W x H)	5.34" x 1.69" x .93"	9.5" x 1.19" x 1"

* Contact Fulham for availability

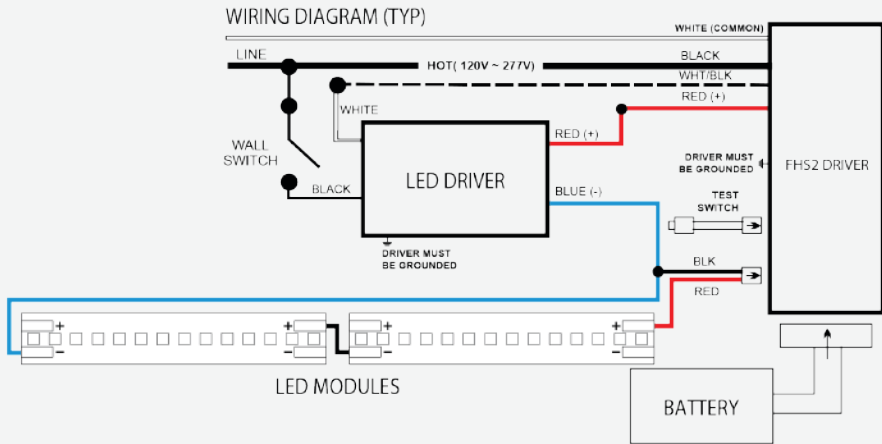
Sample Wiring Diagram for ThoroLED™ Systems with HotSpot2® Emergency Capability using ONE TM42 LED module



	Normal Operation	Emergency Mode (Minimum runtime: 90 min.)
Input Current	700 mA	250 mA
Voltage	19V	17.4V
Rated Power	13.3W	4.4W
Luminance*	1700 Lumens	575 Lumens
* At Tc Mod = 25°C; 4000K/80 CRI		

LED Driver: T1T11200700-18C
 (700 mA, 18W, 120VAC, TRIAC Dimmable)
 LED Module: TM42LN0540-202
 HotSpot2 Battery: FHSBATL6-.6
 Wiring Harness: FHS-HARNNESS-250

Sample Wiring Diagram for ThoroLED™ Systems with HotSpot2® Emergency Capability using TWO TM42 LED modules

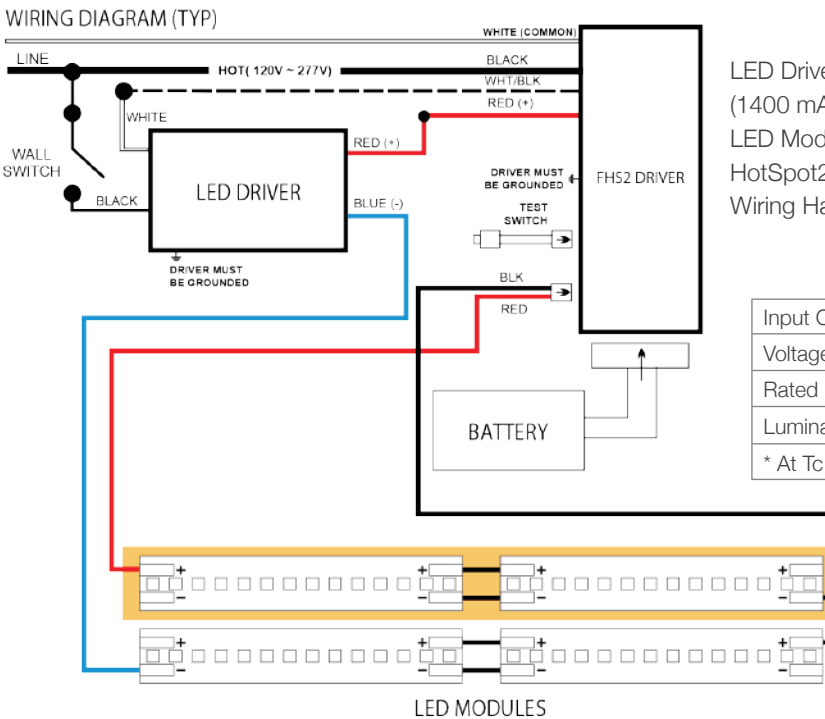


LED Driver: T1M1UNV0700-28C
(700 mA, 28W, UNV, 0-10V Dimmable)
LED Modules: TM42LN0540-202 (x2)
HotSpot2 Battery: FHSBATL6-1.5
Wiring Harness: FHS-HARNES-350
Alternate LED Driver for this Setup:
T1M1UNV1050-42C (1050 mA, 42W, UNV, 0-10V Dimmable)

	Normal Operation	Emergency Mode (Minimum runtime: 90 min.)
Input Current	700 mA	350 mA
Voltage	38VDC	35VDC
Rated Power	26.6W	12.2W
Luminance*	3400 Lumens	1860 Lumens

* At Tc Mod = 25°C; 4000K/80 CRI

Sample Wiring Diagram for ThoroLED™ Systems with HotSpot2® Emergency Capability using FOUR TM42 LED modules



LED Driver: T1M1UNV1400-60L
(1400 mA, 60W, UNV, 0-10V Dimmable)
LED Modules: TM42LN0540-202 (x4)
HotSpot2 Battery: FHSBATL6-1.5
Wiring Harness: FHS-HARNES-700

	Normal Operation	Emergency Mode (Minimum runtime: 90 min.)
Input Current	1400 mA	350 mA
Voltage	38VDC	17.5VDC
Rated Power	53.2W	12.2W
Luminance*	6800 Lumens	1860 Lumens

* At Tc Mod = 25°C; 4000K/80 CRI

Two LED Modules
Powered During
Emergencies

