

## Programmable Normal and Emergency LED Driver

- Input Voltage: 120-277VAC, 50/60Hz
- Rated Output Current: 700-2400mA
- Class 2 LED Driver
- Output Voltage Range of 10-55VDC
- Minimum Dimming Output Current 7mA
- Output Power: 85W for LED load,
- Emergency Output Power: 5W-10W (Factory default 10W)
- UL 924 Self-Diagnostics
- 0-10V Dimmable: 100%-1%, 0% or Pulse DIM
- Compatible with Fulham SmartSet

### General Specifications

Input Voltage / Frequency	120-277VAC (+/- 10%), 50/60Hz
Input Current	0.88A@ 120VAC, 0.4@ 277VAC
Input Power	98W (Max.)
Input PF	>0.9, see Fig. 5
THD	<20, see Fig. 4
Efficiency	>90%@ 35.4Vout >91%@ 55 Vout
Inrush Current	<25A at 120VAC, <50A at 230VAC, <60A at 277VAC
Max Leakage Current	<0.45mA
Output Voltage Range	10-55V
Output Current	700mA-2400mA, (R-set 700-2400) Factory default 700mA / RSET
Output Power	85W for LED load
Line Regulation / Load Regulation	<1% @Full Load / <3% @Full Load
Battery Type	Ternary Lithium Battery
Low Frequency Ripple (120Hz ripple peak to peak)	<5% @Full Load
Dimming Type	0-10V or Pulse DIM
Dimming Insulation	0-10V Isolated to AC input and output
Auxiliary Voltage	12VDC
Auxiliary Current	0.2A
Auxiliary Wattage	2.4W
Operating Ambient Temperature Range	0°C to 50°C (32°F to 122°F) @10W Emergency Power
Maximum Driver Case Temperature	75°C (167°F) for UL and cUL, 85°C (185°F) for UL safety
Start-up Time	<750mS
Standby Power	<0.7W
Test Switch Remote Mounting Distance	10' (3m) Max.
Driver Output Type	Class 2
Overall Size	16.7"L x 1.18"W x 1.0"H(424mm L x 30mm W x 25.4mm H)
Weight	TBD
Safety / Compliance	CEC Title 20 RoHSCompliant UL LISTED with Self-Diagnostics to UL924, Class 2 Rated Output Compliant with UL924 I/P-O/P, I/P-FG, O/P-FG:100M Ohms/ 500VDC/25°C/90%RH Partial Potting FCC Part 15 Class A FCC Part 15 Class A 20-95% RH Non-condensing Input Voltage Surge 2.5kV / 2.5kV Ring Wave, Compliant with UL924 Input Current Protection Output Short Circuit Protection Output Open Circuit Protection Output to Ground Short Protection Overload Protection Over Temperature Protection
Withstand Voltage	
Insulation Resistance	
Potting Type / Degree of Fill	
EMC Emission	
EMC Immunity	
Operating Humidity	
Protections	
Hot Swappable	NO
Sound Rating	A
Service Life	50,000 hours @ Tc 75°C (167°F), see figure 4
Warranty	5 years warranty @ Tc 75°C (167°F) from the date of manufacture

## Typical Characteristics Graphs: Dimming and Thermal

For reference

Figure 1

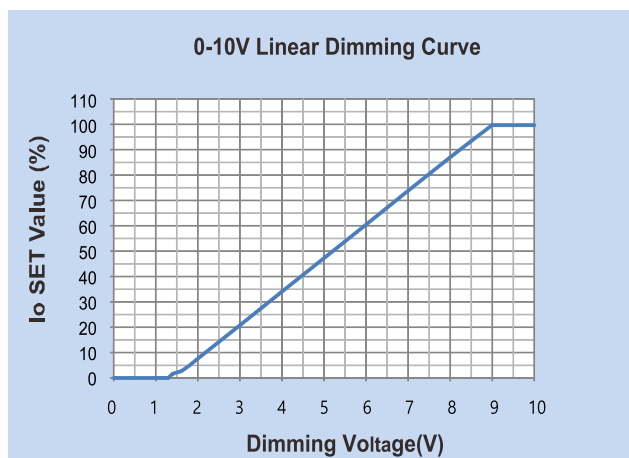


Figure 2

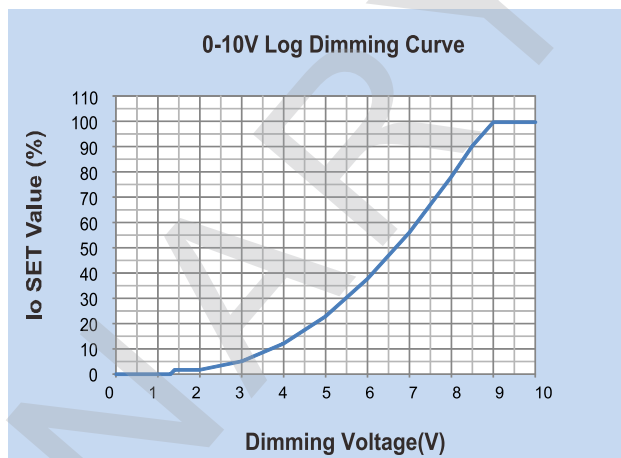


Figure 3

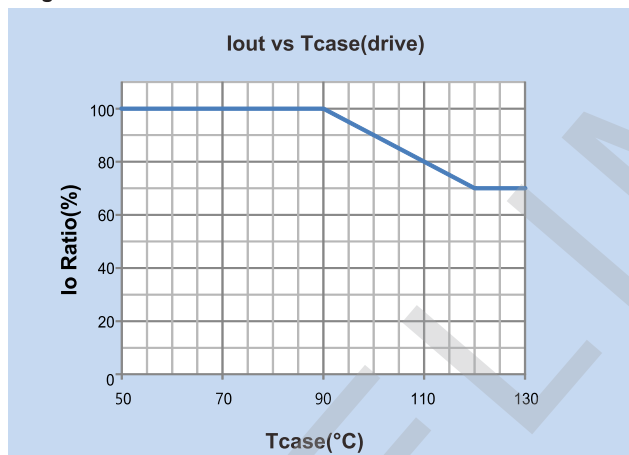
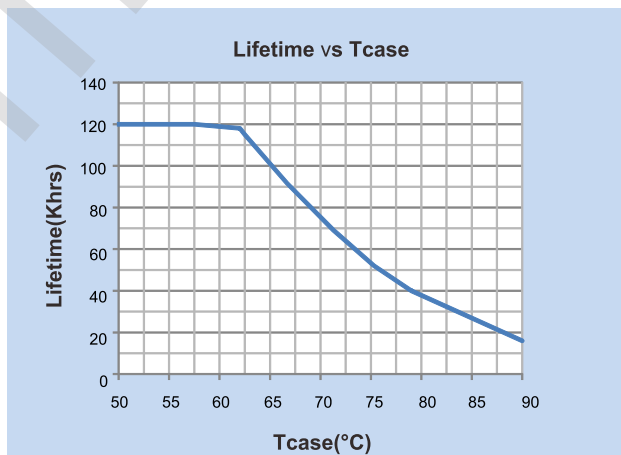
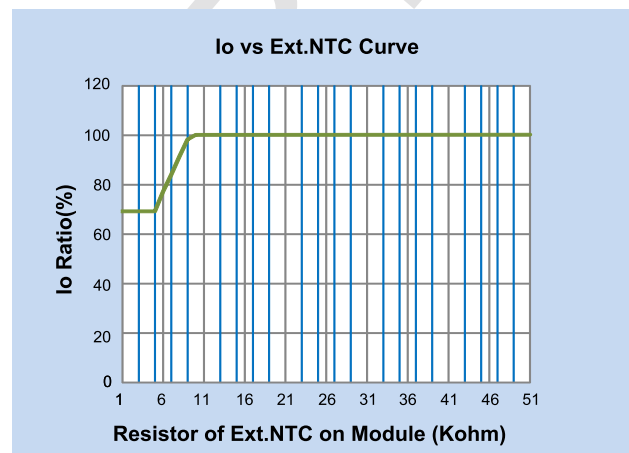


Figure 4



Failure Rate Info based upon MTBF modeling:  
90% survivals at end of life @ ≤Tc lifetime rating

Figure 5



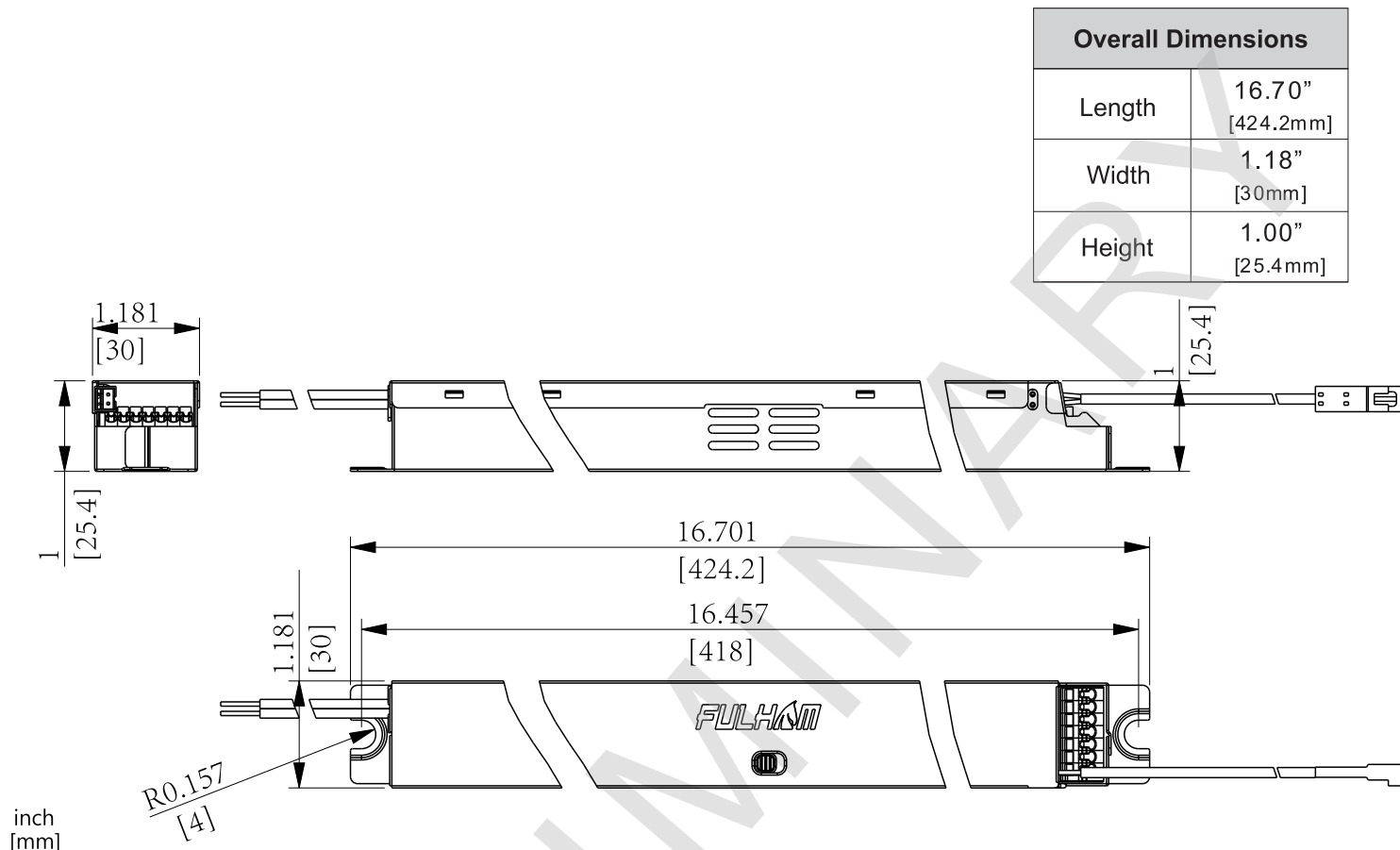
# FHSAC1-UNV-85S



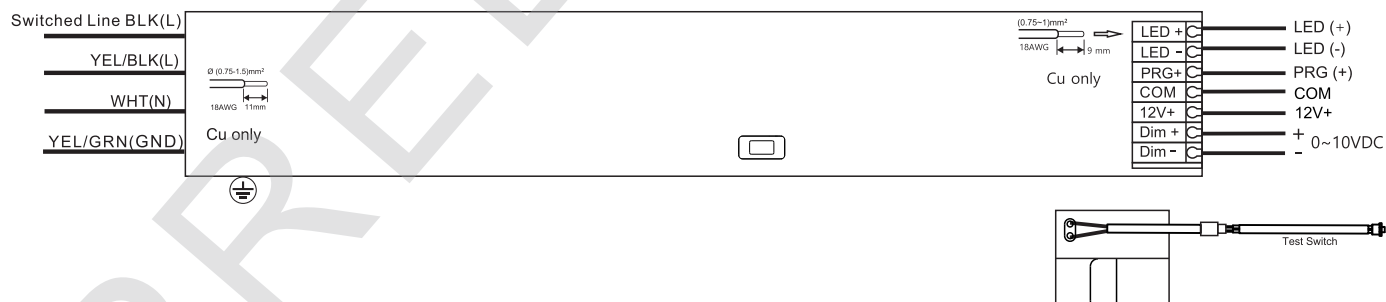
Dimmable  
100%-1%, 0%



## Mechanical Drawings



## Wire Diagram



### NOTES :

- 1) This driver must be installed by a licensed electrician.
- 2) This driver must be grounded.
- 3) Once the unit has entered into a self-diagnostic cycle it will not exit until it has fully concluded testing regardless of power cycling to the input. In order to exit you must manually hold the test button for 10 seconds or allow the testing to conclude.

**CAUTION:** Replace battery only with Specific Battery Package.

**ATTENTION:** Remplacer la batterie uniquement par une Specific Battery Package.

# FHSAC1-UNV-85S



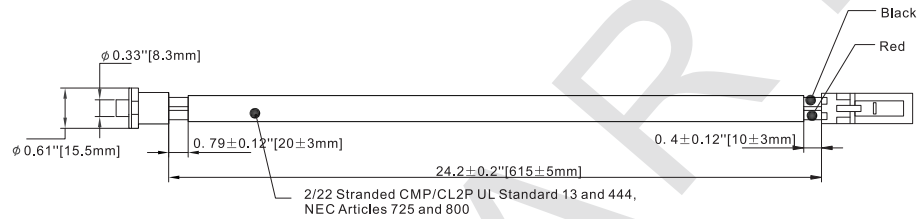
100%-1%, 0%



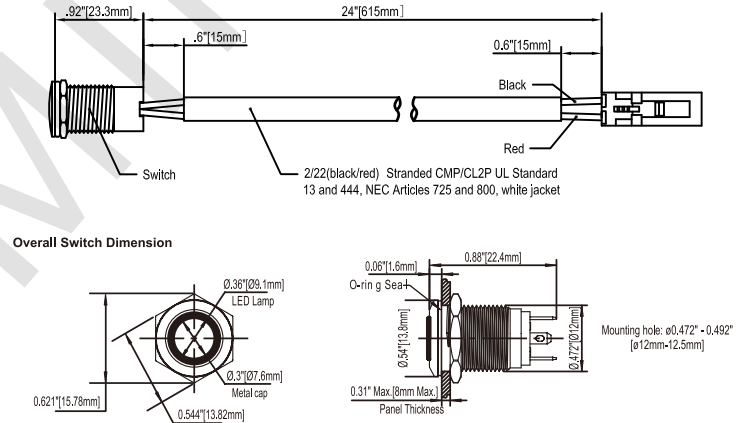
RoHS COMPLIANT

## Accessories

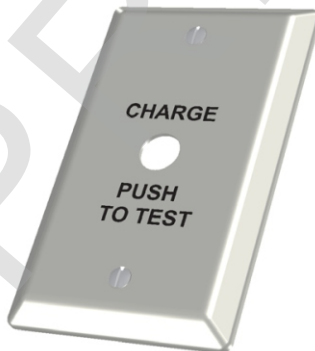
### Test Switch (Included)



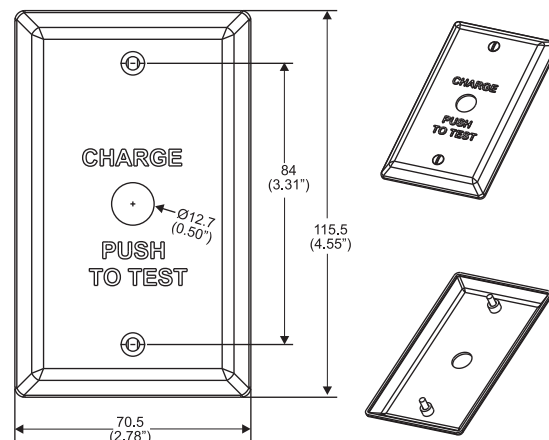
### Wet Location Test Switch: FHS-TSTWL-BC (Optional)



### Wall Plate: FHSWLPWH



Wall plate and screw color:  
white with black lettering



1. "Charge push to Test" plate
2. (2) 6-32 x  $\frac{1}{2}"$  LG mounting screws

# FHSAC1-UNV-85S



## Guidelines

### Grounding

- Driver must be grounded by means of the Driver case.

### Over temperature protection

- The Fulham Hotspot Plus LED drivers are protected against thermal overload. If the temperature limit is exceeded, the output current is reduced.

### LED load

- Fulham Hotspot Plus LED drivers are designed to drive passive LEDs, -COB's and -LED assemblies Proper function is not guaranteed when (LED) loads with active components are used.

### Programming

- For detailed programming instructions please see our Programming Instructions and Design Guide found on our website:  
<https://www.fulham.com/PDFs/SpecSheets/Fulham-Design-Guide-Programmable->

### Mounting / Cooling

- Above an output power of 85W, the driver needs to be mounted on a heat conductive surface of at least 200cm . Always test if the surface is sufficient enough before installing the driver.

### Short-circuit protection

- In case of a short circuit the LED driver switches to protection mode. After the removal of the short-circuit the LED driver will recover automatically.

### No-load Operation

- In no-load operation the output voltage will not exceed the specified open circuit output voltage.

### Hot Swapping

- This driver does not support hot swapping of the LEDs

### Remote Mounting

- Up to 15ft with 18AWG. Contact Fulham for higher remote distance.

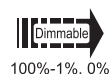
### Battery Maintenance

- In order to maintain proper operation and warranty coverage, the battery must be recharged once per year prior to installation.

### Warranty

- Reference Fulham's limited Warranty: <https://cdn.fulham.com/PDFs/Limited-Warranty.pdf>

# FHSAC1-UNV-85S



## Part Number Matrix

# FHS

**LED Driver**

FHS = FireHorse HotSpot Driver

# AC

**AC LED Driver**

AC=AC LED Driver

# 1

**LED Driver Number**

1 = Programmable Output

# UNV

**Input Voltage**

UNV = 120V

# 85

**Power**

85 = 85W

# S

**Case Type**

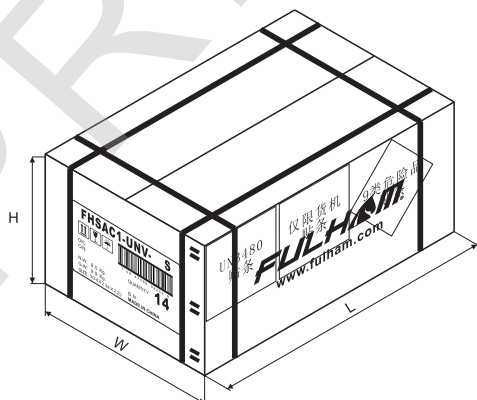
S = Stick

## Product Image: FHSAC1-UNV-85S

FHSAC1-UNV-85S

## Packaging

Master Carton



OUTER DIMENSION		
L	W	H
19.84"(504mm)	9.21"(234mm)	8.86"(225mm)
Net Weight	Gross Weight	QUANTITY
18.74 lbs. (8.5kg)	21.83lbs. (9.9 kg)	14pcs.