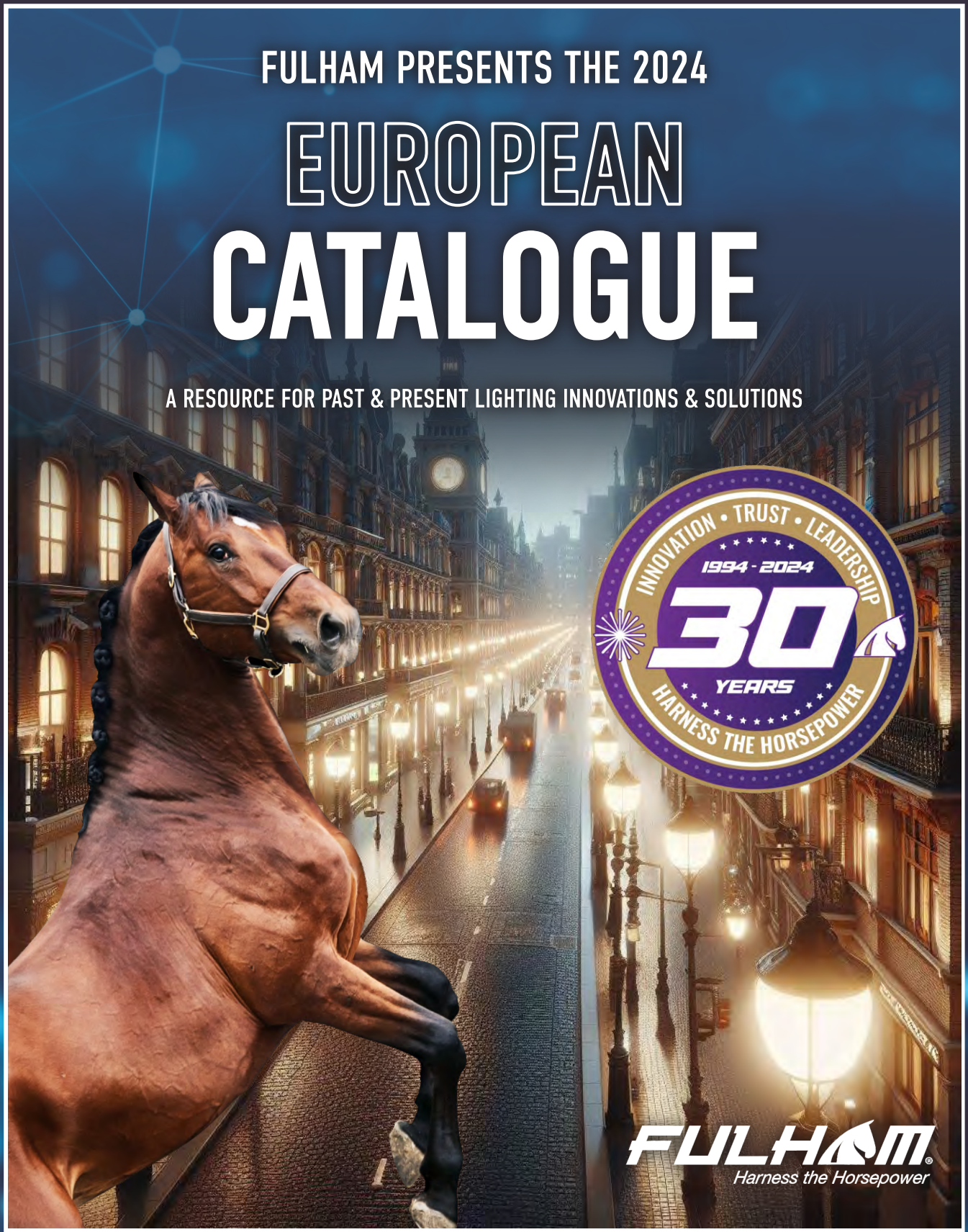
FULHAM PRESENTS THE 2024

EUROPEAN CATALOGUE

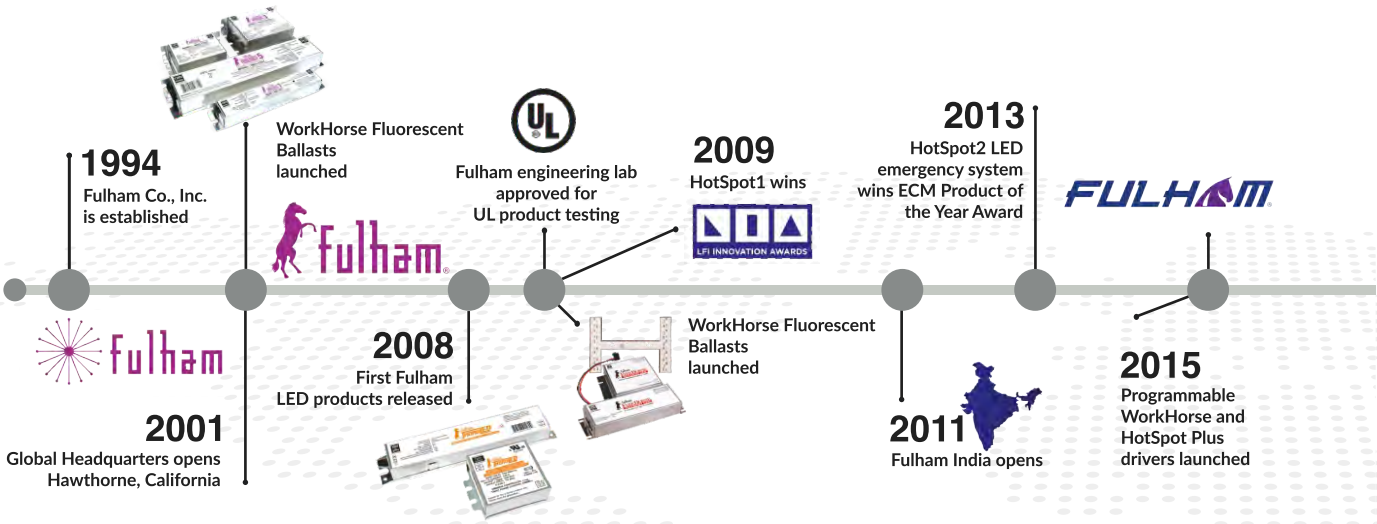
A RESOURCE FOR PAST & PRESENT LIGHTING INNOVATIONS & SOLUTIONS



FULHAM®
Harness the Horsepower

TIMELINE

Celebrating 30 years of working with our customers to deliver innovative lighting solutions. Thank you for your support!



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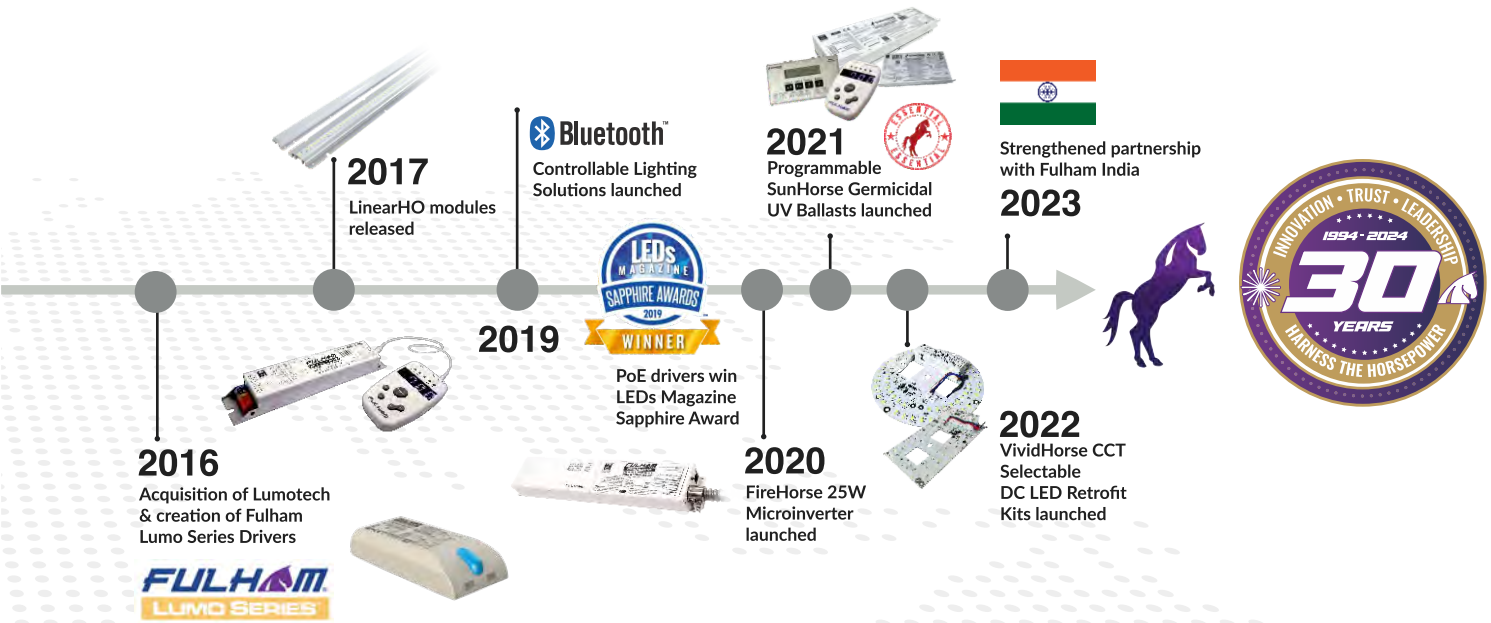
Multiple industry accolades, milestones and patents | **Global development,** manufacturing, sales and service: Americas / Europe / India / Asia | **A true lighting leader**



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Note:

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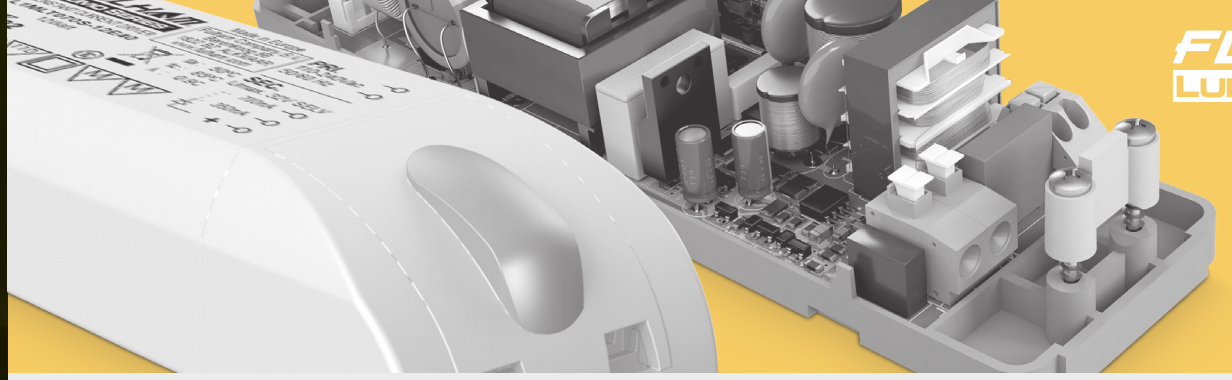
Visit **www.fulham.com** for additional products not shown here, including fluorescent ballasts for UV and general lighting, DC LED light engines, and products for international markets.



Reaching New Heights in Engineering Excellence

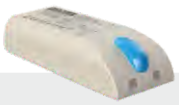
Fulham Lumo Series drivers are built on core engineering design principles for exceptional standards of performance and reliability in LED systems. Highest grade critical components together with design features for thermal management ensure excellent reliability. Low ripple designs create flicker-free lighting and perfectly smooth dimming. Simplicity of specification and installation is a key characteristic of all Fulham Lumo Series drivers, hence the wide voltage and current ranges and industry leading low inrush current.

Engineered for Performance
- Industry leading efficiency
- Multiple dimming options and output currents
- Very high power factor

Engineered for Reliability
- Low inrush current
- Thermal, overload, short circuit and overvoltage protection
- Flicker-free light

Engineered for Simplicity
- Future-proof flexibility – industry leading voltage and current range enabling seamless support of LED generations and minimizing supply chain complexity

Constant Voltage Output



L 100 x W 52 x H 24 (mm)

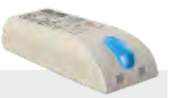
Model Number	Alternate Reference	Max Watts (W)	Max Current (mA)	Output Current Selection Method	Output Voltage (Vdc)	Input Voltage (Vac)	Dimming Type
L1W1MID120D-20E	L05011i2	20	1200	Dipswitch	6 - 42 options	220 - 240 (50/60 Hz)	1-10V/pulse

Non-Dimming Multiple Output, Constant Current

L 99 x W 39 x H 23 (mm)

Model Number	Alternate Reference	Max Watts (W)	Output Current (mA)	Output Current Selection Method	Output Voltage (Vdc)	Input Voltage (Vac)
L1MLT020S-10E48	L05020-1248200	12	150/200	Output wires	20 - 48	115 - 240 (50/60 Hz)
L1MLT070S-12E40	L05020-1240700	12	350/700	Output wires	20 - 40	115 - 240 (50/60 Hz)

Dimming Multiple Output, Constant Current



L 99 x W 39 x H 23 (mm)

Model Number	Alternate Reference	Max Watts (W)	Output Current (mA)	Output Current Selection Method	Output Voltage (Vdc)	Input Voltage (Vac)	Dimming Type
L1E1230025S-10E	L05021-40250	10	200/250	Output wires	20 - 40	220 - 240 (50/60 Hz)	Mains Dimming
L1E1230070S-12E	L05021	12	350/700	Output wires	3 - 32	220 - 240 (50/60 Hz)	Mains Dimming
L1E1230030S-12E	L05021-40300	12	180/300	Output wires	20 - 40	220 - 240 (50/60 Hz)	Mains Dimming

L 110 x W 52 x H 24 (mm)

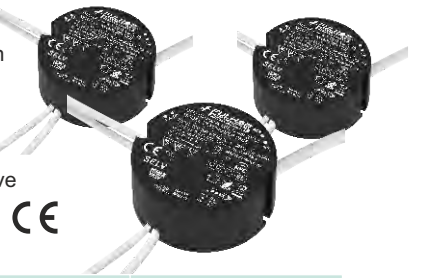
Model Number	Alternate Reference	Max Watts (W)	Output Current (mA)	Output Current Selection Method	Output Voltage (Vdc)	Input Voltage (Vac)	Dimming Type
L1V1230105S-25E	L05023-A	25	100 - 1050	Dipswitch/ TPSB-100EU	3 - 43	220 - 240 (50/60 Hz)	Mains Dimming
L1M1MID120S-24E	L05011i3	20	100 - 1200	Dipswitch	6 - 42	180 - 240 (50/60 Hz)	1-10V/Pot
		24	600 - 900				
L1W1MID140S-30E	L05031	30	100 - 1400	Dipswitch	6 - 42	180 - 240 (50/60 Hz)	1-10V/Pulse/Pot

TPSB-100EU SmartSet Controller

SmartSet Software

NFC Programmable DALI-2 Drivers

DALI Constant Current : Round Drivers



- DALI-2 + pushDIM + pushCCT
- CLO, Current setting through NFC
- Compliant to DALI Part 251, 252, 253
- Soft dimming & flicker-free at any brightness
- Dimming range : 0.1-100%,
- Dimmable & Tunable White
- 10W/15W/25W/36W
- Intelligent LED hot-plug protection function
- DALI Function setting through NFC
- O/P Current, Min-Max Level, Failure level, Power on level, Address, Group, Scenes Fade time, Fade rate, Select dimming curve Linear OR Logarithmic.

DALI	Form Factor	Model No.	Current Setting (NFC) mA	O/P Voltage (Vdc)	Max. O/P Wattage	Size (mm) ØxH
DT6	Round	T1A1240050P-10DE	100-500	3-42	10W	57x24
DT6	Round	T1A1240070P-15DE	200-700	3-42	15W	57x24
DT6	Round	T1A1240085P-25DE	300-850	3-42	25W	65x30
DT6	Round	T1A1240120P-36DE	600-1200	10-42	36W	65x30
DT8	Round	T1A2240050P-10DE	100-500	3-42	10W	57x24
DT8	Round	T1A2240070P-15DE	200-700	3-42	15W	57x24
DT8	Round	T1A2240085P-25DE	300-850	3-42	25W	65x30
DT8	Round	T1A2240120P-36DE	600-1200	10-42	36W	65*30

DALI Constant Current : Compact Drivers

- DALI-2 + pushDIM + pushCCT
- CLO, Current setting through NFC
- Compliant to DALI Part 251, 252, 253
- Soft dimming & flicker-free at any brightness
- Dimming range : 0.1-100%,
- Dimmable & Tunable White
- 10W/15W/25W/36W/45W
- Intelligent LED hot-plug protection function
- DALI Function setting through NFC
- O/P Current, Min-Max Level, Failure level, Power on level, Address, Group, Scenes Fade time, Fade rate, Select dimming curve Linear OR Logarithmic.

Form Factor	Model No.	Current Setting (NFC) mA	O/P Voltage (Vdc)	Max. O/P Wattage	Size (mm) LxWxH
Compact DT6	T1A1240050P-10FE	100-500	3-42	10W	101x36x25
Compact DT6	T1A1240070P-15FE	100-700	3-42	15W	135x35x20
Compact DT6	T1A1240070P-25FE	250-1050	6-54	25W	120x41x28
Compact DT6	T1A1240105P-36FE	350-1050	6-54	36W	145x45x28
Compact DT6	T1A1240140P-45FE	500-1400	6-54	45W	145x45x28
Compact DT8	T1A2240050P-10FE	100-500	3-42	10W	101x36x25
Compact DT8	T1A2240070P-15FE	100-700	3-42	15W	135x35x20
Compact DT8	T1A2240070P-25FE	250-700	6-54	25W	120x41x28
Compact DT8	T1A2240105P-36FE	350-1050	6-54	36W	145x45x28
Compact DT8	T1A2240140P-45FE	500-1400	6-54	45W	145x45x28

DALI Constant Current : Linear Drivers

- DALI-2 + pushDIM + pushCCT CLO
- Compliant to DALI Part 251, 252, 253
- Soft dimming & flicker-free at any brightness
- Dimming range : 0.1-100%,
- 30W/40W/50W/60W/80W
- DALI Function setting through NFC
- O/P Current, Min-Max Level, Failure level, Power on level, Address, Group, Scenes Fade time, Fade rate, Select dimming curve Linear OR Logarithmic.

Form Factor	Model No.	Current Setting (NFC) mA	O/P Voltage (Vdc)	Max. O/P Wattage	Size (mm) LxWxH
Linear DT6	T1A1240085P-30EE	250-850	10-54	30W	243x30x21
Linear DT6	T1A1240105P-40EE	500-1050	10-54	40W	243x30x21
Linear DT6	T1A1240130P-50EE	650-1300	10-54	50W	284x30x21
Linear DT6	T1A1240170P-60EE	900-1700	10-54	60W	355x30x21
Linear DT6	T1A1240200P-80EE	1000-2000	10-54	80W	355x30x21
Linear DT8	T1A2240085P-30EE	250-850	10-54	30W	243x30x21
Linear DT8	T1A2240105P-40EE	500-1050	10-54	40W	243x30x21
Linear DT8	T1A2240130P-50EE	650-1300	10-54	50W	284x30x21
Linear DT8	T1A2240170P-60EE	900-1700	10-54	60W	355x30x21
Linear DT8	T1A2240200P-80EE	1000-2000	10-54	80W	355x30x21

DALI Constant Current : Outdoor Drivers

- DALI-2 + pushDIM
- Programable Current
- Compliant to DALI Part 201, 202, 207
- Dimming range : 1-100%,
- 22W to 150W
- CLO Function (Constant lumen output)
- Intelligent LED hot-plug protection function
- Soft dimming & flicker-free
- IP67 Rated

Form Factor	Model No.	Programable Current (mA)	O/P Voltage (Vdc)	Max. O/P Wattage	Size (mm) LxWxH
Compact DT6	T1A1240060P-23PE	250-600	12-42	23W	137x43.5x34
Compact DT6	T1A1240110P-42PE	500-1100	12-42	42W	143x56x34
Compact DT6	T1A1240165P-63PE	900-1650	12-42	63W	161x50x34
Compact DT6	T1A1240220P-80PE	1500-2200	12-42	80W	160x68x38
Compact DT6	T1A1240400P-152PE	2500-4000	12-42	152W	197x68x38

DALI Constant Voltage : 24V IP67

- DALI-2 + pushDIM Dimming
- Dimming range : 1-100%,
- Soft dimming & flicker-free at any brightness
- Standby Power Input less than 0.5W
- SELV and CLASS-1 Design
- CE, DALI-2 Certification
- High PF, High Efficiency, Low THD
- 150W - DT6 Drivers

Application:

Magnetic Track Lights (48V input) | Stretch ceiling LED Modules

Form Factor	Model No.	O/P Current	O/P Voltage	O/P Wattage (W)	Size (mm) LxWxH
Compact	T1A1240024V-150PE	6.25A	24V (+/-5%)	150W	214x68*L38

Multiple Current (DIP Switch) DALI-2 Drivers

DALI Constant Current : Compact Drivers

- DALI-2 + pushDIM Dimming
- 16 level current output by external DIP Switch
- Dimming range : 1-100%, Output current accuracy 2%
- Soft dimming & flicker-free at any brightness
- Screw-free & Pressing type Strain relief
- Intelligent LED hot-plug protection function
- 10W/18W/22W/28W/42W/60W

Form Factor	Model No.	Current selection (DIP switch) mA	O/P Voltage (Vdc)	Max. O/P Wattage	Size (mm) LxWxH
Compact	T1A1240035S-10EE	100-350	12-42	10.5W	130x29x20
Compact	T1A1240070S-10EE	350-700	2.5-17	10W	130x29x20
Compact	T1A1240035S-10FE	100-350	6-42	10W	117x46x24
Compact	T1A1240045S-18FE	300-450	3-42	18W	98x44x30
Compact	T1A1240060S-22FE	225-600	6-42	22W	117x46x29
Compact	T1A1240075S-28FE	300-750	6-42	28W	117x46x29
Compact	T1A1240110N-42FE	450-1100	6-42	42W	103x69x31
Compact	T1A1240200S-60FE	800-2000	6-42	60W	123.5x79.5x31

DALI Constant Current : Linear Drivers

- DALI-2 + pushDIM Dimming
- 10 level current output by external DIP Switch
- Dimming range : 1-100%, Output current accuracy 2%
- Soft dimming & flicker-free at any brightness
- Standby Power Input less than 0.5W
- SELV and CLASS-1 Design
- Intelligent LED hot-plug protection function
- High PF, High Efficiency, Low THD
- 30W/40W/50W/60W/70W/80W

Form Factor	Model No.	Current selection (DIP switch) mA	O/P Voltage (Vdc)	Max. O/P Wattage	Size (mm) LxWxH
Linear	T1A1240075S-30EE	300-750	3-42	30W	245x30x21
Linear	T1A1240100S-40EE	550-1000	3-42	40W	285x30x21
Linear	T1A1240125S-50EE	800-1250	3-42	50W	285x30x21
Linear	T1A1240075S-40EE	300-750	3-54	40W	285x30x21
Linear	T1A1240100S-50EE	550-1000	3-54	50W	285x30x21
Linear	T1A1240165S-60EE	900-1650	12-42	60W	355x30x21
Linear	T1A1240150S-70EE	1050-1500	3-54	70W	355x36x23
Linear	T1A1240200S-80EE	1200-2000	6-42	80W	355x36x23

DALI Constant Current : Tunable White (DT8) Drivers

- DALI-2 + pushDIM Dimming + pushCCT Control
- Support advanced functions such as corridorDIM,EL,CLO
- 10 level current output by external DIP Switch
- Soft dimming & flicker-free at any brightness
- Dimming range : 1-100%, Output current accuracy 2%
- Suitable for Emergency Lighting - En50172
- Screw-free & Pressing type Strain relief
- Intelligent LED hot-plug protection function
- Standby Power Input less than 0.5W

Form Factor	Model No.	Current selection (DIP switch) mA	O/P Voltage	O/P Wattage (W)	Size (mm) LxWxH
Compact	T1A2240035S-10FE	100-350	12-54	10W	117x46x24
Compact	T1A2240045S-22FE	150-450	12-54	22W	117x46x29
Compact	T1A2240080S-30FE	350-800	12-54	30W	117x46x29
Compact	T1A2240105S-42FE	600-1050	12-42	42W	173x75x30
Compact	T1A2240150S-60FE	1050-1500	12-42	60W	191x75x30
Linear	T1A2240105S-42EE	600-1050	12-42	42W	285x30x21
Linear	T1A2240150S-60EE	1050-1500	12-42	60W	355x30x21

DALI Constant Current : Linear NON-ISOLATED Drivers

- DALI-2 + pushDIM Dimming
- 10 level current output by external DIP Switch
- Dimming range : 1-100%, Output current accuracy 2%
- Soft dimming & flicker-free at any brightness
- Standby Power Input less than 0.5 W
- SELV and CLASS-1 Design
- Intelligent LED hot-plug protection function
- 40W/60W/75W/100W

Form Factor	Model No.	Current selection (DIP switch) mA	O/P Voltage (Vdc)	Max. O/P Wattage	Size (mm) LxWxH
Linear, Non-Isolated	T1A1240040S-40EE	75-400	54-240	40W	265x30x21
Linear, Non-Isolated	T1A1240045S-60EE	75-450	54-240	60W	265x30x21
Linear, Non-Isolated	T1A1240055S-75EE	100-550	54-240	75W	265x30x21
Linear, Non-Isolated	T1A1240045S-75EE	100-450	54-200	75W	245x30x21
Linear, Non-Isolated	T1A1240080S-100EE	250-800	54-200	100W	285x30x21

DALI-2 Constant Voltage Drivers

DALI Constant Voltage: 24V Dimmable (DT6)

- DALI-2 + pushDIM Dimming
- Dimming range : 1-100%, Output current accuracy 2%
- Soft dimming & flicker-free at any brightness
- SELV and CLASS-1 Design
- High PF, High Efficiency, Low THD
- 60W/100W/150W/200W
- Standby Power Input less than 0.5W

Tunable White (DT8) Drivers

- DALI-2 + pushDIM + pushCCT Control
- 2-Channel Constant Voltage Output
- Dimming range : 1-100%, Output current accuracy 2%
- Soft dimming & flicker-free at any brightness
- SELV and CLASS-1 Design
- 100W/150W/200W
- Standby Power Input less than 0.5W

DALI	Form Factor	Model No.	Max. O/P Current	O/P Voltage (Vdc)	Max. O/P Wattage	Size (mm) LxWxH
DT6	Linear	T1A1240024V-60E	2.5A	24V	60W	285x30x21
DT6	Linear	T1A1240024V-100E	4.2A	24V	100W	355x30x21
DT6	Linear	T1A1240024V-150E	6.25A	24V	150W	355x36x23
DT6	Linear	T1A1240024V-200E	8.33A	24V	200W	321.5x48x30
DT8	Linear	T1A2240024V-100E	4.2A	24V	100W	355x30x21
DT8	Linear	T1A2240024V-150E	6.25A	24V	150W	355x36x23
DT8	Linear	T1A2240024V-200E	8.33A	24V	200W	322x48.5x30.5

DALI Constant Voltage : 48V

- DALI-2 + pushDIM Dimming
- Dimming range : 1-100%
- Soft dimming & flicker-free at any brightness
- Standby Power Input less than 0.5W
- SELV and CLASS-1 Design
- CE, DALI-2 Certification
- High PF, High Efficiency, Low THD
- 60W/100W/150W - DT6 Drivers

Applications

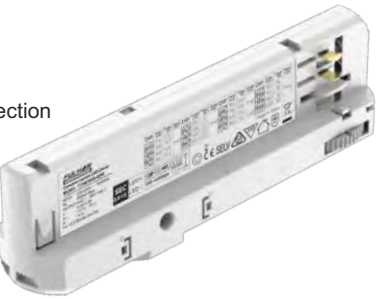
Magnetic Track Lights (48V input) | Stretch ceiling LED Modules

Form Factor	Model No.	O/P Current	O/P Voltage	O/P Wattage (W)	Size (mm) LxWxH
Linear	T1A1240048V-60E	1.25A	48V	60W	285x30x21
Linear	T1A1240048V-100E	2.10A	48V	100W	355x30x21
Linear	T1A1240048V-150E	3.12A	48V	150W	355x36x23

Indoor In-Track Adaptor Drivers

In-Track 3 Phase 4 Wire Driver Series

- O/P Current selection through DIP Switch
- Flicker Free, O/P Ripple < 5%
- THD < 10%, Power factor > 0.95
- Life 50,000hrs
- Fits on most commonly used rail systems
- Suitable for CLASS II fixtures, SELV equivalent
- O/P Open & short circuit protection.
- O/P overload & O/P to ground short circuit protection
- Available in White and Black colour



Model No.	Current(mA)	Voltage (Vdc)	Wattage (W)
T1240105S-42NE	300 - 1050	9-42V	42

In-Track 1 Phase 3 Wire Driver Series

- O/P Current selection through DIP Switch
- Flicker Free, O/P Ripple < 5%
- THD < 10%, Power factor > 0.95
- Life 30,000hrs
- Fits on most commonly used rail systems
- Suitable for CLASS II fixtures, SELV equivalent
- O/P Open & short circuit protection.
- O/P overload & O/P to ground short circuit protection
- Available in White and Black colour

Model No.	Current(mA)	Voltage (Vdc)	Wattage (W)
T1240050S-20JE	350 - 500	28-40	20
T1240080S-32JE	500 - 800	28-40	32
T1240105S-42JE	900 - 1050	28-40	42

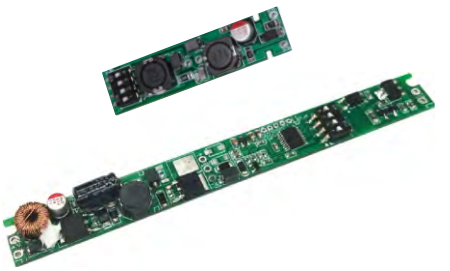
In-Track 3 Phase 6 Wire DALI-2 Driver Series

- DALI-2 DT6 Constant current Driver
- O/P Current selection through DIP Switch
- Flicker Free, O/P Ripple < 5%
- THD < 10%, Power factor > 0.95
- Life 50,000hrs
- Suitable for CLASS II fixtures, SELV equivalent
- O/P Open & short circuit protection.
- O/P overload & O/P to ground short circuit protection
- Available in White and Black colour
- Fits on most commonly used rail systems

Model No.	Current(mA)	Voltage (Vdc)	Wattage (W)
T1A1240105S-42NE	300 - 1050	9-42V	42

48V Magnetic Track DC-DC Series

- Non-Dim & DALI-2 DT6 & DT8 DC-DC
- O/P Current selection through DIP Switch
- Flicker Free, O/P Ripple < 5%
- O/P Open & short circuit protection.
- O/P overload & O/P to ground short circuit protection
- Life 50,000hrs



Model No.	Current (mA)	Voltage (Vdc)	Wattage (W)	Dimming	Size (mm) LxWxH
T1048040S-17AE	150 -400	12-42	17	NA	58x14x9.4
T1048080S-30AE	450 - 800	12-42	30	NA	58x14x9.4
T1A1048070S-30AE	150 - 700	12-42	30	DALI-2 DT6	125x13.8x10.5
T1A2048070S-30AE	150 - 700	12-42	30	DALI-2 DT8	125x13.8x10.5

Indoor Drivers

Constant Voltage Drivers

- 12V, 24V & 48V Constant Voltage LED Driver
- Flicker-Free, O/P Ripple current < 5%
- THD < 10%
- Power factor > 0.95
- CE Compliant
- Suitable for CLASS II fixtures, SELV equivalent
- O/P Open & short circuit protection.
- O/P overload & O/P to ground short circuit protection
- Life 30,000hrs

CE

Model No.	Current (A)	Voltage (V)	Wattage (W)	PF	IP Rating	Size (mm) LxWxH
T1240012V-30EE	2.50	12	30	> 0.95	IP20	136x38x28
T1240024V-30EE	1.25	24	30	> 0.95	IP20	136x38x28
T1240012V-60EE	5.00	12	60	> 0.95	IP20	168x38x30
T1240024V-60EE	2.50	24	60	> 0.95	IP20	168x38x30
T1240024V-120EE	5.00	24	120	> 0.95	IP20	268x45x30.5
T1240048V-120EE	2.50	48	120	> 0.95	IP20	268x45x30.5
T1240024V-150EE	6.25	24	150	> 0.95	IP20	268x45x30.5
T1240048V-150EE	3.13	48	150	> 0.95	IP20	268x45x30.5

PONY - CV Slim Indoor

- 12V & 24V Constant Voltage LED Driver
- Flicker-Free, O/P Ripple current < 5%
- THD < 10%
- Power factor > 0.9
- CE Compliant
- Suitable for CLASS II fixtures, SELV equivalent
- O/P Open & short circuit protection
- O/P overload & O/P to ground short circuit protection

CE

Model No.	Current (A)	Voltage (V)	Wattage (W)	PF	IP Rating	Size (mm) LxWxH
T1240012V-60EES	5.00	12	60	> 0.9	IP20	329x30x17
T1240024V-60EES	2.50	24	60	> 0.9	IP20	329x30x17
T1240012V-100EES	8.33	12	100	> 0.9	IP20	365x30x18
T1240024V-100EES	4.17	24	100	> 0.9	IP20	365x30x18
T1240024V-160EES	6.64	24	160	> 0.9	IP20	395x30x21.5

Phase Cut Indoor Drivers

- Leading & Trailing Edge Dimming
- Dimming range 10 to 100%
- SELV Equivalent , Class II
- Life 30,000hrs at max Tc
- Inbuilt cable clamp
- O/P Open & short circuit protection
- O/P overload & O/P to ground short circuit protection
- CE Compliant

Model No.	Current(mA)	Voltage (V)	Wattage (W)	PF	IP Rating	Size (mm) LxWxH
T1C12400150-06F	150	27-42	6	> 0.95	IP20	100x38x25
T1C12400200-08F	200	27-42	8	> 0.95	IP20	100x38x25
T1C12400300-12F	300	26-40	12	> 0.95	IP20	116x42.5x28
T1C12400350-15F	350	27-42	15	> 0.95	IP20	116x42.5x28
T1C12400700-15F	700	14-22	15	> 0.95	IP20	116x42.5x28
T1C12400300-20F	300	50-68	20	> 0.95	IP20	116x42.5x28
T1C12400500-21F	500	27-42	21	> 0.95	IP20	116x42.5x28
T1C12400700-29F	700	27-42	29	> 0.95	IP20	150x45x30

48V Constant Voltage Magnetic Track Driver

- Flicker FREE, O/P Ripple current < 5%
- THD < 10%
- Power factor > 0.9
- CE Compliant
- Suitable for CLASS II fixtures, SELV equivalent
- O/P Open & short circuit protection.
- O/P overload & O/P to ground short circuit protection
- Life 30,000hrs

Model No.	Current (A)	Voltage (V)	Wattage (W)	PF	IP Rating	Size (mm) LxWxH
T1240048V-100ME	2.08	48	100	> 0.9	IP20	325x22.8x46.1
T1240048V-150ME	3.13	48	150	> 0.9	IP20	325x22.8x46.1
T1240048V-250ME	5.21	48	250	> 0.9	IP20	404x22x42.4

IP20 Programable Drivers

- 250mA - 1500mA programable output current
- 0-10V dimming
- Handheld programmer or SmartSet software
- Programmable dimming curve allows step dimming and dim-to-off
- Advanced programmability of output current and thermal temperature protection (NTC)

0 - 10V Dimming

Model Number	Output Watts (W)	Output Current (mA)	Output Voltage (VDC)	Input Voltage (VAC)	Dimming Type	Surge Protection L-N	Surge Protection L&N-G	IP	Dimensions mm (L x W x H)	Case Type
T1M1UNV105P-40E	40	250 - 1050	10 - 57	120-277; 50/60Hz	0 - 10V	2kV	4kV	20	275 x 31 x 25	Linear w/End Terminals
T1M1UNV105P-60E	60	250 - 1050	10 - 57	120-277; 50/60Hz	0 - 10V	2kV	4kV	20	237 x 40.4 x 30	Linear w/End Terminals
T2C1UNV150P-40L*	40	250 - 500	10 - 57	120-277; 50/60Hz	0 - 10V or Bluetooth	2.5kV	2.5kV	20	167.89 x 50.4 x 30	Compact w/End Leads
L1V1230105S-25E	25	100-1050	3-43	220-240; 50/60Hz	Triac Leading & Trailing edge	2kV	3kV	20	110 x 52 x 23.5	Compact w/End Terminals

SmartSet: The Power of Programmability

Fulham's programmable WorkHorse LED drivers run on the innovative SmartSet programming platform, an intuitive, flexible system that gives the user the power to create the right driver for any situation. Benefits include SKU reduction and the ability to integrate more efficient LED modules into existing luminaire designs.

- Output current programmable in 1mA increments
- Allows custom dimming curves (for step dimming and dim-to-off)
- Driver does not need to be powered during programming
- One touch Auto-Programming capability for high volume usage
- Programming via handheld controller or PC software

TPSB-100EU
SmartSet Controller

SmartSet
Software

To see the Fulham SmartSet programming platform in action visit the links below:

Overview of basic programming features: ***www.fulham.com/smartsetprogramming***

One touch Auto-Programming: ***www.fulham.com/smartsetauto***

Programming custom dimming curves: ***www.fulham.com/smartsetdimmingcurve***

*cULus Listed

Low Profile Linear High Output DC LED Modules

- Ideal replacement for T5HO in linear highbays, water/vapor proof, and recessed and wall luminaires
- Aluminium extrusion mount provides superior thermal management
- Low profile design for use in smaller luminaires
- Constant current, high-efficacy LEDs, 3 SDCM for high color consistency
- Up to 219 lm/W; output range 234 lm to 14,699 lm (@4000K/80CRI)
- Optional lenses snap on in seconds

Specifications

Operating Temp. Range	-40°C to 55°C / -40°F to 131°F	**PCB Material**	MCPCB (Aluminium Clad)
Color Consistency	Binning per ANSI C78.377-2015 @ 25°C; 3 SDCM	**Warranty**	5 years @ 105°C Tc from the date of manufacture
Lumen Maintenance	L70: >60,000 hrs / L90: 40,000 hrs (meets DLC Premium and Standard requirements)	**Safety/compliance**	cURus (File # E351548), UL Class 2 Lighting System, CE, SELV, RoHS Compliant

Product Models

Model Number / Dimension (L x W x H)	Number of LEDs	Input Current (mA)	Nom.Fwd. Voltage (VDC)	Nom. Rated Power (W)	Max. Fwd. Voltage (V)	Max. Rated Power (W)	Nom. Lum. @4000K/80CRI (lm)	Nom. Efficacy @4000K/80CRI (lm/W)
VMU048012LPyxxA 140mm x 32mm x 7.4mm	24	175	22.3	3.9	25	4	799	205
		350	23.1	8.1	25	9	1518	187
		480*	23.8	11.40	26	12	1959	172
VMU064025LPyxxA 278mm x 32mm x 7.4mm	48	350	34.0	11.9	37	13	2347	197
		450	34.7	15.6	38	17	2942	189
		640*	35.6	22.8	39	25	3919	172
VMU080030LPyxxA 559mm x 32mm x 7.4mm	60	350	33.7	11.8	37	13	2380	202
		700	35.1	24.6	39	27	4418	180
		800*	35.6	28.5	39	31	4899	172
VMU125050LPyxxA 559mm x 32mm x 7.4mm	96	350	32.9	11.5	35	12	2425	211
		700	34.1	23.9	36	26	4698	197
		1250*	35.5	44.4	38	49	7700	173
VMU140055LPyxxB† 840mm x 32mm x 7.4mm	108	700	33.8	23.7	36	25	4736	200
		1050	34.7	36.4	38	39	6847	188
		1400*	35.5	49.7	39	55	8656	174
VMU140055LPyxxA 1121mm x 32mm x 7.4mm	108	700	33.8	23.7	36	25	4736	200
		1050	34.7	36.4	38	39	6847	188
		1400*	35.5	49.7	39	55	8656	174
VMU140055LPyxxC† 1168mm x 32mm x 7.4mm	108	700	33.8	23.7	36	25	4736	200
		1050	34.7	36.4	38	39	6847	188
		1400*	35.5	49.7	39	55	8656	174
VMU240095LPyxxA 1121mm x 32mm x 7.4mm	180	700	33.0	23.1	35	24	4838	209
		1400	34.2	47.9	37	52	9331	195
		2400*	35.6	85.4	39	94	14,699	172
VMU240095LPyxxC† 1472mm x 32mm x 7.4mm	180	700	33.0	23.1	35	24	4838	209
		1400	34.2	47.9	37	52	9331	195
		2400*	35.6	85.4	39	94	14,699	172

* Indicates maximum rated current. Modules may be operated at a current less than or equal to this value, below the Tc rating.
† Made to order. Minimum order quantity applies.

Part Numbering Key

V M U 240 095 LP 8 30 A

CRI

Standard: 8 = 80
Made-to-order: 9 = 90

Color Temperature

Standard: 30 = 3000K, 35 = 3500K, 40 = 4000K, 50 = 5000K

Made-to-order: 27 = 2700K, 57 = 5700K, 65 = 6500K

Linear High Output DC LED Modules

- Ideal replacement for T5HO in linear highbays, water/vapor proof, and recessed and wall luminaires
- Aluminum extrusion mount for thermal management with positioning magnets
- LED at each end and connector underneath for even light distribution
- Constant current, high-efficacy LEDs, 3 SDCM for high color consistency
- Up to 198 lm/W; output range 2,200 lm to 13,310 lm (@4000K/80CRI)

Specifications

Operating Temp. Range	-40°C to 55°C / -40°F to 131°F	**PCB Material**	CEM3
Color Consistency	Binning per ANSI C78.377-2015 @ 25°C; 3 SDCM	**Warranty**	5 years @ 105°C Tc from the date of manufacture
Lumen Maintenance	L70: >60,000 hrs / L90: 40,000 hrs (meets DLC Premium and Standard requirements)	**Safety/compliance**	cURus (File # E351548), UL Class 2 Lighting System, CE, SELV, RoHS Compliant

Product Models

Model Number / Dimension (L x W x H)	Number of LEDs	Input Current (mA)	Nom.Fwd. Voltage (VDC)	Nom. Rated Power (W)	Max. Fwd. Voltage (V)	Max. Rated Power (W)	Nom. Lum. @4000K/80CRI (lm)	Nom. Efficacy @4000K/80CRI (lm/W)
TMU125050CLYxxA 560mm x 44mm x 10mm	96	350	33	12	35	12	2245	195
		1050	35	37	38	40	6210	169
		1250*	36	44	39	49	7130	161
TMU140055CLyxxA 1120mm x 44mm x 10mm	108	350	33	11	34	12	2255	196
		1050	35	36	38	39	6340	174
TMU140055CLyxxB† 840mm x 44mm x 10mm		1400*	36	50	39	55	8015	161
TMU240095CLyxxA 1120mm x 44mm x 10mm	180	350	32	11	34	12	2230	198
		1400	34	48	37	52	8640	180
TMU240095CLyxxC† 1473.2mm x 44mm x 13.3mm		2400*	36	85	39	94	13610	159

* Indicates maximum rated current. Modules may be operated at a current less than or equal to this value, below the Tc rating.
† Made to order. Minimum order quantity applies.

Part Numbering Key

T M U 240 095 CL 8 30 A

CRI
Standard: 8 = 80
Made-to-order: 9 = 90

Color Temperature
Standard: 30 = 3000K, 35 = 3500K, 40 = 4000K, 50 = 5000K
Made-to-order: 27 = 2700K, 57 = 5700K, 65 = 6500K

Accessories for Low Profile Linear HO & Linear HO Output DC Modules

Model Number	Description	Model Number	Description
TLE-OPT-120-002	5.5" snap-on lens, 82% transmissivity	**TLE-OPT-120-021***	58" snap-on lens, 82% transmissivity
TLE-OPT-120-003	11" snap-on lens, 82% transmissivity	**TLE-OPT-120-020**	Standard LinearHO module end caps (2 pieces)
TLE-OPT-120-004	22" snap-on lens, 82% transmissivity	**VLE-OPT-120-012***	Low Profile LinearHO module end caps (2 pieces)
VLE-OPT-120-033D*	33" snap-on lens, 82% transmissivity	**TLC-HN02**	22" wire harness for 1 or 2 modules in parallel
TLE-OPT-120-013	44" snap-on lens, 82% transmissivity	**TLC-HN04**	22" wire harness for 3 or 4 modules in parallel
TLE-OPT-120-014*	46" snap-on lens, 82% transmissivity		

*Made to order.

450mA ECO Series DC LED Modules

- Range of common lengths and wattages to fit a variety of luminaires
- High efficacy: up to 150 lm/W @ 350mA, 4000K/90 CRI
- On board connectors allow easy wire connections and end-to-end board linking
- 3 SDCM for high color consistency
- CRI90 Standard, meets CEC Title 24 requirement

Specifications

Beam Angle	120°
Operating Temperature Range	-35°C to +45°C (-31°F to 113°F)
Lumen Maintenance	L70 = 60,000hrs @ Tc=105°C / L90 = 40,000hrs @ Tc=105°C
Color Consistency	Binning per ANSI C78.377-2008; 4 SDCM
PCB Material	FR-4
Warranty	5 years @ Max Tc from the date of manufacture
Safety/compliance	cURus (File # E351548), Class 2 Lighting System, RoHS Compliant

Product Models

Model Number	Number of LEDs	Nominal Input Current* (mA)	Forward Voltage (VDC)	Nominal Power (W)	Dimensions (L x W) (including connector)	Lumens @4000K/80CRI (lm)	Nom. Efficacy @4000K / 80 CRI (lm/W)
VMU045005EC9xxA	12	350	11.5	4.0	38 x 24 x 5.6	554	138
VMU045005EC9xxB	12	350	11.5	4.0	127 x 18 x 5.6	605	150
VMU045010EC9xxA	24	350	23.0	8.1		1096	136
VMU045010EC9xxB	24	350	23.0	8.1	279.4 x 18 x 5.6	1172	145
VMU045010EC9xxC	24	350	23.0	8.1	432 x 18 x 5.6	1172	145

* Max input current 450mA. See specification sheets for detailed information on input current levels.

Part Numbering Key

V M U 045 015 E C 9 30 A

Color Temperature

Standard: 30 = 3000K, 35 = 3500K, 40 = 4000K

Made-to-order: 27 = 2700K, 50 = 5000K

CRI

Standard: 9 = 90

Some products may not carry CE marking. Contact Fulham for more information.

Signage Module

- Wide beam angle ~ 170°
- LED with one bin system (3SDCM) Consistent color.
- Cuttable, Stable & Reliable.
- Suitable for Dimming applications
- 12VDC Constant voltage operated
- High grade 3M self adhesion tape for easy installation, in addition with screw mounting provision.
- Rated for IP67 applications
- CCT - 6500K, Red, Green, Blue
- 80 CRI

Application:

LED modules for light panel based advertising | Backlighting | Sign boards | Barrisol Ceiling

Specifications	
Input Voltage	12VDC ± 3%
LED Quantity	Options - 1LED, 2LED, 3LED OR 4LED
CRI	Standard 80 CRI, (90 CRI available on request)
Storage temp. range	-25°C ~ +60°C / 60RH
Operating temperature range (Ta)	-10°C ~ +45°C
Max Tc	70°C
Estimated Lumen Maintenance	L70: 50,000 hrs
Housing material	FR Grade Polycarbonte

Part Numbering Key

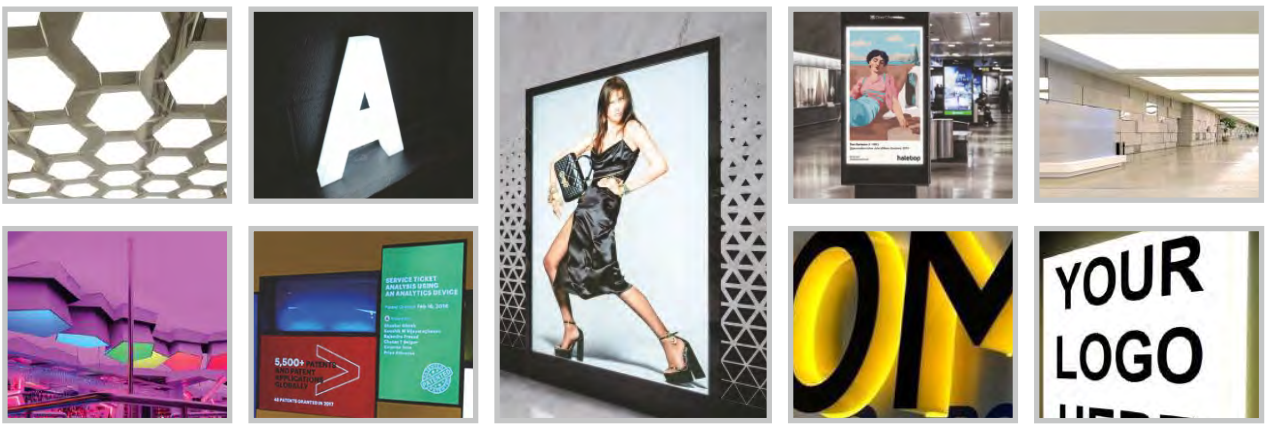
1SMD-2835 SIGNFLEX-1P-A-BB

PRODUCT FAMILY
No of LED & LED Footprint

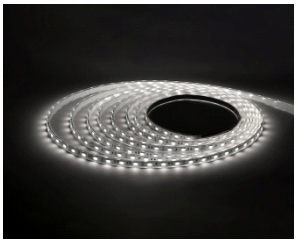
No of LED
1P - 01 LED per module
2P - 02 LED per module
3P - 03 LED per module
4P - 04 LED per module

A - CRI
8 - 80CRI
9 - 90CRI

BB - CCT
27 - 2700K
30 - 3000K
40 - 4000K
65 - 6500K
RE - RED
BL - BLUE
GR - GREEN
CS - Custom



Flexible LED Strips



- Super Bright LEDs - Stable & Reliable
- LED with one bin system (3SDCM) Consistent color
- Mounting means - 3M double side adhesive tape
- LEDs equally spaced to allow uniform light distribution
- Non-IP and IP66/68 version available
- 120° viewing angle per module
- 80 CRI/ 90 CRI Variants

Applications:

Hospitality Lighting, Cabinet Lighting, Signage, Architecture Lighting, Wall Integration

Residential, Retail, Façade Lighting, Cove Lighting, Landscape Lighting

CE

Specifications	
Input Voltage	24VDC ± 5%
LED Quantity	60 / 120 / 180 nos. (As per the Series)
Length	5 meter per reel
CRI	Standard 80, 90 available
Storage temp. range	-25°C ~ +60°C / 60RH
Operating temperature range (Ta)	-10°C ~ +45°C (For IP20 Rated models 10°C ~ +45°C)
Beam Angle	120°
Color Consistency	Binning per ANSI C78.377-2015 @ 25°C Tj; 3 SDCM
Estimated Lumen Maintenance	L70: 50,000 hrs
Safety/Compliance	Dry and Damp Location
Mounting solution	3M tape

Part Numbering Key

GL-24-48W-IP67-HE-927-140L

Product Family
GL - GLOWLIGHT

I/P Voltage
24 - 24VDC

Wattage / Roll
48W, 60W, 75W, 90W
96W, 130W, 150W

IP Rating
IP20, IP67

LED / mtr
140, 240

CCT
27 - 2700K 30 - 3000K
40 - 4000K
TW - Tunable white

CRI
8 - 80CRI 9 - 90CRI

Market
HE - PROJECTS
EC - RETAIL

SIG Qualified Bluetooth® Mesh Lighting Control System

Bluetooth mesh is an emerging platform for connected lighting that is paving the way to IoT smart lighting. It provides fast, reliable performance, unmatched scalability, high-level security and out-of-the-box interoperability, creating opportunities for larger, more efficient lighting networks.

- **Wireless** High speed communication at distances of over 90 meters, creating massive savings on installation and wiring
- **Scalable** Start small with a single room, or connect thousands of devices in a building-wide installation
- **Secure** Advanced encryption standards with multiple authentication keys for maximum protection
- **Reliable** Self-healing network prevents communication losses and allows devices to be added or removed without disruption
- **Interoperable** All SIG Qualified Bluetooth mesh devices can communicate seamlessly, regardless of manufacturer

Fulham eliteBlue Commissioning Software

Fulham's eliteBlue commissioning software provides an intuitive set of tools for commissioning and monitoring qualified Bluetooth mesh lighting devices. Using simple web and iOS apps, users can easily customize lighting control parameters in accordance with site-specific needs and building energy codes.

- **Web portal**
  Used off site to manage lighting installation projects and plan commissioning, including mapping zones within a building, setting up control scenarios for zones and managing users collaborating on the project.
  Try it at eliteblue.fulham.com

- **Mobile app for iOS**
  Used onsite to commission devices and fine-tune installations. No specialized training or lighting control expertise is needed- the intuitive interface lets you add Bluetooth mesh lighting devices to a wireless network in no time.

Download on the App Store

Connected Driver

A 40W, 0-10V constant current driver with the unique ability to add Bluetooth mesh connectivity by attaching an intelligent Bluetooth antenna. Compatible with third-party sensors, wall switches, and other devices, the connected driver serves as the core component for powerful, easy-to-expand connected systems.

- 0-10V dimming standard. Add Bluetooth dimming with optional ESLI01HB01 SmartLink
- Compatible with Fulham's SmartSet programming platform

Specifications

Model Number	Input Voltage (VAC)	Watts	Output Voltage (VDC)	Dimensions (L x W x H)	Case Type	Case Qty.
T2C1UNV150P-40L	UNV (120-277)	40	10-57	167 x 50.4 x 30	Compact w/End Leads	20

Bluetooth to 0-10V SmartBridge

A simple, easy-to-install component that connects to an existing 0-10V driver to add SIG Qualified Bluetooth mesh capability. The SmartBridge is an ideal solution for manufacturers looking to develop their Bluetooth product lines or contractors seeking to provide wireless lighting options in the field.

2018 PROGRESS Report SELECTION

EC&M Product of the Year 2019 Category Winner

Specifications

Model Number	Max Load (W)	Max Input Current (A)	Input Voltage (VAC)	IP	Features	Dimensions (L x W x H)	Case Qty.
CTBRCB02JM02	600	5	UNV (120-277)	66	On / Off, 0-10V Dimming Control, Sensor Input	131.3 x 57.4 x 32.8	30
CTBRCB03JM03-PC*					On / Off, 0-10V Dimming Control, Sensor Input, Color Control, Power Metering		

*Made to order.

Bluetooth Accessories

Model Number	Description
ESLTOPJX00SR	Short-range PIR occupancy, daylight harvesting sensor and Bluetooth Radio for connected LED driver
ESLTOPJX00LR	Long-range PIR occupancy, daylight harvesting sensor and Bluetooth Radio for connected LED driver
ESLI01HB01	Bluetooth SmartLink (attaches to T2C1UNV150P-40L to provide Bluetooth capability)
ELIOPJX00SR	Short-range PIR occupancy and daylight harvesting sensor for SmartBridge
ELIOPJX00LR	Long-range PIR occupancy and daylight harvesting sensor for SmartBridge
ESRPB-W-EO	Single Rocker EnOcean Switch (US version)
EDRPB-W-EO	Double Rocker EnOcean Switch (US version)
CTGATBPOE	IoT Bluetooth Gateway extends a mesh network with Internet access to visualize/analyze data

HotSpot Plus LED Driver & Emergency System

The revolutionary HotSpot Plus LED Driver & Emergency System combines the functions of a dimmable, programmable LED driver, emergency LED driver, and replaceable backup battery in a single compact unit. Under normal conditions this all-in-one solution operates as a constant current driver; during a power outage the integrated battery automatically activates, providing reliable emergency illumination for safe building egress. Benefits include smaller size, simplified installation, and the ability to bring emergency LED capability to smaller luminaires.

- Programmable output current in 1mA increments
- UL 924 Self-Diagnostics
- Selectable emergency output:
  - 40W models: 5W for 180 minutes or 10W for 90 minutes
  - 70W model: 7W for 90 minutes, programmable for lower power and longer runtime
- Compact size and simple installation for maximum flexibility

HotSpot Plus LED Driver and Emergency System

Watts	Output Current (mA)	Output Voltage (VDC)	Model Number	Input Voltage (VAC)	Dimming Type	Ch.	Dimensions (L x W x H)	Case Type
40	250-1400	11-55	**FHSAC1-UNV-40BLS**	120-277;50/60Hz	0-10V	1	161.8 x 79.5 x 39.12	Compact w/ Bottom Leads
40	250-1400	11-55	**FHSAC1-UNV-40C**	120-277;50/60Hz	0-10V	1	160.53 x 79.5 x 29	Compact w/ End Leads
40	250-1400	11-55	**FHSAC1-UNV-40L**	120-277;50/60Hz	0-10V	1	241 x 61 x 34	Linear w/ End Leads
70	350-2400	11-55	**FHSAC1-UNV-70SE**	120-277;50/60Hz	0-10V	1	424.2 x 30 x 25.4	Linear w/ Terminals
45	250-1400	11-50	**FHASAC1-230-45CED**	220-240; 50/60Hz	0-10V	1	234 x 82 x 34	Compact w/ Terminals
45	350-2400	11-50	**FHASAC1-230-45CE**	220-240; 50/60Hz	0-10V	1	228 x 82 x 34	Compact w/ Terminals

HotSpot Plus Accessories

FHS-TSTWL-BC	IP67, bicolor LED Indicator / test switch for use in exposed, outdoor-rated luminaires for 40W models
FHS-TSTWL-BC-S*	IP67, bicolor LED Indicator / test switch for use in exposed, outdoor-rated luminaires for 70W model
FHS-EXT-48-TST	1219mm test switch extension cable

*Made to Order

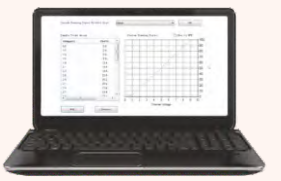
SD = Self-Diagnostic

The Power of Programmability

All HotSpot LED drivers feature Fulham's innovative SmartSet programming platform, which gives the user the power to create the right driver for any situation.

- **Auto-Programming capability for high volume usage**
- **Driver does not need to be powered during programming**
- **Programming via handheld controller or PC software**

TPSB-100EU SmartSet Controller



SmartSet Software

To see the Fulham SmartSet programming platform in action visit the links below:

Overview of basic programming features: ***www.fulham.com/smartsetprogramming***

One touch Auto-Programming: ***www.fulham.com/smartsetauto***

Programming custom dimming curves: ***www.fulham.com/smartsetdimmingcurve***

HotSpot Constant Power Programmable Emergency System

- Provides programmable, constant power emergency output for LED modules.
- Advanced features include self-diagnostics and detailed data logging.
- Compatible with Fulham SmartSet Programming Platform and TPSB-100EU handheld controller.
- Complete system includes emergency driver and emergency battery.

Specifications

Model Number	**FSHACP-230-10P-L-SD**	**RFI/EMI**	FCC Part 15A Non-Consumer
Input Voltage	100 - 277VAC, 50/60Hz	**Number of Output Channels**	1 Channel
Input Current	0.06A Max.	**Output Type**	Class 2
Output Power	1-10W	**Battery Type**	LiFePO4 9.6VDC
Output Current	620mA Max.	**Battery Recharge Time**	12 Hours
Output Voltage Range	16 - 55VDC	**Dimension**	200.4 x 52 x 29.7
Ambient Operating Temperature	10°C to 55°C	**Input Surge Protection**	Line-Neutral 2kV, Line & Neutral-Ground 2kV

HotSpot Constant Power Programmable Battery Packs

Model Number	Max. Load for 90 Min	Capacity	Dimensions (mm) (L x W x H)
FHSBATL3-1.5-SD*	5W	1500mAh	89 x 70 x 25
FHSBATL9-.6-SD*	6W	1800mAh	191 x 48 x 22
FHSBATL3-3-SD	10W	3000mAh	112 x 72 x 33
FHSBATL6-1.5L-SD*	10W	3000mAh	200 x 40 x 23
FHSBATT8-C3L-SD*	10W	3000mAh	235 x 54 x 31

* Contact Fulham for lead time and availability

Why Battery Chemistry Matters

Fulham's HotSpot LED Emergency drivers are designed with safety, reliability, and performance in mind. This is why our newest drivers use LiFePO4 (Lithium Phosphate) batteries. They are non-toxic, contain no heavy metals, and provide the highest levels of safety, efficiency, and high temperature tolerance.

	Lithium Batteries				
Chemistry	**LiFePO4**	LiMn2O4	LiCoO2	NiMH	NiCd
Voltage	**3.2 V**	3.7 V	3.6 V	1.2 V	1.2 V
Volume Energy density	**290Wh/L**	320 Wh/L	500Wh/L	260Wh/L	150Wh/L
Weight Energy density	**130Wh/kg**	135 Wh/kg	200Wh/kg	80Wh/kg	60Wh/kg
Safety	**Good**	Acceptable	Bad	Good	Good
Toxic or green	**Green**	Green	Toxic	Green	Toxic
Tolerance high Tem.	**Good**	Bad	Acceptable	Acceptable	Good
1C Cycle life (<80%)	**>2000**	~ 400	~ 500	~ 500	~ 500
Self-discharge / month	**5%**	8%	8%	35%	30%
Memory effect	**no**	no	no	no	yes
Energy efficiency	**95%**	90%	90%	70%	75%

HotSpot2 LED Emergency System

The HotSpot2 emergency lighting system drives existing constant current LED modules during power outages. A complete system is composed of an emergency driver, emergency battery, and output wire harness. A wide range of lumen output and run times are available.

HotSpot2 Drivers

Model Number (CEC Title 20)	FHS2-UNV-36L	FHS2-UNV-56S
Input Voltage	100-277VAC	
Input Frequency	50/60Hz	
Input Current	0.1A Max	
LED Currents	100mA - 700mA	
Standby Input Power	<0.8W	
Total LED Power	20W	
Input Surge Protection	2.5KV Ring Wave	
Over Current Protection	Fuse	
Illumination Time	90 - 350 Min	
LED Connection	Series	
LED Output Protection	Self Resetting PTC	
Output Classification	UL1310/Class 2	
Bicolor LED Indicator	Included LED indicator / test switch provides auto - matic system status updates	
Output Voltage	12 - 55VDC	12 - 56VDC
Dimension (L x W x H)	135.6 x 42.9 x 23.6	240.3 x 30 x 25.4

HotSpot2 Emergency Battery Packs

Model Number	Dimensions (L x W x H)	Chemistry	Capacity (mAh)	Battery Count	Recharge Time	Max. Load for 90 min. (W)	
						-36L	-56S
FHSBATT8-AA.9	132.8 x 63.5 x 17.8	NiCd	900	8 Cells	24Hrs	4	4
FHSBATL3-1	88.4 x 59.7 x 25.2	LiFePO4	1000	3 Cells	24Hrs	4	4
FHSBATL6-.6	132.8 x 47.5 x 21.6	LiFePO4	1200	6 Cells	24Hrs	6	4
FHSBATL3-1.5	88.4 x 70.1 x 25.2	LiFePO4	1500	3 Cells	24Hrs	8	8
FHSBATL3-1.5S	225.3 x 28.19 x 24.4	LiFePO4	1500	3 Cells	24Hrs	8	8
FHSBATL9-.6	191 x 47.5 x 21.6	LiFePO4	1800	9 Cells	24Hrs	10	8
FHSBATCC3-3†	152.4 x 91.4 x 39.4	LiFePO4	3000	3 Cells	24Hrs	14	14
FHSBATL6-1.5	144.8 x 70.1 x 25.2	LiFePO4	3000	6 Cells	24Hrs	16	14
FHSBATL6-1.5L (with optional mounting bracket)	200.4 x 39.6 x 23.4	LiFePO4	3000	6 Cells	24Hrs	16	14
	230.4 x 41.4 x 23.6		3000	6 Cells	24Hrs	16	14
FHSBATL6-1.5S	423.4 x 28.19 x 24.4	LiFePO4					
FHSBATT8-C3	105.4 x 83.6 x 53.6	NiCd	3000	8 Cells	24Hrs	16	16
FHSBATT8-C3L (with optional mounting bracket)	200.4 x 55.1 x 26.4	NiCd	3000	8 Cells	24Hrs	16	16
	230.4 x 55.4 x 27.2						
FHSBATL3-3	111.5 x 71.3 x 33	LiFePO4	3000	3 Cells	24Hrs	16	16
FHSBATT8-D4*	124.2 x 97.5 x 69.1	NiCd	4000	8 Cells	24Hrs	20	20
FHSBATL6-3	191 x 71.6 x 33	LiFePO4	6000	6 Cells	32Hrs	20	20
FHSBATL6-3L (with optional mounting bracket)	201.7 x 55.1 x 30.7	LiFePO4	6000	6 Cells	32Hrs	20	20
	232 x 56.1 x 32.5						

† Cold Pack Battery: -20°C minimum operating temperature * Made to Order

HotSpot2 Accessories

Wiring harnesses:

Used to set the output current to the LED module during emergency operation.
Using lower current will allow longer run times.

Model Number	mA	Model Number	mA	Model Number	mA
FHS-HARNESS-100	100	FHS-HARNESS-250	250	FHS-HARNESS-550	550
FHS-HARNESS-125	125	FHS-HARNESS-300	300	FHS-HARNESS-600	600
FHS-HARNESS-150	150	FHS-HARNESS-350	350	FHS-HARNESS-650	650
FHS-HARNESS-175	175	FHS-HARNESS-400	400	FHS-HARNESS-700	700
FHS-HARNESS-200	200	FHS-HARNESS-450	450		
FHS-HARNESS-225	225	FHS-HARNESS-500	500		

FHS-TSTWL-BC	IP67, bicolor LED Indicator / test switch for use in exposed, outdoor-rated luminaires
FHS-EXT12M	305mm battery extension cable
FHS-EXT-48-TST	1219mm test switch extension cable

Also available: battery mounting brackets and wallplates. For more information, visit www.fulham.com

Electronic Ballasts

UV Ballast

- Program / Rapid start ballast
- Globally certified products (CE, UL, cULus, RCM, CB)
- 30% Less energy use than traditional magnetic ballasts
- Multi-current operation: Up to 6 lamps can be run off one ballast
- Constant UV output eliminates Buck/Boost transformer
- Low radiant heat reduces air conditioning costs
- Extended lamp life reduces maintenance costs
- Dimming models feature Instant start with 0-10V dimming control and linear (smooth) dimming from 100-70%
- Compatible with wide range of lamp types & configurations

MODEL	WATTAGE	Size (mm) (L x W x H)
SHS1-UNV-C	55	128.5x68x25.1
SHS1-UNV-C-I	45	128.3x60x25.4
SHS2-MLT-L	40	163.8x37.85x24.4
SHS3-MLT-L	40	163.8x37.85x24.4
SHS4P-UNV-C	112	172x76.7x32.2
SHS10-UNV-H	150	254x66x32
SHS11-UNV-H	190	32x66x254
SHS5P-UNV-H	320	254x71x45.5
SHS-DISP	Display & Communication device	125x85x27.8

Differential Strengths of Fulham

Photometry Lab to test LEDs & LED Modules

Reliability Testing Facilities for New Products

Installed Capacity to manufacture > 300K LED Drivers per month

State-of-the-Art Auto Insertion and SMT Line

Four Highly-Flexible Manual Insertions Lines for driver assembly

Fully-Automated Soaking Set Up

Dedicated Line for LED Module Assembly

LED Module Soaking Set Up for 100% soaking of LED Modules

Dedicated team for custom-built LED Module design

Management system as per ISO 9001 : 2015

CERTIFIED ISO 9001:2015

Limited Warranty

Length of Warranty and Coverage

Warranty period will be determined from the date of manufacture as indicated by the date code stamped on each product and will be covered as follows:

EliteControl™ - Hardware: 5 years
FireHorse™ - 2 to 5 Years
FireHorse HotSpot™ - 3 to 5 Years*
IceHorse™ Ballast - 3 Years
LongHorse™ Electronic Remote Fluorescent Ballast - 5 Years
LumoSeries™ - 5 Years
PONY™ Electronic Ballast - 2 Years
PONY™ Electronic SugarCube™ - 2 Years
PONY™ Electronic Transformer - 2 Years
RaceHorse™ Electronic Ballast – 70ºC 5 Years, 90ºC 3 Years
SunHorse™ Ballast - 3 Years
ThoroLED™ Drivers - 2 to 5 Years
ThoroLED™ Modules/Engines - 3 to 5 Years*
ThoroLED™ Retrofit - 5 Years*
ThoroLED™ Luminaire - 5 Years*
Vizion™ Modules/Engines - 5 Years*
Vizion™ Retrofit - 5 Years*
Vizion™ Luminaire - 5 Years*
WorkHorse™ Electronic Fluorescent Ballast - 5 Years
WorkHorse LED™ Drivers - 5 Years

* Covered defects for Vizion, ThoroLED, and HotSpot LED modules. For purposes of this limited warranty, a defect in a module shall be defined as one or more individual LEDs dark at initial installation or greater than 10% of individual LEDs dark during the Warranty Period. Replacement and/or repair of individual Vizion, ThoroLED, or HotSpot LED Modules does not extend this limited warranty beyond the original Warranty Period.

Warranty Conditions

Fulham extends this express limited warranty only to the original purchaser or to the first user. This constitutes the complete warranty for the product. Fulham is not responsible for any auxiliary equipment not furnished by Fulham, which is used in connection with or attached to the product, or for operation of the product with any auxiliary equipment. Damage to all such equipment is expressly excluded from this warranty. In addition, Fulham is not responsible for any damage to the product resulting from the use of auxiliary equipment not supplied by Fulham.

Warranty Conditions Not Covered

* This warranty is not applicable to any product manufactured by Fulham not installed and operated in accordance with:
* Underwriters Laboratories Inc. (UL)
* National Electrical Code (NEC)
* Standards set by the International Electrotechnical Commission (IEC)
* European Norms Electrical Certification (ENEC)
* Applicable international federal, state and local codes
  Remote applications beyond maximum distance noted on product specification sheet. If maximum distance is not provided, remote application is not covered.
* Fulham specific, most recent instructions and application guidelines provided for installation of the product
  Additionally, this warranty is not applicable to Fulham manufactured products that have been subjected to excessive stress including, but not limited to, operating temperatures exceeding the recommended maximum temperature on any part of the product.

Obtaining Warranty Service

If within the warranty period it appears that the installed product does not meet the warranty conditions specified, the purchaser must notify Fulham of its warranty claim. Fulham or its authorized service company will provide warranty service directly to you.

General Provisions

All responsibilities regarding the product are set forth by this warranty. Replacement or repairs of the product is your exclusive remedy. For purposes of clarity, “replacement or repairs of the product” does not include any removal or reinstallation costs or expenses, including, without limitation, any labour costs or expenses, shipping costs to return non-conforming products or any damages that may occur during the return of product to Fulham. If Fulham chooses to replace the product and is not able to do so because it has been discontinued or is not available, Fulham may replace it with a comparable product. Fulham reserves the right to use new, reconditioned, refurbished, repaired or re-manufactured products or parts in the repair or replacement of any product covered by this warranty. If no replacement product is available, Fulham, solely at its discretion, may issue a credit for the product, prorated for its remaining warranty life.

This warranty is given in lieu of all other express warranties. Implied warranties, including those without limitation, warranties of merchant ability and fitness for a particular purpose, are limited to the duration of this limited warranty. Fulham shall in no event be liable for damages in excess of the purchase price of the product, for any loss of use, loss of time, inconvenience, commercial loss, lost profits or savings or other incidental, special or consequential damages arising out of the use or inability to use such product, to the full extent such may be claimed by law.

Local Exceptions

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, therefore the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and purchasers may have other rights that vary by jurisdiction.

Returned Materials Authorizations (RMA)

Customers shall contact Fulham directly for all RMA’s.
After receiving the RMA, the user shall promptly return the product at the user’s expense to Fulham after receiving instructions as to when and where to ship product. Failure to follow this procedure shall void this warranty. Should the number of pieces received by Fulham differ from the RMA either +/-, the customer will be notified and adjustments will be made at that time.

Fulham reserves the right to examine all failed products to determine the cause of failure and patterns of usage and reserves the right to be the sole judge as to whether any products are defective and covered under this warranty.

Contact Information

Fulham Europe
+31.72.572.3000
warranty@fulham.com

Effective: August 1st, 2018

FULHAM®

Harness the Horsepower

Fulham Europe

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