

L05060 LED Driver 100W, 20-60 Vdc, 700-2800 mA L1M1MLT280S-100E

Engineered for Best Fixture performance

Fulham LumoSeries drivers are all 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. Our low ripple designs create flicker-free lighting and perfectly smooth dimming. Simplicity of specification and installation is a key characteristic of all Fulham LumoSeries drivers. Hence the wide voltage and current ranges and industry leading low inrush current.

Powerful and feature-rich LED driver with leading efficiency and low inrush current.



Engineered for Performance

- Industry leading efficiency
- Excellent EMC behavior
- Very high power factor

Engineered for Reliability

- Low inrush current
- Thermal protection (automatic current limiter)
- Short and open circuit protection, overload and overvoltage protection

Engineered for Simplicity.

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

Product features

- Wide output voltage range 20 - 60 Vdc
- Wide range of current settings 700 – 2800 mA
- 1-10 V dimming
- NTC temperature sensor input
- 12 Vdc fan power output controlled by NTC temperature sensor
- Max inrush current <1.6 A
- Low output current ripple (<10 %) at 100 Hz
- Thermal protection: dimming instead of switching off
- Active output overvoltage protection
- Up to 92 % efficiency across a wide range of loads
- SELV
- Power factor > 0.95
- ENEC certified
- Engineered and Manufactured in Europe

Certificates and standards

- ENEC05, CE
- EN55015 / EN61000-3-2 / EN61347-2-13 / EN61347-1 / EN61547 / EN62384 / SELV

Classifications



5 year warranty

Fulham LumoSeries takes pride in the quality of its products. We not only develop all products in house, they are also produced to ensure guaranteed reliability and performance. Fulham LumoSeries drivers come with the assurance of a 5 year warranty. After all, with typical LED lifetimes of 50,000 hours, it is critical to have a power supply with equal reliability.

Specific technical data

Type	Efficiency at full load	Output current	Output voltage range	Open circuit output voltage	Max. output power	Dimming
L05060	92 %	700 – 2800 mA	20 – 60 Vdc	65 Vdc	100 W @ 240Vac 60 W @ 110Vac	1 – 10V, potentiometer 100K log b (SELV)

Technical data

Rated supply voltage	220-240 Vac
Input voltage	110-240 Vac / 150-375 Vdc*
Mains frequency	50/60 Hz
Output current tolerance	5%
100 HZ ripple current	<10%
Power factor at full load	> 0.95
THD	%
Nominal line current at 240 Vac	450 mA
Dimming method	linear
Minimum dim level	200 – 300 mA
Startup time	> 500ms
Warm up time to 95% of light output	> 2 sec
Output isolation	SELV
Surge protection (diff. / comm.)	3.5 kV / 6 kV
IP classification	IP 20
Circuit lifetime	50,000 hrs at Tc max.
Case dimensions	212 x 76 x 46 mm
Case material	Polyamide 6 (PA6)
Fan output	12Vdc / 2.4W (200mA max.)

* External DC fuse required

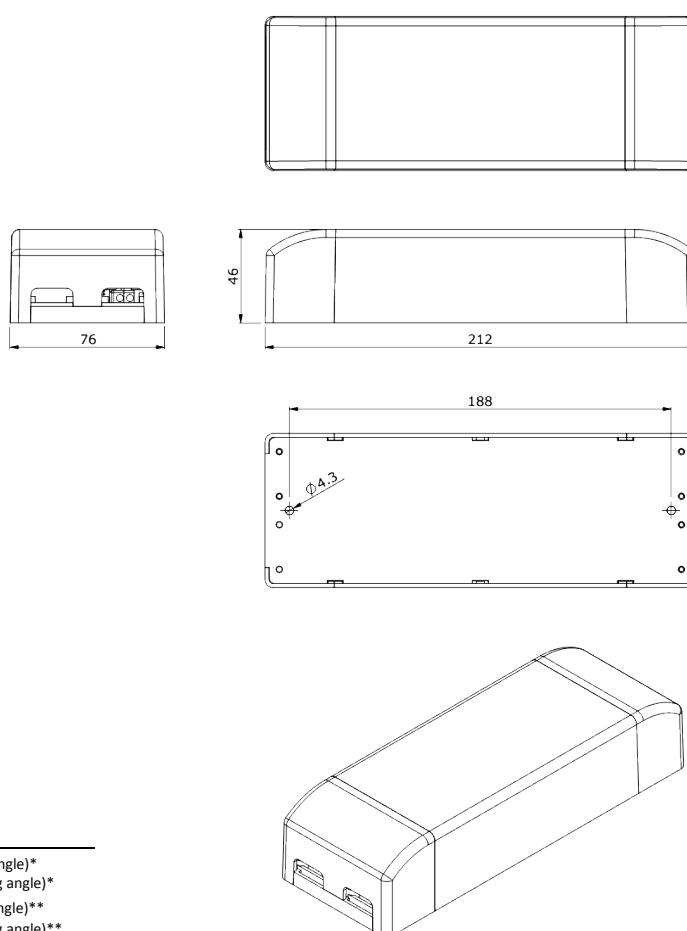
Inrush current

Mains max. peak inrush at full load	0.877A per driver on phase 60° (average starting angle)* 1.579A per driver on phase 90° (worst case starting angle)* 0.795A per driver on phase 60° (average starting angle)** 1.347A per driver on phase 90° (worst case starting angle)**
-------------------------------------	--

** Tested at 240 Vac 1 driver connected, with TTI HA1600A analyzer.

* Tested at 240 Vac 10 drivers parallel connected, with TTI HA1600A analyzer.

Dimensions



Maximum number of drivers on automatic circuit breakers

Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20
L05060	19	23	30	38	19	25	30	38

Thermal specifications

Ambient temperature range (Ta)	-25to50°C
Maximum case temperature (Tc)	<75°C
Storage temperature range	-25to45°C

Overload protection

If the maximum output power is exceeded, the LED driver reduces the LED output current. After elimination of the overload the nominal operation is restored automatically.

Over temperature protection

The LED driver is protected against thermal overload. If the temperature limit is exceeded, the output current is reduced.

Active overcurrent protection

Active overcurrent protection to allow hot swapping of LEDs higher than 15 Watt.

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.

Fan output

The fan output can be controlled with an external NTC sensor of 47K with a Beta (25/85) Constant of $4.050K \pm 1\%$.

When the measured NTC temperature is higher than 55°C, the fan output voltage will be switched ON.

When the measured NTC temperature is lower than 50°C, the fan output will be switched OFF.

When the measured NTC temperature is higher than 70°C, the led output current will be dimmed linear, until the led output is OFF at 80°C.

Use a 8k2 Ohm (8.200Ω) resistor to enable the fan output without using the NTC.

Mounting/ Cooling

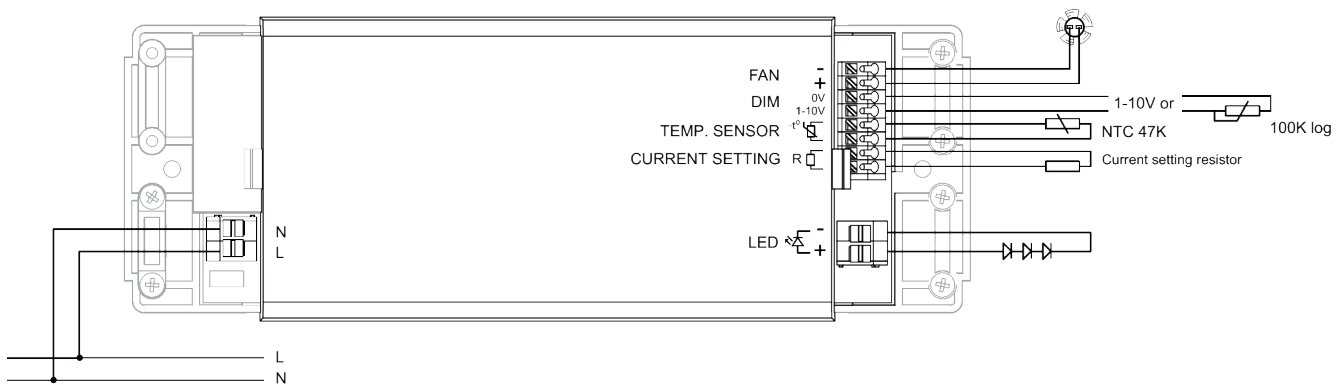
Above an output power of 50W, the driver needs to be mounted on a heat conductive surface of at least 200cm². Always check if the surface is sufficient enough before installing the driver.

LED load

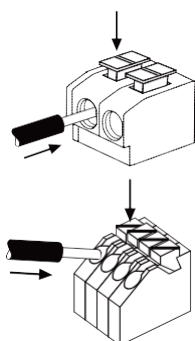
Fulham LumoSeries LED drivers are designed to drive passive LEDs, -COB's and -LED assemblies

Proper function is not guaranteed when (LED)loads with active components are used.

Wiring diagram

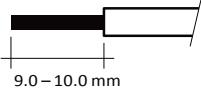


Wiring of device

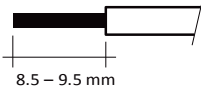


Solid

wire preparation:
0.2 – 1.5 mm²

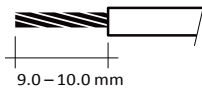


wire preparation:
0.2 – 1.5 mm²

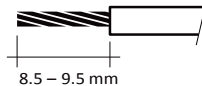


Stranded (2 A max)

wire preparation:
0.2 – 1.5 mm²

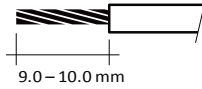


wire preparation:
0.2 – 1.5 mm²



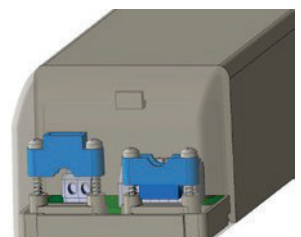
Stranded (2.8 A max)

wire preparation:
0.75 – 1.5 mm²



Strain relief

The strain relief inserts can be reversed to accommodate various types of wiring.

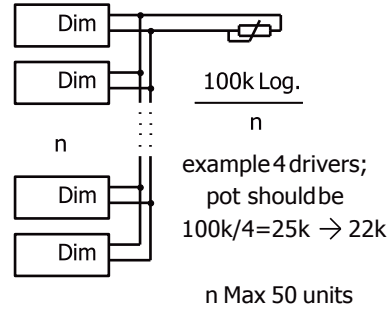


Dimming

1-10 V dimming

The DIM-input can be controlled with a standard 1-10V controller or a 100K log b potentiometer.
The L05060 cannot be switched on/off with the dim input.
Only dimmers with a minimum class II protection may be used.
Always use a dimmer that complies with EN60929 Annex E.

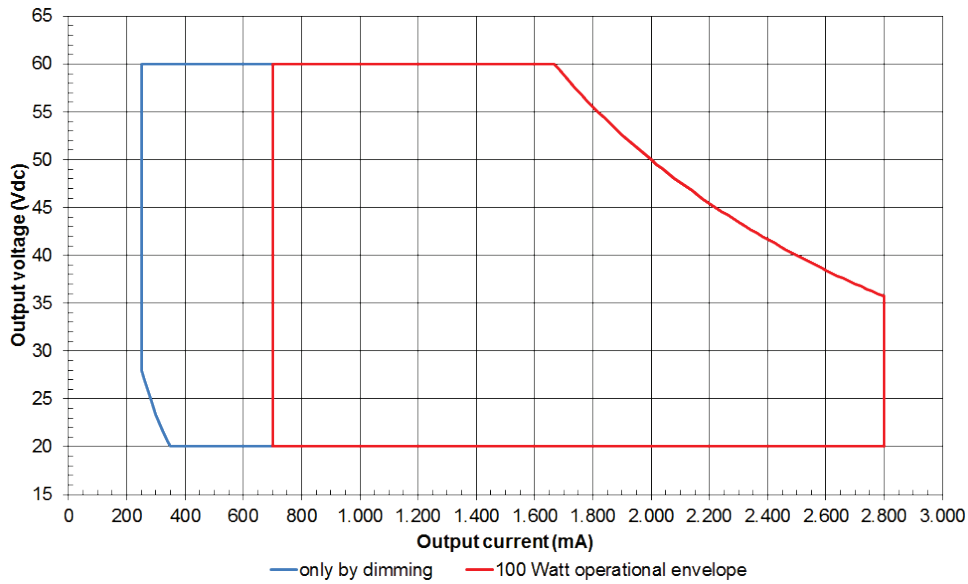
In case of multiple drivers on one dimmer make sure that the wires are connected according to polarity.



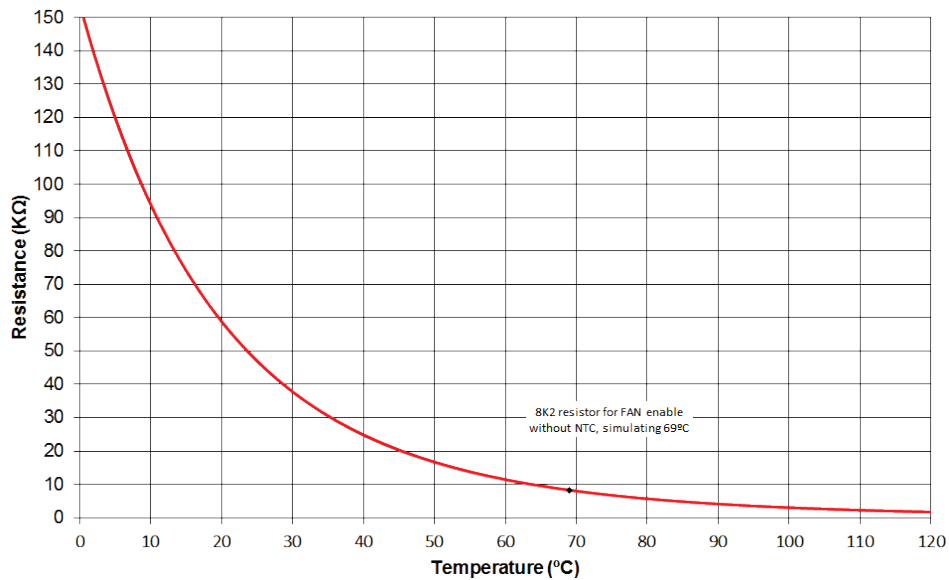
Output current resistor setting

Resistor value	Output current
220KΩ - ∞	350mA
200KΩ	370mA
180KΩ	400mA
160KΩ	440mA
120kΩ	540mA
100kΩ	610mA
82kΩ	700mA
68kΩ	790mA
56kΩ	900mA
47kΩ	1000mA
39kΩ	1130mA
33kΩ	1240mA
27kΩ	1390mA
22kΩ	1530mA
18kΩ	1680mA
15kΩ	1810mA
12kΩ	1960mA
10kΩ	2080mA
8k2Ω	2200mA
6k8Ω	2300mA
5K6Ω	2390mA
4k7Ω	2470mA
3k9Ω	2550mA
3k3Ω	2600mA
2k7Ω	2670mA
2k2Ω	2720mA
1k8Ω	2760mA
1k5 - 0Ω	2800mA

Output chart (for 240 Vac)



NTC 47K chart



Ordering data

Part	Part number	Alternate part	EAN code	Packaging carton	Multibox carton	Weight per piece
L05060 LED Driver 100W, 20-60 Vdc, 700-2800 mA	L05060	L1M1MLT280S-100E	8718801703496	10pieces	-	500 g

Berenkoog 56
NL-1822 BZ Alkmaar
The Netherlands

www.Fulham.com

© 2017, Fulham Company All rights reserved. Designs and specifications may change without prior notice. Fulham products are not designed, intended, or authorized for any application in which the failure of the product could cause personal injury.