

L05121 programmable mains dimmable LED Driver 12W
L05121-350 programmable mains dimmable LED Driver 12W

L1E1230070P-12E
L1E1230035P-12E

Engineered for Best Fixture Performance

Fulham Lumo Series drivers are designed to efficiently power and control LED solutions for general lighting applications. System reliability is enhanced by features that protect the connected LED module, e.g. hot wiring, reduced ripple current and thermal derating. In the coming years LEDs will continue to increase in efficiency, creating new challenges for OEMs. With Fulham LumoSeries drivers, flexibility in luminaire design is assured thanks to adjustable output currents.

A versatile driver with small form factor and a wide voltage Output range, ideally suited for COB arrays and LEDs.



Engineered for Performance

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

Engineered for Reliability

- Thermal protection
- Short and open circuit protection, overload and overvoltage protection

Engineered for Simplicity

- High quality low cost product with low inrush current and high efficiency
- Future-proof flexibility – industry leading voltage and current range enabling seamless support of LED generations and minimizing chain complexity

5 year warranty

Fulham Lumo Series takes pride in the quality of its products. We not only develop all products in house, they are also produced to guaranteed reliability and performance. Fulham 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.



Product features

- DIM TO WARM
- Wide output voltage range 6 - 40Vdc
- Wide range of current settings 75 – 700 mA
- Designed for maximum compatibility with trailing edge dimmers
- Compact size
- Inrush current 0.43A
- Thermal protection
- Open circuit output voltage protection
- Up to 75 % efficiency across a wide range of loads
- Power factor 0.85C
- ENEC and CE certified
- Engineered in the Netherlands
- SELV

Certificates and standards

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

Classifications



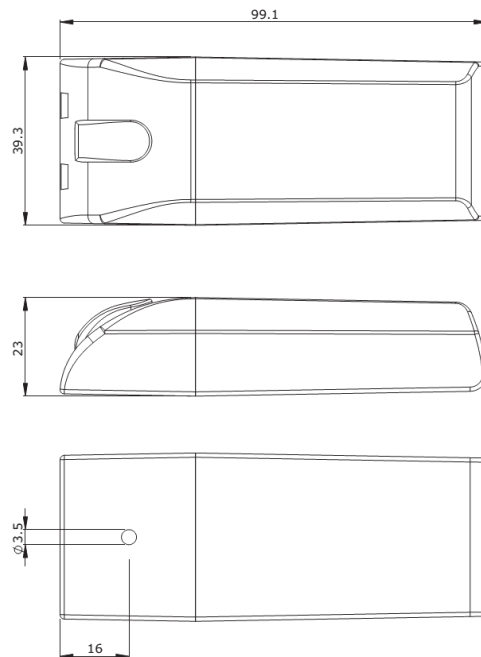
Specific technical data

Type	Efficiency at full load	Programmable Output current	Default Output current	Output voltage range	Open circuit output voltage	Max. output power	Nominal line current
L05121	75%	75 – 700mA	700mA	6 – 40 Vdc	44Vdc	12 W	70mA
L05121-350	75%	75 – 700mA	350mA	6 – 40 Vdc	44Vdc	12 W	70mA

Technical data

Rated supply voltage	220-240Vac
Input voltage	220-240Vac
Mains frequency	45-55Hz
Output current tolerance	5%
100 Hz ripple current	< 4%
Power factor at full load	0.85C
THD	10% Typical@max load
Dimming method	Mains, trailing edge
Startup time	< 500 ms
Warm up time to 95% of light output	< 2 sec
Output isolation	SELV
Surge protection (diff. / comm.)	1kV / 2kV
IP classification	IP 20
Circuit lifetime	50,000 hrs at Tc max.
Case dimensions	99 x 39 x 23 mm
Case material	Polyamide 6 (PA6)

Dimensions



Inrush current

Mains max. peak inrush at full load	0.346A per driver on phase 60° (average starting angle)* 0.22A per driver on phase 90° (worst case starting angle)*
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** Tested at 230 Vac 1 driver connected, with 2PV(PAB315)

* Tested at 230 Vac 10 drivers parallel connected, with 2PV(PAB315).

Maximum number of drivers on automatic circuit breakers

Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20
L05121	66	85	106	132	85	110	136	170
L05121-350	66	85	106	132	85	110	136	170

Thermal specifications

Ambient temperature range (Ta)	-20 to 45 °C
Maximum case temperature (Tc)	< 85 °C
Storage temperature range	-20 to 50 °C

Over temperature protection

The LED driver is protected against thermal overload. If the temperature limit is exceeded, circuit the LED driver switches to protection mode. When the temperature drops within the operating limits, the LED driver will recover automatically.

Active overload protection

If the maximum output power is exceeded, the LED driver reduces the LED output to a low current level then the driver starts a at a low dimming level. When the LED load is too high and the driver starts up at maximum dimming level the LED can be flashing. This prevents overload at all times.

Secondary switching

The L05121 driver is designed to switch the LEDs on/off by switching the mains (with the dimmer).

The L05121 driver are not designed to switch the LEDs directly on/off in the secondary power line.

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.

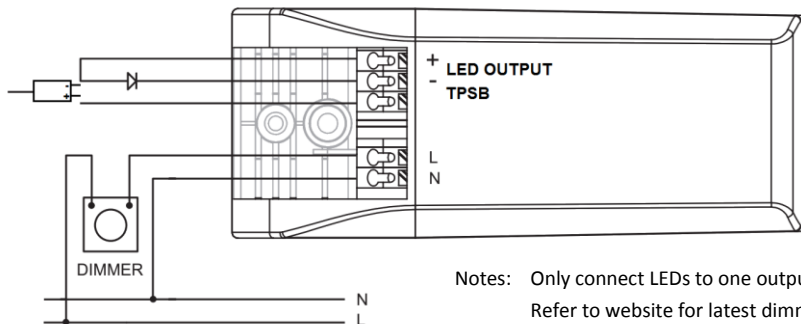
LED load

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.

Dimmer

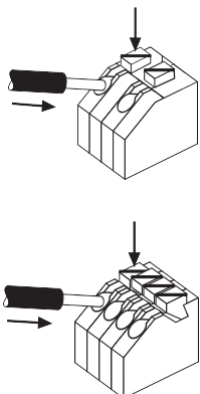
Only designed for use with a trailing edge dimmer connected to the driver.

Wiring diagram

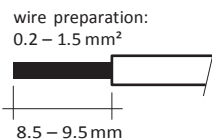


Notes: Only connect LEDs to one output at the same time.
Refer to website for latest dimmer compatibility info

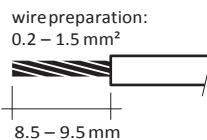
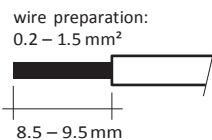
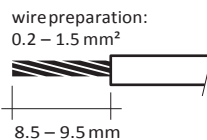
Wiring of device



Solid

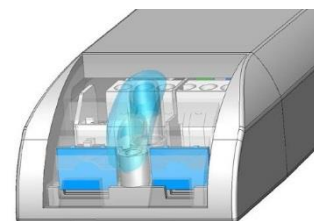


Stranded



Strain relief

The strain relief inserts can be removed to accommodate wiring of larger diameters.



L1E1230070P-12E (L05121) Dimmerlist

Manufacturer	Dimmer	Note	Minimum LED Load @ full power	Minimum Dim-range @ 700mA	Stability
Niko	310-0280X		1.7W	7%	++
Berker	2973	Must use the dimmer to turn on/off the load	0.5W	2%	++
Merten	SBD200LED	Must use the dimmer to turn on/off the load Flickering at Max tuning point	1W	3%	+
PEHA	433HAB o.a.		0.5W	2%	++
TRONIC	51161		1.8W	2,5%	++
VAQILIGHT	V-pro		1W	2%	++
EPV	PAB 315		1W	2%	++
Niko	310-0190X		0.6W	2%	++
Busch-Jeager	6513		1.2W	2%	++
ELTAKO	EUD61NPL-230V		1.2W	5%	++

Test criteria The Dimmerlist is tested with LED load and Iset = 700mA

Programming with the programmer

The TPSB-100(EU) SmartSet controller gives the user the power to set the current without using the dipperswitches.

Programming with the TPSB-100

With the TPSB-100(EU) the output current can be programmed between 75 – 700mA.

Fulham’s TPSB-100(EU) is powered via a USB cable that can be connect either to a PC or wall power adapter.

The driver does not need to be connected to the mains for programming.

The programming cable must be connected to the TPSB-100 input of the driver to set the desired current (NOTE the POLARITY).

Press Read to see the current setting of the driver.

To set a current first press Program 1x, then + or – (keep the + or – pressed for a faster selection) until the desired current is shown in the display.

Press Program to save the setting.

If the process failed E-01, E-02, E-03 or E-04 is shown in the display.

Please note that other functions of the TPSB-100(EU) are not available yet.



Factory setting

-a.) First program the maximum LED current with I-SET in the factory.

During installation

-b.) Turn the dimmer to its minimum value. If the light is too bright for the minimum dim level and the minimum potmeter value on the dimmer cannot be set lower, then you can program the minimum current by means of programming I-set at 1mA. Doing this will set it’s minimum LED output current at 4 mA.

-c.) Turn the dimmer to its maximum. Then the light goes to its maximum set value. Program the maximum current by means of programming I-set at 2mA on the TPSB-100(EU). Doing this will set its maximum LED output current at the programmed current.

When the minimum output current of the dimmer is set at a very low level, then there is not enough power to light the LED and the LED will be blinking with a very low led current. To solve this, turn the “minimum dim level setting” on the dimmer to a higher level.

