Austin Led Consultants

DMX and Led power over ethernet

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PL-AT-DR1 Emergency Constant Current LED driver with PoE 802.3af / 802.3at AutoSwitching

Product Description - PL-AT-DR-1 – PoE powered LED driver

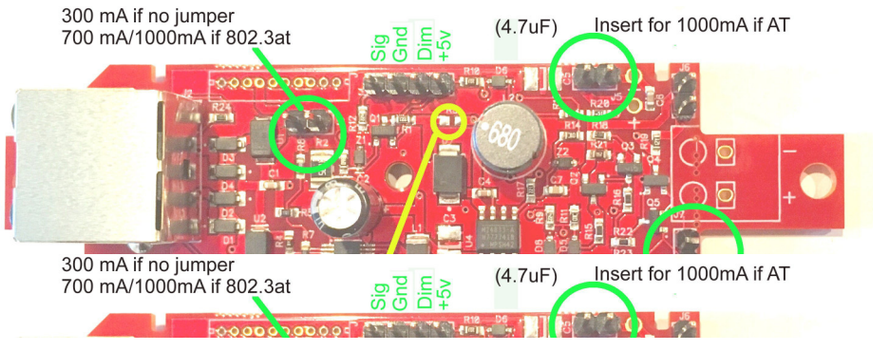
This LED driver in a compact module can be installed 328 ft away from a PoE injector or switch using Cat-5e cable. No licensed electrician is required for installation. From the device to the LED, Just two wires with AWG 18 or AWG 20 up to 100 ft long connect to up to 28 watts of LED with constant current . The PL-AT-DR1 series has low standby power, and is configurable for 300ma, 700 or 1000 ma LED current requirements. The wide output voltage range of 9 to 50 volts fits the NEC / NFPA codes for low voltage wiring and allows any LED fixture to be used.

Intended for use with managed 802.3at injectors or switches, the output current automatically adjusts to match the PoE source. In 802.3at mode, 700 ma (up to 25 watts) of power is supplied.. Motion sensing is supported. In 802.3af mode, the power is reduced by 20x – to 35 mA – this provides ample egress lighting and motion sensing is bypassed.

Fully Automated monthly testing is supported by the PoE switch reporting the current flowing during a system test, when switching to 802.3af mode – the attached LED current is measured at the PSE source, the profile of the load is clearly indicated as short, open or functioning within the acceptable range, this greatly reduces the cost of ownership.

Specifications for PL-AT-DR1

Power input	44 to 56 volts 802.3af or 802.3at or Passive PoE
Input Connector	RJ45 standard connector
LED status	Green means PoE active, Amber means 802.3at
Output Voltage	9v to 50v 25 watts max
Output Power	a) with 802.3af max current 35 ma = 1.5 watts b) with 802.3at max current 700ma = 23 watts c) with passive PoE = 35 watts at 300, 700 or 1000
Auto power switching	Current reduced to 35 mA if 802.3af mode detected increases to 700 ma (1000 mA) if 802.3at
Inrush limiter	Built in – automatic
Hot Swap	LED load can be disconnected under power
PIR control	5v power, 2v or greater to turn on. N/C means on
Dusk / Dawn control	Use a DPW85 or similar phototransistor
802.3af keep alive options	300 mw standby load for keep-alive – 802.3af standard a) dummy load via internal load - LED is off b) active load into the LED – LED is on with 300 mw
Output current	Jumper Options 300 ma , 700 ma, 1000 ma
LED output connector	Ideal 30-082 connector or 2.1mm female
Pinout 802.3af / 802.3at	Pins 1,2 and 3,6 provide power either polarity Automatic power detection feature:
Pinout passive PoE	Optional passive PoE input with 0 mw standby, higher efficiency than 802.3af/at
Protection	Reverse, short and static protection
Operating Temperature	0°C ~ 50°C



Internal jumpers and OEM options

LED Connector Options

Ideal 30-082 connector

2.1mm Female

Manufacturing option – Keep Alive

Keep Alive is the current needed to keep a PoE switch port from shutting down. This is typically 300 mW – 6 mA at 48v roughly. This is wasted current. The production device has a 6 mA load via R2 and R3 (total 6.8k). This 6 mA can instead be shunted into the LED – providing a low light level at all times, and no wasted current during ON times. The newest 802.3af spec allows keep alive to be reduced to 3 mW from 300 mW. Ask us if you have an application for that. R6 can be installed with a value that dumps 6 mA into the LED (3 kohm is a suggested value).

User Options

J1 – 10 pin ZHR connector for passive Mode B power – use this connector if you would like to power the device from passive mode B power (pins 4,5 and 7,8)

J3 – set jumper to enable 802.3at – if open max current is 300 mA and the device will signal 802.3af to the switch

J4 – header for PIR sensor.

Pin	Title	Function
1	5V to PIR	5 mA max – note this load can function as the keep alive – see above
2	Dimming	The Dimming input allows the LED brightness to be controlled – connect a voltage of 0.7 volts or less for off, and 1.6 volts or more for all- dimming range is between 0.8 and 1.6 volts – leave open for PIR control
3	Ground to PIR	
4	PIR input	Open or 5v on, 0 volts off

J5 – insert for 802.3at at 1000 mA operation (leave open for 700 mA)

J6 – header for LED connection – one of 3 ways to connect to the actual LED

J7 – push connector for LED connection - install a KF246-2P connector

J8 – insert to force 700 or 1000 mA operation in passive applications. This means – that if a Passive PoE injector is used (mode A or mode B) and 700 mA or 1000 mA operation is needed – insert this jumper.