Austin Led Consultants

DMX and Led power over ethernet

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PL-AT-DR1F
Constant Current LED driver with 802.3at PoE

Product Description - PL-AT-DR1F – 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. In most areas PoE installations do not require licensed electricians The PL-AT-DR1F is installed between a PoE switch and a LED panel light. The PL-AT-DR1F has low standby power, and is configurable for 300ma to 1000 ma n 50 mA increments to meet many LED current requirements. The wide output voltage range of 9 to 50 volts fits the NEC / NFPA codes for low voltage wiring and allows almost any LED fixture to be used.

Intended for use with any 802.3at or passive Poe injector or switch, the output current automatically adjusts to match the PoE source. If connected to a 802.3af switch, insure that the LED load is under 12 watts.

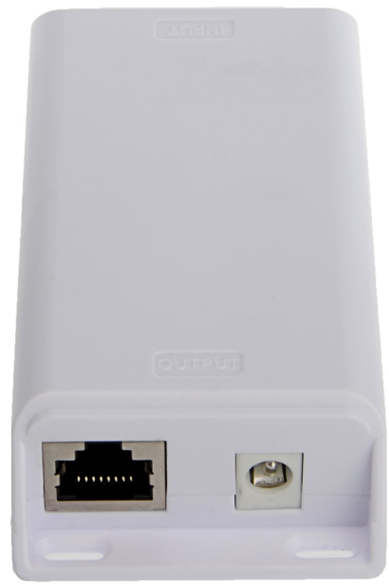
When used with a 802.3bt switch – two devices can be connected in series to use all 4 pairs of the Ethernet cable and double the wattage on one PoE port.

The attached LED can be turned on/off by controlling the PoE port on the PoE switch or injector.

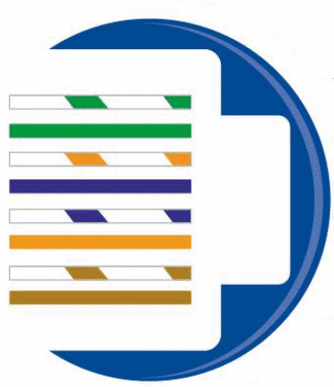
The LED can also be turned on/off from a contact like a regular wall switch.

Specifications for PL-AT-DR1F

Power input	44 to 56 volts 802.3af or 802.3at or Passive PoE
RJ45 Input Connector	RJ45 standard connector mode A power only. Mode B passthru
RJ45 Output Connector	RJ45 standard: input pairs 4&5 and 7&8 are connected to pairs 1&2 and 3&6 on this output connector to allow two devices on one CAT-5e cable
RJ45 LED status	Green means PoE active, Amber means 802.3at
On/Off/Dim switch	The output RJ45 connector also has the connection switch for On/Off
LED Output Voltage	9v to 50v 35 watts max
Output Power	a) with 802.3af max current 360 ma = 12 watts b) with 802.3at max current 660ma = 23 watts c) switch selection for up to 1000 mA in AT mode
Inrush limiter	Built in – automatic
Hot Swap	LED load can be disconnected under power
802.3af keep alive	None –
Output current	300 ma to 1000 ma in 16 steps
LED output connector	Phoenix 2 pin connector with spring load
Pinout 802.3af / 802.3at	Pins 1,2 and 3,6 provide power either polarity Automatic power detection feature:
Protection	Reverse, short and static protection
Operating Temperature	0°C ~ 50°C



RJ45 connector pinout



Pin	In	Out
1	PoE 1	PoE 2
2	PoE 1	PoE 2
3	PoE 1	PoE 2
4	PoE 2	Opto-
5	PoE 2	Opto+
6	PoE 1	PoE 2
7	PoE 2	Dim/Switch
8	PoE 2	Ground

PoE Power Input

Use a PoE switch or injector to supply power. It can be mode B 802.3af, 802.3at or 4 pair 802.3bt for up to 25 watts. Every 8 wire cat-5e cable can carry 2 separate PoE power sources. Lets call them PoE 1 and 2. Each PL-AT-DR1F accepts power from PoE 1 and passes PoE 2 to the output connector

PoE 1 Power Input

PoE 1 is the power for the LED attached to this device. It can be mode A 802.3af, 802.3at or 2 pair 802.3bt for up to 25 watts.

PoE 2 Power Input

PoE 2 is the optional power from a 802.3bt switch. It is passed thru the device to the next device in the chain to provide power to a second PL-AT-DR1F attached to the output connector. The output RJ45 moves the mode B input to Mode A output so no crossover is required.

Dimmer / Switch In

The device has a Switch input. When Open the LED is on, when closed the LED is off. If a PWM signal is applied (For example from a AL-WS-010v) then the LED can be dimmed. See the AL-WS-010v for a PWM wall switch. Connect a simple switch between pins 7&8 of the output connector to create a On/Off switching ability. If two PL-AT-DR1F are connected onto one CAT-5e cable to the power source, see our application note for how to have one wall switch control 2 PL-AT-DR1F

Opto Operation

Pins 4 and 5 allow an isolated control voltage (5 to 12 volts) to control the light. If this option is selected (by internal jumper) then the LED is off if there is no control voltage.