



4-Channel 10W Power Unit for LED Lighting

HLL10-0516/1C-G

Introduction

The HLL10, HLL20 and HLL100 series of LED Power Modules are true constant current regulated drivers for LEDs. Unlike standard power supplies, which deliver a fixed voltage to the output, the Hirel's LED Power Units are designed to vary the output voltage as required, to deliver a constant current to the LEDs, reliably and with stability. They are the ideal choice for respectively powering 10W, 20W and 100W LED lighting applications involving all types of high-brightness, high-power LED packages and LED arrays. These series exhibit high efficiency and require no external current limiting resistor or additional heat sink for operation.

Features of HLL12-0516

- HLL10-0516 powers four strings of LEDs (up 350mA)
- Min 2, max 5 serial LEDs per string
- AC input 100V and 220V* (50-60Hz)
- Adjustable current (set by screw)
- Strings directly and simply connected to channel outputs
- Output open and short-circuit protection
- High efficiency of 82-85%
- Output current regulation +/- 2%

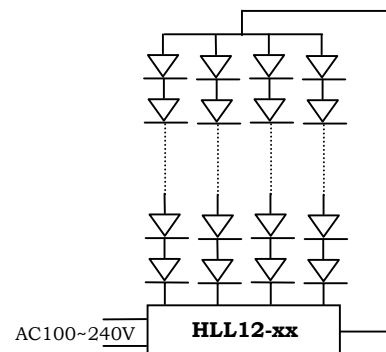
* Upon request

Typical Applications

- Solar and landscape lighting
- Architectural lighting systems
- Track lighting
- Theatrical/production lighting systems
- Point of sale lighting
- Desk and reading lamps
- Signal and marker lighting
- Flashing and strobe lighting
- Cabinet and display case lighting
- Signs and channel letters
- Various fixtures & systems
- Etc...

Application Information

HLL10 power supply series offers several constant current control channels allowing for use with LED types of up to 1W. A total power of 10W MAX can be delivered to the LED arrays through the constant current control. Input is AC100V or AC220V depending on model. The electrical efficiency is 82-85%, satisfactorily high for lighting application.



- Fig.1-

The basic usage is illustrated in figure1 above. HLL10 allows for 4 strings of LEDs, 5 MAX and 2 MIN LED devices in series per string. Each string shall be controlled for the same current of 250mA MAX.

Since the total available power is 10W, a maximum of 2.5W of power is available per string. When 250mA is set, 10V MAX across each chain is available, which leads to 3 LED devices maximum in series per string.

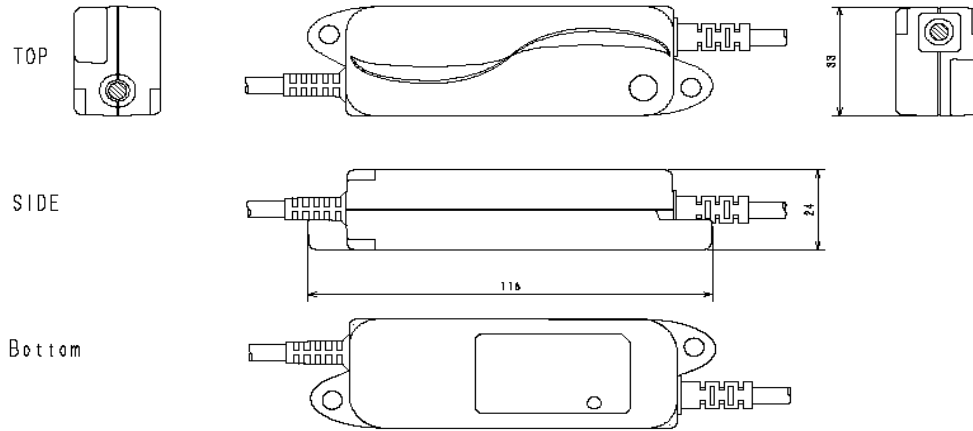
When the string current is set, available voltage range across the string is depicted in Fig. 2 below. Note that the output current in the figure reflects the total current from HLL10 and corresponds to 4 times each string current.

0516 means available voltage range

1C specifies 1A output current max

G specifies Rohs compliance

Physical Dimension (in mm)



- Fig.2-

Electrical characteristics

Item	Condition	Value			Unit
		MIN	TYP	MAX	
Current efficiency	Vin=100[V]- Iout=1[A]	70			%
Input power	Vin=100[V]- Iout=1[A] □ Pout=12□W□			17	W
Input current	Vin=100[V] Iout=1[A] Pout=12□W□			300	mA
Under constant current operation	Vin=100[V] Iout=1[A]	5		16	V
Output voltage for open output (protection circuit in operation)	Vin=100[V] Iout=0[A]			30	V
Insulation voltage	Primary - Output terminal AC2000V/min			10	mA
Insulation resistance	Primary - Output terminal DC500V	100			MΩ
Output retention time	Vin□100[V]□ Iout=1[A]	10			ms

- Care should be taken to insure 40°C MAX avoiding heat from LED's.
- Other characteristics remain the same for AC input 240V model.

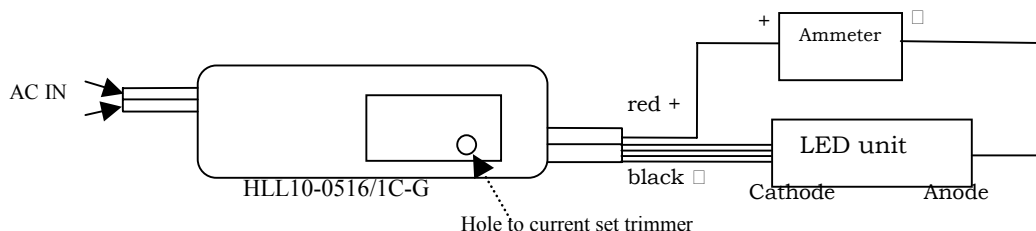
Safety

Design is intended to satisfy/meet the safety regulations.
 Upon request the formal application to safety regulation will be discussed.

Current setting

The screw is supposed to be set at the end of counter clock wise rotation when delivered from factory. Make sure, however, that the screw is really at the end of counter clockwise rotation before you turn on LED's.

Place a current meter (1A MAX) as illustrated below in figure 4 to set the current. If current does not reach the desired level at the right end of the rotation, you may try to decrease the number of LED devices by 1.



- Fig.3-

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