

## ■ Features

- Power Rating: 400W
- Input Voltage: 305-660Vac
- Constant current design
- Output current (168mA to 6400mA)
- Digital programming with external module and software
- Efficiency up to 94.5%
- Compatible with 0(0.05)-10V, PWM, external resistor, clock, DMX dimming
- Lightning, OVP, SCP, OTP & Open Circuit Protection
- IP67
- 7-year warranty
- Surge Protection: L-N 5.5kV, L/N-Earth 11kV



RoHS  
Compliant



\*Product images are for illustrative purposes only and may vary from actual design.

## ■ Application

- Outdoor and indoor LED lights
- LED lights with flexible current settings
- Street lights, high bay and low bay lights, LED panels

## ■ Model List\*(See part number scheme for model number details)

| Model Number   | Input Voltage Range | Output Power | Output Voltage | Output Current Min. | Output Current Max. | Efficiency | Certification |
|----------------|---------------------|--------------|----------------|---------------------|---------------------|------------|---------------|
| L4HCP400S640ST | 305-660Vac          | 400W         | 29-58V         | 640mA               | 6400mA              | 92.5%      | UL/cUL        |
| L4HCP400S504ST | 305-660Vac          | 400W         | 47-95V         | 504mA               | 5040mA              | 93.5%      | UL/cUL        |
| L4HCP400S336ST | 305-660Vac          | 400W         | 71-142V        | 336mA               | 3360mA              | 94%        | UL/cUL        |
| L4HCP400S252ST | 305-660Vac          | 400W         | 95-190V        | 252mA               | 2520mA              | 94%        | UL/cUL        |
| L4HCP400S168ST | 305-660Vac          | 400W         | 142-285V       | 168mA               | 1680mA              | 94.5%      | UL/cUL        |

## ■ Technical Data

|                     |                                                                        |
|---------------------|------------------------------------------------------------------------|
| Input voltage range | 305-660Vac                                                             |
| Frequency           | 47-63Hz                                                                |
| Power factor        | > 0.97 @480Vac & 80~100% full load, > 0.90 @660Vac & 80~100% full load |
| Output voltage      | 29-285V                                                                |

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## ■ Technical Data(cont.)

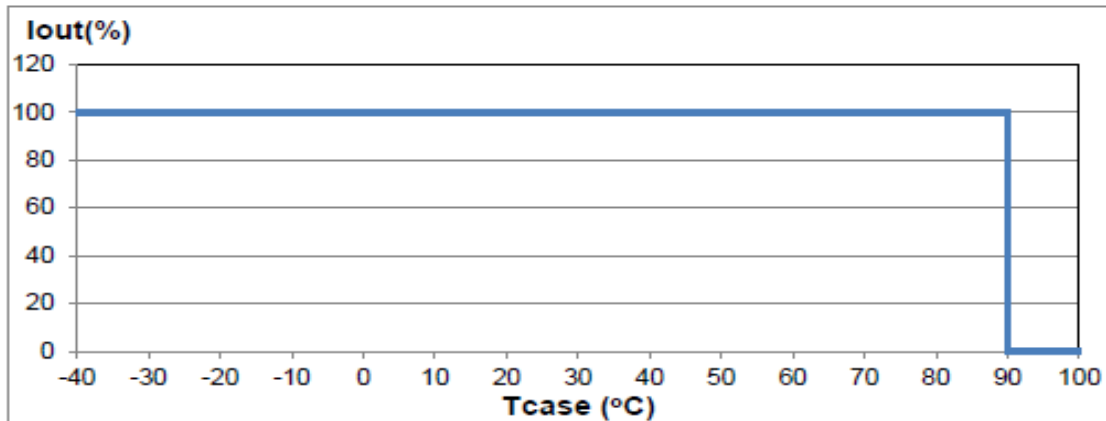
|                                     |                                                 |
|-------------------------------------|-------------------------------------------------|
| Max Current Ripple                  | 350mA,260mA,180mA,150mA100mA                    |
| Max input current                   | 2.7A                                            |
| Max input Power                     | 460W                                            |
| Dimming                             | 0(0.05)-10V, PWM, external resistor, clock, DMX |
| Output AUX Power Voltage (Optional) | 12V                                             |
| Output AUX Power Current (Optional) | 0-200mA                                         |
| Output power                        | 400W                                            |
| Max. Voltage ripple                 | ±0.5%                                           |
| Efficiency                          | 92.5-94.5%                                      |
| Max. open circuit voltage           | 65V, 105V, 155V, 205V, 295V                     |
| THD                                 | < 20% @305-660 Vac & 80~100% full load          |
| Protection                          | OVP, SCP, OTP, and Open Circuit Protection      |
| Environmental Protection            | UL Dry &Damp and wet                            |
| Working Temperature                 | -40~+70°C                                       |
| Max Case Temperature                | 90°C                                            |
| Surge Protection                    | L-N 5.5kV, L/N-Earth 11kV                       |
| ANSI Surge Type                     | 1.2/50µs Combination Wave (w/t 2Ω)              |
| Isolation (primary to Secondary)    | 3750Vac/10maMax/60 seconds                      |
| Dimension                           | 230x68x42.5 mm (9.06x2.68x1.67inch)             |
| Mounting Length                     | 244 mm (9.61 inch)                              |
| Overall Length                      | 254 mm (10.00 inch)                             |
| Weight                              | 3.5 kg (7.78 lb)                                |
| Lifetime                            | >70,000 hours @ full load, 75°C Tcase           |
| Packing                             | 3.5 kg; 6 units/carton; 27 cartons/pallet       |

## ■ Safety Compliance

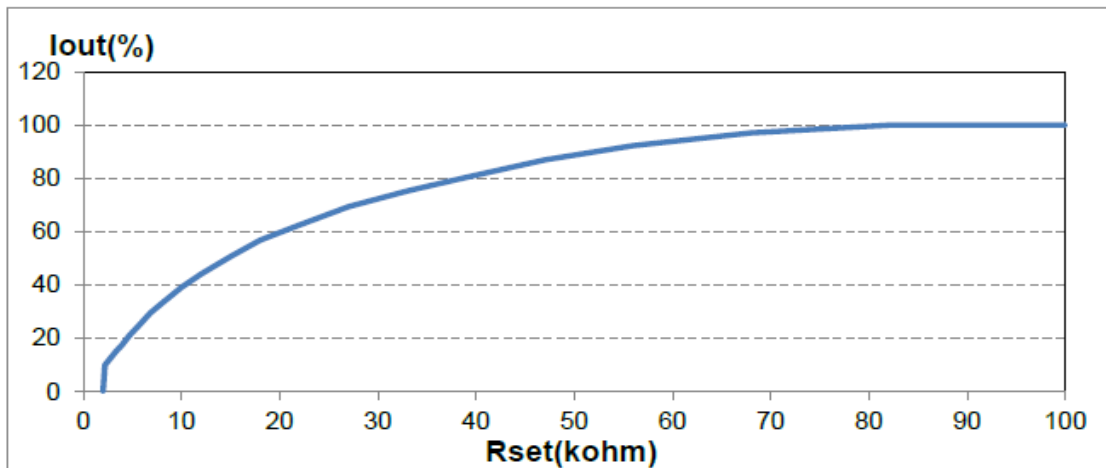
|                            |                                  |
|----------------------------|----------------------------------|
| Safeties                   | UL8750                           |
| Electromagnetic Compliance | Per Title 47 CFR Part 15 Class B |

■ **Electrical Specifications**

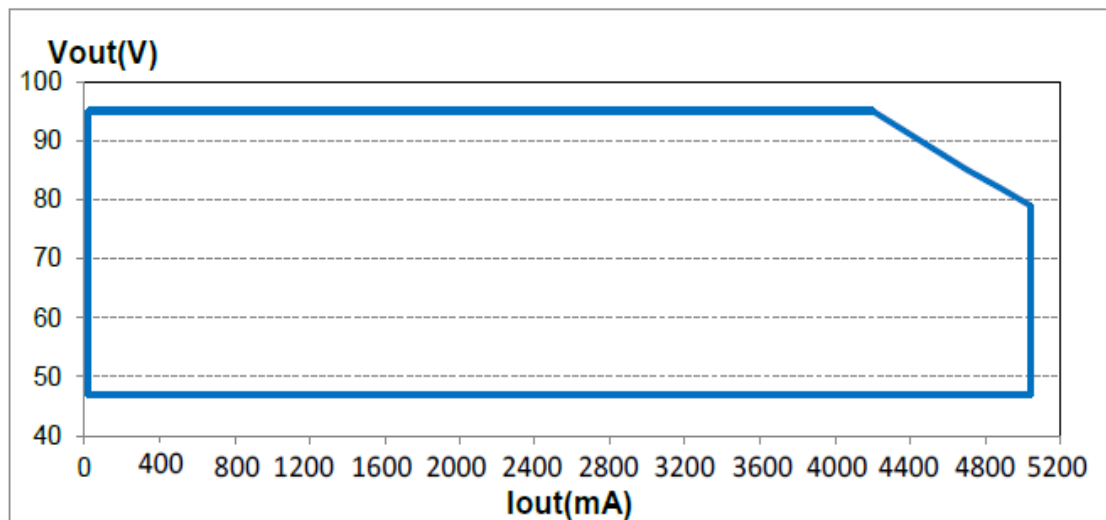
Output Current vs. Case Temperature (with  $\pm 5^{\circ}\text{C}$  Tolerance)



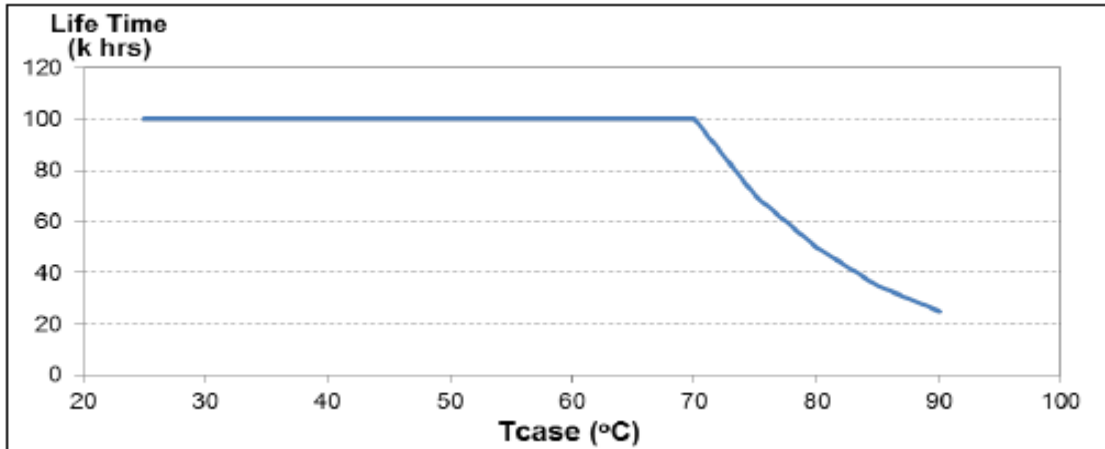
Output Current vs. External Setting Resistor



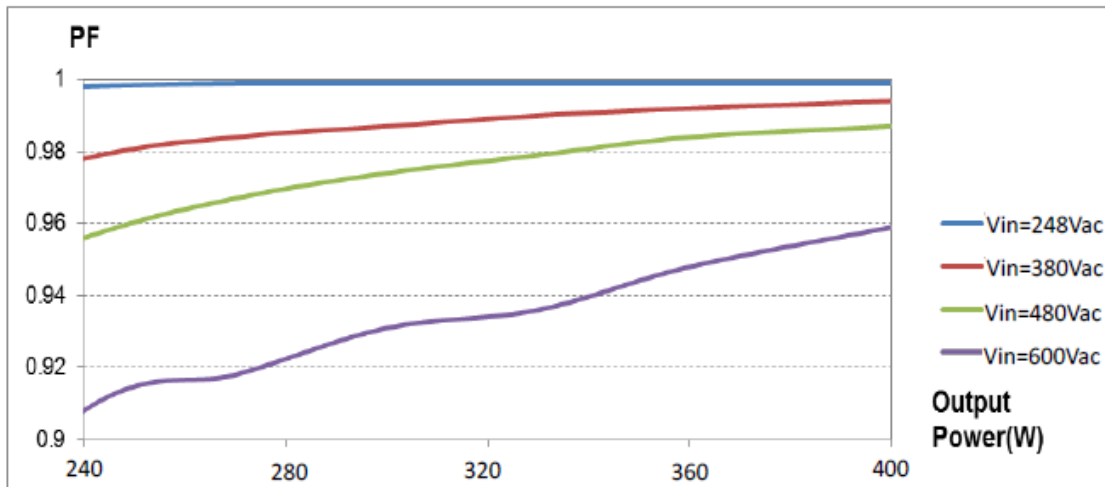
I-V Programming Area: Output Voltage vs. Output Current



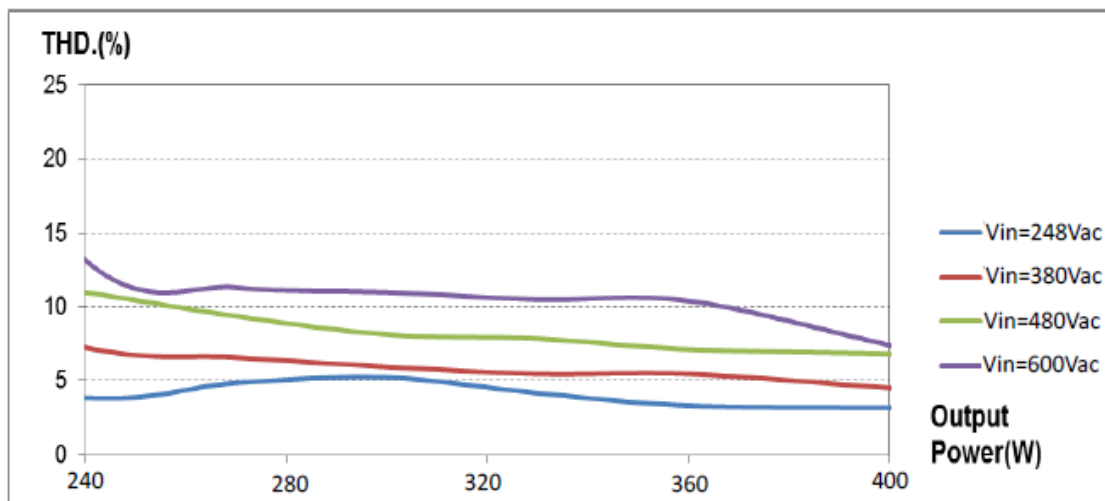
■ **Lifetime vs Case Temperature**



■ **Power Factor vs. Output Power**

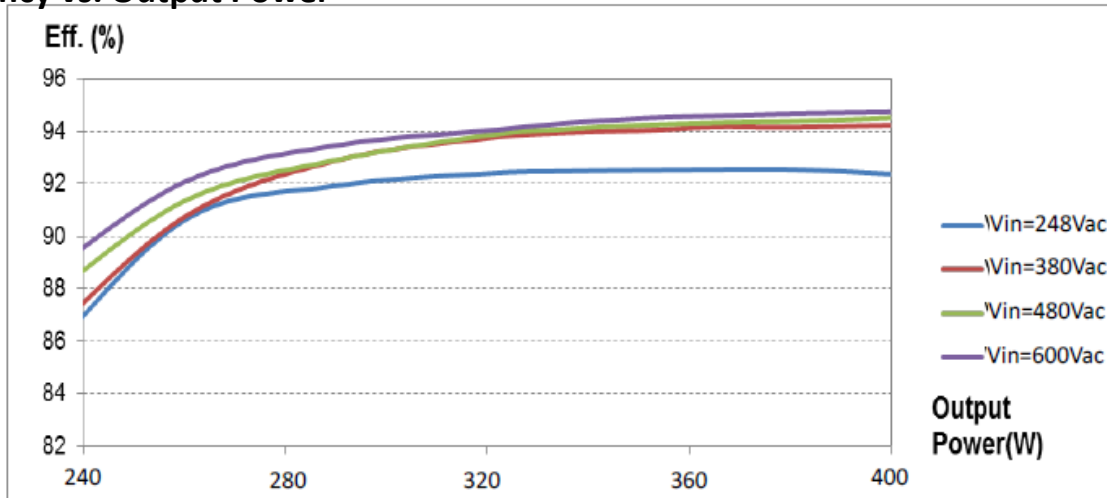


■ **THD vs. Output Power**

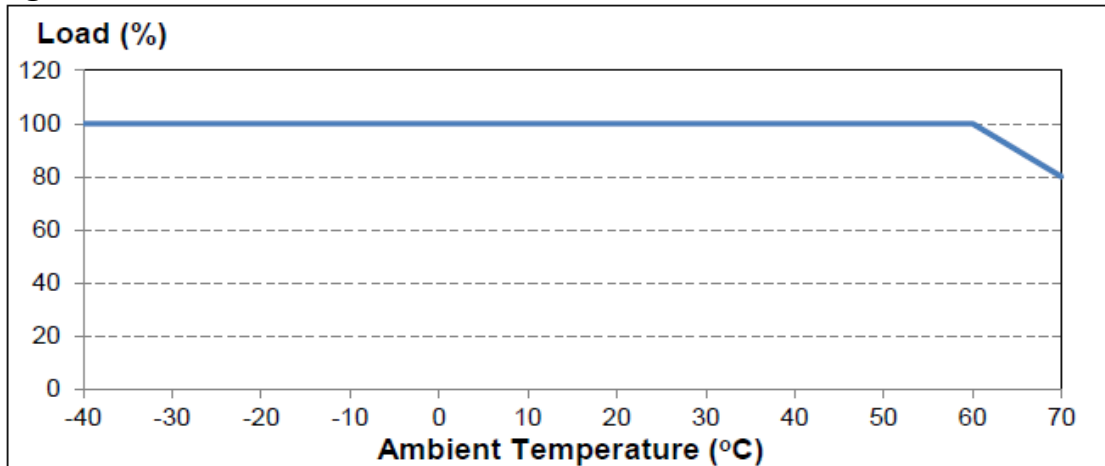


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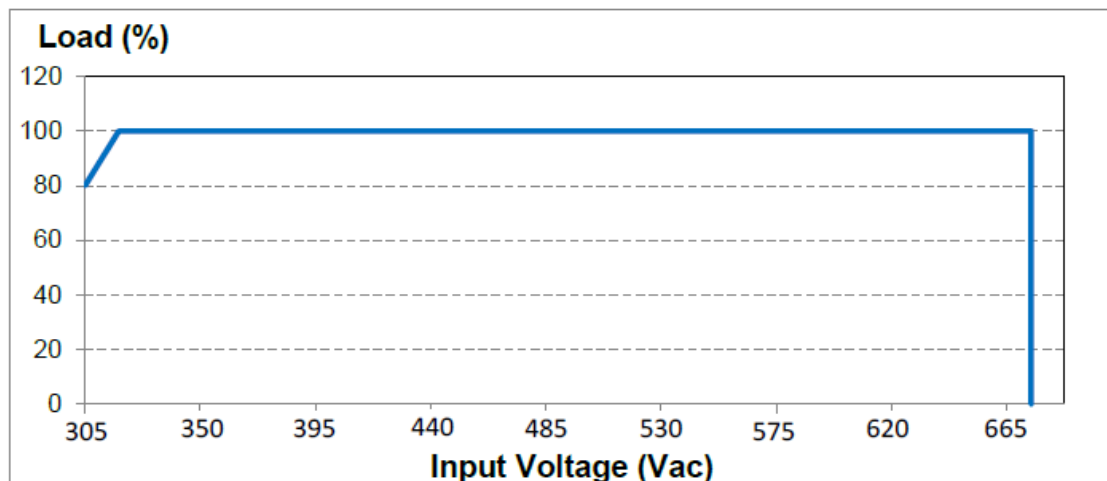
■ **Efficiency vs. Output Power**



■ **Derating Curve**

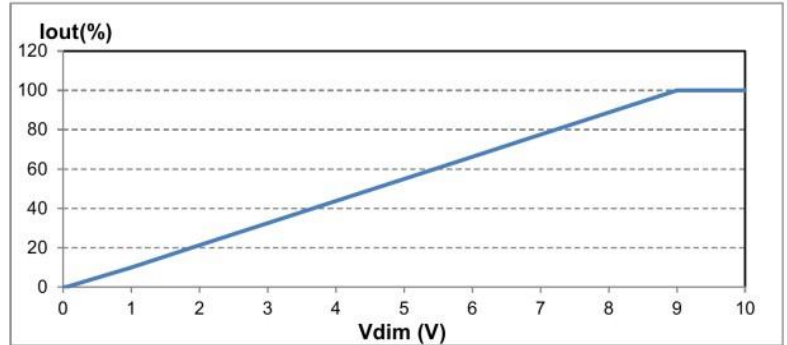
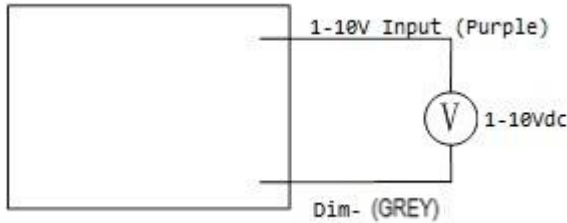


■ **Static Characteristics**

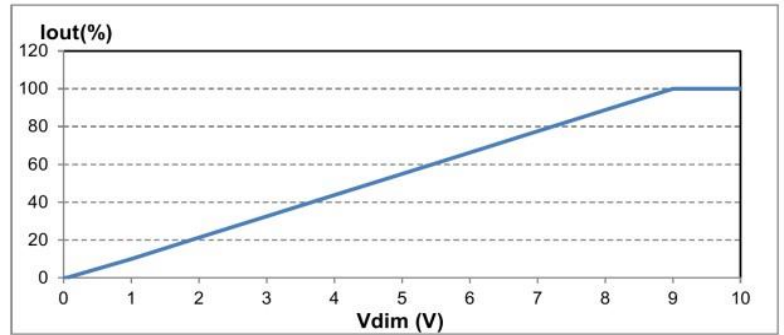
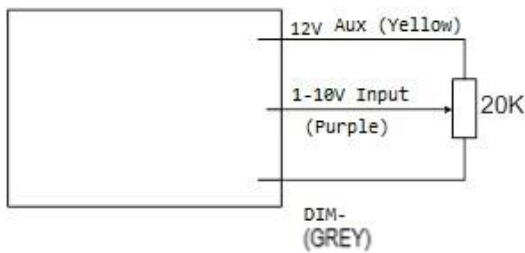


■ **Dimming**

Mode 1 : 1-10Vdc Input on Dimming Control



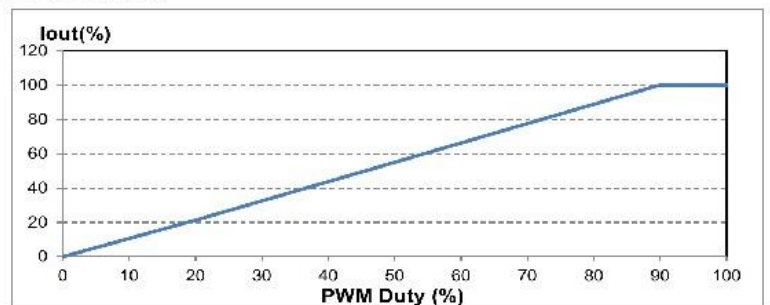
Mode 2 : Potentiometer on Dimming Control



Mode 3 : PWM Signal on Dimming Wires



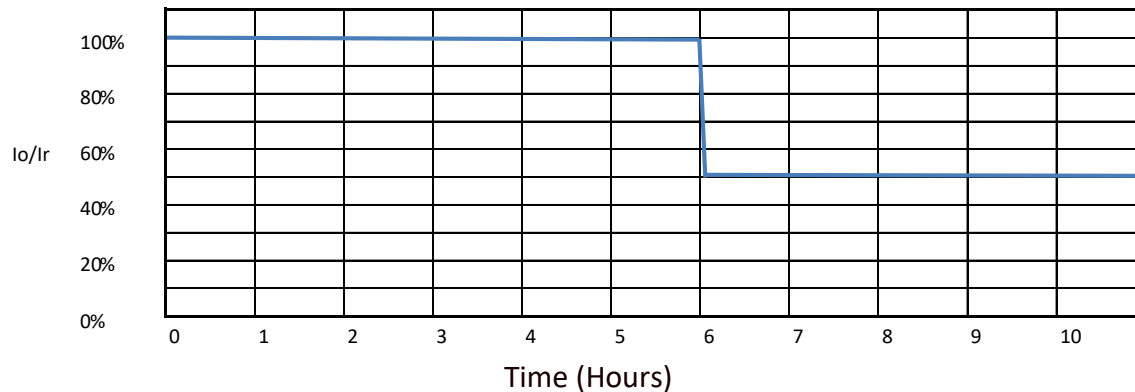
I<sub>o</sub>/I<sub>r</sub> vs PWM Duty



■ **Dimming(cont.)**

| Parameter       | Values      | Conditions   |
|-----------------|-------------|--------------|
| Input Voltage   | 0~10 V      | Purple wire. |
| Input Current   | 10 mA       |              |
| PWM Frequency   | 0.5 ~ 3 kHz |              |
| PWM Pulse Width | 10%~100%    |              |

**Mode 4 : Timer Dimming (Does not require dimming wires)**

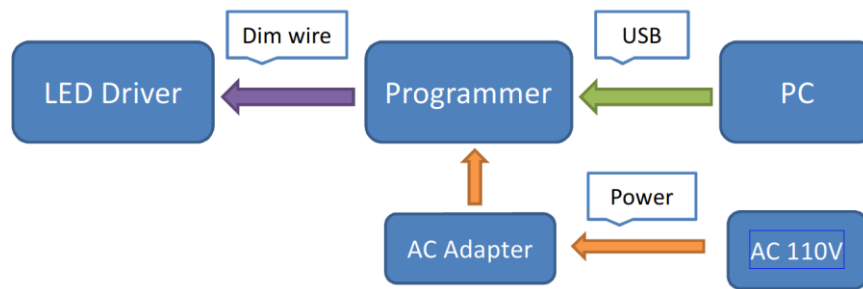


Standard power/time combination above, can be factory set to customer specification. Recycle AC to restart timer.

**NOTE:**

1. If the dimming function is not used, cap the dimming wires and don't use them.
2.  $I_o$  is actual output current and  $I_r$  is rated current without dimming control.
3. For the driver to operate properly, the load voltage must be maintained above the minimum voltage threshold, approximately 50% of the max. output voltage for any given mode.
4. The dimming signal can be less than 1V, when it is 0-1V, the output current can maintain about 10% $I_r$ , however, the connected LEDs may flicker. Maintain dimming voltage greater than 1V in the application is strongly recommended.
5. Pulse width less than 10% will cause the driver to work improperly.

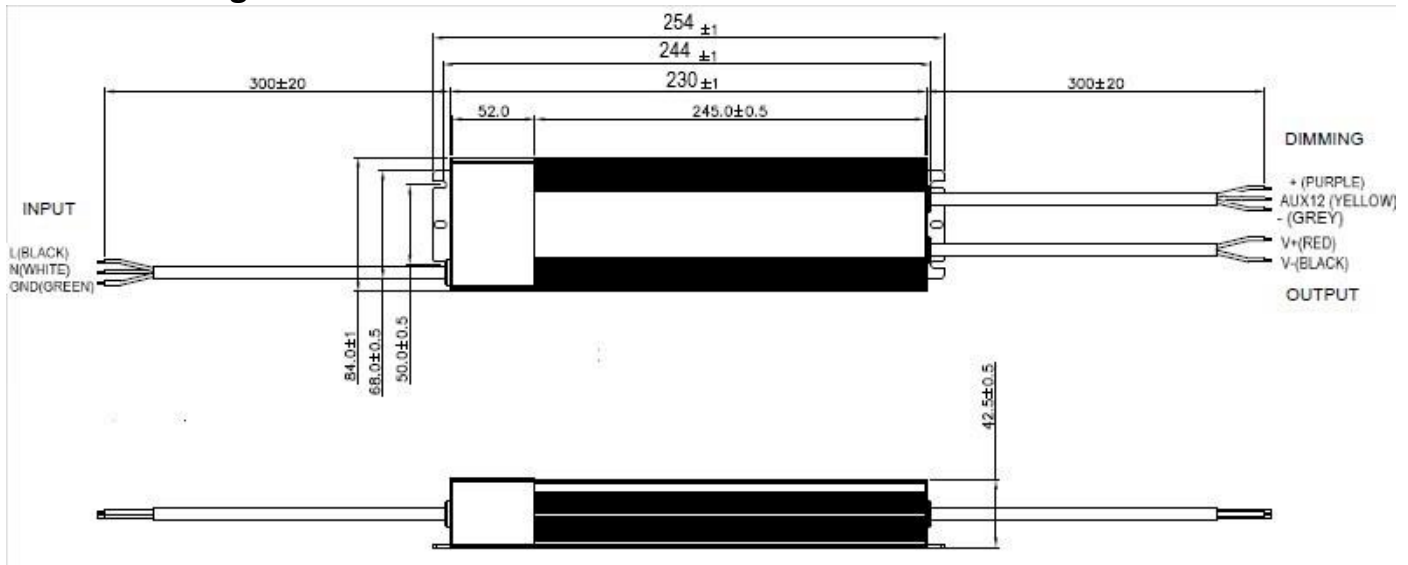
## ■ PC Programming Diagram



### NOTES:

1. To set the desired output current, begin by installing the programming software on your PC and connect the programming module to your PC.
2. Next, connect the LED Driver to the programming module using the Dimming wires.
3. Please note an external power source is needed to provide power to the programming module.
4. Contact Autec Sales for current programming software and complete programming instructions.

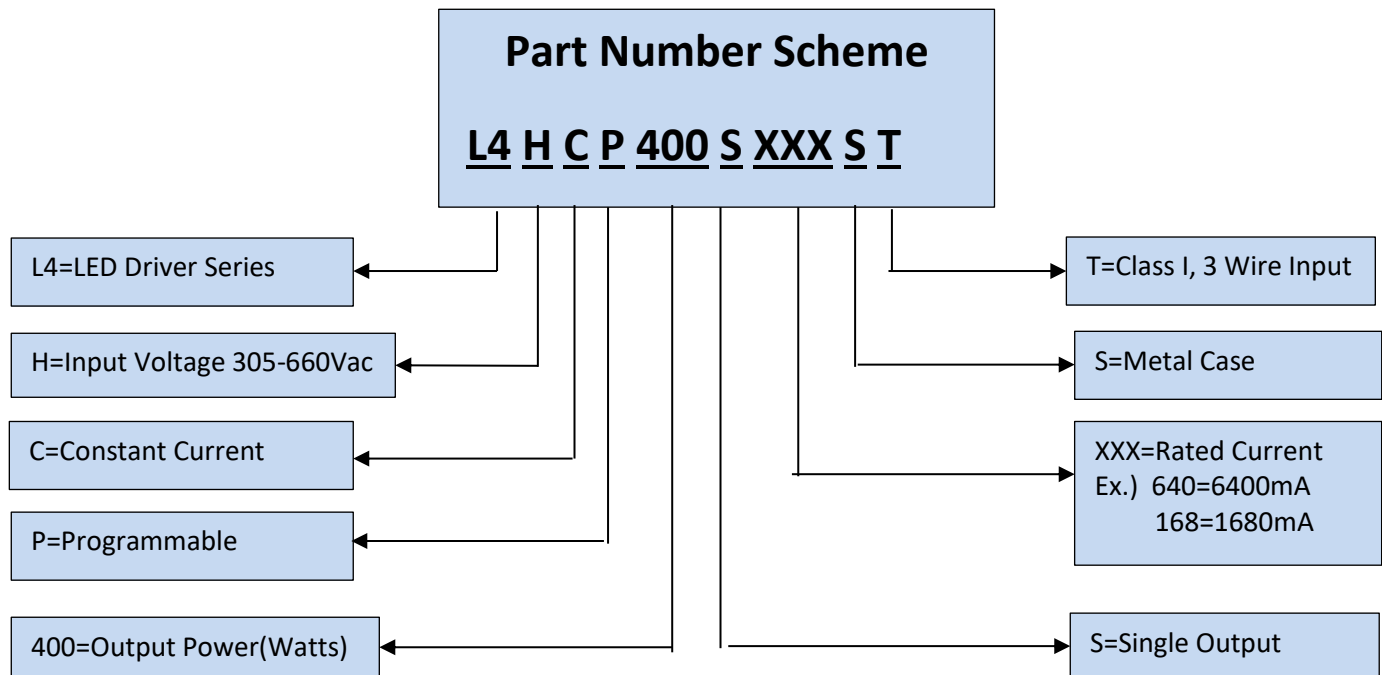
## ■ Mechanical Diagram



- Notes**
1. Outline Dimension 230L\*68W\*42.5H
  2. Input and Output Connector and Pin Assignment
  3. The Yellow Dimming wire is optional for 12V Auxiliary Power

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| Wire Specifications |          | Colors                                                             |
|---------------------|----------|--------------------------------------------------------------------|
| Input Wire          | 3/#18AWG | L= Black, N=White, GND=Green                                       |
| Output              | 2/#18AWG | V+ is Red, V- is Black                                             |
| Dimming Wire        | 3/#22AWG | Dim + is Purple,<br>Dim Return is Grey,<br>AUX12V+/100mA is Yellow |



**\*Product images are for illustrative purposes only and may vary from actual design.**

**\*Specifications are subject to change without notice. Autech is not responsible for issues arising from errors or omissions.**