

## EULP50AT-1WPC-WB

### Summary

EULP50AT-1WPC-WB is a constant current mode output LED driver. The driver supports leading edge (Triac) and trailing edge (ELV) dimmer, 0-10V to achieve a smooth dimming effect.

### Product Features

- Single channel output, output current can be selected by software
- Compatible with TRIAC (forward-phase or leading-edge), ELV (reverse-phase or trailing-edge) and 0-10 V dimmers
- TRIAC and ELV dimming at 120 Vac only
- Class 2 power supply
- Protections: Over load, Over Voltage and short-circuit
- Suitable for indoor LED lighting application

### Application



Down Light



Flicker free



0-10V



TRIAC/ELV



Programming Current



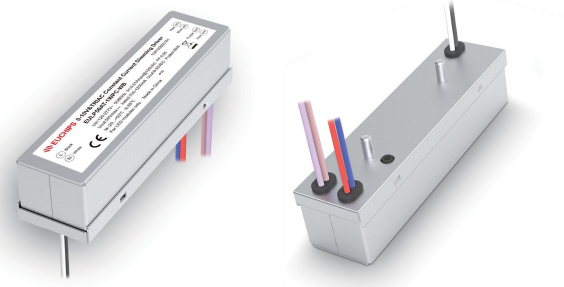
Short Circuit Protection



Over Load Protection



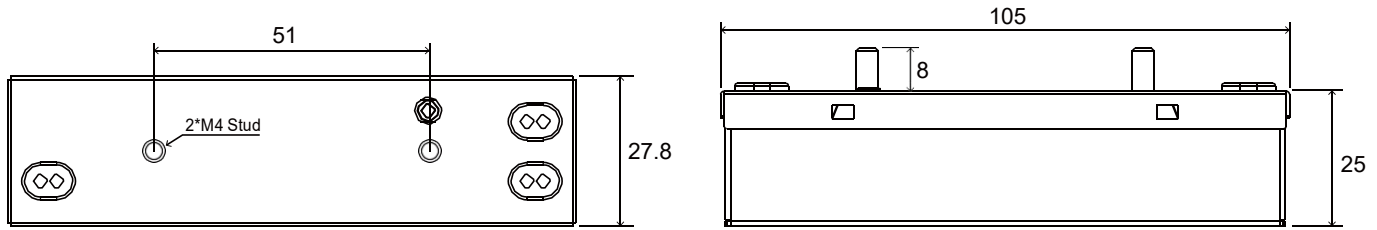
Over Voltage Protection



### Technical Parameters

| Model            | EULP50AT-1WPC-WB   |   |
|------------------|--|---|
| Input            | Efficiency   | >87%@120VAC, >87%@277VAC Full load  |
|                  | Frequency  | 50-60Hz   |
|                  | Voltage  | 120VAC-277VAC   |
|                  | PF   | 0.98@120VAC, 0.9@277VAC, Full load  |
|                  | THD(full load)   | 10%@120VAC, 15%@277VAC, Full load   |
|                  | Current  | 0.51Amax@120VAC, 0.25A@277VAC   |
|                  | Inrush Current   | Cold start, 20@120VAC 100us, 40A@277VAC 100us   |
|                  | No load power  | <2W   |
|                  | Standby Power  | <2W   |
| Output           | Current  | 700-1200mA  |
|                  | Voltage  | 9-50V *(Triac dimming above 20V has better dimming effect)  |
|                  | Power  | 50W max *(Triac dimming with a load of 20W or more has better dimming effect)   |
|                  | Channel  | 1   |
|                  | No load output voltage   | 59V Max   |
|                  | Current Accuracy   | ±5% (*700mA ±7%)  |
|                  | LF current ripple(<120Hz)  | <3%   |
| Protection       | Over Voltage   | Reduce current protection, restore normal operation after troubleshooting   |
|                  | Over load  | Reduce current protection, restore normal operation after troubleshooting   |
|                  | Short circuit  | No output, self recovery after removing the fault   |
| Safety & EMC     | Surge  | L-N:2.5KV (ANSI/IEEE C62.41.1-2002 & c62.41.2-2002 category A, 2.5 kV ringwave)   |
|                  | Withstand Voltage  | I/P-O/P: 2000Vac/1min/<5mA, I/P-PG:1500Vac/1min/<5mA, O/P-PG: 500Vac/1min/<5mA, O/P-DIM( Signal port ):500Vac/1min/<5mA |
|                  | Safety standards   | UL8750/UL1310/CSA25013,CSA class P  |
|                  | EMI Eission  | EN55015,EN61000-3-2 Class C,IEC61000-3-3  |
|                  | EMC Immunity   | FCC class B(120V)/class A(277V)   |
| Function         | Dimming type   | 0-10V, TRIAC/ELV(@120VAC 60Hz)  |
|                  | Dimming range  | 1%-100%   |
|                  | Dimming curve  | 0-10V: (Linearity) TRIAC/ELV: (Linearity)   |
|                  | Flicker  | Flicker free  |
| Others           | Working temp.  | (-20-+50) °C [-4°F-122°F]   |
|                  | Relative humidity  | 20-90% RH   |
|                  | tc   | °C  |
|                  | Lifetime   | 50,000h@tc:85 [ 185°F ]   |
|                  | Warranty Condition   | 5 years   |
|                  | Switch cycle   | >25,000 times   |
|                  | IP rating  | IP20  |
|                  | Material   | Metal   |
|                  | Dimension  | 123.5*27.5*24mm (4.86*1.08*0.94 Inch)(L*W*H)  |
| Pack Information | N.W: 150g(0.33 lb)±5%/PCS; 75 PCS/ Carton; 11.75kg(25.9 lb)±5%/Carton; Carton Size: 405*197*174mm(15.94*7.76*6.85 Inch)(L*W*H) |   |

## Dimension(mm)



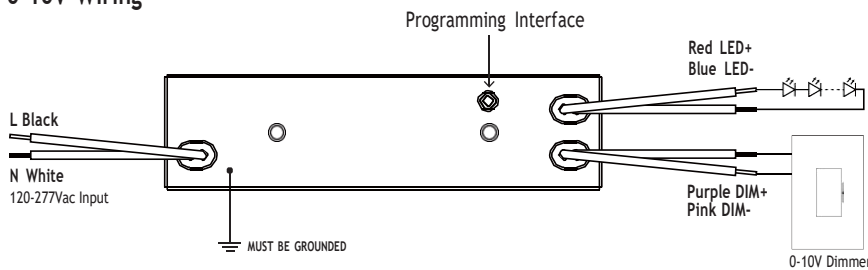
## Wiring Diagram

Metal case  
 All material to be ROHs compliant to Directive 2002/95/EC  
 Wires to be Stranded with UL approval  
 Input: Black & White: 200mm , 18AWG  
 Output: Red & Blue: 200mm , 18AWG  
 Dimming: Purple & Pink:200mm , 20AWG

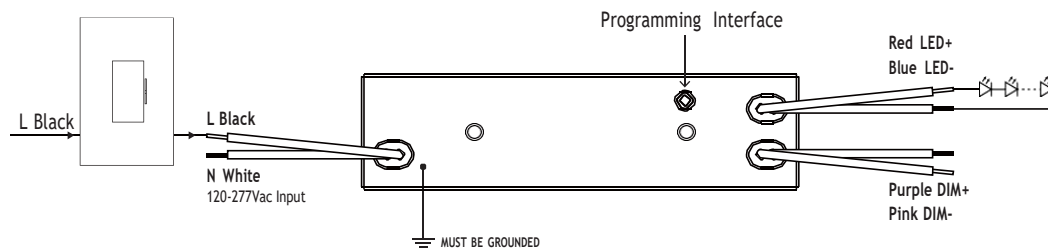
## Mode switching

To 0-10V Mode:Set the dimming voltage to  $\leq 5V$  and hold for 5 seconds.  
 To Triac Mode:Turn the Triac knob to the middle position and hold for 5 seconds.  
 Note: The mode remains active after switching. Repeat the steps to change modes.

## 0-10V Wiring



## Triac/ELV Wiring

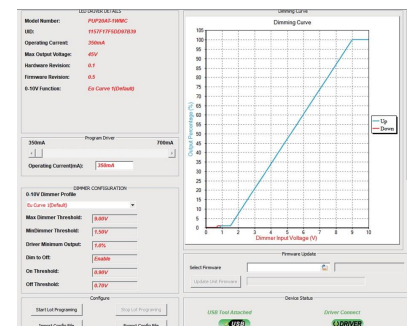


## Configurable functions

- Data log reading: SKU, serial number, batch number, FW revision version
- Output current regulation (factory default: 950)
- Dimming depth editing (factory default: see technical parameter table, editable range 10% Max)
- Dimming curve editing. Built in linear and logarithmic fixed curves, can be directly selected for use. At the same time, it has built-in custom curves and supports editing curves.
- Support parameter copying/replication and batch editing.

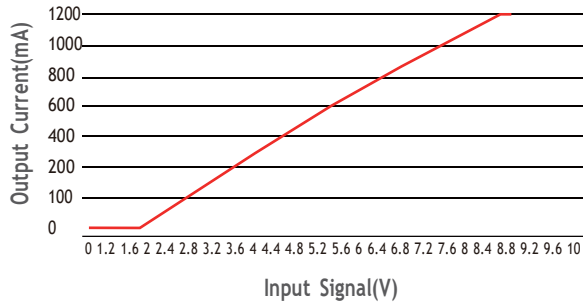


EU-PROG Programming connector

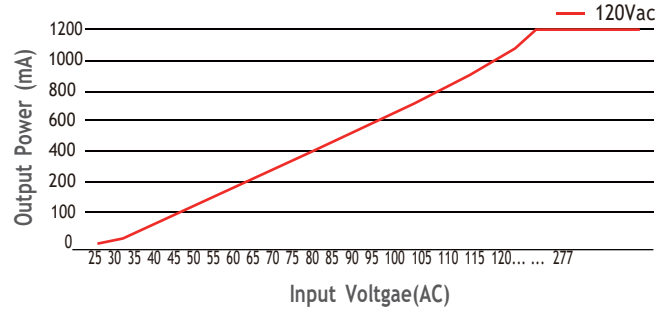


Interface

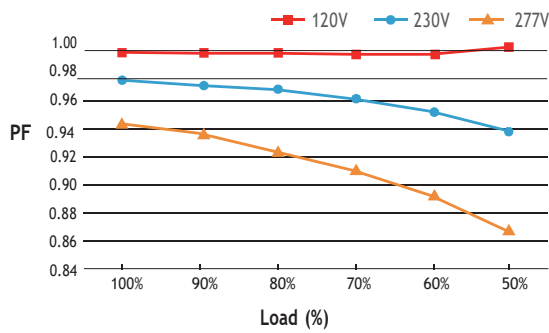
### 0-10V Dimming Curve



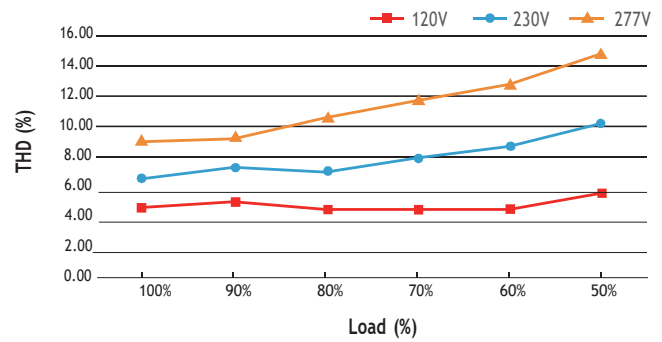
### Triac Dimming Curve



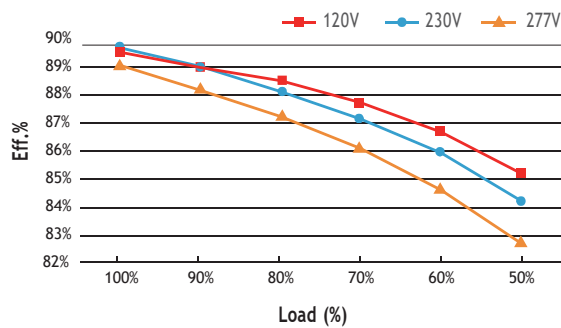
### PF vs Load Curve



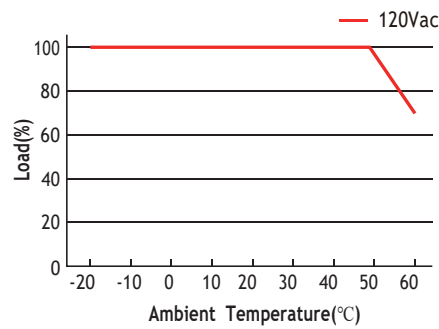
### THD vs Load Curve



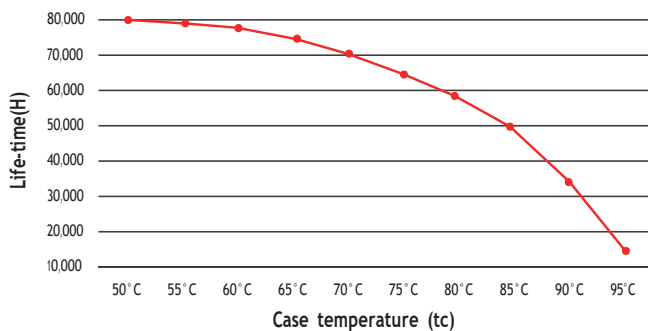
### Efficiency vs Load Curve



### Derating Curve



### Life-time vs. case temperature



The life-time of the led driver is shown in the figure above (calculated based on the 90% survival rate).

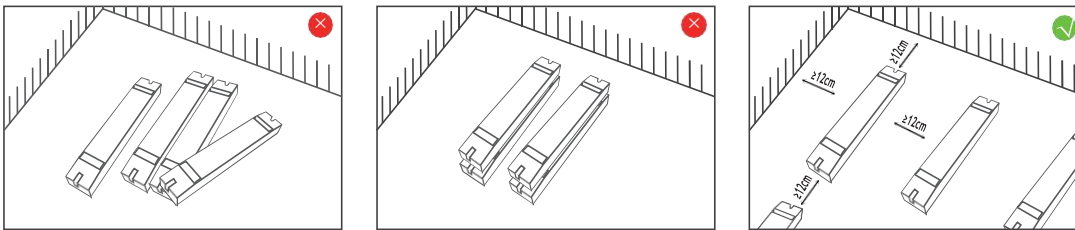
The relation of tc ta temperature depends also on the luminaire design.

## Max. quantity of drivers per miniature circuit breaker

| Specification item         | Value        | Value        | Condition   |
|----------------------------|--------------|--------------|---|
| Inrush current $I_{peak}$  | 20A (120V)   | 40A (277V)   | Input Voltage 120V/277V                             |
| Inrush current $T_{width}$ | 100us (120V) | 100us (277V) | Input Voltage 120V/277V, measured ta 50% $I_{peak}$ |

| MCB | Input Voltage 120V Drivers | Input Voltage 277V Drivers | MCB | Input Voltage 120V Drivers | Input Voltage 277V Drivers |
|-----|----------------------------|----------------------------|-----|----------------------------|----------------------------|
| B10 | 19pcs                      | 21pcs                      | C10 | 19pcs                      | 35pcs                      |
| B13 | 25pcs                      | 27pcs                      | C13 | 25pcs                      | 46pcs                      |
| B16 | 31pcs                      | 34pcs                      | C16 | 31pcs                      | 57pcs                      |
| B20 | 39pcs                      | 42pcs                      | C20 | 39pcs                      | 71pcs                      |
|     |                            |                            | D16 | 31pcs                      | 64pcs                      |

## Installation Precautions



Please do not stack the products. The distance between two products should be  $\geq 12\text{cm}$  so as not to affect heat dissipation and the lifespan of the products.

## Cautions

1. This product should be installed by qualified personnel.
2. This product is non waterproof, need to avoid sun and rain. In case of outdoor use, please ensure it is mounted in a water proof enclosure.
3. Good heat dissipation conditions extend product life. Please install the product in a well-ventilated environment.
4. Please make sure LED power supply output voltage, current is used to meet the product requirements.
5. Please ensure that adequate sized cable is used from the controller to the LED lights to carry the current. Please also ensure that the cable is secured tightly in the connector.
6. Due to safety concerns, PVC or rubber cord of 0.75- 2.5mm<sup>2</sup> is recommended for input and output terminal(s) (excluding signal terminals). Flat power cord is not suitable. Ensure all wire connections and polarities are correct before applying power to avoid any damages to the LED lights.
7. In case of malfunction, do not repair it yourself.

※ The contents of this manual are updated without prior notice. If the function of the product you are using is inconsistent with the instructions, the function of the product shall prevail. Please contact us if you have any questions.

## Warranty Agreement

1. Warranty periods from the date of delivery : 5 years.
2. Free repair or replacement services for quality problems are provided within warranty periods.

## Warranty exclusions below:

1. Beyond warranty periods.
2. Any artificial damage caused by high voltage, overload, or improper operations
3. Products with severe physical damage.
4. Damage caused by natural disasters and force majeure.
5. Warranty labels and barcodes have been damaged.
6. No any contract signed by EUCHIPS.

· Repair or replacement provided is the only remedy for customers. EUCHIPS is not liable for any incidental or consequential damage unless it is within the law.  
 · EUCHIPS has the right to amend or adjust the terms of this warranty, and release in written form shall prevail.