

## ■ Features

- Constant Voltage PWM style output with frequency 1KHz
- PCB type design
- Built-in active PFC function
- No load power consumption < 0.5W (Blank-Type)
- Function options: 2 in 1 dimming (dim-to-off); Auxiliary DC output
- 3 years warranty

## ■ Applications

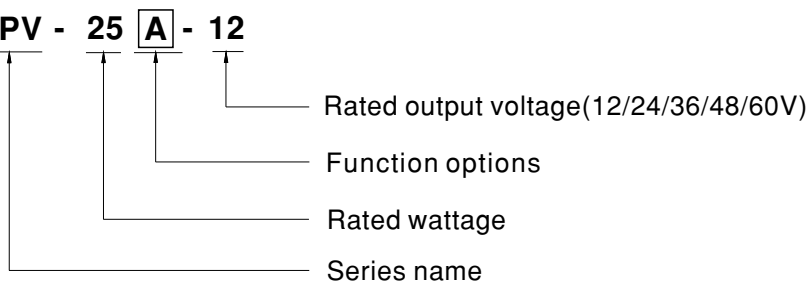
- LED strip lighting
- Indoor LED lighting
- LED decorative lighting
- LED architecture lighting

## ■ Description

IDPV-25 series is a 25W PCB type AC/DC LED driver featuring the constant voltage mode PWM style output design. IDPV-25 operates from 90~295VAC and offers models with different rated voltage ranging between 12V and 60V. Thanks to the high efficiency up to 84%, with the fanless design, the entire series is able to operate for -20°C~+45°C ambient temperature under free air convection. IDPV-25 is equipped with various function options, such as dimming methodologies, so as to provide the design flexibility for LED lighting system.

## ■ Model Encoding

**IDPV - 25 A - 12**



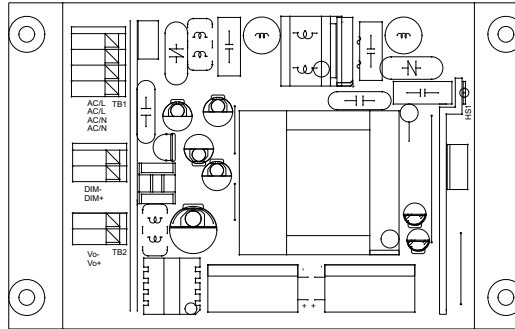
| Type  | Function                               | Note     |
|-------|--|----------|
| Blank | 2 in 1 dimming (0~10VDC and 10V PWM)   | In Stock |
| A     | 2 in 1 dimming and Auxiliary DC output | In Stock |



## SPECIFICATION

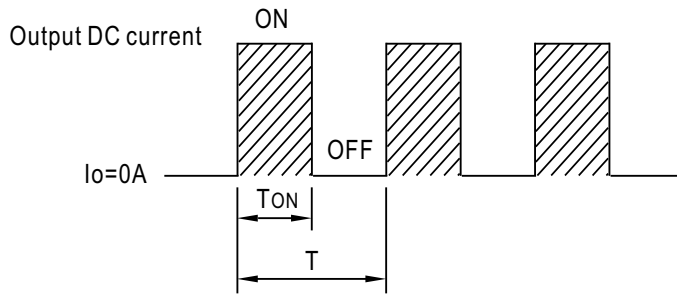
| MODEL        |  | IDPV-25□-12   | IDPV-25□-24 | IDPV-25□-36 | IDPV-25□-48 | IDPV-25□-60 |
|--------------|--|---|-------------|-------------|-------------|-------------|
| OUTPUT       | DC VOLTAGE   | 12V   | 24V         | 36V         | 48V         | 60V         |
|              | CONSTANT CURRENT REGION  | 1.8A  | 1.05A       | 0.7A        | 0.52A       | 0.42A       |
|              | RATED POWER  | 21.6W   | 25.2W       | 25.2W       | 24.96W      | 25.2W       |
|              | DIMMING RANGE  | 0~100%  |             |             |             |             |
|              | VOLTAGE TOLERANCE  | ±10%  |             |             |             |             |
|              | PWM FREQUENCY (Typ.)   | 1KHz (±20%)   |             |             |             |             |
|              | SETUP TIME Note.3  | 500ms / 230VAC 1200ms/115VAC  |             |             |             |             |
|              | AUXILIARY DC OUTPUT Note.4   | Nominal 12V(deviation 11.4~12.6)@50mA for A-Type only   |             |             |             |             |
| INPUT        | VOLTAGE RANGE Note.2   | 90 ~ 295VAC 127 ~ 417VDC<br>(Please refer to "STATIC CHARACTERISTIC" section)   |             |             |             |             |
|              | FREQUENCY RANGE  | 47 ~ 63Hz   |             |             |             |             |
|              | POWER FACTOR (Typ.)  | PF>0.95/115VAC, PF>0.92/230VAC, PF>0.9/277VAC@full load<br>(Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section) |             |             |             |             |
|              | TOTAL HARMONIC DISTORTION  | THD< 20%(@load≥70%/115VAC,230VAC; @load≥75%/277VAC)<br>(Please refer to "TOTAL HARMONIC DISTORTION" section)            |             |             |             |             |
|              | EFFICIENCY (Typ.)  | 80%   | 81%         | 82%         | 83%         | 84%         |
|              | AC CURRENT (Typ.)  | 0.4A / 115VAC 0.16A / 230VAC 0.13A / 277VAC   |             |             |             |             |
|              | INRUSH CURRENT(Typ.)   | COLD START 30A(twidth=100μs measured at 50% Ipeak) at 230VAC; Per NEMA 410  |             |             |             |             |
|              | MAX. No. of PSUs on 16A CIRCUIT BREAKER  | 32 units (circuit breaker of type B) / 32 units (circuit breaker of type C) at 230VAC                                   |             |             |             |             |
|              | LEAKAGE CURRENT  | <0.75mA / 277VAC  |             |             |             |             |
|              | NO LOAD POWER CONSUMPTION  | <0.5W for Blank-Type, <1.2W for A-Type  |             |             |             |             |
| PROTECTION   | SHORT CIRCUIT  | Shut down output voltage, re-power on to recover  |             |             |             |             |
|              | OVER CURRENT   | 105 ~ 120%<br>Protection type : Constant current limiting, recovers automatically after fault condition is removed      |             |             |             |             |
| ENVIRONMENT  | WORKING TEMP.  | Ta=-20 ~ +45°C (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)  |             |             |             |             |
|              | WORKING HUMIDITY   | 20 ~ 90% RH non-condensing  |             |             |             |             |
|              | STORAGE TEMP., HUMIDITY  | -40 ~ +80°C, 10 ~ 95% RH  |             |             |             |             |
|              | TEMP. COEFFICIENT  | ±0.03%/°C (0 ~ 45°C)  |             |             |             |             |
|              | VIBRATION  | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes   |             |             |             |             |
| SAFETY & EMC | SAFETY STANDARDS   | UL8750,CSA C22.2 NO.250.13-12;ENEC EN61347-1 & EN61347-2-13 independent, EN62384,GB19510.1,GB19510.14 approved          |             |             |             |             |
|              | WITHSTAND VOLTAGE  | I/P-O/P:3.75KVAC  |             |             |             |             |
|              | ISOLATION RESISTANCE   | I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH  |             |             |             |             |
|              | EMC EMISSION   | Compliance to EN55015, EN61000-3-2 Class C (@load ≥ 70%) ; EN61000-3-3,GB17743,GB17625.1                                |             |             |             |             |
|              | EMC IMMUNITY   | Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, light industry level(surge immunity:Line-Line:1KV)                     |             |             |             |             |
| OTHERS       | MTBF   | 382.7Khrs min. MIL-HDBK-217F (25°C)   |             |             |             |             |
|              | DIMENSION  | 114.5*72.5*20mm (L*W*H)   |             |             |             |             |
|              | PACKING  | 0.145Kg;72pcs/11.44Kg/1.13CUFT  |             |             |             |             |
| NOTE         | <ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature.</li> <li>De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.</li> <li>Length of set up time is measured at cold first start. Turning ON/OFF the driver may lead to increase of the set up time.</li> <li>There is no design of short circuit protection for the Auxiliary DC output; this function can not be used when dimming input terminals(DIM+,DIM-) are short circuit or when it is no load or short circuit at output(Vo+,Vo-).</li> <li>The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.</li> <li>The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li> </ol> |   |             |             |             |             |

**■ DIMMING OPERATION**



※ Dimming principle for PWM style output

• Dimming is achieved by varying the duty cycle of the output current.

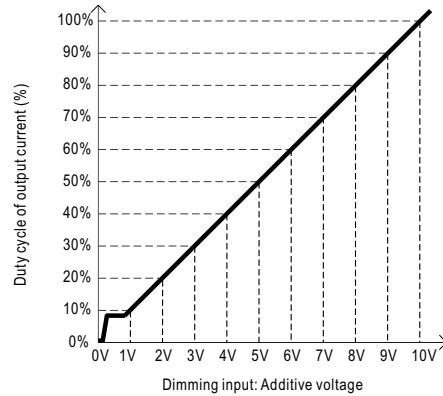
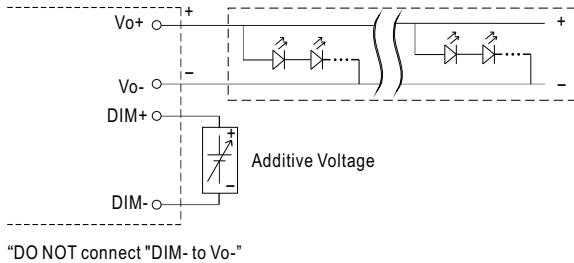


$$\text{Duty cycle(\%)} = \frac{T_{ON}}{T} \times 100\%$$

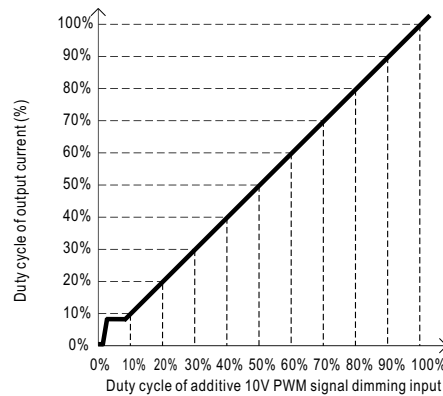
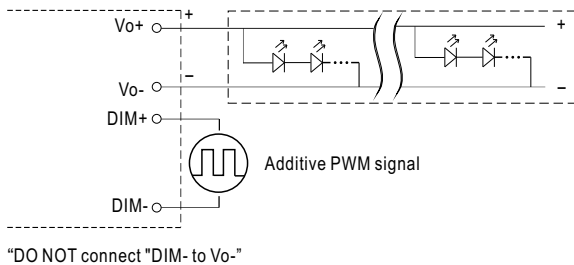
Output PWM frequency : 1KHz (±20%)

※ 2 in 1 dimming function

◎ Applying additive 0 ~ 10VDC

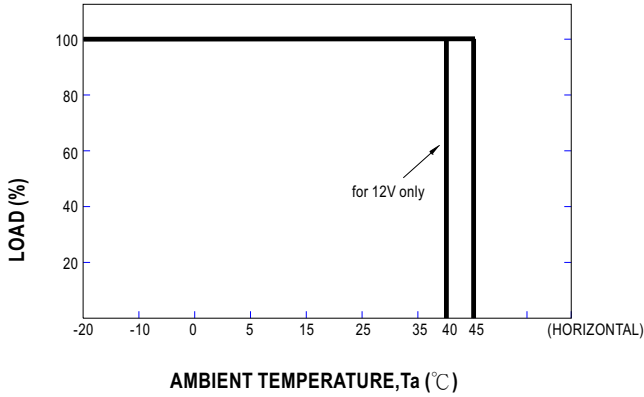


◎ Applying additive 10V PWM signal (frequency range 300~3KHz):

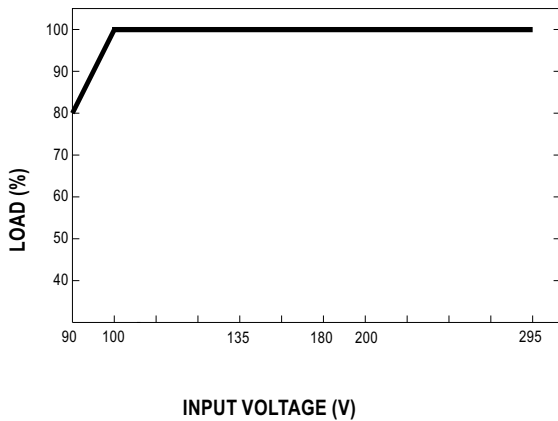


Note : 1. Min. duty cycle of output current is about 9% and the output current is not defined when 0% < Iout < 9%.  
 2. The duty cycle of output current could drop down to 0% when dimming input is about 0Vdc, or 10V PWM signal with 0% duty cycle.

### OUTPUT LOAD vs TEMPERATURE

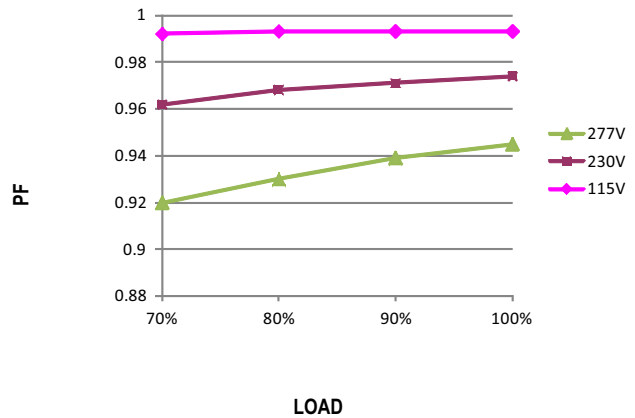


### STATIC CHARACTERISTIC



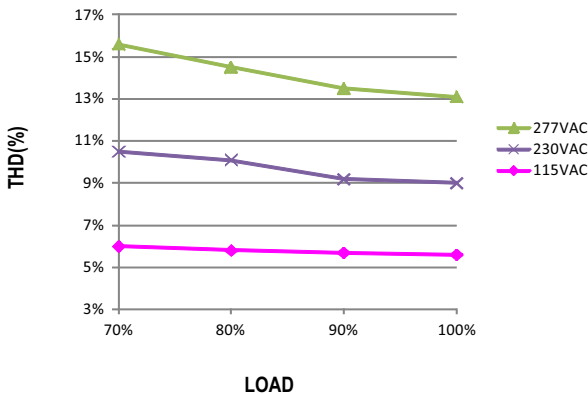
※ De-rating is needed under low input voltage.

### POWER FACTOR (PF) CHARACTERISTIC



### TOTAL HARMONIC DISTORTION (THD)

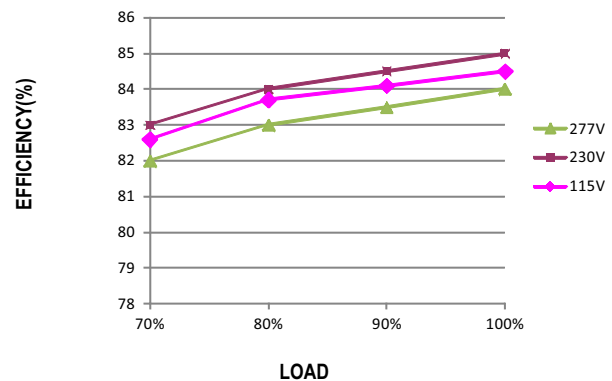
※ 36V Model



### EFFICIENCY vs LOAD

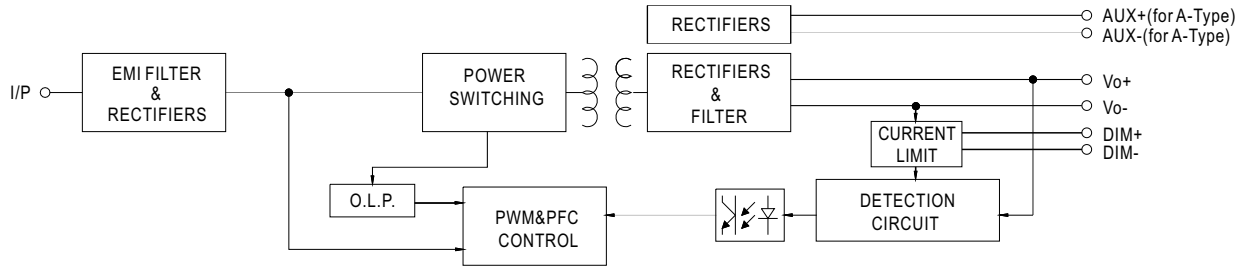
IDPV-25 series possess superior working efficiency that up to 84% can be reached in field applications.

※ 36V Model



**BLOCK DIAGRAM**

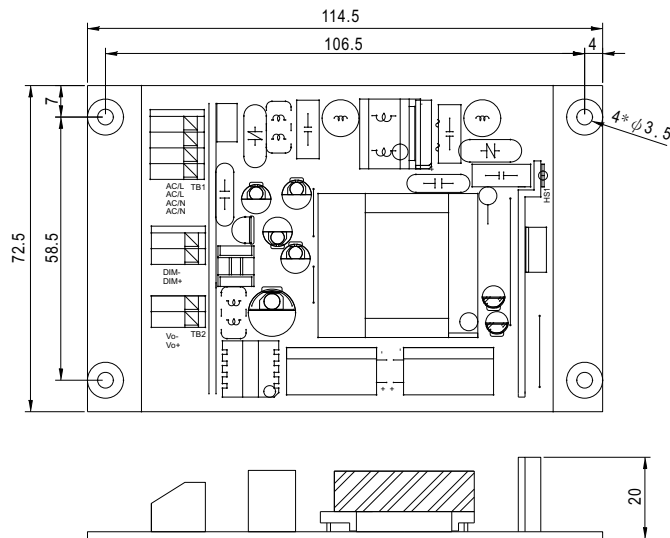
fosc : 70KHz



**MECHANICAL SPECIFICATION**

※ Blank-Type

Unit:mm



NOTE: Please use wires with a cross section of 0.75~1.5mm<sup>2</sup> for TB1 and wires with a cross section of 0.5~1.5mm<sup>2</sup> for TB2.

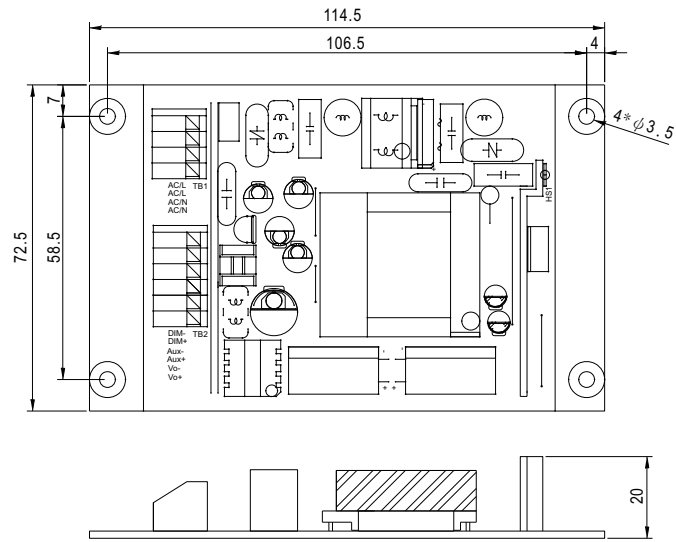
Terminal Pin No. Assignment(TB1)

| Pin No. | Assignment |
|---------|------------|
| 1       | ACL        |
| 2       | ACL        |
| 3       | ACN        |
| 4       | ACN        |

Terminal Pin No. Assignment(TB2)

| Pin No. | Assignment |
|---------|------------|
| 1       | DIM-       |
| 2       | DIM+       |
| 3       | Vo-        |
| 4       | Vo+        |

※ A-Type



NOTE: Please use wires with a cross section of 0.75~1.5mm<sup>2</sup> for TB1 and wires with a cross section of 0.5~1.5mm<sup>2</sup> for TB2.

Terminal Pin No. Assignment(TB1)

| Pin No. | Assignment |
|---------|------------|
| 1       | ACL        |
| 2       | ACL        |
| 3       | ACN        |
| 4       | ACN        |

Terminal Pin No. Assignment(TB2)

| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|------------|
| 1       | DIM-       | 4       | AUX+       |
| 2       | DIM+       | 5       | Vo-        |
| 3       | AUX-       | 6       | Vo+        |

■ **INSTALLATION MANUAL**

Please refer to : <http://www.meanwell.com/manual.html>