



25W PWM Output LED Driver

IDPV-25 series



## ■ 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

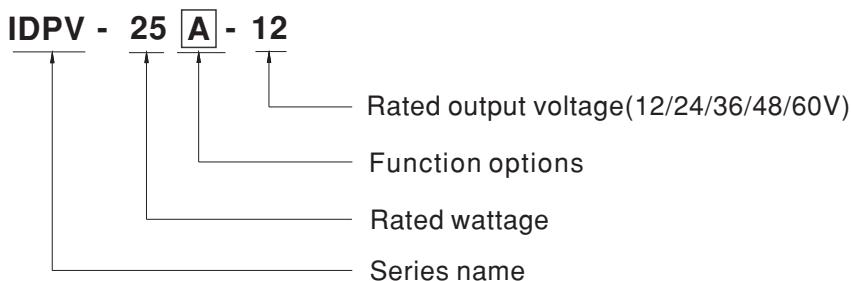
## ■ Applications

- 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



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



## SPECIFICATION

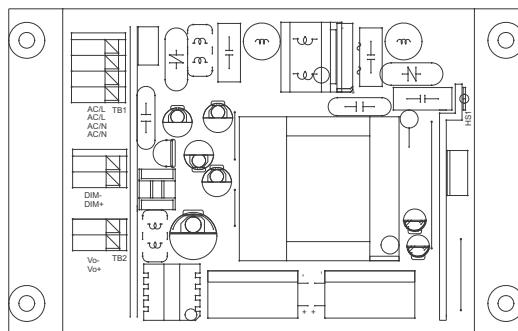
MODEL	IDPV-25□-12	IDPV-25□-24	IDPV-25□-36	IDPV-25□-48	IDPV-25□-60			
OUTPUT	DC VOLTAGE	12V	24V	36V	48V			
	CONSTANT CURRENT REGION	1.8A	1.05A	0.7A	0.52A			
	RATED POWER	21.6W	25.2W	25.2W	24.96W			
	DIMMING RANGE	0~100%						
	VOLTAGE TOLERANCE	±10%						
	PWM FREQUENCY (Typ.)	1KHz (±20%)						
	SETUP TIME Note.3	500ms / 230VAC 1200ms/115VAC						
INPUT	AUXILIARY DC OUTPUT Note.4	Nominal 12V(deviation 11.4~12.6)@50mA for A-Type only						
	VOLTAGE RANGE Note.2	90 ~ 295VAC 127 ~ 417VDC (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 (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)						
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≥70%/115VAC,230VAC; @load≥75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION" section)						
	EFFICIENCY (Typ.)	80%	81%	82%	83%			
	AC CURRENT (Typ.)	0.4A / 115VAC	0.16A / 230VAC	0.13A / 277VAC				
	INRUSH CURRENT(Typ.)	COLD START 30A(twidth=150μs 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						
PROTECTION	LEAKAGE CURRENT	<0.75mA / 277VAC						
	NO LOAD POWER CONSUMPTION	<0.5W for Blank-Type, <1.2W for A-Type						
	SHORT CIRCUIT	Shut down output voltage, re-power on to recover						
ENVIRONMENT	OVER CURRENT	105 ~ 120%						
		Protection type : Constant current limiting, recovers automatically after fault condition is removed						
SAFETY & EMC	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						
OTHERS	SAFETY STANDARDS	UL8750,CSA C22.2 NO.250.13-12;ENEC BS EN/EN61347-1 & BS EN/EN61347-2-13 independent, BS EN/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 BS EN/EN55015, BS EN/EN61000-3-2 Class C (@load≥70%) ; BS EN/EN61000-3-3,GB17743,GB17625.1						
NOTE	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11; BS EN/EN61547, light industry level(surge immunity:Line-Line:1KV)						
	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						
	1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. 2. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. 3. 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. 4. Aux. 12V will be damaged with short circuit; It will not be available with dimming off or output no load condition. 5. 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. 6. 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). 7. When the environment temperature is high, adding a heat sink at the bottom of the product can help cooling. The Part No of the heat sink is 1GG1HS-GZ236A. 8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.							
※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a>								



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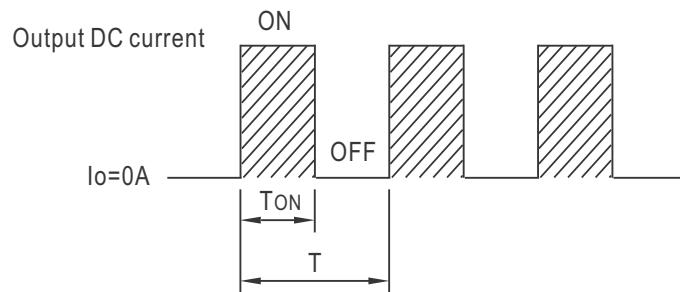
IDPV-25 series

### DIMMING OPERATION



#### ※ Dimming principle for PWM style output

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

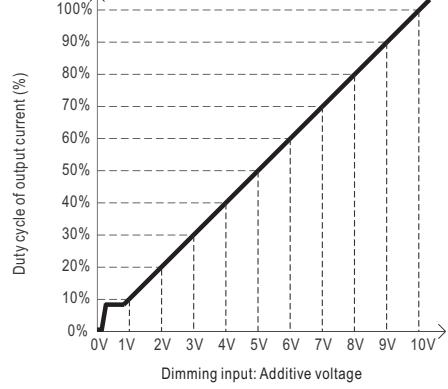
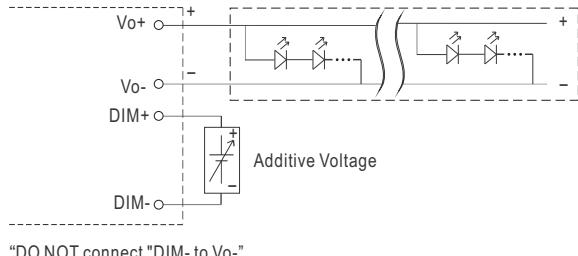


$$\text{Duty cycle}(\%) = \frac{T_{ON}}{T} \times 100\%$$

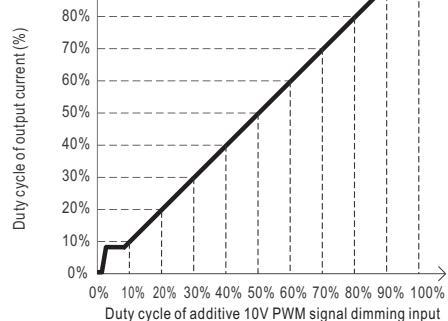
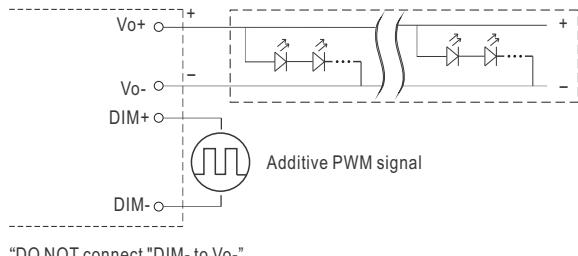
Output PWM frequency : 1KHz ( $\pm 20\%$ )

#### ※ 2 in 1 dimming function

- Applying additive 0 ~ 10VDC

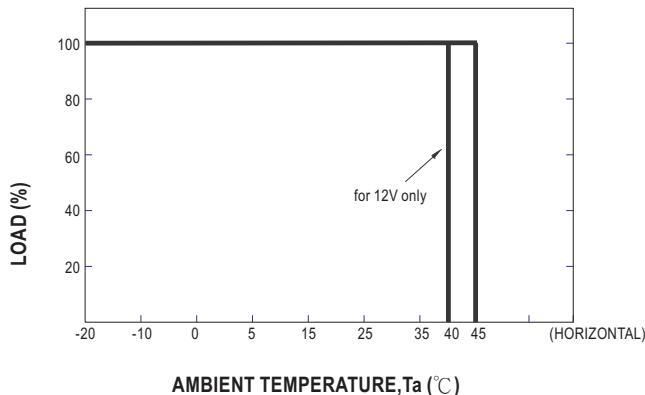


- Applying additive 10V PWM signal (frequency range 300~3KHz):

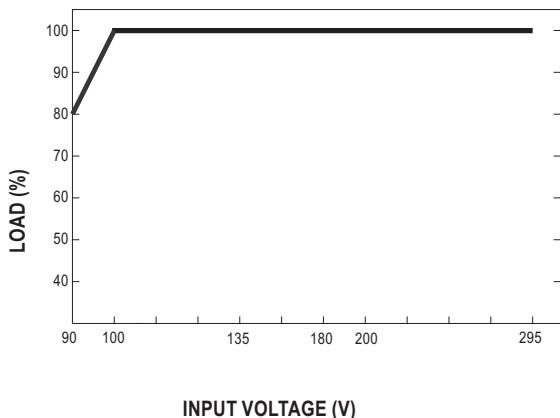


Note : 1. Min. duty cycle of output current is about 9% and the output current is not defined when  $0\% < I_{out} < 9\%$ .  
 2. The duty cycle of output current could drop down to 0% when dimming input is about 0Vdc, or 10V PWM signal with 0% duty cycle.

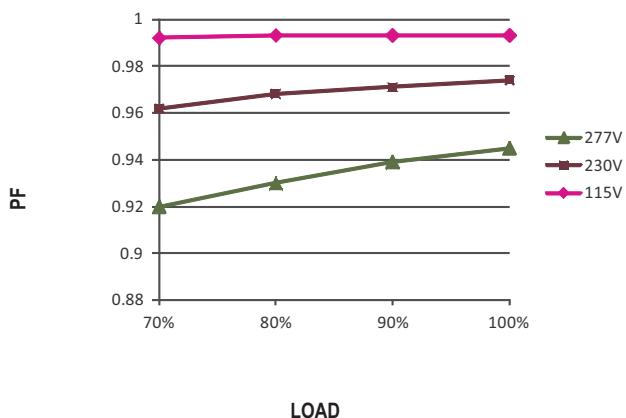
## ■ OUTPUT LOAD vs TEMPERATURE



## ■ STATIC CHARACTERISTIC



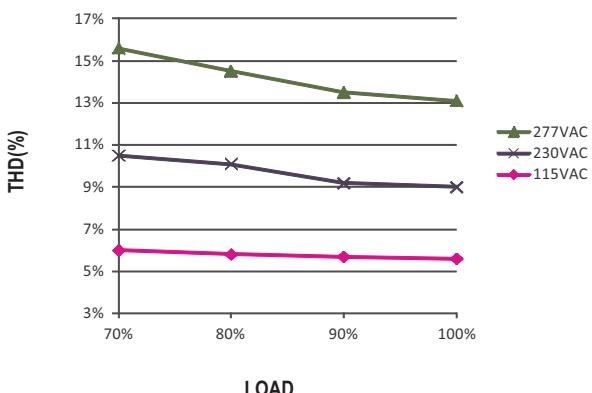
## ■ POWER FACTOR (PF) CHARACTERISTIC



※ De-rating is needed under low input voltage.

## ■ TOTAL HARMONIC DISTORTION (THD)

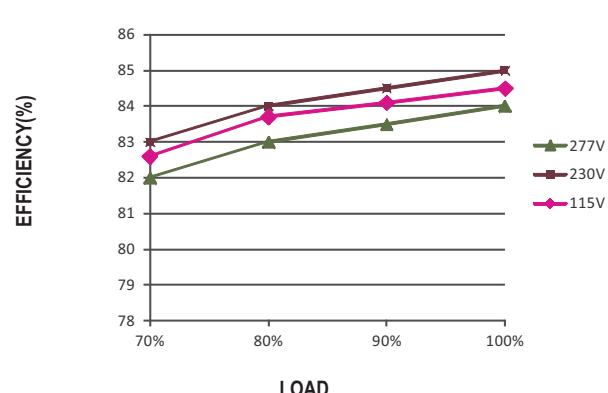
※ 36V Model



## ■ EFFICIENCY vs LOAD

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

※ 36V Model



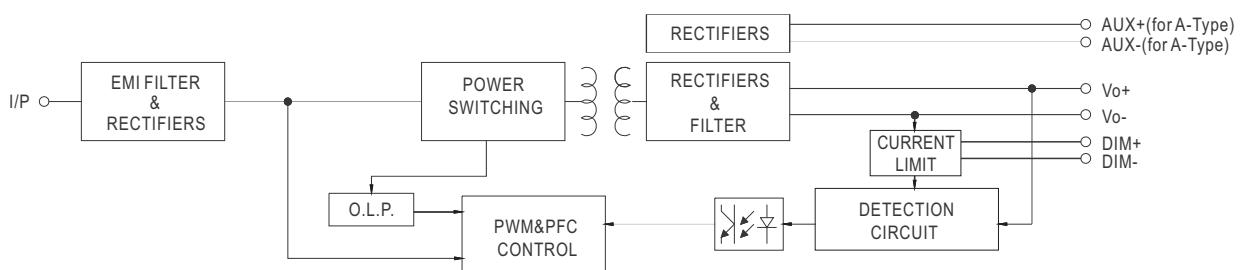


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## ■ BLOCK DIAGRAM

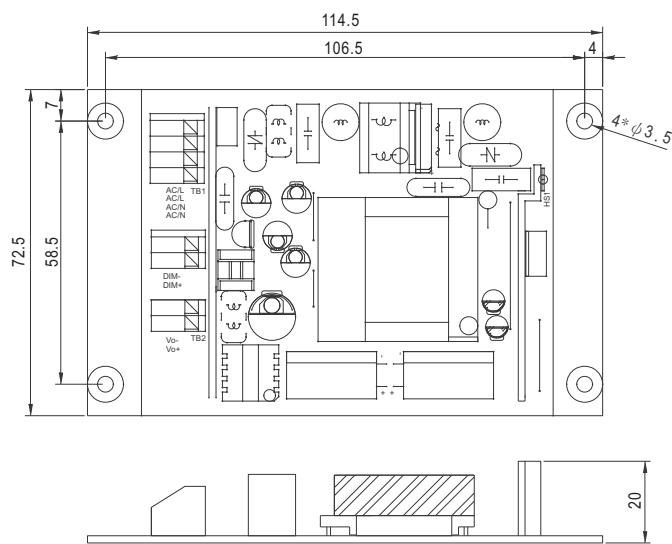
fosc : 70KHz



## ■ 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.

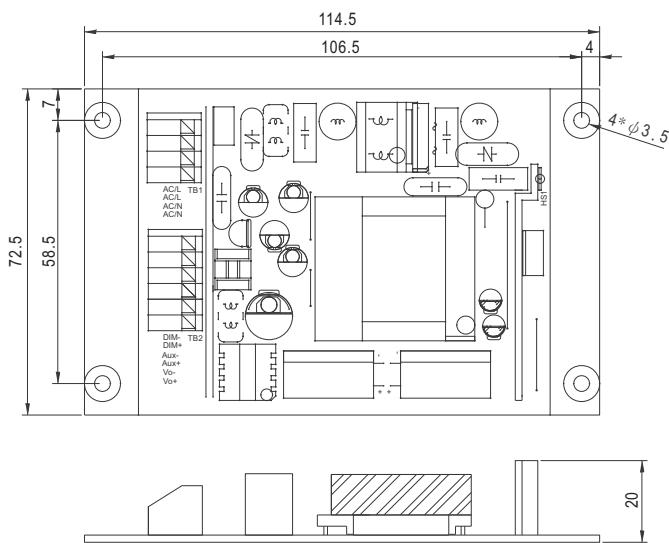
Terminal Pin No. Assignment(TB1)

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>