User's Manual

IS 15885(Part 2/Sec13)
R-41027766
(for IDLV-65-12,24,48 only)

SELV

(optional)

■ Features

· Constant Voltage PWM style output with frequency 1KHz
· Plastic housing with class II 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
· Industrial lighting

■ GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

■ Description

IDLV-65 series is a 65W AC/DC LED driver featuring the constant voltage mode PWM style output design. IDLV-65 operates from 180～295VAC and offers models with different rated voltage ranging between 12V and 60V. Thanks to the high efficiency up to 90%, with the fanless design, the entire series is able to operate for -20℃~+85℃ case temperature under free air convection. IDLV-65 is equipped with various function options, such as dimming methodologies, so as to provide the design flexibility for LED lighting system.

■ Model Encoding

IDLV - 65 [A] - 12

Rated output voltage(12/24/36/48/60V)

Function options

Rated wattage

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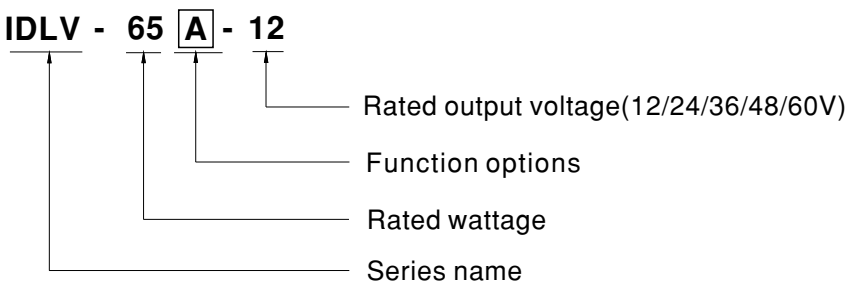
Type	Function	Note
Blank	2 in 1 dimming (0~10VDC and 10V PWM)	In Stock
A	2 in 1 dimming and Auxiliary DC output	In Stock

SPECIFICATION

MODEL		IDLV-65☐-12	IDLV-65☐-24	IDLV-65☐-36	IDLV-65☐-48	IDLV-65☐-60
OUTPUT	**DC VOLTAGE**	12V	24V	36V	48V	60V
	RATED CURRENT	4.2A	2.4A	1.8A	1.35A	1.08A
	RATED POWER	50.4W	57.6W	64.8W	64.8W	64.8W
	DIMMING RANGE	0~100%				
	VOLTAGE TOLERANCE	$\pm$10%				
	PWM FREQUENCY (Typ.)	1KHz($\pm$20%)				
	SETUP TIME Note.3	500ms / 230VAC				
	AUXILIARY DC OUTPUT Note.4	Nominal 12V(deviation 11.4~12.6)@50mA for A-Type only				
INPUT	**VOLTAGE RANGE** Note.2	180 ~ 295VAC (Please refer to "STATIC CHARACTERISTIC" section)				
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR (Typ.)	PF>0.95/230VAC, PF>0.9/277VAC@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)				
	TOTAL HARMONIC DISTORTION	THD< 20%(@load≧60%/230VAC; @load≧75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION" section)				
	EFFICIENCY (Typ.)	85%	87%	88%	89%	90%
	AC CURRENT (Typ.)	0.4A/230VAC 0.3A/277VAC				
	INRUSH CURRENT(Typ.)	COLD START 30A(twidth=270μs 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, <0.5W for A-Type				
PROTECTION	**SHORT CIRCUIT**	Shut down O/P voltage, re-power on to recovery				
	OVER CURRENT	105 ~ 115%				
		Protection type : Hiccup mode, recovers automatically after fault condition is removed				
ENVIRONMENT	**WORKING TEMP.**	Tcase=-20 ~ +85℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)				
	MAX. CASE TEMP.	Tcase=+85℃				
	WORKING HUMIDITY	20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH				
	TEMP. COEFFICIENT	$\pm$0.03%/℃ (0 ~ 40℃)				
	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; BS EN/EN 61347-1 & BS EN/EN 61347-2-13 independent, BS EN/EN62384, BIS IS15885(for IDLV-65-12,24,48 only), EAC TP TC 004 approved				
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC				
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH				
	EMC EMISSION	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (@load≧60%) ; BS EN/EN61000-3-3, EAC TP TC 020				
	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), EAC TP TC 020				
OTHERS	**MTBF**	4136.2K hrs min. Telcordia SR-332 (Bellcore) ; 398.8K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION	130*75*25mm (L*W*H)				
	PACKING	0.23Kg;54pcs/13.5Kg/ 0.96CUFT				
NOTE		1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ 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℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft). ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx				

■ DIMMING OPERATION

```
ACL
ACL   TB1
ACN
ACN

DIM+
DIM-   TB2
Vo+
Vo-
```
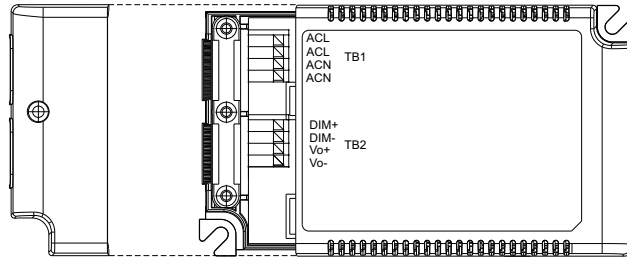
※ **Dimming principle for PWM style output**

・Dimming is achieved by varying the duty cycle of the output current.
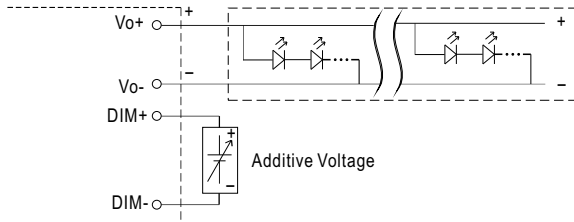
Output DC current

ON

OFF

Io=0A

TON

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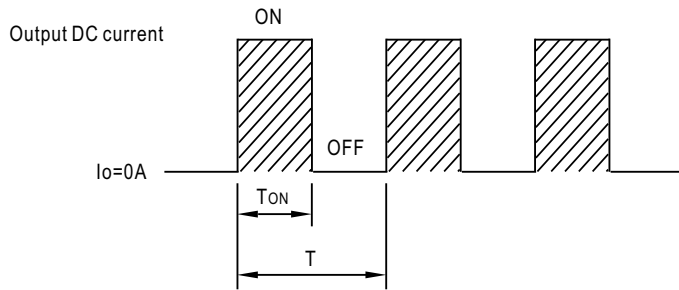
$$\text{Duty cycle(\%)} = \frac{TON}{T} \times 100\%$$

Output PWM frequency : 1KHz(±20%)

※ **2 in 1 dimming function**

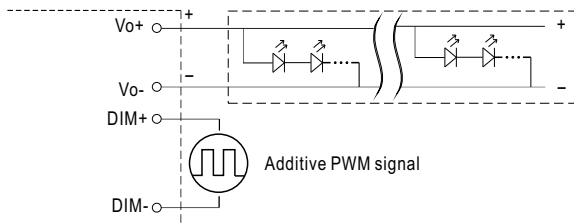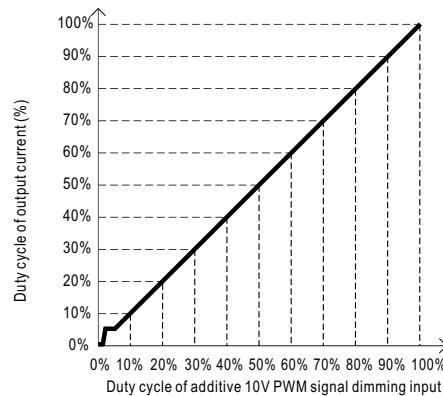◎ Applying additive 0 ~ 10VDC

```
Vo+  +                    +
Vo-  -                    -
DIM+
       Additive Voltage
DIM-
```

"DO NOT connect "DIM- to Vo-"

Duty cycle of output current (%)

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

0V 1V 2V 3V 4V 5V 6V 7V 8V 9V 10V

Dimming input: Additive voltage
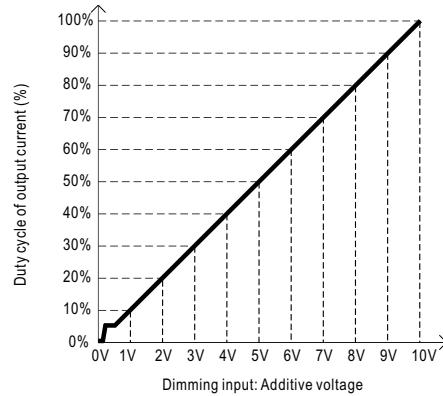
◎ Applying additive 10V PWM signal (frequency range 300Hz~3KHz):

```
Vo+  +                    +
Vo-  -                    -
DIM+
       Additive PWM signal
DIM-
```

"DO NOT connect "DIM- to Vo-"

Duty cycle of output current (%)

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Duty cycle of additive 10V PWM signal dimming input
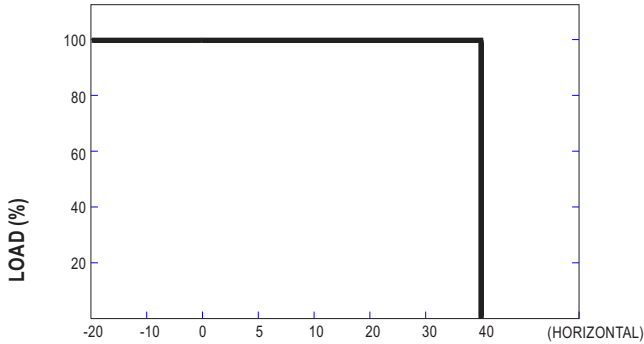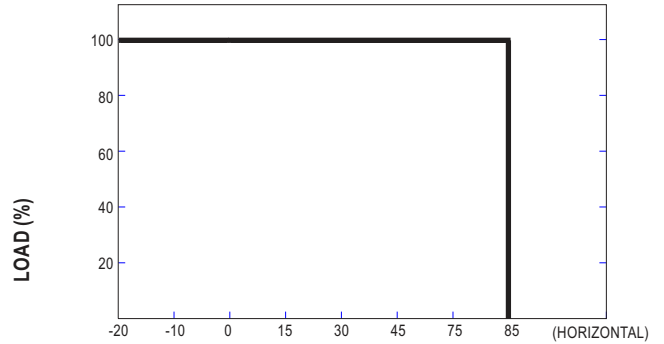
Note : 1. Min. duty cycle of output current is about 8% and the output current is not defined when 0%< Iout<8%.
    2. The duty cycle of output current could drop down to 0% when dimming input is about 0Vdc or 10V PWM signal with 0% duty cycle.
    3. To ensure the dimming effect, total power must be over 45W at 100% duty cycle.
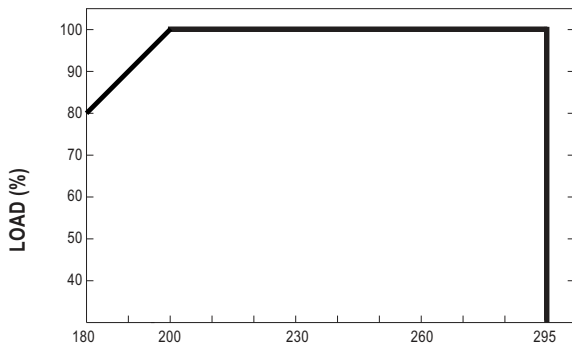
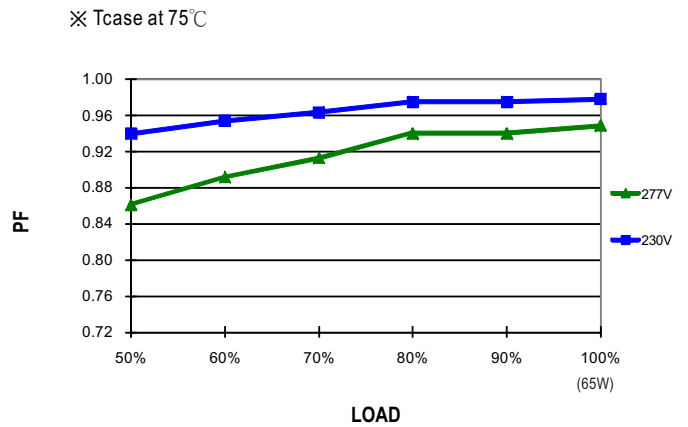■ **OUTPUT LOAD vs TEMPERATURE**

AMBIENT TEMPERATURE,Ta (℃)

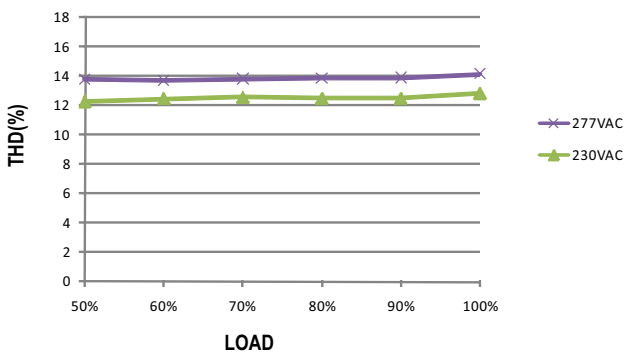Tcase (℃)

■ **STATIC CHARACTERISTIC**

INPUT VOLTAGE (V)

※ De-rating is needed under low input voltage.

■ **POWER FACTOR (PF) CHARACTERISTIC**
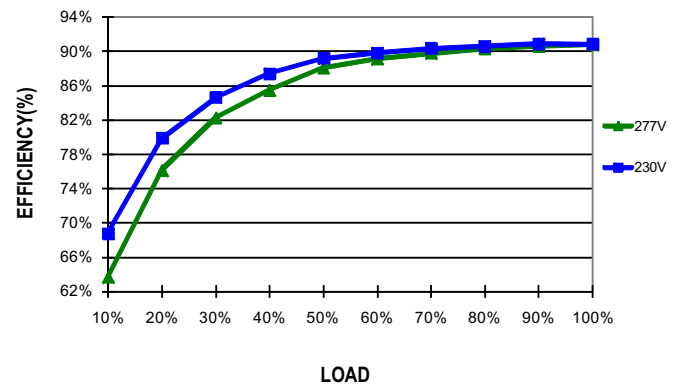
※ Tcase at 75℃

■ **TOTAL HARMONIC DISTORTION (THD)**
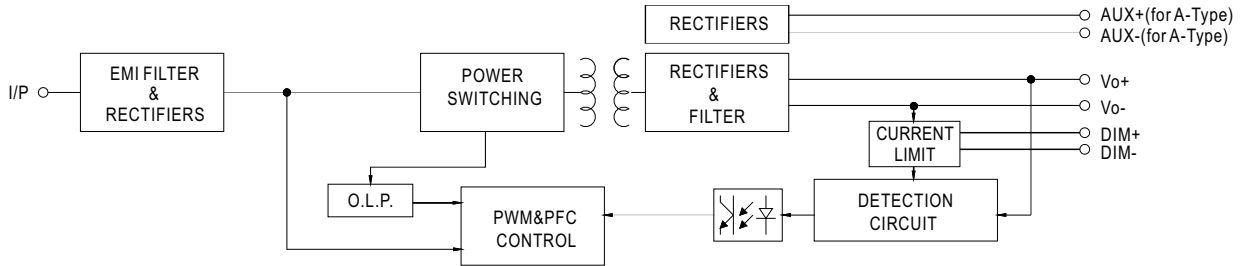
※ 60V Model,Tcase at 75℃

■ **EFFICIENCY vs LOAD**

IDLV-65 series possess superior working efficiency that up to 90% can be reached in field applications.
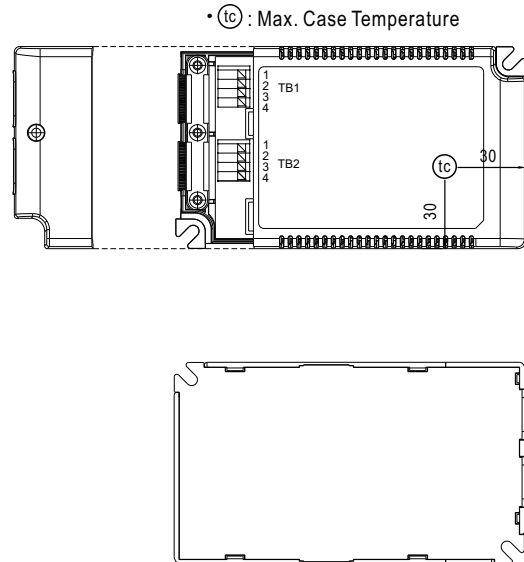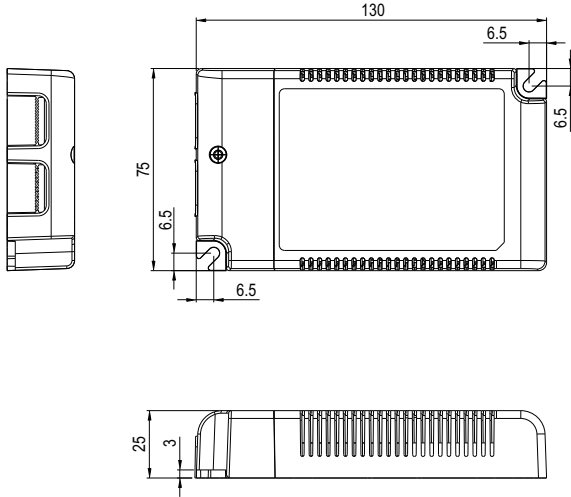
※ 60V Model,Tcase at 75℃

■ BLOCK DIAGRAM

fosc : 70-150KHz

■ MECHANICAL SPECIFICATION

※ **Blank-Type**

Case No.IDLC-65A   Unit:mm

• (tc) : Max. Case Temperature

NOTE: Please use wires with a cross section of 0.75~1.5mm² for TB1
and wires with a cross section of 0.5~1.5mm² 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**

· tc : Max. Case Temperature

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

Terminal Pin No. Assignment(TB1)
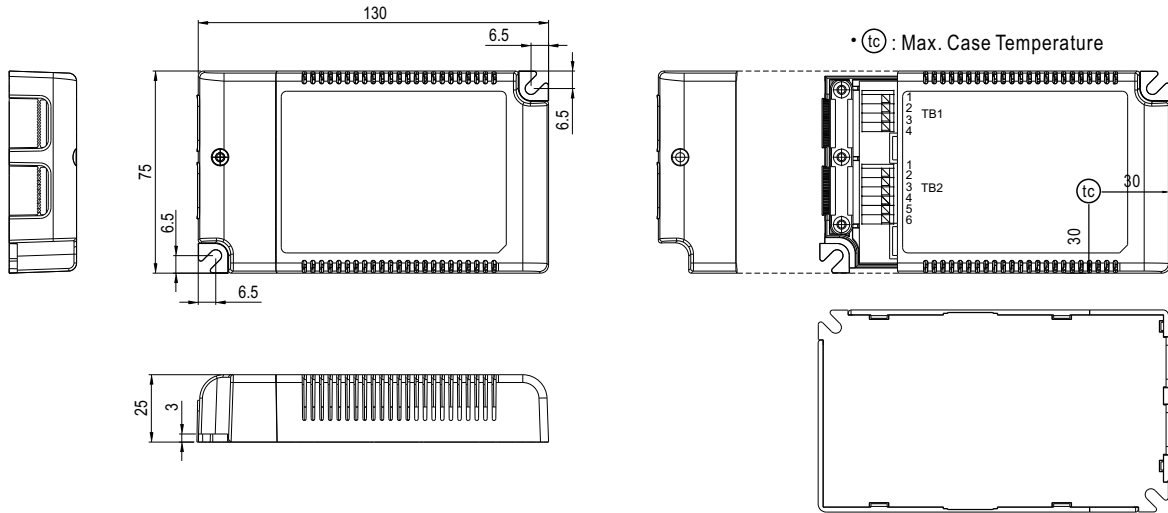
Pin No.	Assignment
1	ACL
2	ACL
3	ACN
4	ACN

Terminal Pin No. Assignment(TB2)

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

■ **INSTALLATION MANUAL**

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