HLG-40H series

40W Constant Voltage + Constant Current LED Driver

User's Manual

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class Ⅰ design
- Built-in active PFC function
- Class 2 power unit
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming; Timer dimming
- Typical lifetime > 62000 hours
- 7 years warranty

Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class Ⅰ, Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

HLG-40H series is a 40W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-40H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 89.5%, with the fanless design, the entire series is able to operate for -40 ~ +80 case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-40H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 40H - 36 A

- A — Function options
- 36 — Rated output voltage (12V/15V/20V/24V/30V/36V/42V/48V/54V)
- 40H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

SPECIFICATION

MODEL		HLG-40H-12□	HLG-40H-15□	HLG-40H-20□	HLG-40H-24□	HLG-40H-30□	HLG-40H-36□	HLG-40H-42□	HLG-40H-48□	HLG-40H-54□
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	7.2 ~12V	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V
	RATED CURRENT	3.33A	2.67A	2A	1.67A	1.34A	1.12A	0.96A	0.84A	0.75A
	RATED POWER	39.96W	40.05W	40W	40.08W	40.2W	40.32W	40.32W	40.32W	40.5W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	300mVp-p	300mVp-p
	VOLTAGE ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)								
		10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	40 ~ 46V	44 ~ 53V	49 ~ 58V
	CURRENT ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)								
		2 ~ 3.33A	1.6 ~ 2.67A	1.2 ~ 2A	1 ~ 1.67A	0.8 ~ 1.34A	0.67 ~ 1.12A	0.58 ~ 0.96A	0.5 ~ 0.84A	0.45 ~ 0.75A
	VOLTAGE TOLERANCE Note.3	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6	500ms,80ms/115VAC 500ms,80ms/230VAC								
	HOLD UP TIME (Typ.)	16ms / 115VAC, 230VAC								
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF≧0.98/115VAC, PF≧0.95/230VAC, PF≧0.92/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)								
	TOTAL HARMONIC DISTORTION	THD< 20% (@ load≧60% / 115VAC,230VAC; @ load≧75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)								
	EFFICIENCY (Typ.)	86.5%	86.5%	88%	88%	88.5%	88.5%	88.5%	89.5%	89.5%
	AC CURRENT (Typ.)	0.43A / 115VAC 0.24A / 230VAC 0.23A / 277VAC								
	INRUSH CURRENT(Typ.)	COLD START 50A(t_{width}=210μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410								
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	12 units (circuit breaker of type B) / 20 units (circuit breaker of type C) at 230VAC								
	LEAKAGE CURRENT	<0.75mA / 277VAC								
PROTECTION	OVER CURRENT	95 ~ 108%								
		Constant current limiting, recovers automatically after fault condition is removed								
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	15 ~ 21V	18 ~ 24V	23 ~ 30V	28 ~ 35V	35 ~ 43V	41 ~ 49V	48 ~ 58V	54 ~ 65V	59 ~ 68V
		Shut down o/p voltage, re-power on to recover								
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover								
ENVIRONMENT	WORKING TEMP.	Tcase= -40 ~ +80℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)								
	MAX. CASE TEMP.	Tcase= +80℃								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)								
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARDS Note.8	UL8750(type"HL"), CSA C22.2 No. 250.0-08 , BS EN/EN/AS/NZS 61347-1,BS EN/EN/AS/NZS 61347-2-13 independent , GB19510.1,GB19510.14,EAC TP TC 004,KC61347-1,KC61347-2-13(except for AB-type), IP65 or IP67 approved ; J61347-1,J61347-2-13 ; design refer to BS EN/EN60335-1(by request)								
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC								
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH								
	EMC EMISSION Note.8	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (@ load≧60%) ; BS EN/EN61000-3-3,GB/T 17743 , GB17625.1, KS C 9815, KS C 9547, EAC TP TC 020								
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11; BS EN/EN61547, BS EN/EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV), KS C 9815, KS C 9547, EAC TP TC 020								
OTHERS	MTBF	3395.8K hrs min. Telcordia SR-332 (Bellcore) ; 345.8K hrs min. MIL-HDBK-217F (25℃)								
	DIMENSION	171*61.5*36.8mm (L*W*H)								
	PACKING	0.73Kg; 20pcs/15.6Kg/0.9CUFT								

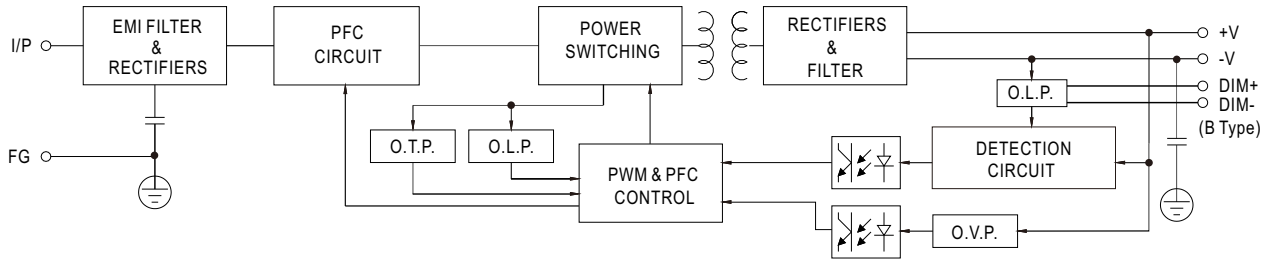
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 75℃ or less.
10. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com.
11. 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).
12. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf
13. For A/AB type need to consider build in using to comply with Type HL application.
14. Products sourced from the Americas regions may only have the UL, CE and UKCA logos. Please contact your MEAN WELL sales for more information.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

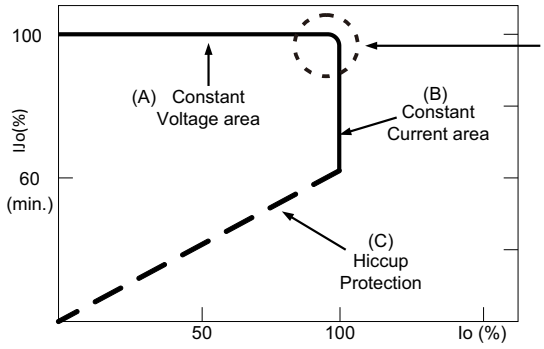
■ BLOCK DIAGRAM

Fosc : 100KHz



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

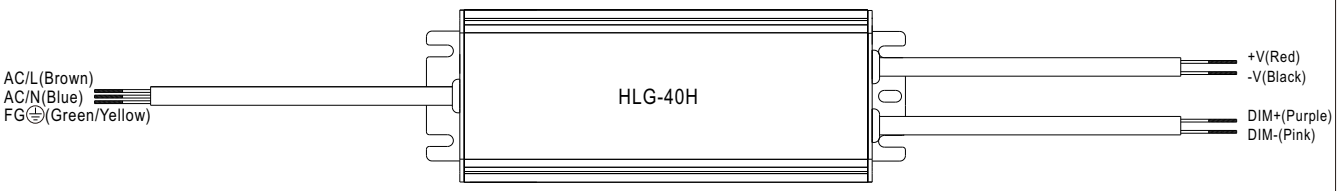


Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

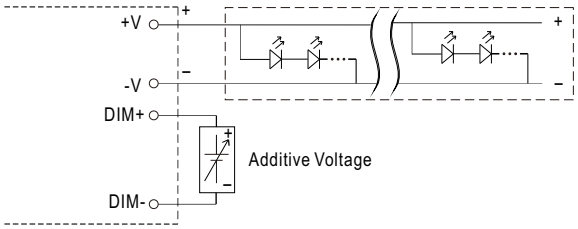
■ DIMMING OPERATION



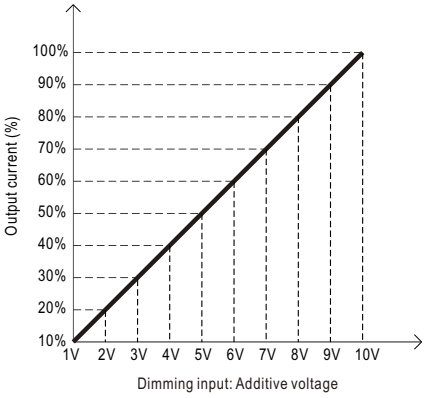
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

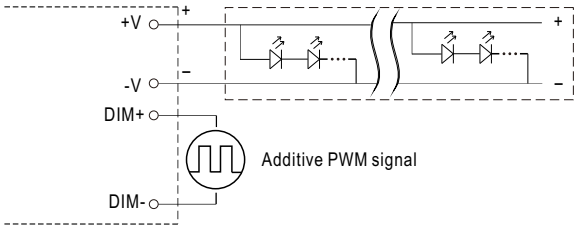
◎ Applying additive 1 ~ 10VDC



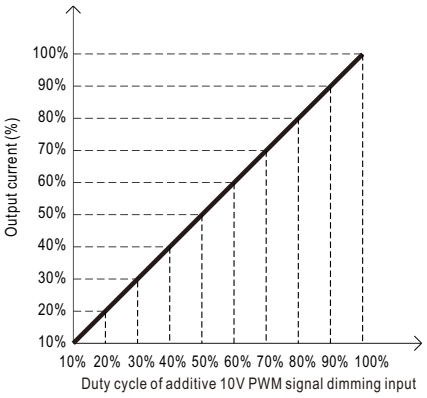
"DO NOT connect "DIM- to -V"



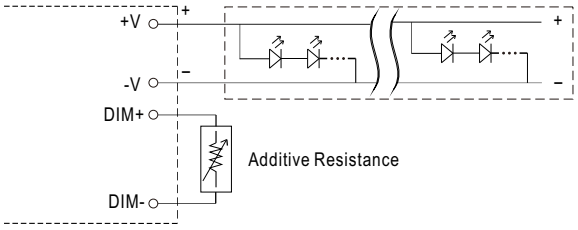
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



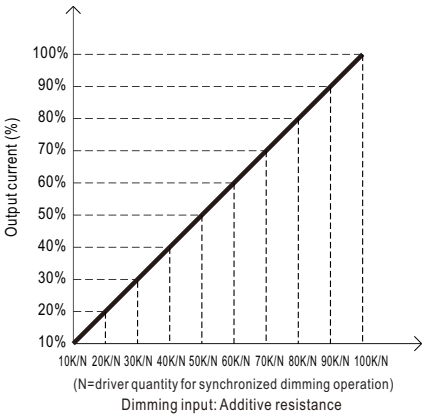
"DO NOT connect "DIM- to -V"



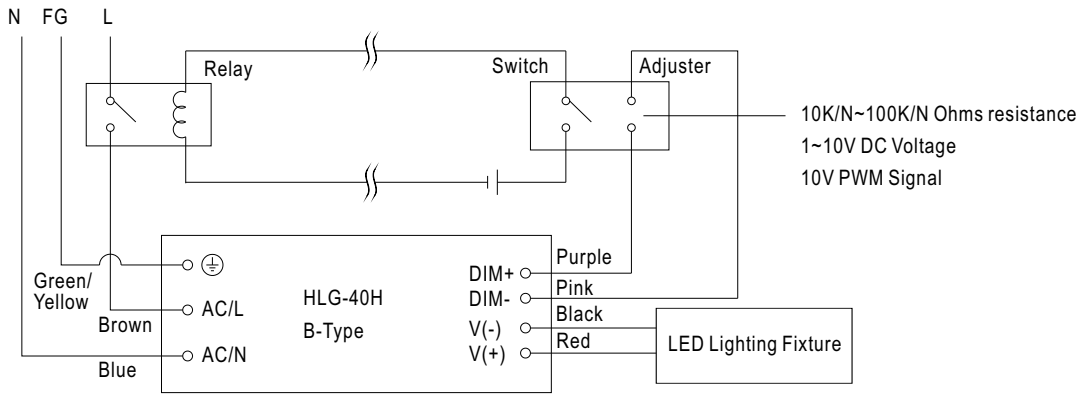
◎ Applying additive resistance:



"DO NOT connect "DIM- to -V"

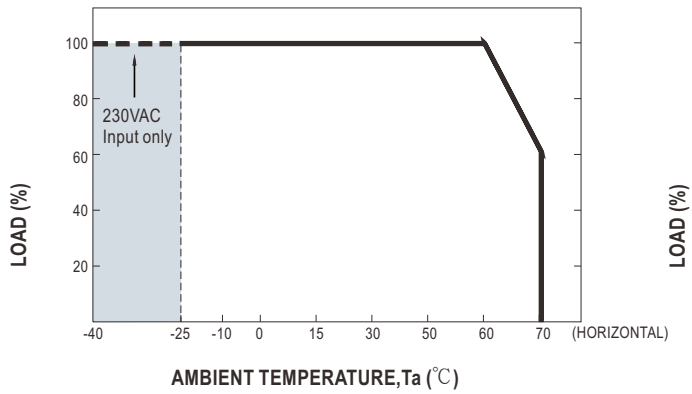


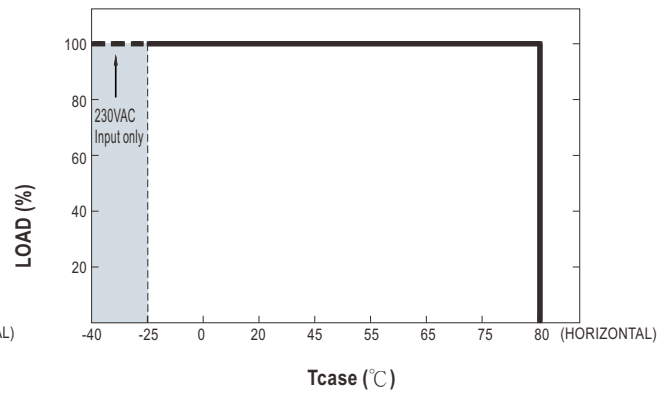
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.



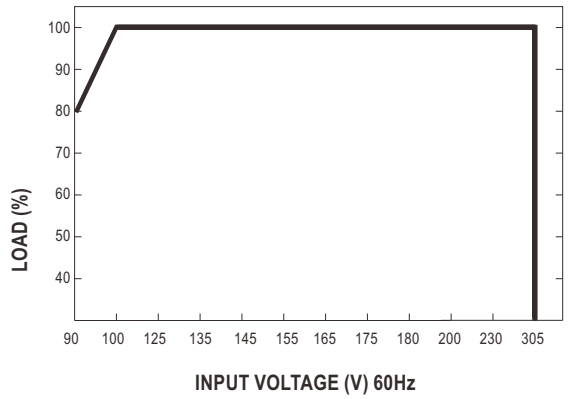
Using a switch and relay can turn ON/OFF the lighting fixture.

■ OUTPUT LOAD vs TEMPERATURE(Note.10)





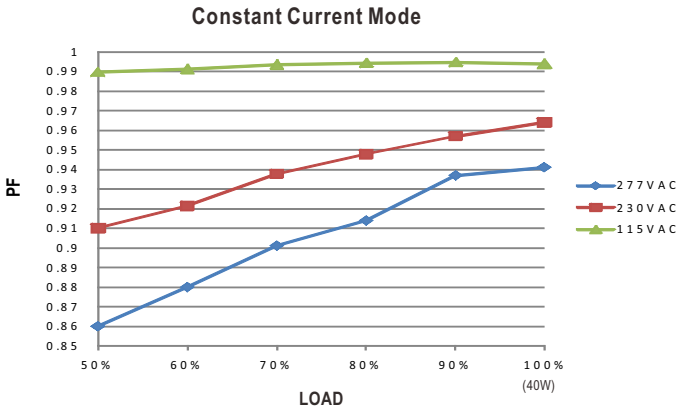
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

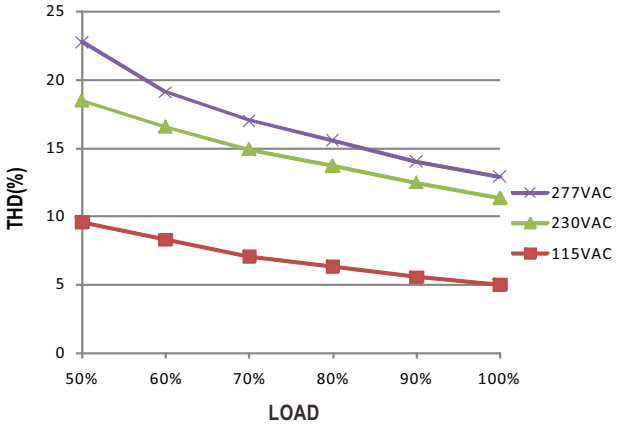
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 70℃



■ TOTAL HARMONIC DISTORTION (THD)

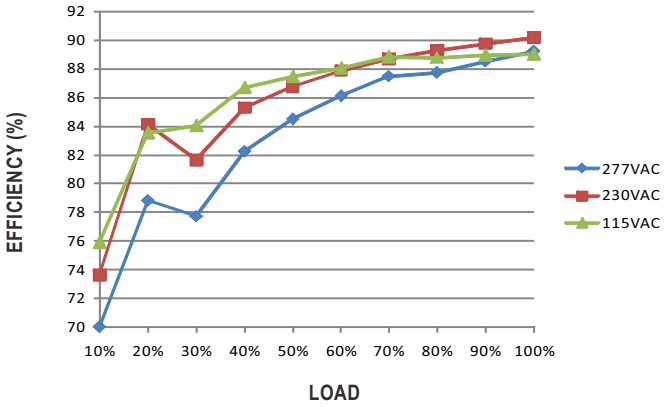
※ 48V Model, Tcase at 70℃



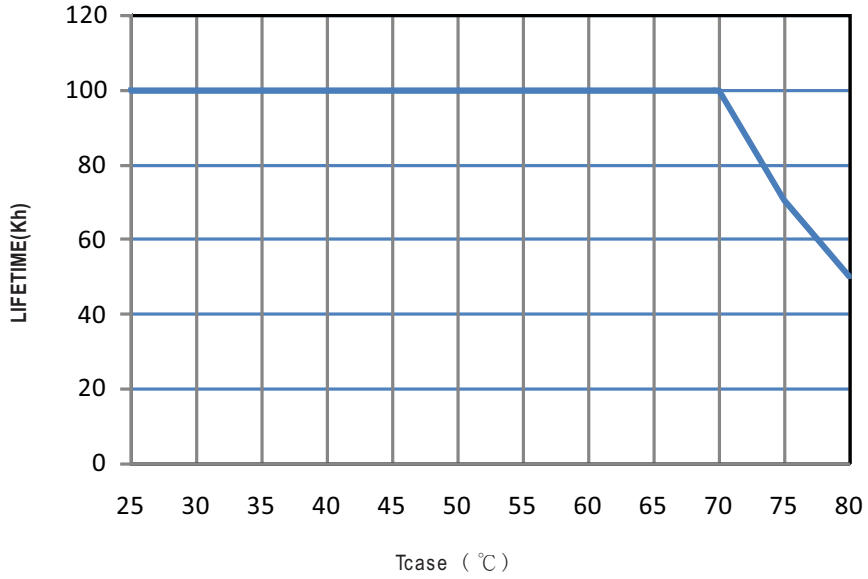
■ EFFICIENCY vs LOAD

HLG-40H series possess superior working efficiency that up to 89.5% can be reached in field applications.

※ 48V Model, Tcase at 70℃



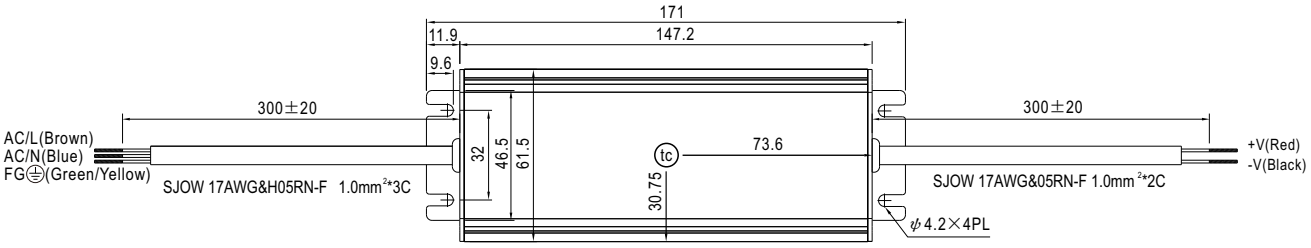
■ LIFE TIME


120
100
80
60
40
20
0
LIFETIME(Kh)
25 30 35 40 45 50 55 60 65 70 75 80
Tcase（℃）

■ MECHANICAL SPECIFICATION

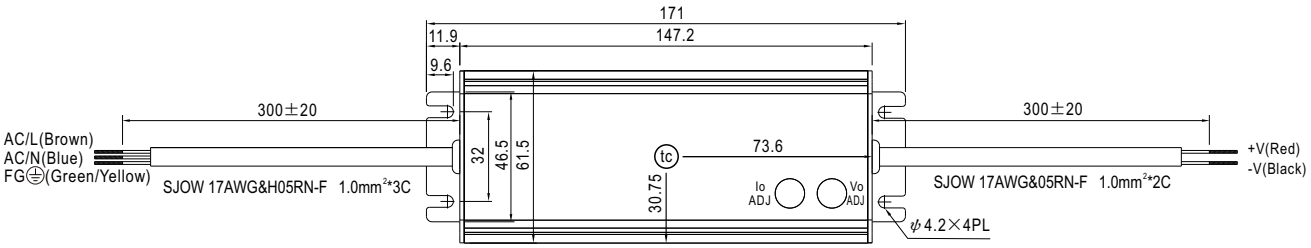
Case No.957B Unit:mm Tolerance:±1

※Blank/D-Type



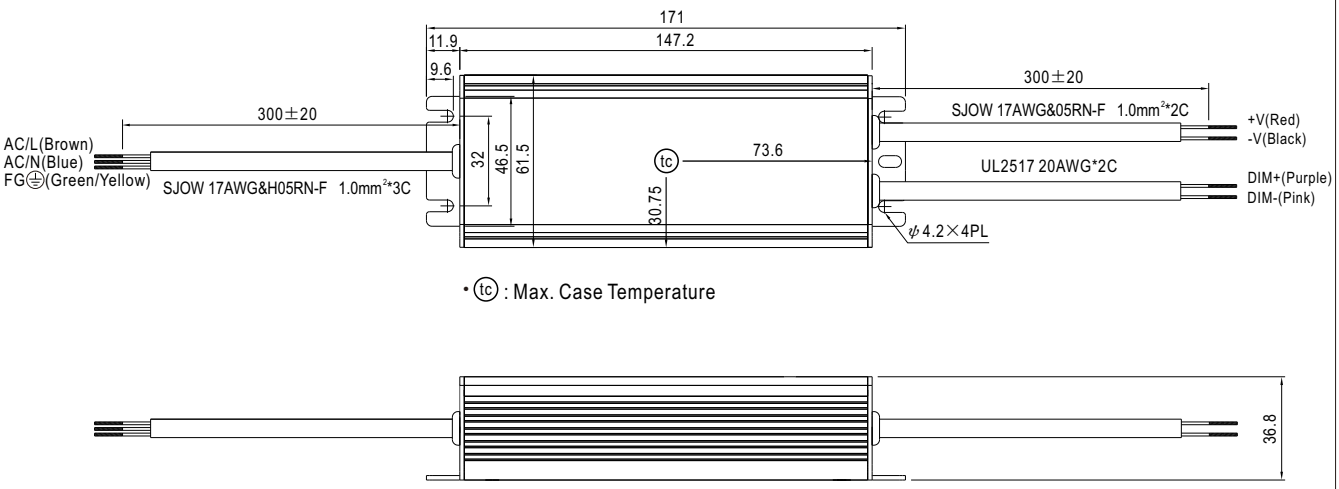
• tc : Max. Case Temperature

※A-Type



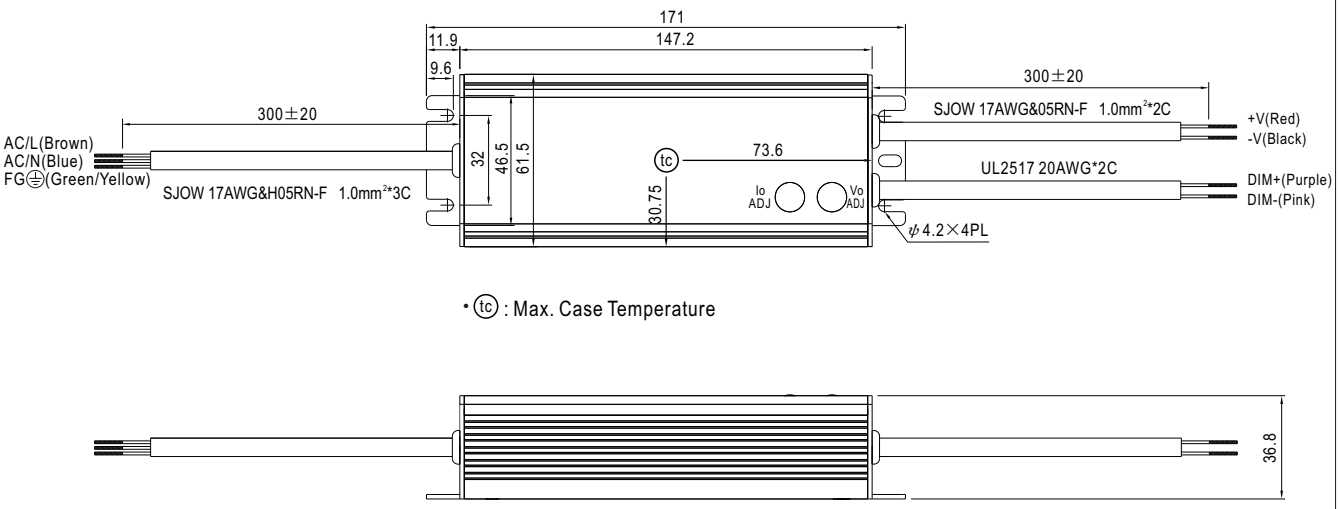
• tc : Max. Case Temperature

※B-Type



• tc : Max. Case Temperature

※AB-Type

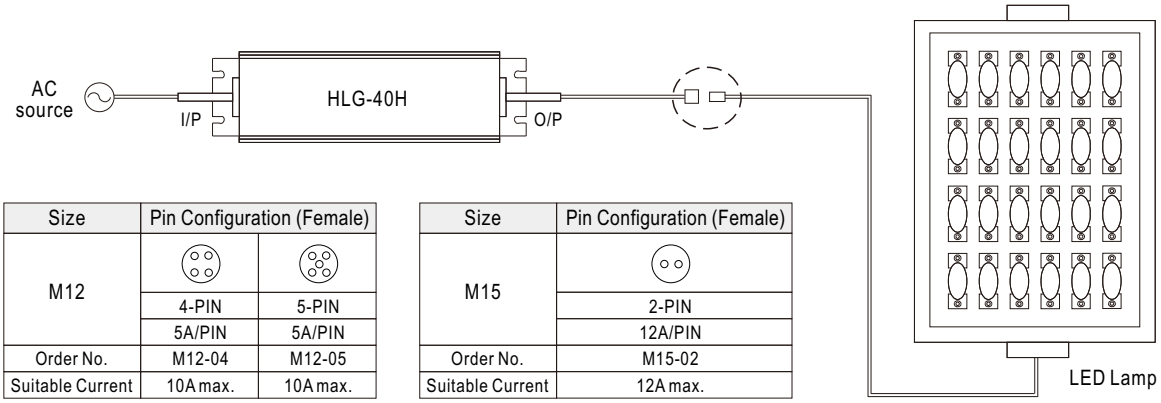


• tc : Max. Case Temperature

■ WATERPROOF CONNECTION

※ Waterproof connector

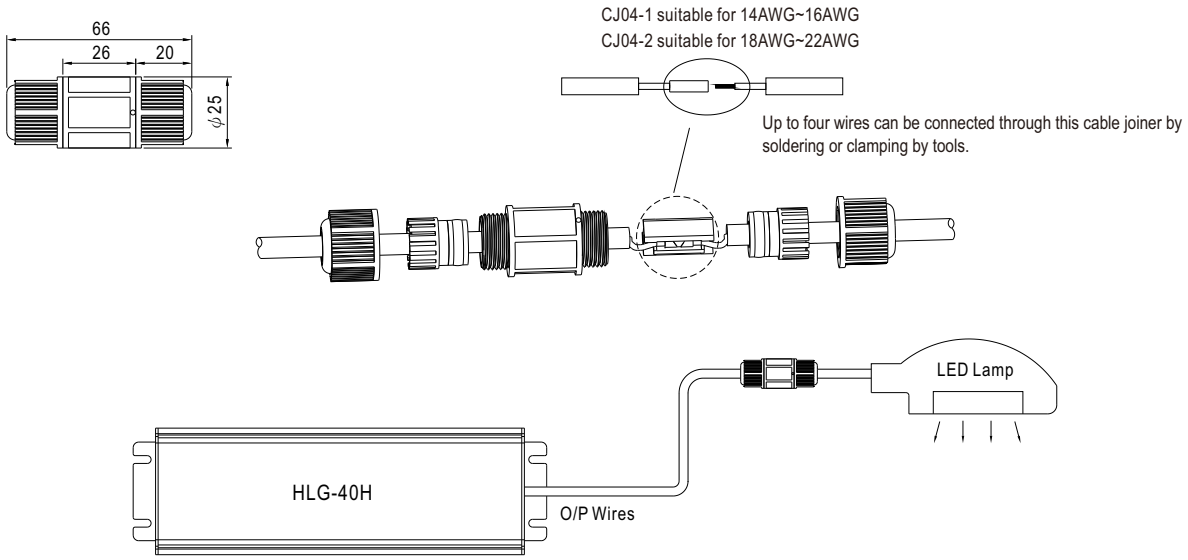
Waterproof connector can be assembled on the output cable of HLG-40H to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

※ **Cable Joiner**



◎ CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

■ INSTALLATION MANUAL

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

HLG-60H series

60W Constant Voltage + Constant Current LED Driver

User's Manual

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class Ⅰ design
- Built-in active PFC function
- Class 2 power unit
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming; Timer dimming
- Typical lifetime > 62000 hours
- 7 years warranty

Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class Ⅰ, Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

HLG-60H series is a 60W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-60H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 15V and 54V. Thanks to the high efficiency up to 90.5%, with the fanless design, the entire series is able to operate for -40℃ ~ +80℃ case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-60H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 60H - 42 A

- A — Function options
- 42 — Rated output voltage (15V/20V/24V/30V/36V/42V/48V/54V)
- 60H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

SPECIFICATION

MODEL		HLG-60H-15□	HLG-60H-20□	HLG-60H-24□	HLG-60H-30□	HLG-60H-36□	HLG-60H-42□	HLG-60H-48□	HLG-60H-54□
OUTPUT	DC VOLTAGE	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V
	RATED CURRENT	4A	3A	2.5A	2A	1.7A	1.45A	1.3A	1.15A
	RATED POWER	60W	60W	60W	60W	61.2W	60.9W	62.4W	62.1W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	300mVp-p	300mVp-p	300mVp-p
	VOLTAGE ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)							
		13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	40 ~ 46V	44 ~ 53V	49 ~ 58V
	CURRENT ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)							
		2.4 ~ 4A	1.8 ~ 3A	1.5 ~ 2.5A	1.2 ~ 2A	1 ~ 1.7A	0.87 ~ 1.45A	0.78 ~ 1.3A	0.69 ~ 1.15A
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6	500ms,80ms/115VAC 500ms,80ms/230VAC							
	HOLD UP TIME (Typ.)	16ms / 115VAC, 230VAC							
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)							
	FREQUENCY RANGE	47 ~ 63Hz							
	POWER FACTOR (Typ.)	PF≧0.98/115VAC, PF≧0.95/230VAC, PF≧0.92/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)							
	TOTAL HARMONIC DISTORTION	THD< 20% (@ load≧60% / 115VAC,230VAC; @ load≧75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)							
	EFFICIENCY (Typ.)	87.5%	89%	89.5%	90%	90%	90%	90.5%	90.5%
	AC CURRENT (Typ.)	0.64A / 115VAC 0.32A / 230VAC 0.3A / 277VAC							
	INRUSH CURRENT(Typ.)	COLD START 55A(t_{width}=265μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410							
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	9 units (circuit breaker of type B) / 16 units (circuit breaker of type C) at 230VAC							
	LEAKAGE CURRENT	<0.75mA / 277VAC							
PROTECTION	OVER CURRENT Note.4	95 ~ 108%							
		Constant current limiting, recovers automatically after fault condition is removed							
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed							
	OVER VOLTAGE	18 ~ 24V	23 ~ 30V	28 ~ 35V	35 ~ 43V	41 ~ 49V	48 ~ 58V	54 ~ 65V	59 ~ 68V
		Shut down o/p voltage, re-power on to recover							
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover							
ENVIRONMENT	WORKING TEMP.	Tcase= -40 ~ +80℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)							
	MAX. CASE TEMP.	Tcase= +80℃							
	WORKING HUMIDITY	20 ~ 95% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH							
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)							
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes							
SAFETY & EMC	SAFETY STANDARDS Note.8	UL8750(type"HL"), CSA C22.2 No. 250.0-08, BS EN/EN/AS/NZS 61347-1,BS EN/EN/AS/NZS 61347-2-13 independent, GB19510.1,GB19510.14,EAC TP TC 004,KC61347-1,KC61347-2-13(except for AB-type), IP65 or IP67 approved ; J61347-1, J61347-2-13 ; design refer to BS EN/EN60335-1(by request)							
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC							
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH							
	EMC EMISSION Note.8	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (@ load≧60%) ; BS EN/EN61000-3-3,GB/T 17743 , GB17625.1, KS C 9815, KS C 9547, 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-Earth 4KV, Line-Line 2KV),KS C 9815, KS C 9547, EAC TP TC 020							
OTHERS	MTBF	3396.9K hrs min. Telcordia SR-332 (Bellcore) ;345.8K hrs min. MIL-HDBK-217F (25℃)							
	DIMENSION	171*61.5*36.8mm (L*W*H)							
	PACKING	0.73Kg; 20pcs/15.6Kg/0.9CUFT							

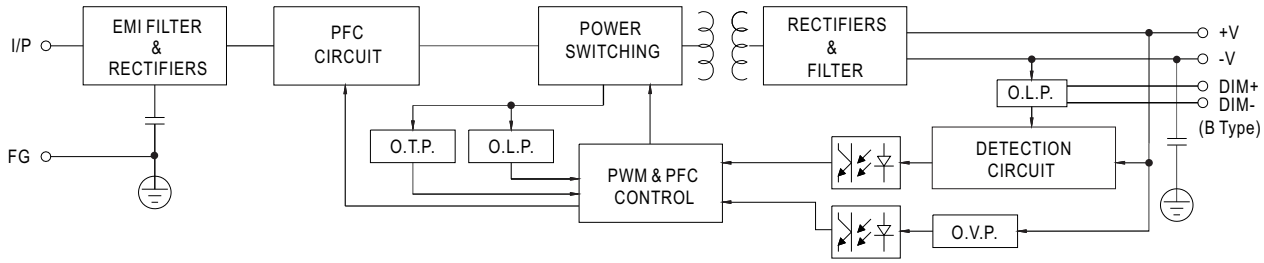
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 70℃ or less.
10. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com.
11. 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).
12. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf
13. For A/AB type need to consider build in using to comply with Type HL application.
14. Products sourced from the Americas regions may only have the UL, CE and UKCA logos. Please contact your MEAN WELL sales for more information.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

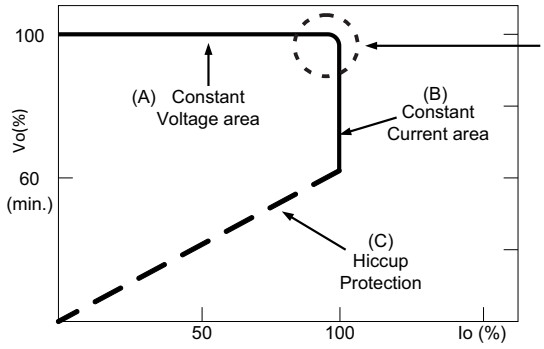
■ BLOCK DIAGRAM

Fosc : 100KHz



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

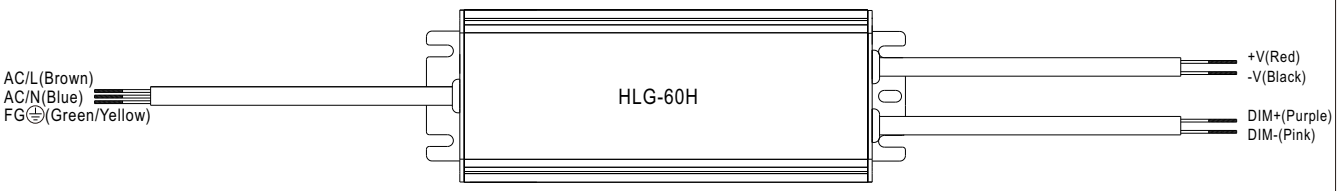


Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

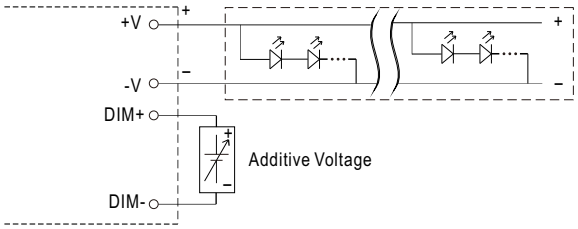
■ DIMMING OPERATION



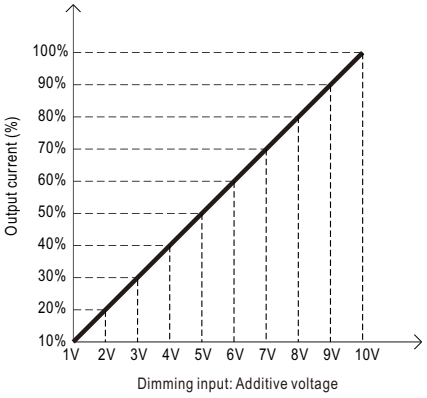
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

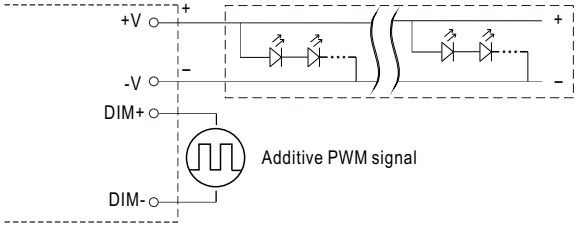
◎ Applying additive 1 ~ 10VDC



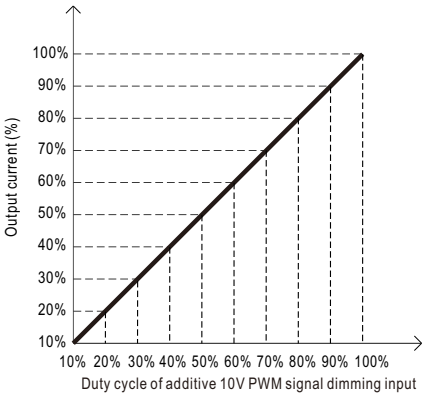
"DO NOT connect "DIM- to -V"



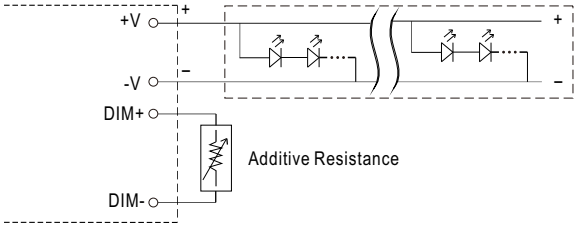
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



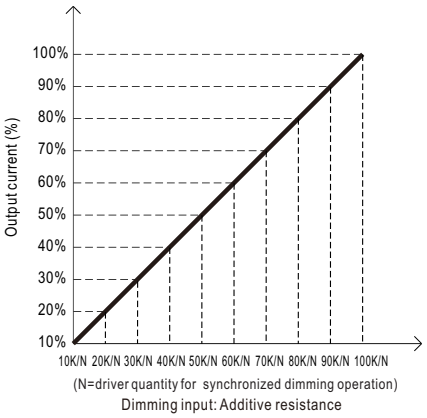
"DO NOT connect "DIM- to -V"



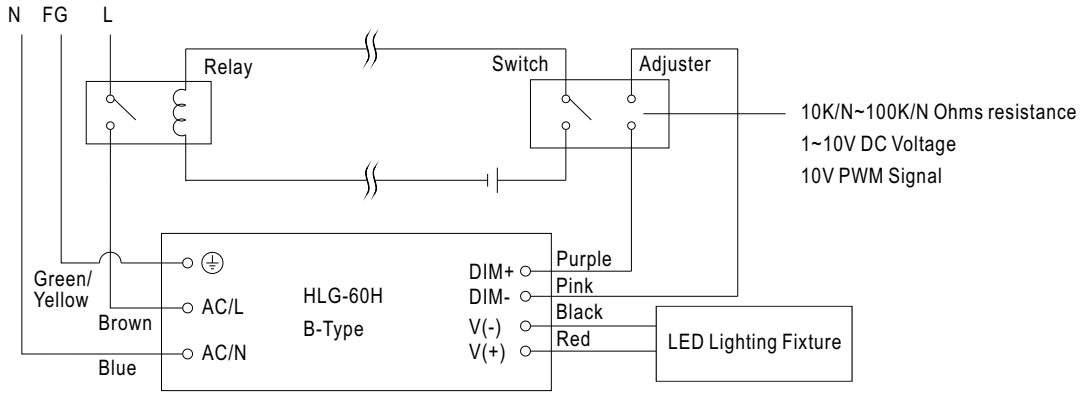
◎ Applying additive resistance:



"DO NOT connect "DIM- to -V"

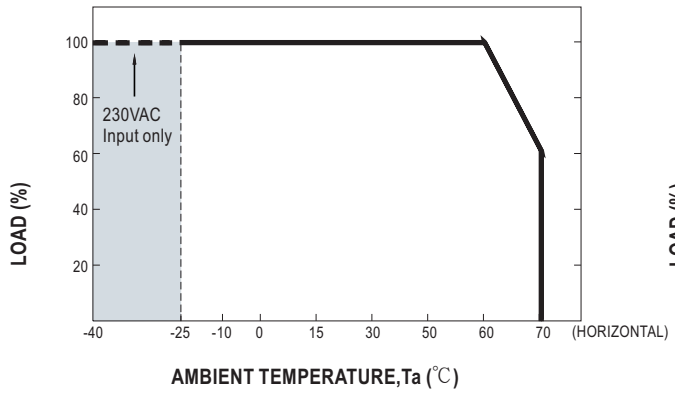


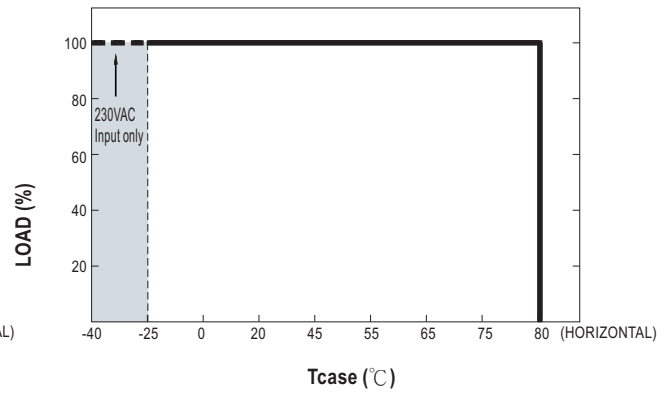
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.



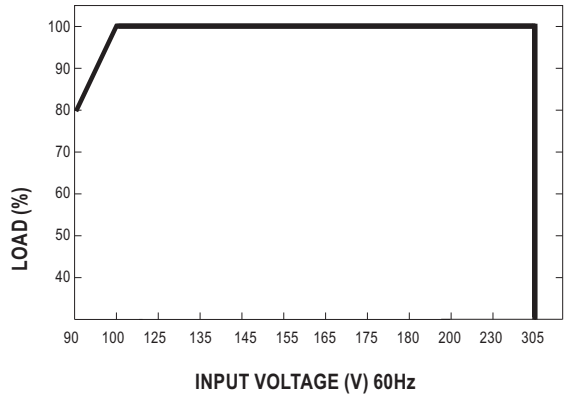
Using a switch and relay can turn ON/OFF the lighting fixture.

■ OUTPUT LOAD vs TEMPERATURE(Note.10)





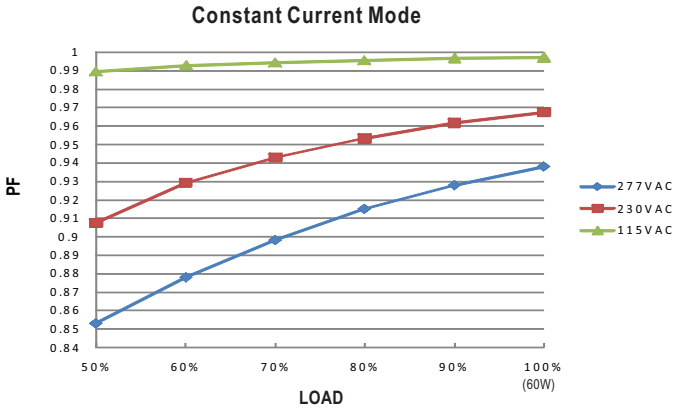
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

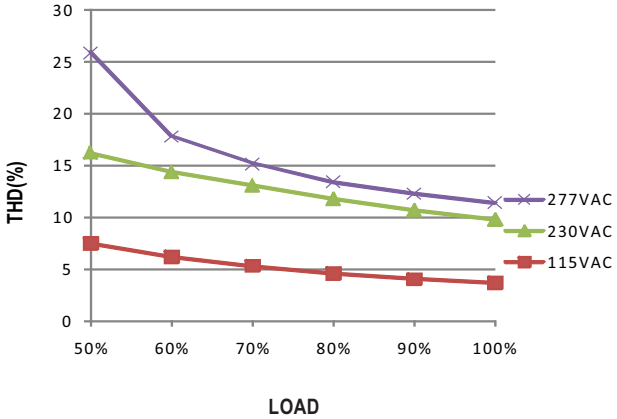
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 70℃



■ TOTAL HARMONIC DISTORTION (THD)

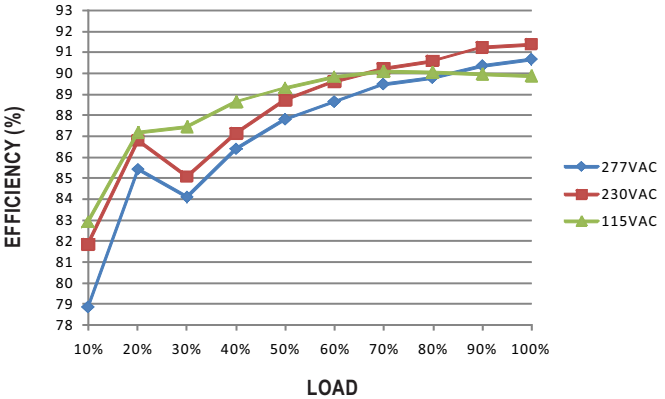
※ 48V Model, Tcase at 70℃



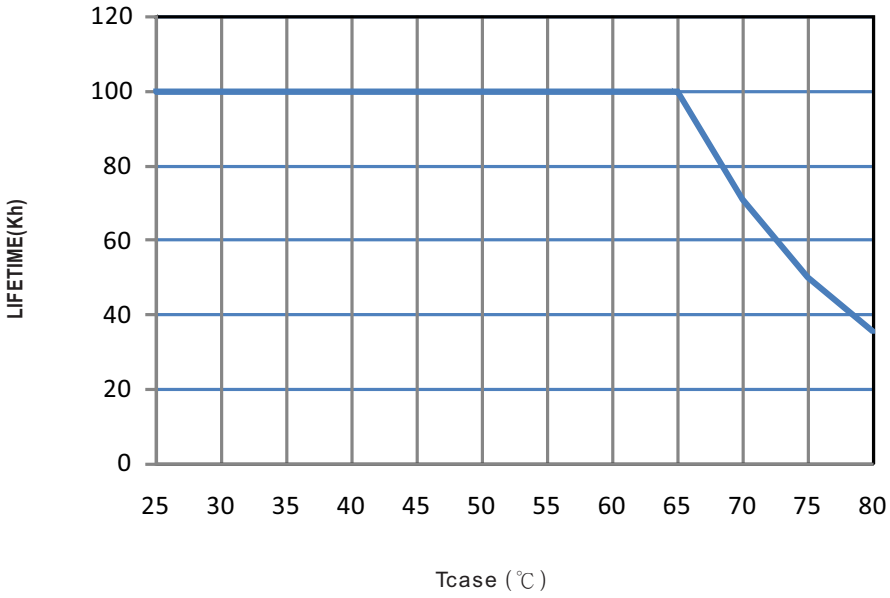
■ EFFICIENCY vs LOAD

HLG-60H series possess superior working efficiency that up to 90.5% can be reached in field applications.

※ 48V Model, Tcase at 70℃



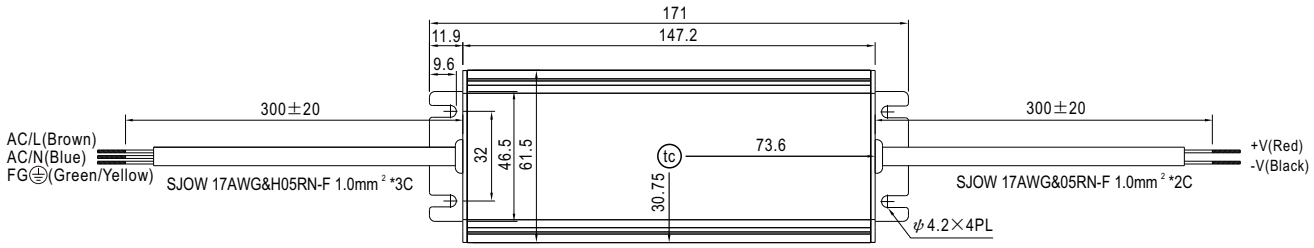
■ LIFE TIME


LIFETIME(Kh)
120
100
80
60
40
20
0
25
30
35
40
45
50
55
60
65
70
75
80
Tcase (℃)

■ MECHANICAL SPECIFICATION

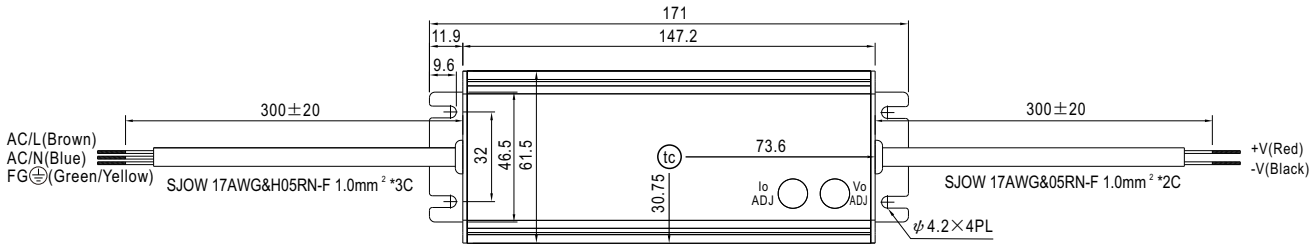
Case No.957B Unit:mm Tolerance:±1

※Blank/D-Type

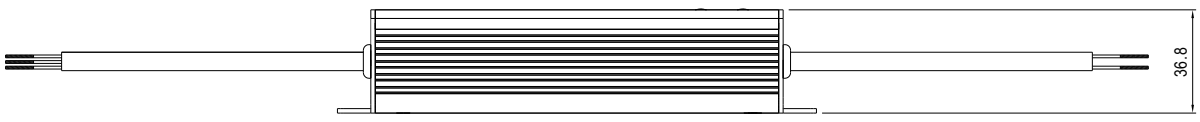


• tc : Max. Case Temperature

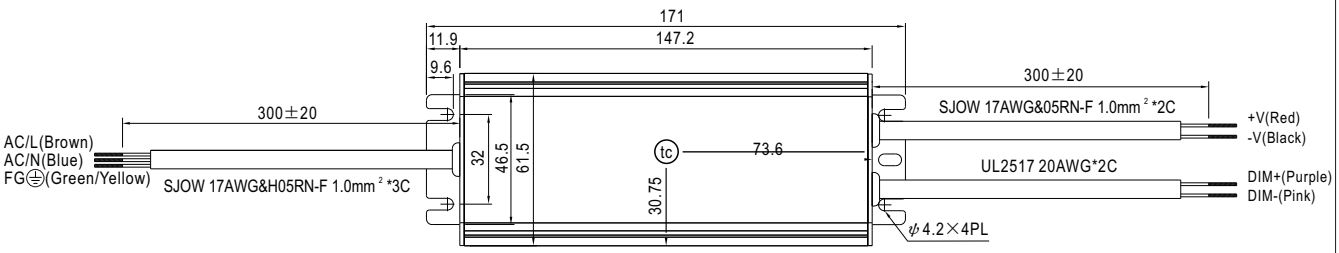
※A-Type



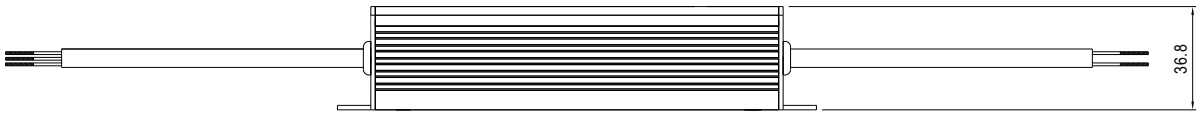
• tc : Max. Case Temperature



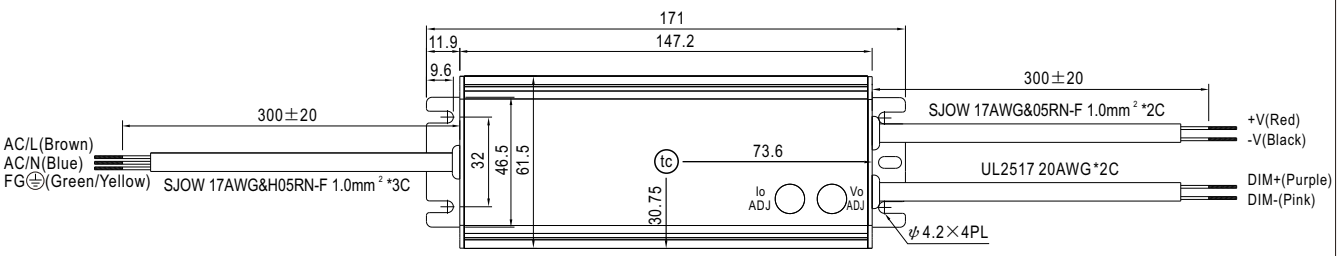
※B-Type



• tc : Max. Case Temperature



※AB-Type

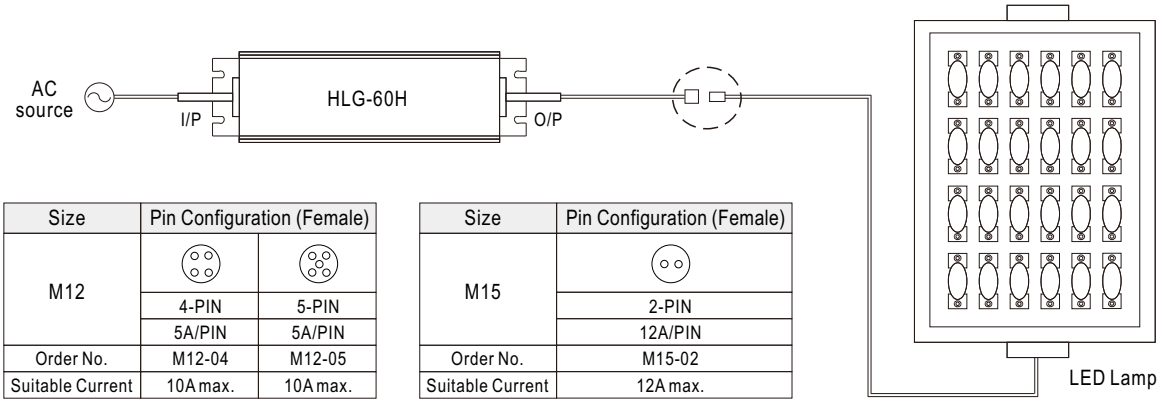


• tc : Max. Case Temperature

■ WATERPROOF CONNECTION

※ Waterproof connector

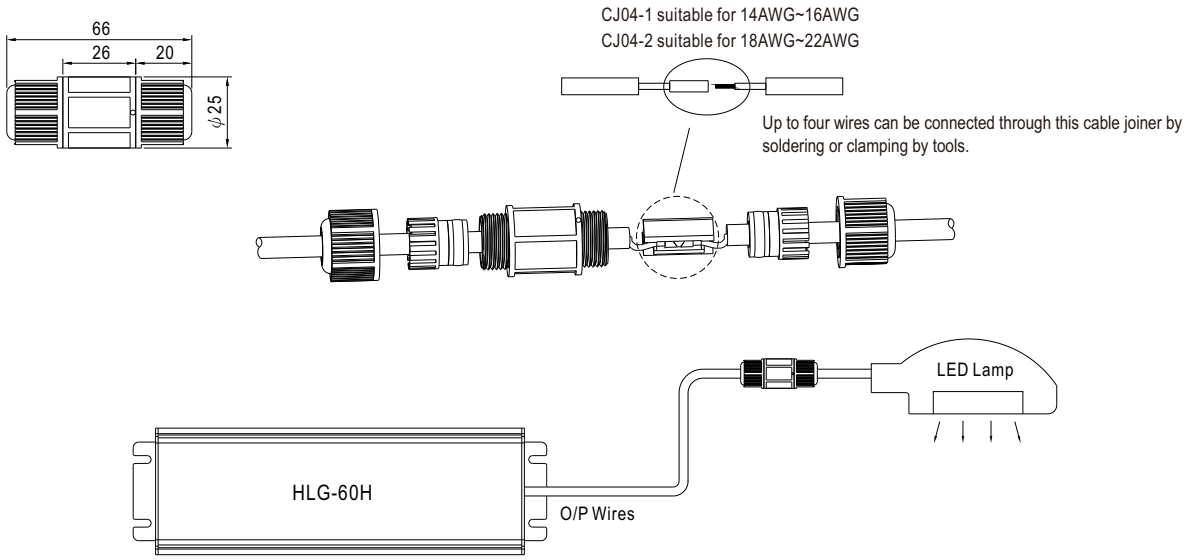
Waterproof connector can be assembled on the output cable of HLG-60H to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

※ **Cable Joiner**



◎ CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

■ INSTALLATION MANUAL

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

80W Constant Voltage + Constant Current LED Driver HLG-80H series

User's Manual

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class Ⅰ design
- Built-in active PFC function
- Class 2 power unit
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming; Timer dimming
- Typical lifetime > 62000 hours
- 7 years warranty

Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type “HL” for use in Class Ⅰ, Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

HLG-80H series is a 80W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-80H operates from 90～305VAC and offers models with different rated voltage rangingbetween 12V and 54V. Thanks to the high efficiency up to 91%, with the fanless design, the entire series is able to operate for -40℃ ~ +80℃ case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-80H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 80H - 15 A

- A — Function options
- 15 — Rated output voltage (12V/15V/20V/24V/30V/36V/42V/48V/54V)
- 80H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
BL	IP66	B-Type with junction box. UL8750 LISTED. Contact MEAN WELL for details	By request
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

SPECIFICATION

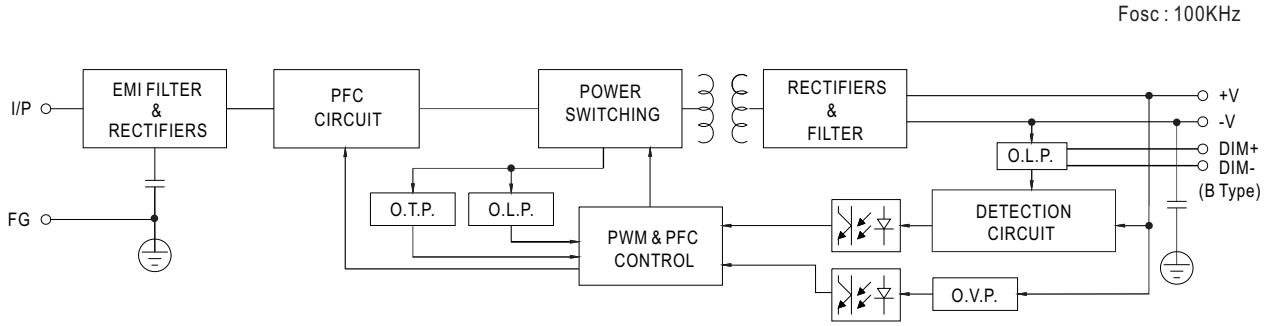
MODEL		HLG-80H-12□	HLG-80H-15□	HLG-80H-20□	HLG-80H-24□	HLG-80H-30□	HLG-80H-36□	HLG-80H-42□	HLG-80H-48□	HLG-80H-54□
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	7.2 ~12V	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V
	RATED CURRENT	5A	5A	4A	3.4A	2.7A	2.3A	1.95A	1.7A	1.5A
	RATED POWER	60W	75W	80W	81.6W	81W	82.8W	81.9W	81.6W	81W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	Adjustable for A-Type only (via built-in potentiometer)								
		10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V
	CURRENT ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)								
		3 ~ 5A	3 ~ 5A	2.4 ~ 4A	2.04 ~ 3.4A	1.62 ~ 2.7A	1.38 ~ 2.3A	1.17 ~ 1.95A	1.02 ~ 1.7A	0.9 ~ 1.5A
	VOLTAGE TOLERANCE Note.3	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6	1200ms,200ms/115VAC 500ms,200ms/230VAC								
	HOLD UP TIME (Typ.)	16ms at full load 230VAC /115VAC								
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF≧0.96/115VAC, PF≧0.96/230VAC, PF≧0.94/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)								
	TOTAL HARMONIC DISTORTION	THD< 20% (@ load≧60% / 115VAC,230VAC; @ load≧75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)								
	EFFICIENCY (Typ.)	88%	89%	90%	90.5%	91%	91%	91%	91%	91%
	AC CURRENT (Typ.)	0.85A / 115VAC 0.425A / 230VAC 0.4A / 277VAC								
	INRUSH CURRENT (Typ.)	COLD START 70A(t_{width}=485μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410								
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	3 units (circuit breaker of type B) / 6 units (circuit breaker of type C) at 230VAC								
	LEAKAGE CURRENT	<0.75mA / 277VAC								
PROTECTION	OVER CURRENT	95 ~ 108%								
		Constant current limiting, recovers automatically after fault condition is removed								
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	14 ~ 17V	18 ~ 24V	23 ~ 30V	28 ~ 35V	35 ~ 43V	41 ~ 49V	48 ~ 58V	54 ~ 63V	59 ~ 68V
		Shut down o/p voltage, re-power on to recover								
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover								
ENVIRONMENT	WORKING TEMP.	Tcase= -40 ~ +80℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)								
	MAX. CASE TEMP.	Tcase= +80℃								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)								
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARDS Note.8	UL8750(type"HL"), CSA C22.2 No. 250.0-08, UL8750 LISTED for HLG-80H-□BL;BS EN/EN/AS/NZS 61347-1,BS EN/EN/AS/NZS 61347-2-13 J61347-1, J61347-2-13(except for BL-type), GB19510.1,independent, GB19510.14,EAC TP TC 004,BIS IS15885(for 36A,54A only), IP65 or IP67,KC61347-1,KC61347-2-13(except for AB,BL-type) approved								
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC								
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH								
	EMC EMISSION Note.8	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (@ load≧60%); BS EN/EN61000-3-3,GB/T 17743 , GB17625.1, KS C 9815, KS C 9547 (except for BL type) , 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-Earth 4KV, Line-Line 2KV), KS C 9815, KS C 9547 (except for BL type) , EAC TP TC 020								
OTHERS	MTBF	2992.9K hrs min. Telcordia SR-332 (Bellcore) ; 289.1K hrs min. MIL-HDBK-217F (25℃)								
	DIMENSION	195.6*61.5*38.8mm (L*W*H)								
	PACKING	0.84Kg; 16pcs/14.4Kg/0.54CUFT								

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 75℃ or less.
10. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com.
11. 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).
12. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf
13. For A/AB type need to consider build in using to comply with Type HL application.
14. Products sourced from the Americas regions may only have the UL, CE and UKCA logos. Please contact your MEAN WELL sales for more information.

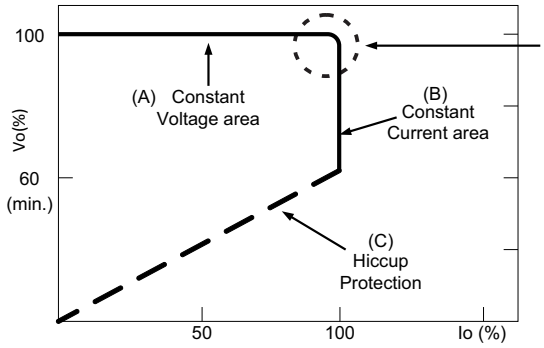
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

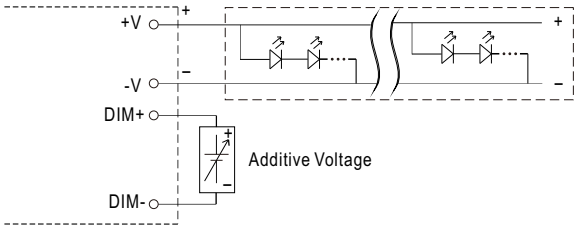
Should there be any compatibility issues, please contact MEAN WELL.

■ DIMMING OPERATION

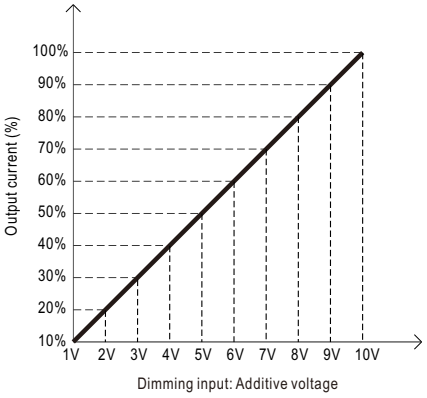
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

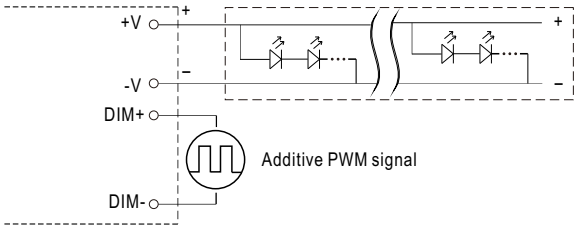
◎ Applying additive 1 ~ 10VDC



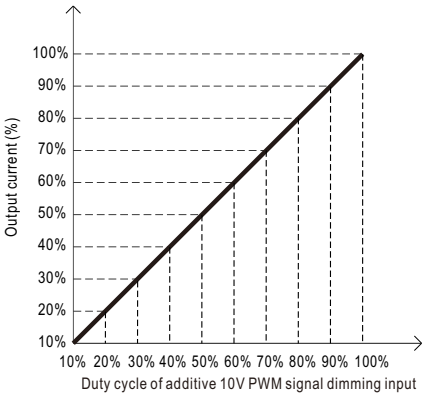
"DO NOT connect "DIM- to -V"



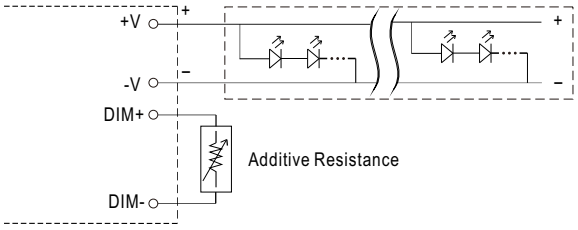
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



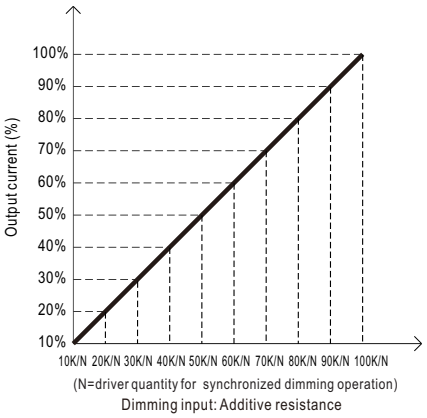
"DO NOT connect "DIM- to -V"



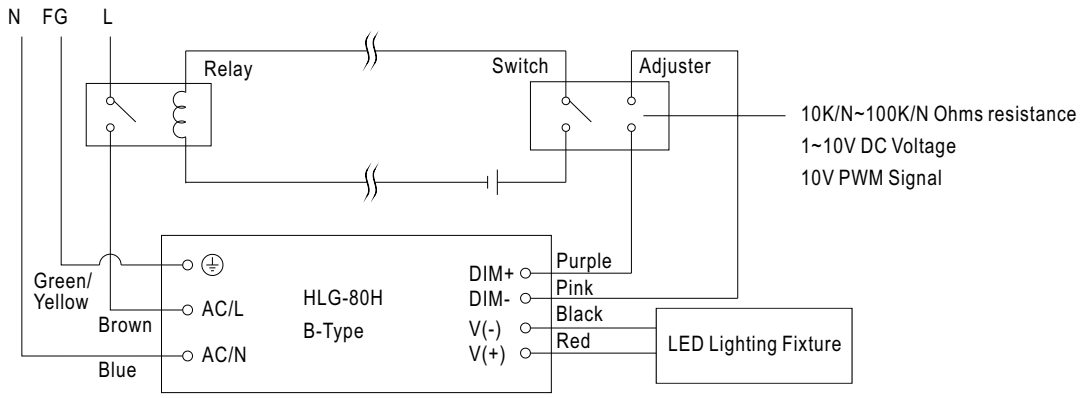
◎ Applying additive resistance:



"DO NOT connect "DIM- to -V"

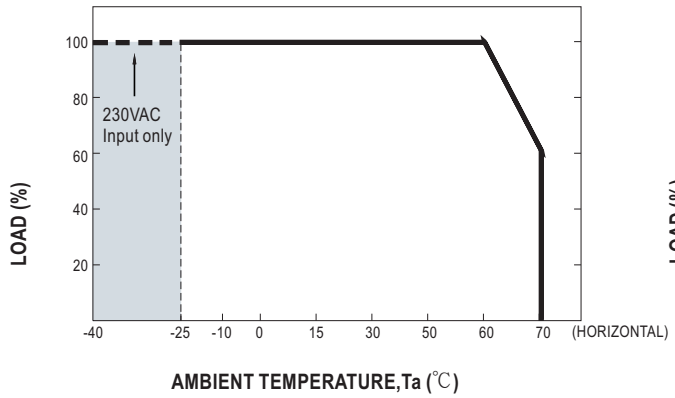


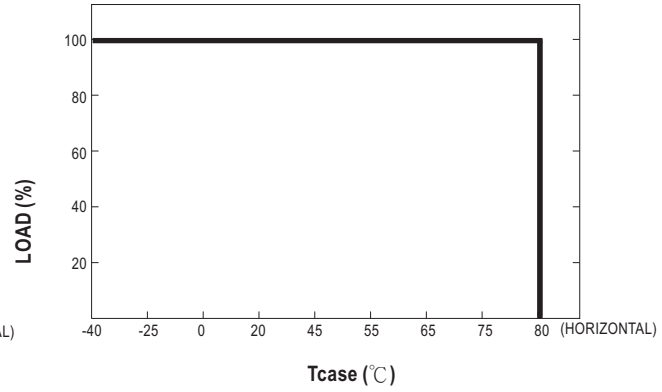
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.



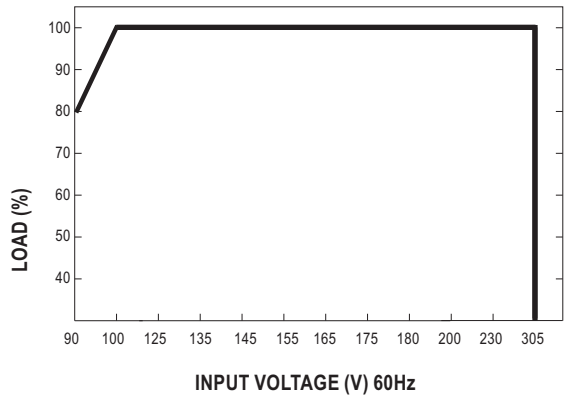
Using a switch and relay can turn ON/OFF the lighting fixture.

■ OUTPUT LOAD vs TEMPERATURE(Note.10)





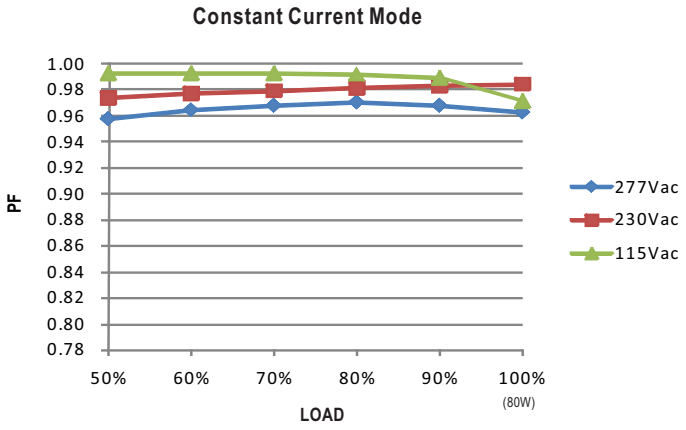
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

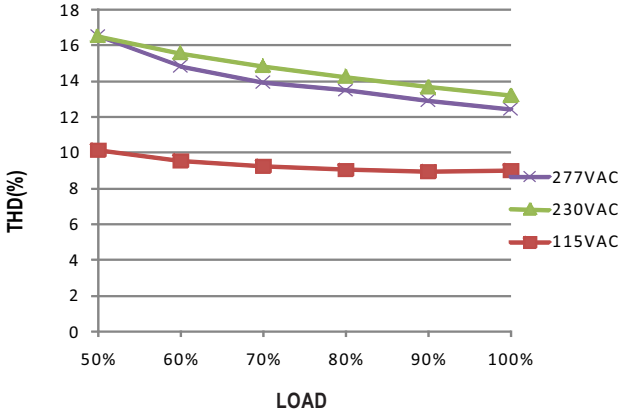
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 70℃



■ TOTAL HARMONIC DISTORTION (THD)

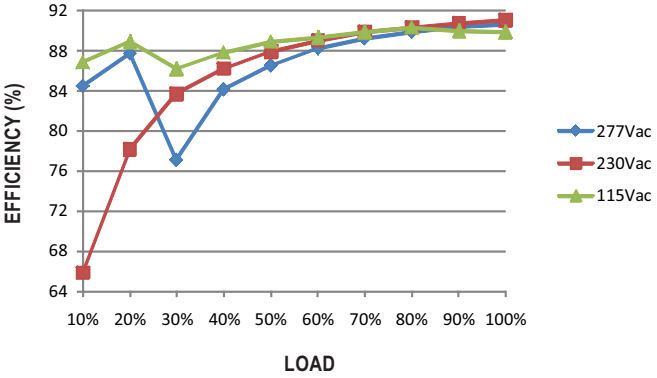
※ 48V Model, Tcase at 70℃



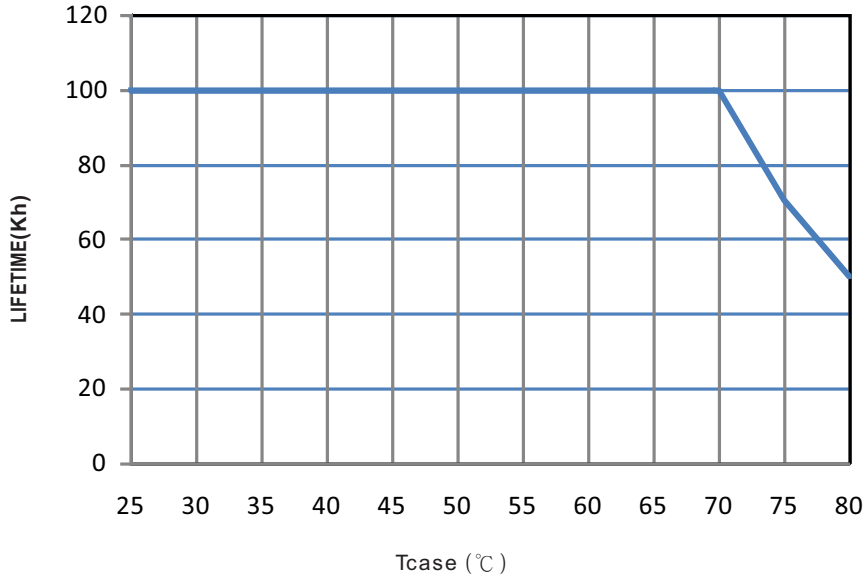
■ EFFICIENCY vs LOAD

HLG-80H series possess superior working efficiency that up to 91% can be reached in field applications.

※ 48V Model, Tcase at 70℃



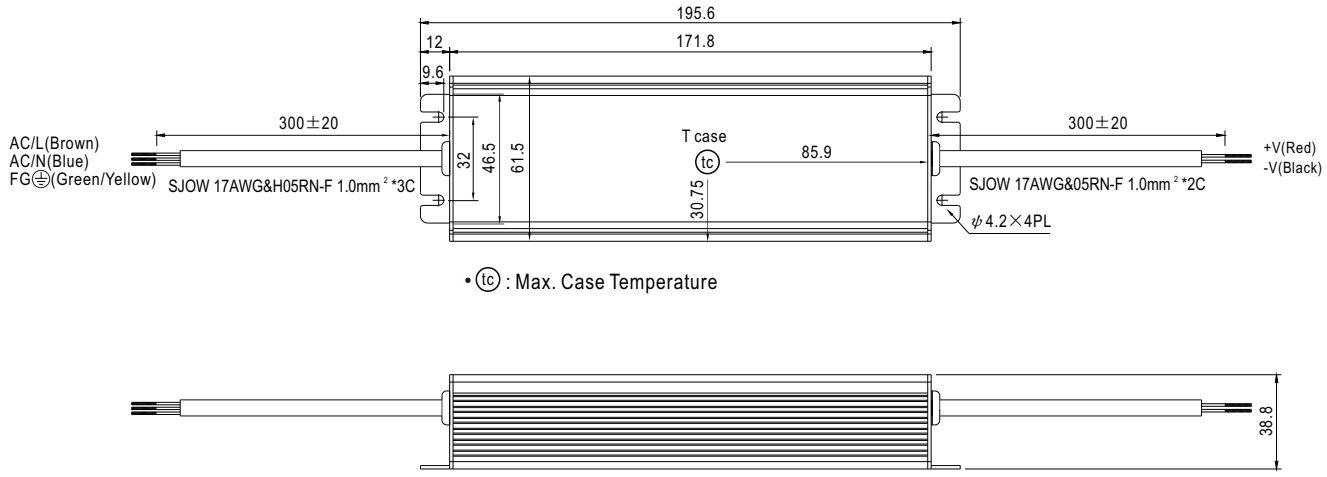
■ LIFE TIME


120
100
80
60
40
20
0
LIFETIME(Kh)
25 30 35 40 45 50 55 60 65 70 75 80
Tcase (℃)

■ MECHANICAL SPECIFICATION

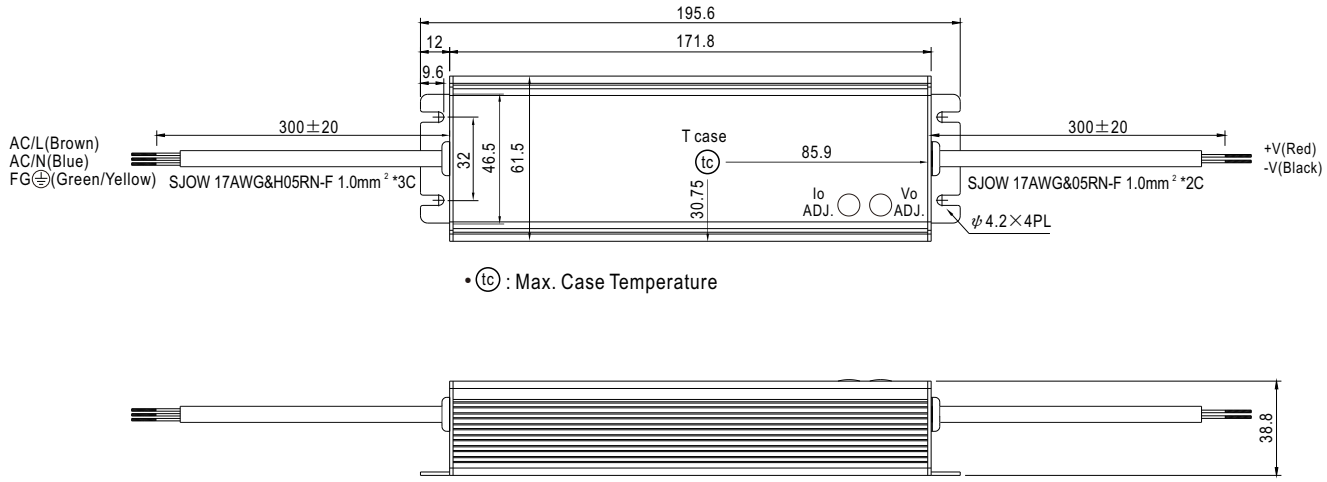
Case No.997A Unit:mm Tolerance:±1

※Blank/D-Type



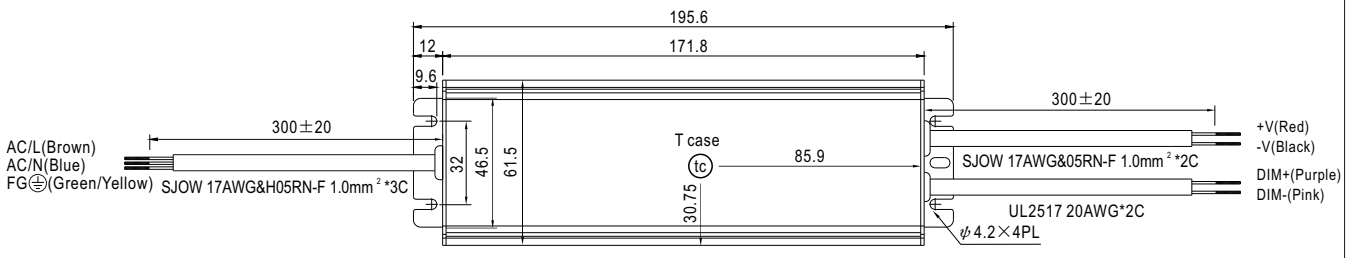
• tc : Max. Case Temperature

※A-Type



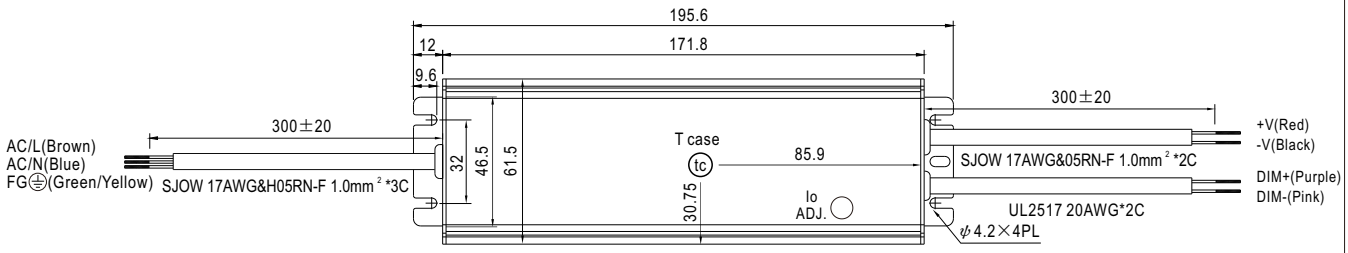
• tc : Max. Case Temperature

※B-Type

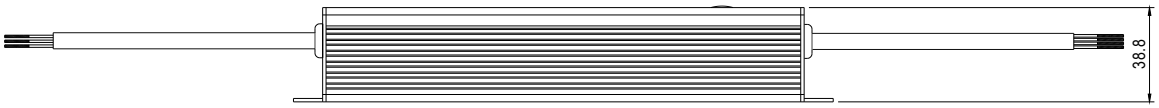


• tc : Max. Case Temperature

※AB-Type



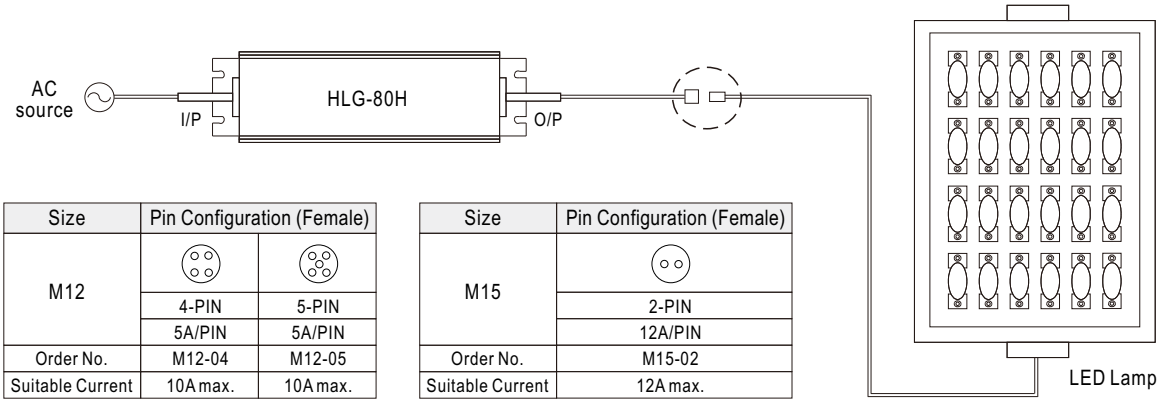
• tc : Max. Case Temperature



■ WATERPROOF CONNECTION

※ **Waterproof connector**

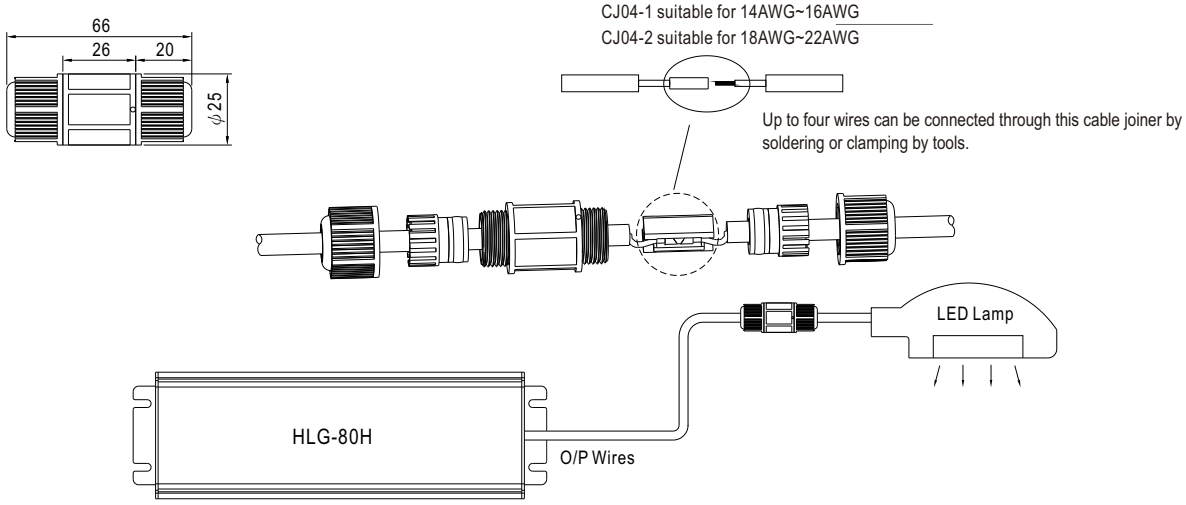
Waterproof connector can be assembled on the output cable of HLG-80H to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

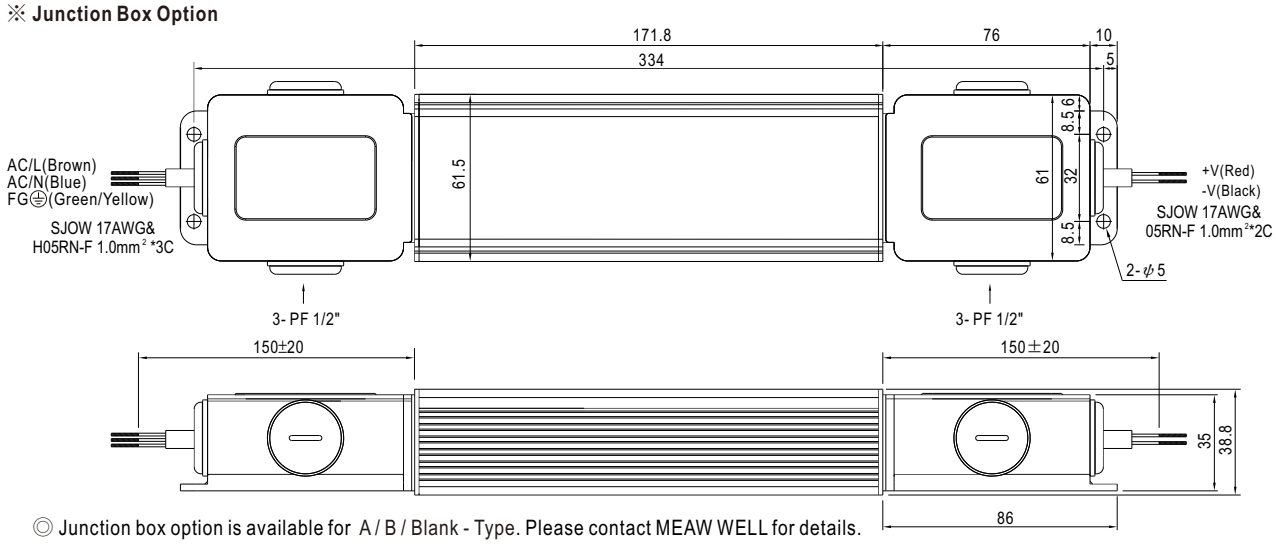
Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

※ **Cable Joiner**



◎ CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

※ **Junction Box Option**



◎ Junction box option is available for A / B / Blank - Type. Please contact MEAW WELL for details.

◎ **HLG-80H-□BL models with junction box on both input and output sides are UL LISTED approved(modified by B type only).**

■ INSTALLATION MANUAL

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

100W Constant Voltage + Constant Current LED Driver HLG-100H series

User's Manual

TAIWAN EXCELLENCE 2011

(except for D-type) (except for D-type) (except for AB-type) Type HL

SELV IP65 IP67

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class Ⅰ design
- Built-in active PFC function
- Class 2 power unit
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming; Timer dimming
- Typical lifetime > 62000 hours
- 7 years warranty

Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class Ⅰ, Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

HLG-100H series is a 100W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-100H operates from 90～305VAC and offers models with different rated voltage ranging between 20V and 54V. Thanks to the high efficiency up to 93%, with the fanless design, the entire series is able to operate for -40℃ ~ +80℃ case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-100H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 100H - 48 A

- A — Function options
- 48 — Rated output voltage (20V/24V/30V/36V/42V/48V/54V)
- 100H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

SPECIFICATION

MODEL		HLG-100H-20□	HLG-100H-24□	HLG-100H-30□	HLG-100H-36□	HLG-100H-42□	HLG-100H-48□	HLG-100H-54□
OUTPUT	DC VOLTAGE	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT	4.8A	4A	3.2A	2.65A	2.28A	2A	1.77A
	RATED POWER	96W	96W	96W	95.4W	95.76W	96W	95.58W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)						
		17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V
	CURRENT ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)						
		3 ~ 4.8A	2.5 ~ 4A	2 ~ 3.2A	1.65 ~ 2.65A	1.4 ~ 2.28A	1.25 ~ 2A	1.1 ~ 1.77A
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6	1200ms,50ms/115VAC 500ms,50ms/230VAC						
	HOLD UP TIME (Typ.)	16ms / 115VAC, 230VAC						
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)						
	FREQUENCY RANGE	47 ~ 63Hz						
	POWER FACTOR (Typ.)	PF≧0.98/115VAC, PF≧0.95/230VAC, PF≧0.93/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)						
	TOTAL HARMONIC DISTORTION	THD< 20% (@ load≧60% / 115VAC,230VAC; @ load≧75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)						
	EFFICIENCY (Typ.)	93%	93%	93%	93%	93%	93%	93%
	AC CURRENT (Typ.)	1.2A / 115VAC 0.55A / 230VAC 0.5A / 277VAC						
	INRUSH CURRENT (Typ.)	COLD START 60A(t_{width}=415μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410						
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	4 units (circuit breaker of type B) / 8 units (circuit breaker of type C) at 230VAC						
	LEAKAGE CURRENT	<0.75mA / 277VAC						
PROTECTION	OVER CURRENT	95 ~ 106%						
		Constant current limiting, recovers automatically after fault condition is removed						
	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed						
	OVER VOLTAGE	23 ~ 27V	28 ~ 34V	34 ~ 38V	41 ~ 46V	47 ~ 53V	54 ~ 63V	59 ~ 65V
		Shut down o/p voltage with auto-recovery or re-power on to recovery						
	OVER TEMPERATURE Note.9	Shut down o/p voltage, recovers automatically after temperature goes down						
ENVIRONMENT	WORKING TEMP.	Tcase= -40 ~ +80℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)						
	MAX. CASE TEMP.	Tcase= +80℃						
	WORKING HUMIDITY	20 ~ 95% RH non-condensing						
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH						
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)						
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes						
SAFETY & EMC	SAFETY STANDARDS Note.8	UL8750(type"HL"), CSA C22.2 No. 250.0-08; BS EN/EN 61347-1, BS EN/EN 61347-2-13, AS/NZS 61347-1(except for AB-type), AS/NZS 61347-2-13(except for AB-type) independent; GB19510.1,GB19510.14,IP65 or IP67, J61347-1, J61347-2-13(except for D-type), KC61347-1,KC61347-2-13(except for D-type),EAC TP TC 004 approved						
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC						
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH						
	EMC EMISSION Note.8	Compliance to BS EN/EN55015, BS EN/EN55032 Class B, BS EN/EN61000-3-2 Class C (@ load≧60%) ; BS EN/EN61000-3-3, GB/T 17743 , GB17625.1, EAC TP TC 020, KSC 9815(except for D-type)						
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, BS EN/EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV), EAC TP TC 020, KSC 9547(except for D-type)						
OTHERS	MTBF	2185.8K hrs min. Telcordia SR-332(Bellcore) ; 167.1K hrs min. MIL-HDBK-217F (25℃)						
	DIMENSION	220*68*38.8mm (L*W*H)						
	PACKING	1.12Kg; 12pcs/14.4Kg/0.8CUFT						

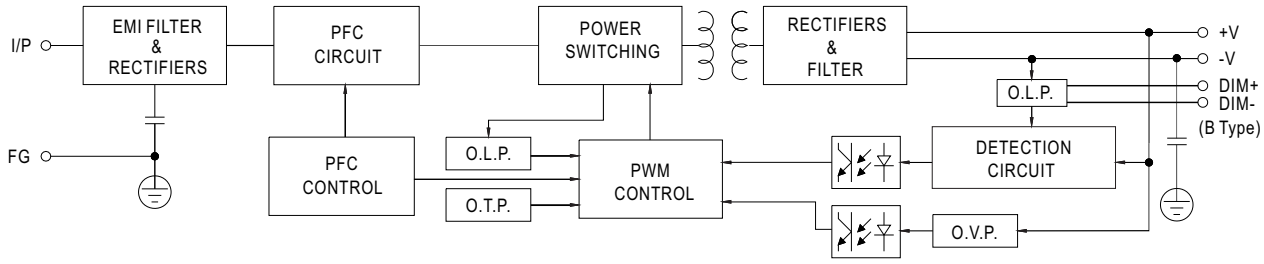
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. For OTP which triggered at light load/no load condition, proceed AC repower on to recovery.
10. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 80℃ or less.
11. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com
12. 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).
13. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf
14. For A/AB type need to consider build in using to comply with Type HL application.
15. Products sourced from the Americas regions may only have the UL, CE and UKCA logos. Please contact your MEAN WELL sales for more information.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

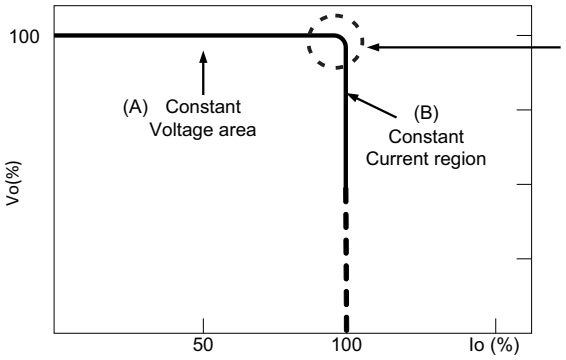
■ BLOCK DIAGRAM

Fosc : 100KHz



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

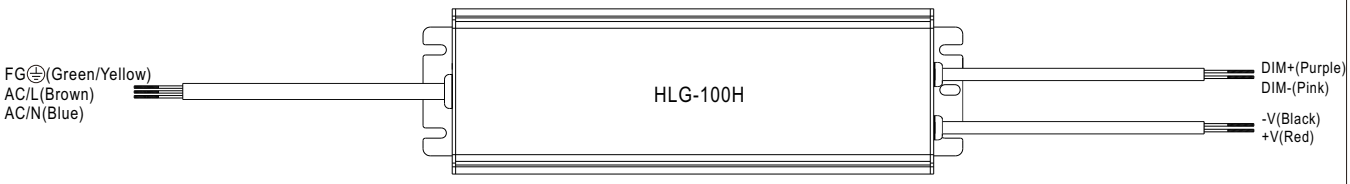


Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

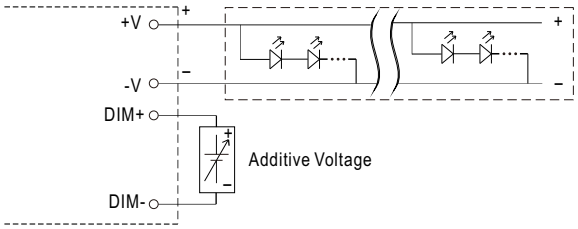
■ DIMMING OPERATION



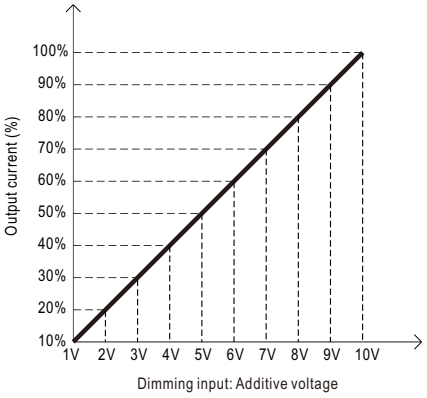
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

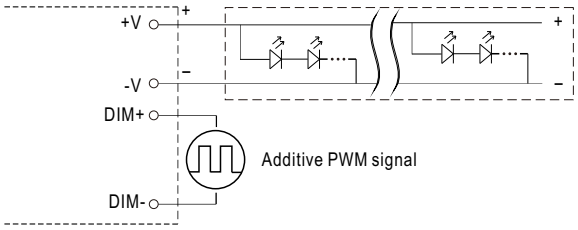
◎ Applying additive 1 ~ 10VDC



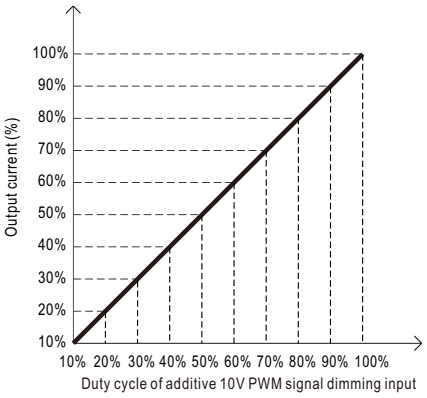
"DO NOT connect "DIM- to -V"



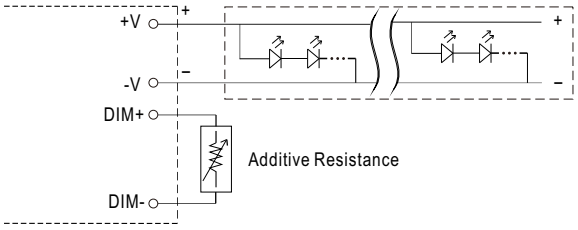
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



"DO NOT connect "DIM- to -V"



◎ Applying additive resistance:



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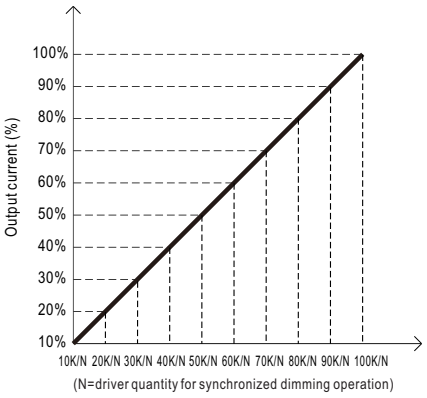
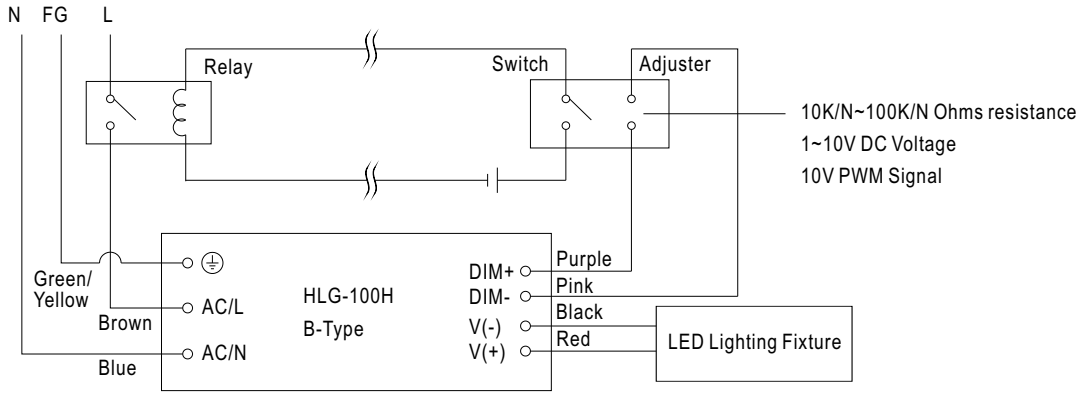
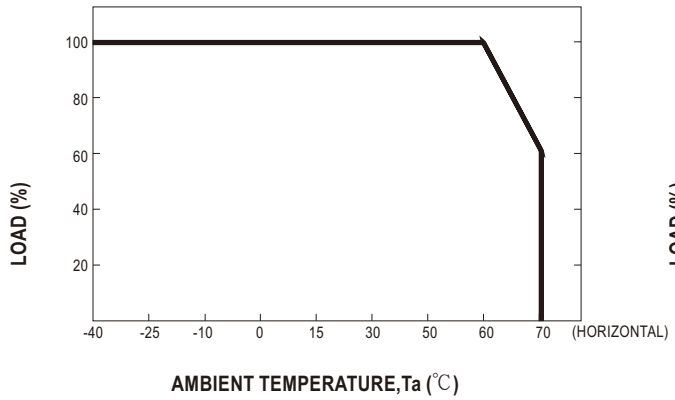


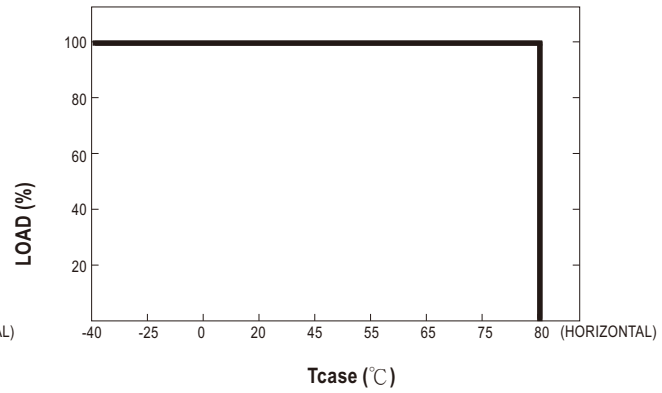
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.



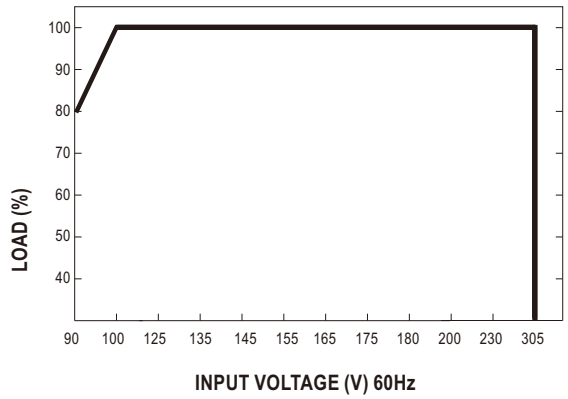
Using a switch and relay can turn ON/OFF the lighting fixture.

■ OUTPUT LOAD vs TEMPERATURE(Note.10)





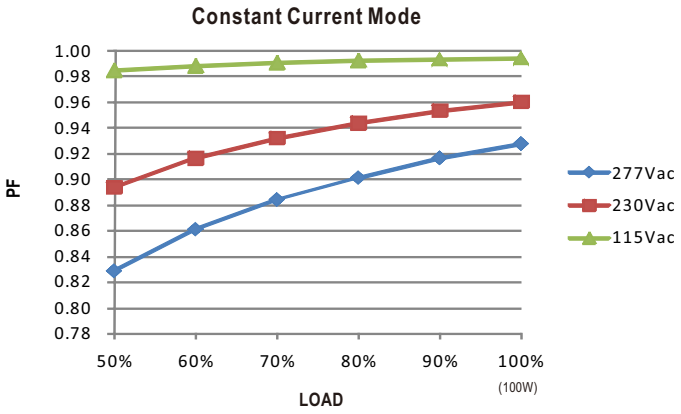
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

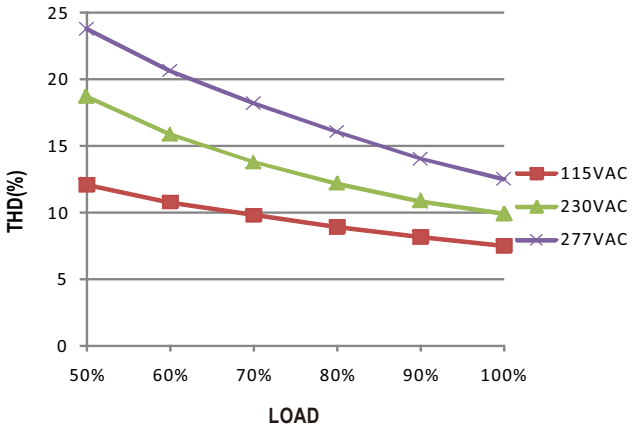
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 80℃



■ TOTAL HARMONIC DISTORTION (THD)

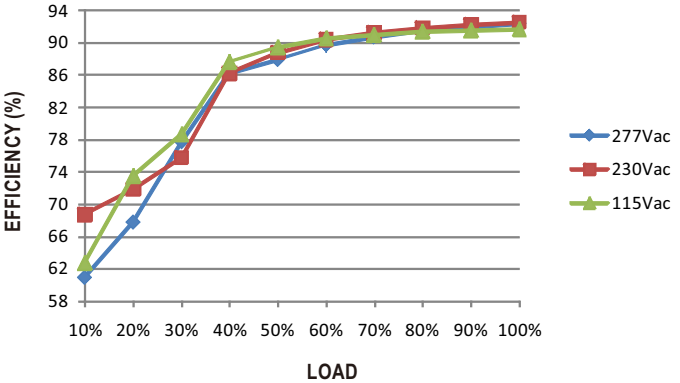
※ 48V Model, Tcase at 80℃



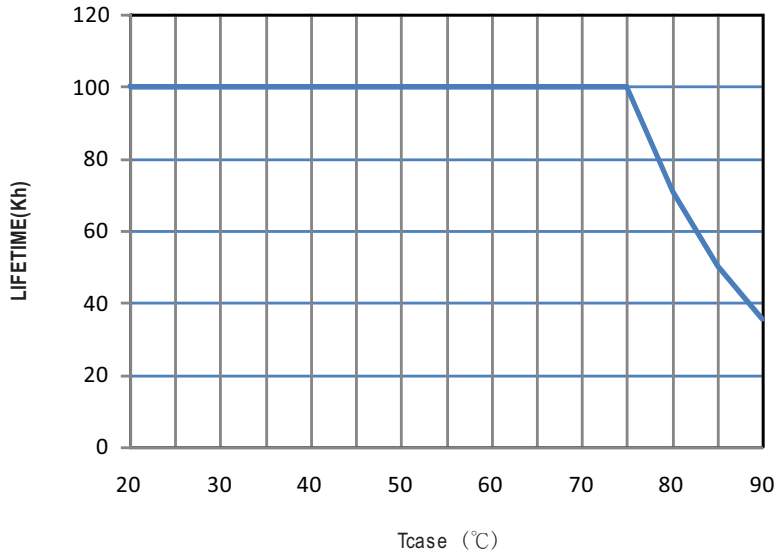
■ EFFICIENCY vs LOAD

HLG-100H series possess superior working efficiency that up to 93% can be reached in field applications.

※ 48V Model, Tcase at 80℃



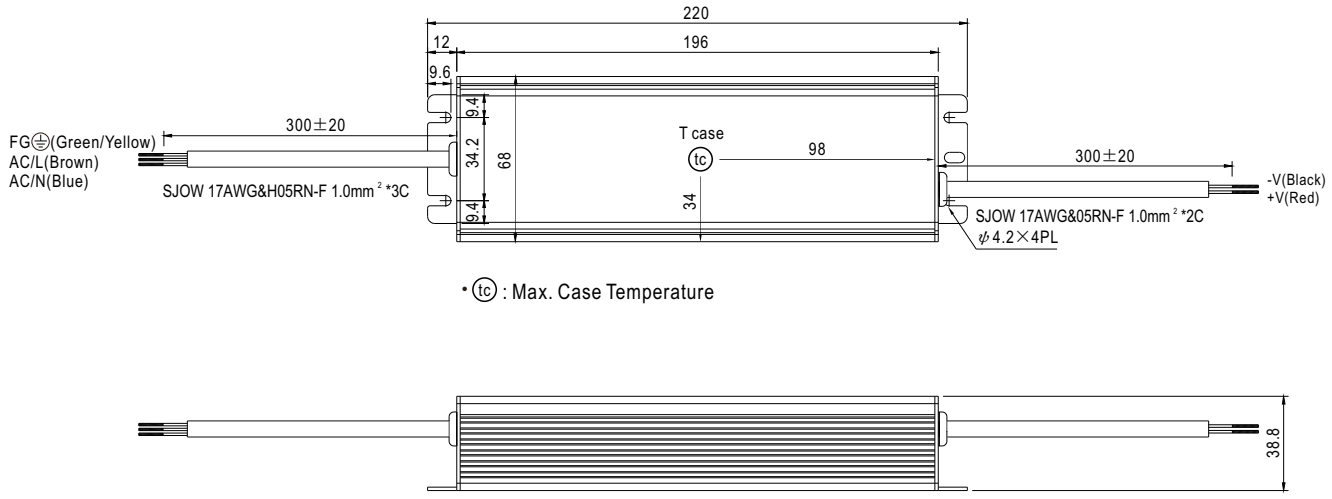
■ LIFE TIME



■ MECHANICAL SPECIFICATION

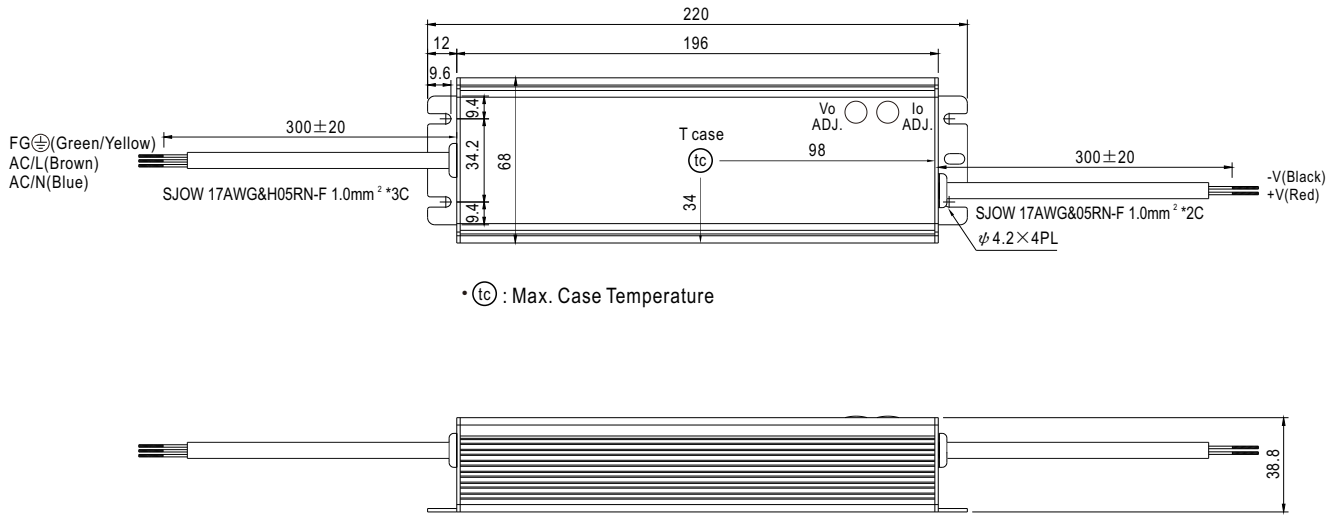
Case No.994A Unit:mm Tolerance:±1

※Blank/D-Type



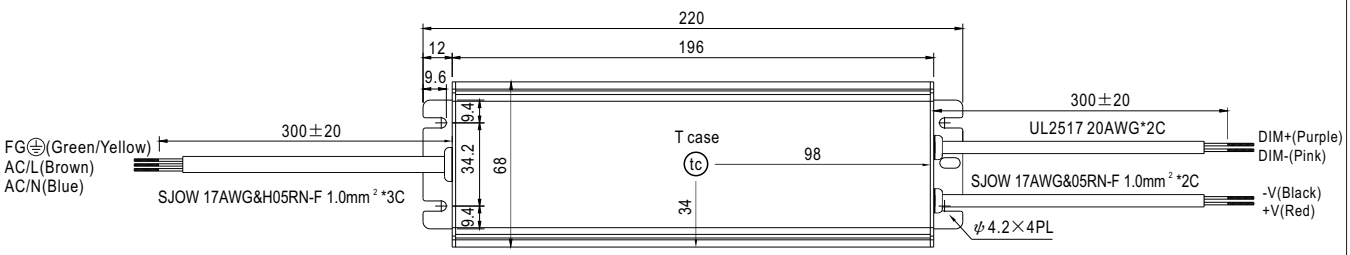
• tc : Max. Case Temperature

※A-Type

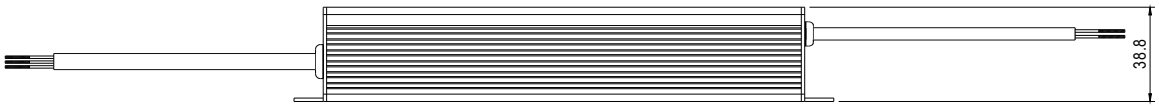


• tc : Max. Case Temperature

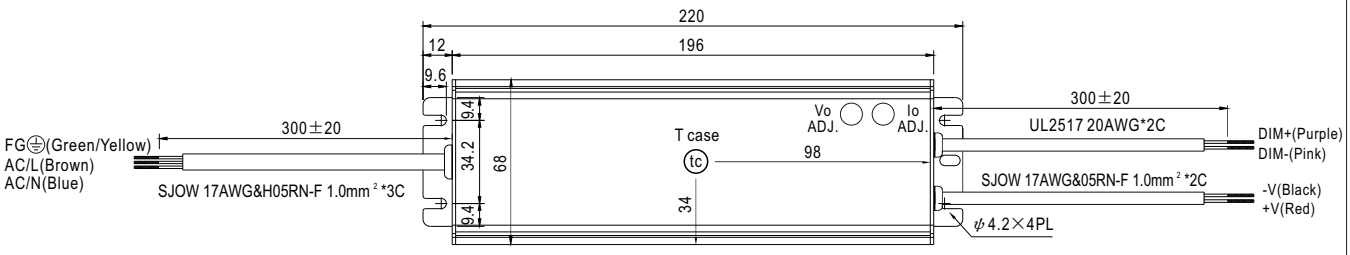
※B-Type



• tc : Max. Case Temperature



※AB-Type

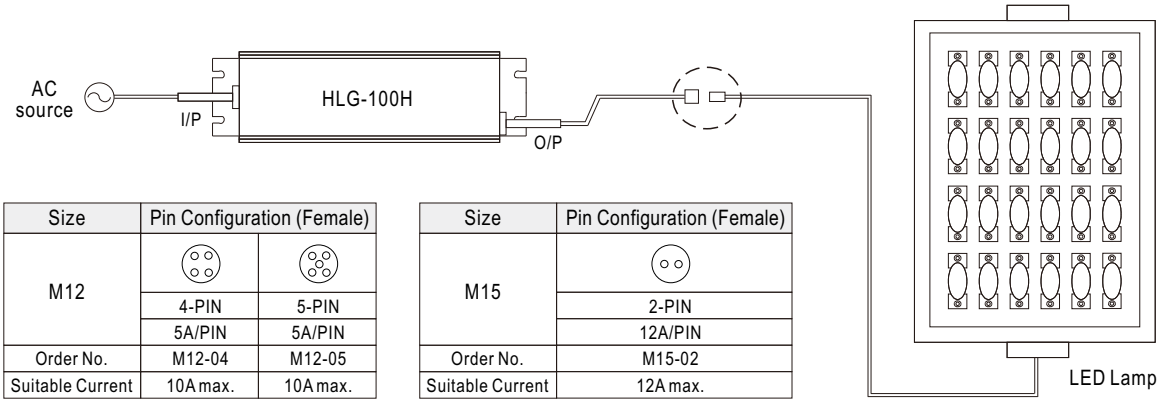


• tc : Max. Case Temperature

■ WATERPROOF CONNECTION

※ **Waterproof connector**

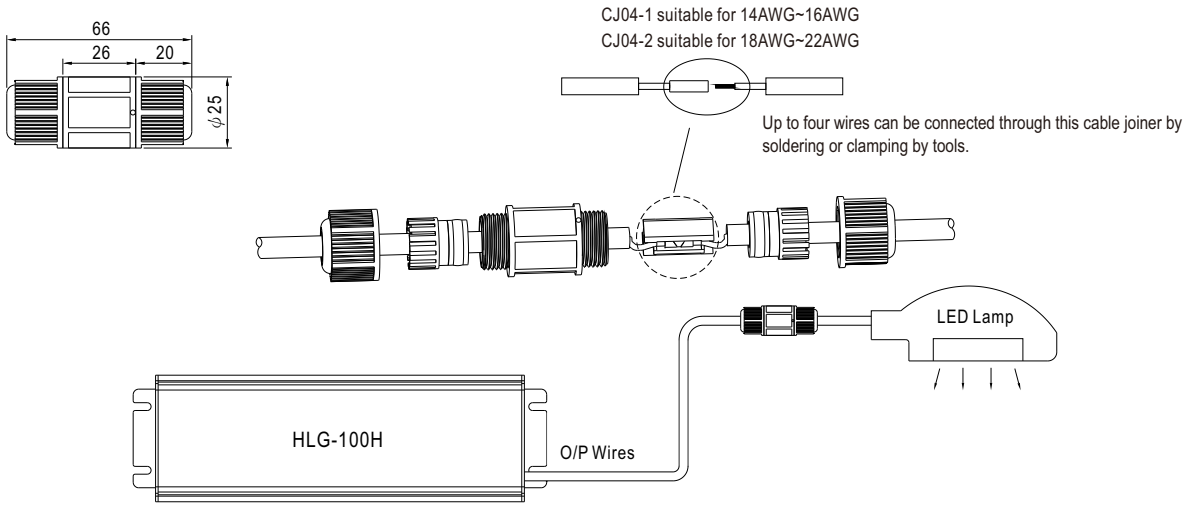
Waterproof connector can be assembled on the output cable of HLG-100H to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

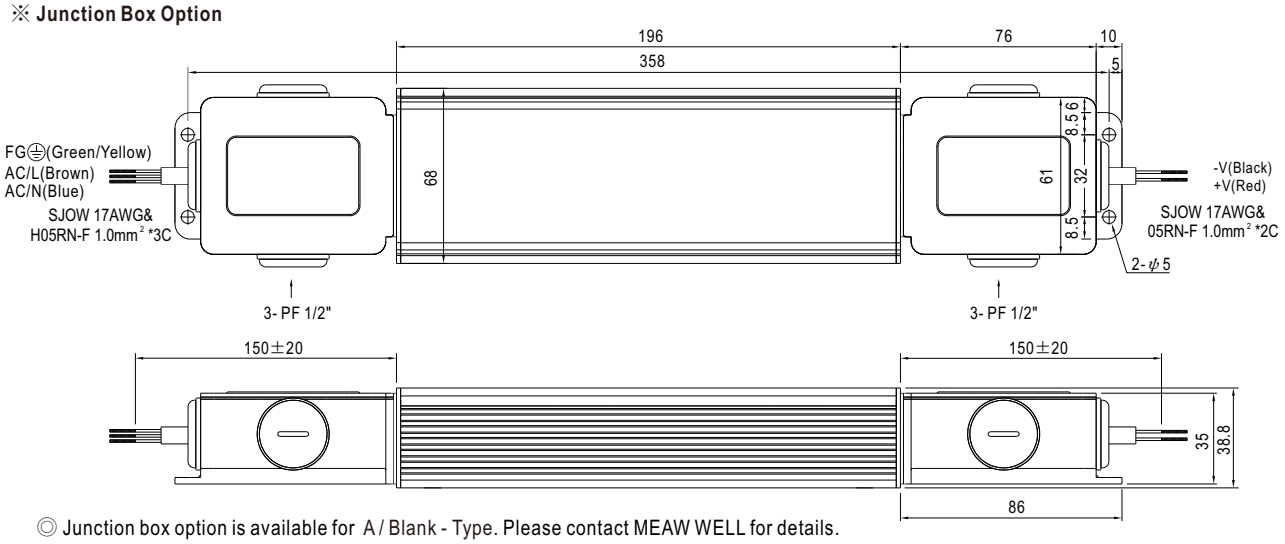
Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

※ **Cable Joiner**



◎ CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

※ **Junction Box Option**



◎ Junction box option is available for A / Blank - Type. Please contact MEAW WELL for details.

■ INSTALLATION MANUAL

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

HLG-120H series

120W Constant Voltage + Constant Current LED Driver

User's Manual

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class Ⅰ design
- Built-in active PFC function
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming; Timer dimming
- Typical lifetime > 62000 hours
- 7 years warranty

Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class Ⅰ, Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

HLG-120H series is a 120W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-120H operates from 90～305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 93.5%, with the fanless design, the entire series is able to operate for -40℃ ~ +80℃ case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-120H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 120H - 48 A

- A — Function options
- 48 — Rated output voltage (12V/15V/20V/24V/30V/36V/42V/48V/54V)
- 120H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

SPECIFICATION

MODEL		HLG-120H-12□	HLG-120H-15□	HLG-120H-20□	HLG-120H-24□	HLG-120H-30□	HLG-120H-36□	HLG-120H-42□	HLG-120H-48□	HLG-120H-54□
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	6 ~12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT	10A	8A	6A	5A	4A	3.4A	2.9A	2.5A	2.3A
	RATED POWER	120W	120W	120W	120W	120W	122.4W	121.8W	120W	124.2W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)								
		10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V
	CURRENT ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)								
		5 ~ 10A	4 ~ 8A	3 ~ 6A	2.5 ~ 5A	2 ~ 4A	1.7 ~ 3.4A	1.4 ~ 2.9A	1.2 ~ 2.5A	1.1 ~ 2.3A
	VOLTAGE TOLERANCE Note.3	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6	1200ms,50ms/115VAC 500ms,50ms/230VAC								
	HOLD UP TIME (Typ.)	12ms / 115VAC, 230VAC								
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF≧0.98/115VAC, PF≧0.95/230VAC, PF≧0.93/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)								
	TOTAL HARMONIC DISTORTION	THD< 20% (@ load≧50% / 115VAC,230VAC; @ load≧75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)								
	EFFICIENCY (Typ.)	92%	92%	93%	93%	93%	93%	93%	93.5%	93.5%
	AC CURRENT (Typ.)	1.4A / 115VAC 0.6A / 230VAC 0.55A / 277VAC								
	INRUSH CURRENT (Typ.)	COLD START 60A(t_{width}=375μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410								
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	5 units (circuit breaker of type B) / 9 units (circuit breaker of type C) at 230VAC								
	LEAKAGE CURRENT	<0.75mA / 277VAC								
PROTECTION	OVER CURRENT	95 ~ 108%								
		Constant current limiting, recovers automatically after fault condition is removed								
	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed								
	OVER VOLTAGE	14 ~ 17V	18 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 38V	41 ~ 46V	47 ~ 53V	54 ~ 63V	59 ~ 65V
		Shut down o/p voltage with auto-recovery or re-power on to recovery								
	OVER TEMPERATURE Note.9	Shut down o/p voltage, recovers automatically after temperature goes down								
ENVIRONMENT	WORKING TEMP.	Tcase= -40 ~ +80℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)								
	MAX. CASE TEMP.	Tcase= +80℃								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)								
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARDS Note.8	UL8750(type"HL"), CSA C22.2 No. 250.0-08, BS EN/EN 61347-1, BS EN/EN 61347-2-13,AS/NZS 61347-1(except for AB-type), AS/NZS 61347-2-13(except for AB-type) independent;GB19510.1,GB19510.14,IP65 or IP67, J61347-1, J61347-2-13(except for D-type),BIS IS15885(for 12B,24B,36A,54A only), EAC TP TC 004,KC61347-1,KC61347-2-13(except for D-type) approved								
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC								
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH								
	EMC EMISSION Note.8	Compliance to BS EN/EN55015, BS EN/EN55032 Class B, BS EN/EN61000-3-2 Class C (@ load≧50%) ; BS EN/EN61000-3-3, GB/T 17743 , GB17625.1, EAC TP TC 020, KSC 9815(except for D-type)								
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, BS EN/EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV),EAC TP TC 020, KSC 9547(except for D-type)								
OTHERS	MTBF	2185.8K hrs min. Telcordia SR-332 (Bellcore); 167.1Khrs min. MIL-HDBK-217F (25℃)								
	DIMENSION	220*68*38.8mm (L*W*H)								
	PACKING	1.12Kg; 12pcs/14.4Kg/0.8CUFT								

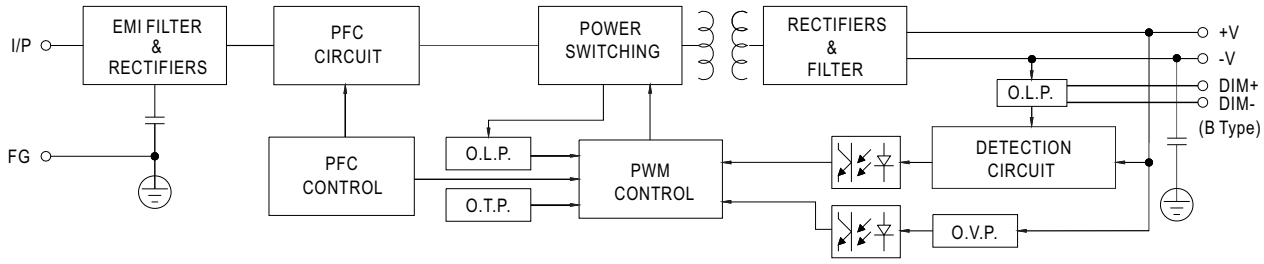
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. For OTP which triggered at light load/no load condition, proceed AC repower on to recovery.
10. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 75℃ or less.
11. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com
12. 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).
13. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf
14. For A/AB type need to consider build in using to comply with Type HL application.
15. Products sourced from the Americas regions may only have the UL, CE and UKCA logos. Please contact your MEAN WELL sales for more information.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

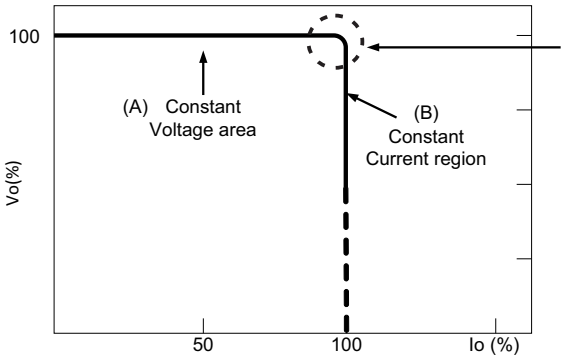
■ BLOCK DIAGRAM

Fosc : 100KHz



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

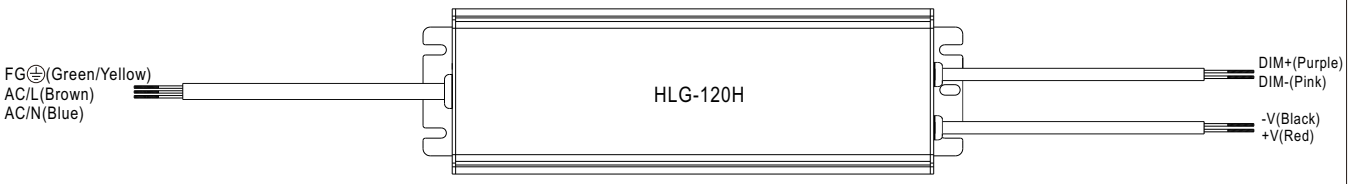


Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

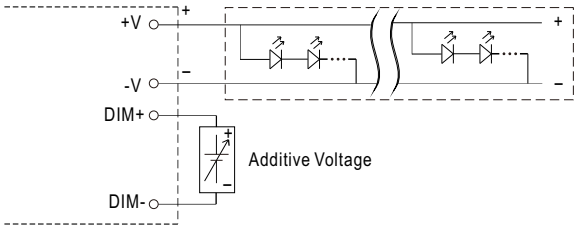
■ DIMMING OPERATION



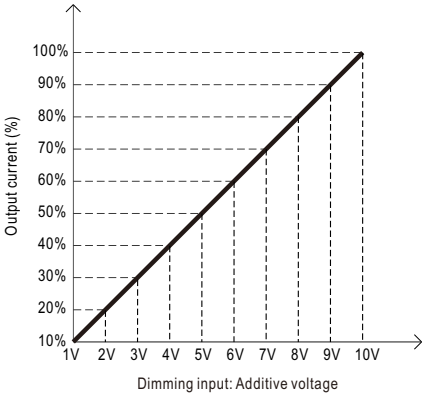
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

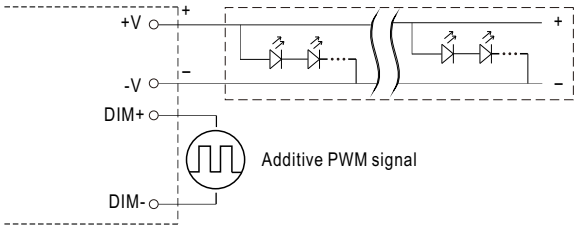
◎ Applying additive 1 ~ 10VDC



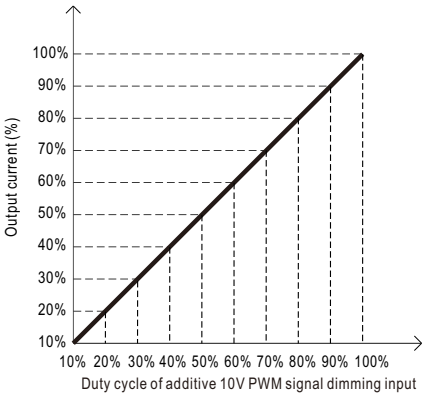
"DO NOT connect "DIM- to -V"



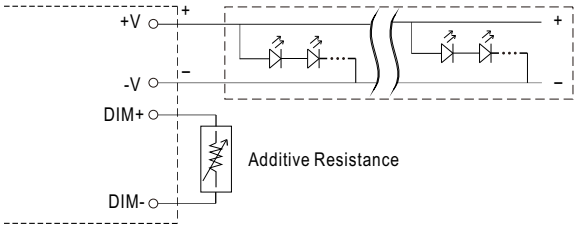
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



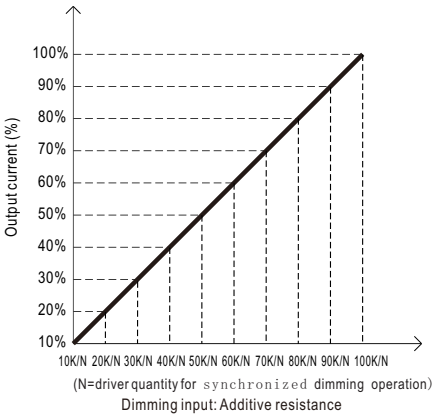
"DO NOT connect "DIM- to -V"



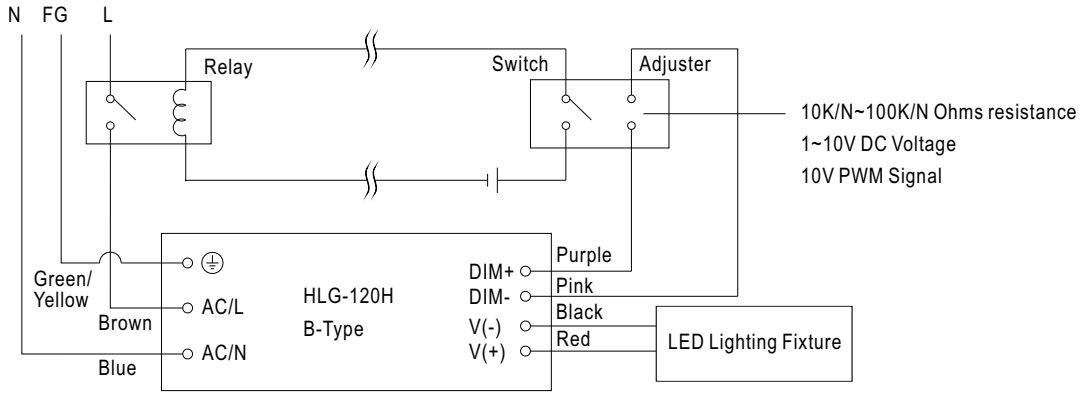
◎ Applying additive resistance:



"DO NOT connect "DIM- to -V"

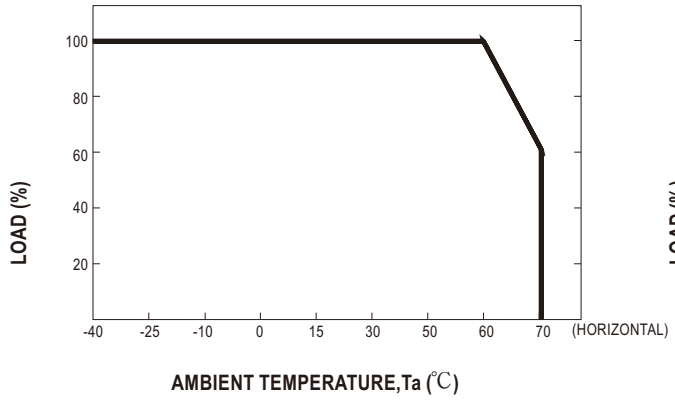


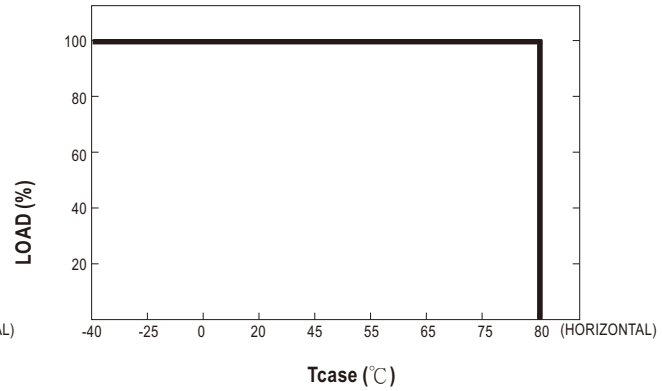
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.



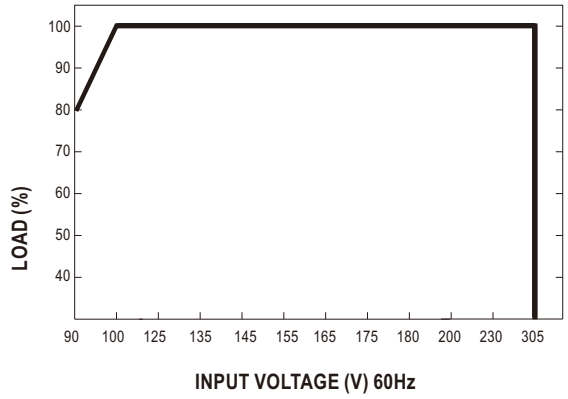
Using a switch and relay can turn ON/OFF the lighting fixture.

■ OUTPUT LOAD vs TEMPERATURE(Note.10)





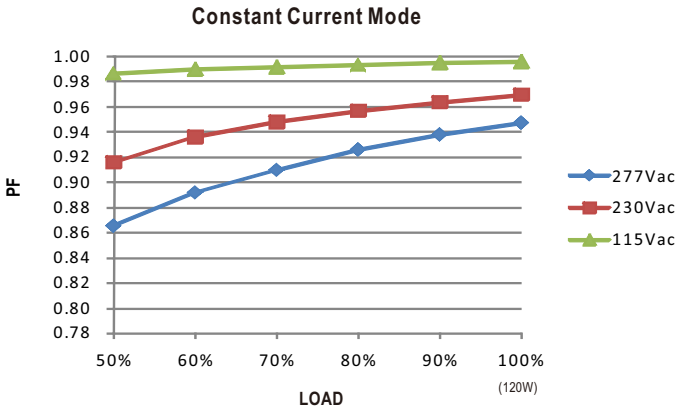
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

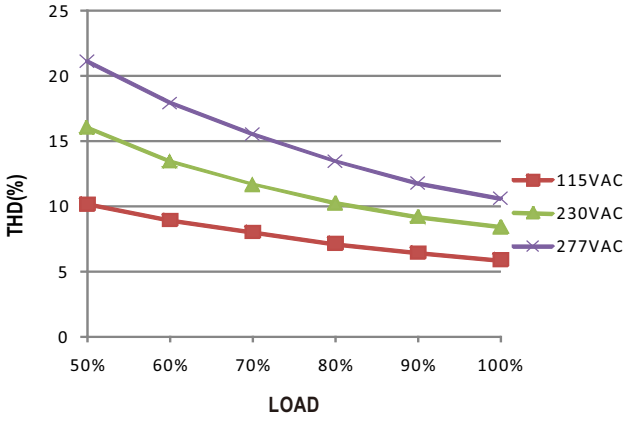
■ POWER FACTOR(PF) CHARACTERISTIC

※ Tcase at 70℃



■ TOTAL HARMONIC DISTORTION (THD)

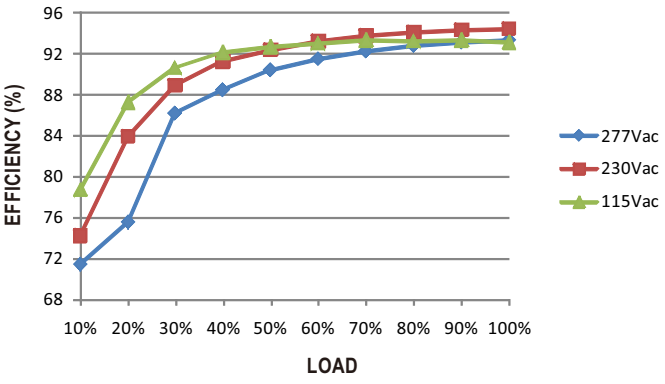
※ 48V Model, Tcase at 70℃



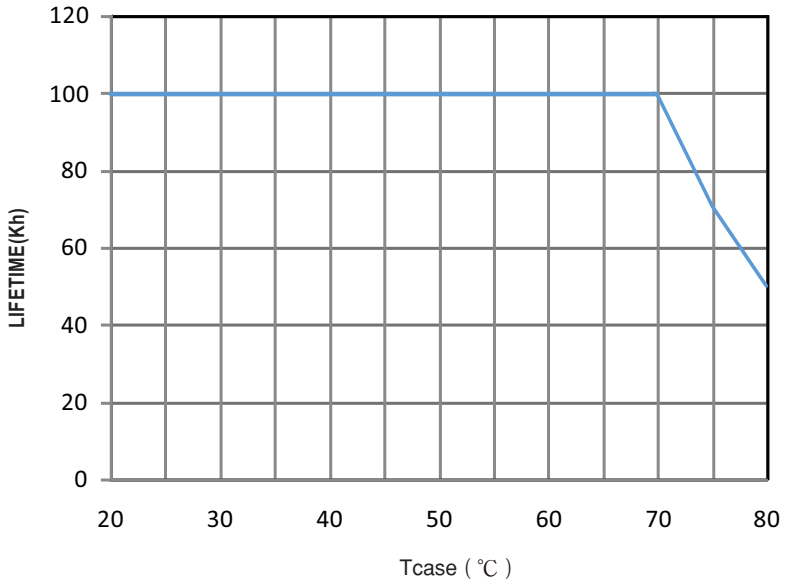
■ EFFICIENCY vs LOAD

HLG-120H series possess superior working efficiency that up to 93.5% can be reached in field applications.

※ 48V Model, Tcase at 70℃



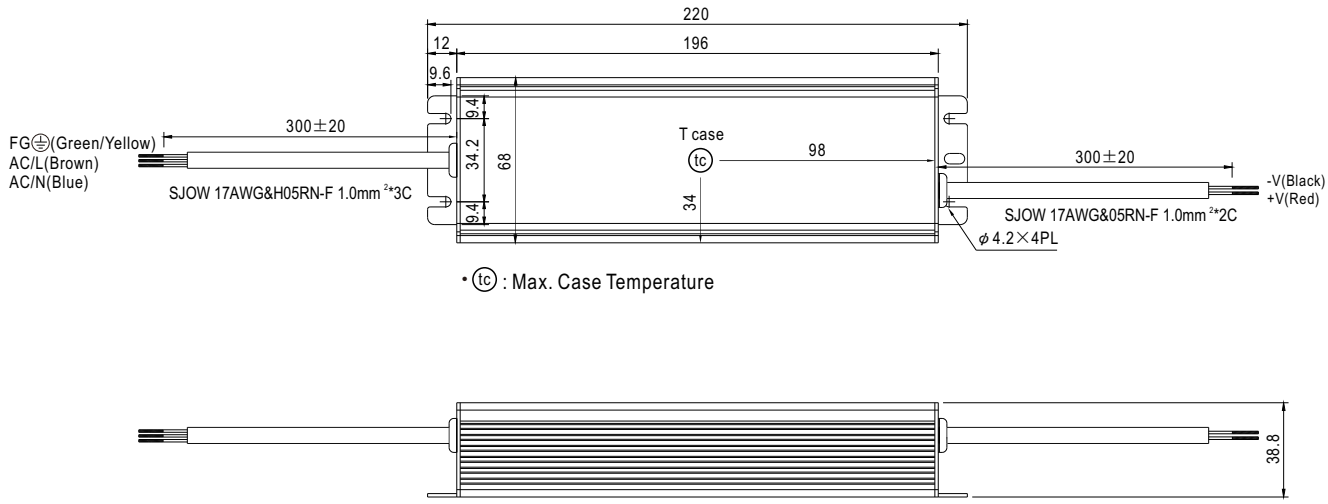
■ LIFE TIME



■ MECHANICAL SPECIFICATION

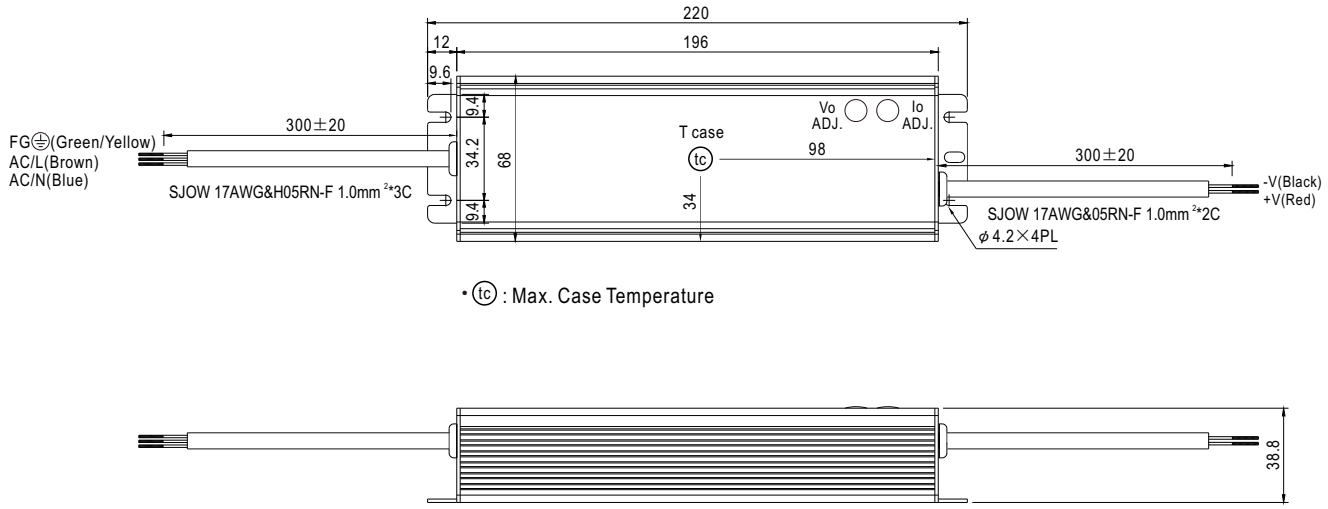
Case No.994A Unit:mm Tolerance:±1

※Blank/D-Type



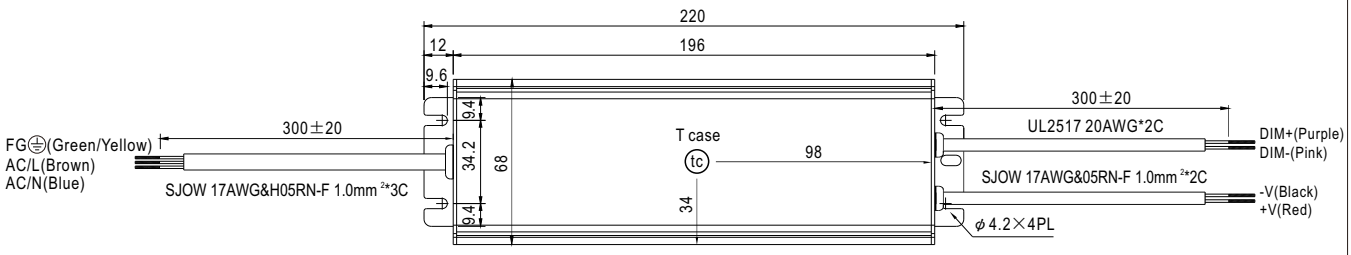
• tc : Max. Case Temperature

※A-Type



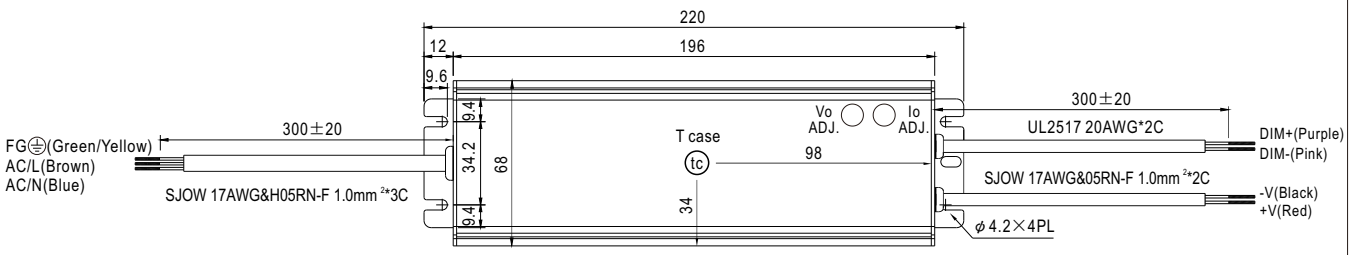
• tc : Max. Case Temperature

※B-Type

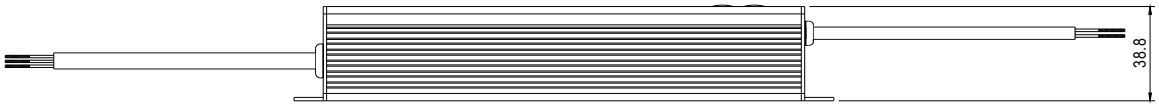


• tc : Max. Case Temperature

※AB-Type



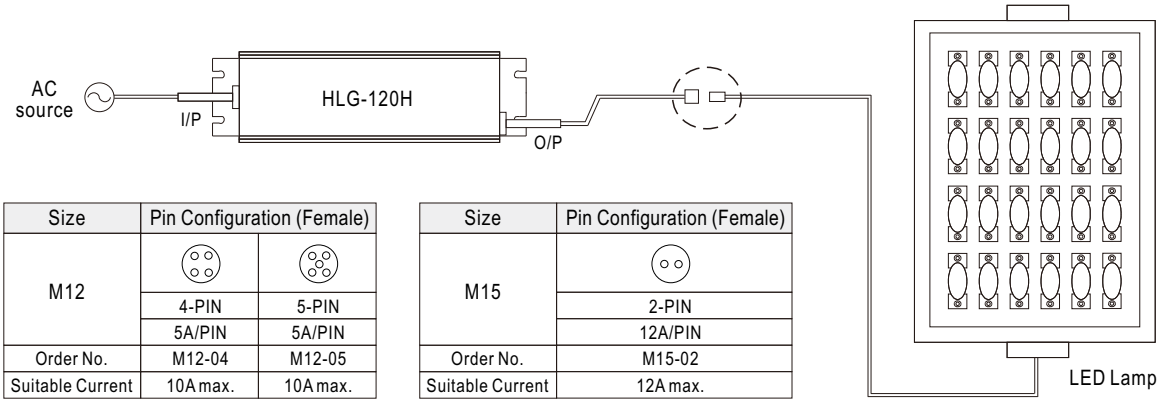
• tc : Max. Case Temperature



■ WATERPROOF CONNECTION

※ **Waterproof connector**

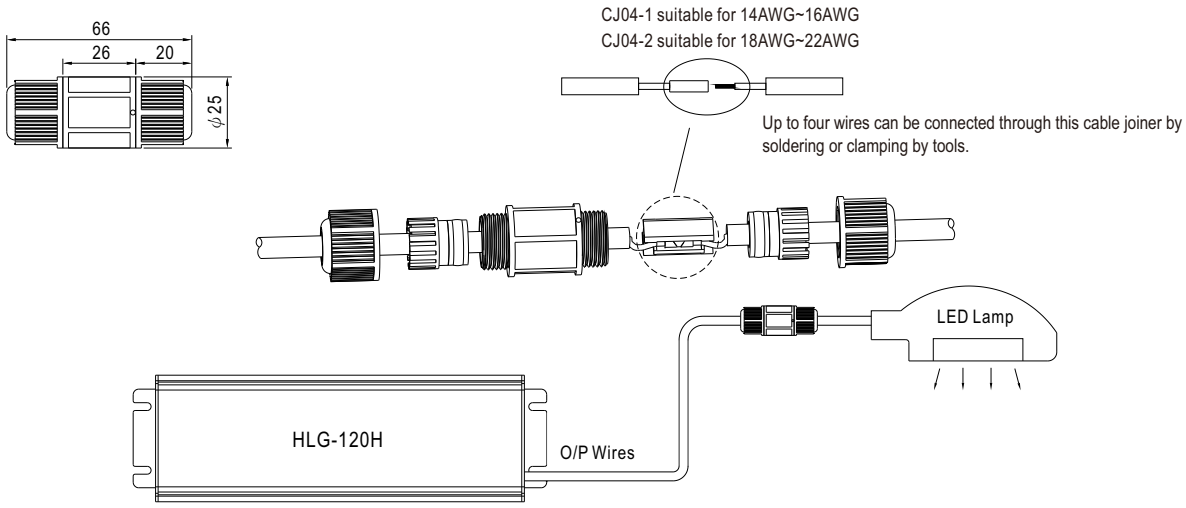
Waterproof connector can be assembled on the output cable of HLG-120H to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

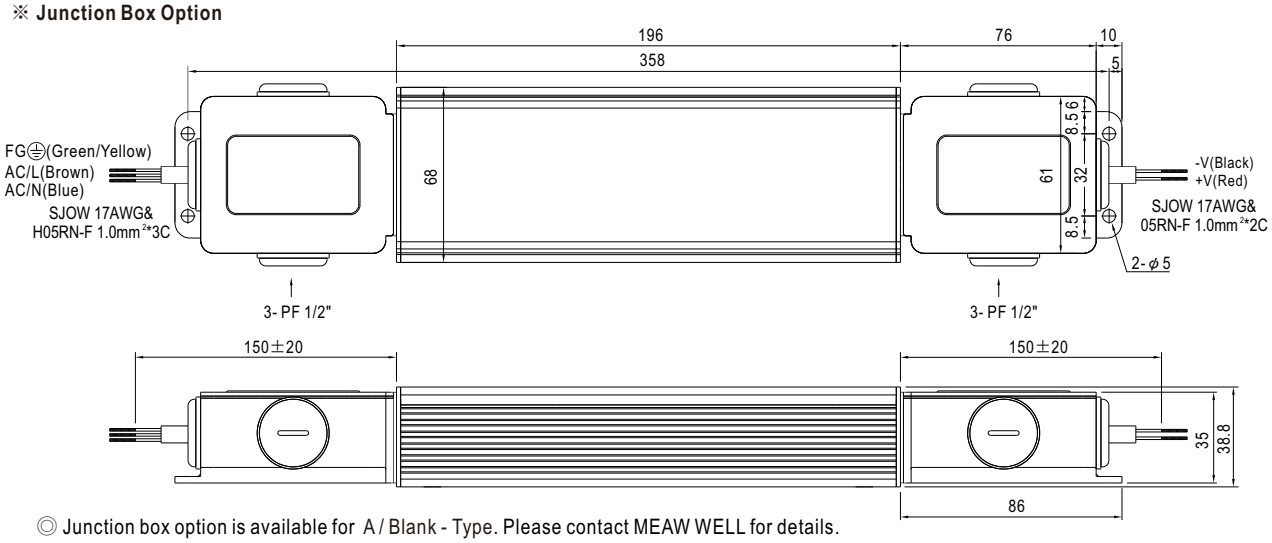
Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

※ **Cable Joiner**



◎ CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

※ **Junction Box Option**



◎ Junction box option is available for A / Blank - Type. Please contact MEAW WELL for details.

■ INSTALLATION MANUAL

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

HLG-150H series

150W Constant Voltage + Constant Current LED Driver

User's Manual

TAIWAN EXCELLENCE 2011

(except for D-type) (except for D-type) (except for AB-type) (except for D-type) (for A,B type only) Type HL

SELV IP65 IP67

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming
- Typical lifetime > 62000 hours
- 7 years warranty

Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class I , Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

HLG-150H series is a 150W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-150H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 94%, with the fanless design, the entire series is able to operate for -40℃ ~ +90℃ case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-150H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 150H - 15 A

- A — Function options
- 15 — Rated output voltage (12V/15V/20V/24V/30V/36V/42V/48V/54V)
- 150H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

SPECIFICATION

MODEL		HLG-150H-12□	HLG-150H-15□	HLG-150H-20□	HLG-150H-24□	HLG-150H-30□	HLG-150H-36□	HLG-150H-42□	HLG-150H-48□	HLG-150H-54□
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	6 ~12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT	12.5A	10A	7.5A	6.3A	5A	4.2A	3.6A	3.2A	2.8A
	RATED POWER	150W	150W	150W	151.2W	150W	151.2W	151.2W	153.6W	151.2W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)								
		10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V
	CURRENT ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)								
		7.5 ~ 12.5A	6 ~ 10A	4.5 ~ 7.5A	3.8 ~ 6.3A	3 ~ 5A	2.5 ~ 4.2A	2.16 ~ 3.6A	1.92 ~ 3.2A	1.68 ~ 2.8A
	VOLTAGE TOLERANCE Note.3	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6	1000ms,200ms/115VAC 500ms,200ms/230VAC								
	HOLD UP TIME (Typ.)	16ms / 115VAC, 230VAC								
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF≧0.98/115VAC, PF≧0.95/230VAC, PF≧0.92/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)								
	TOTAL HARMONIC DISTORTION	THD< 20% (@ load≧60% / 115VAC,230VAC; @ load≧75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)								
	EFFICIENCY (Typ.)	91.5%	92%	93%	93%	93.5%	93.5%	94%	94%	94%
	AC CURRENT (Typ.)	1.7A / 115VAC 0.75A / 230VAC 0.7A / 277VAC								
	INRUSH CURRENT (Typ.)	COLD START 65A(t_{width}=425μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410								
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	4 units (circuit breaker of type B) / 7 units (circuit breaker of type C) at 230VAC								
	LEAKAGE CURRENT	<0.75mA / 277VAC								
PROTECTION	OVER CURRENT	95 ~ 108%								
		Constant current limiting, recovers automatically after fault condition is removed								
	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed								
	OVER VOLTAGE	14 ~ 17V	18 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 38V	41 ~ 46V	47 ~ 53V	54 ~ 63V	59 ~ 65V
		Shut down o/p voltage with auto-recovery or re-power on to recovery								
	OVER TEMPERATURE Note.9	Shut down o/p voltage, recovers automatically after temperature goes down								
ENVIRONMENT	WORKING TEMP.	Tcase= -40 ~ +90℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)								
	MAX. CASE TEMP.	Tcase= +90℃								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)								
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARDS	UL8750(type"HL"), CSA C22.2 No. 250.0-08; BS EN/EN 61347-1, BS EN/EN 61347-2-13,AS/NZS 61347-1(except for AB-type), AS/NZS 61347-2-13(except for AB-type) independent;GB19510.1,GB19510.14(except for D-type);IP65 or IP67; J61347-1, J61347-2-13 (except for D-type),BIS Is15885(for A,B type only), EAC TP TC 004; KC61347-1,KC61347-2-13(except for D-type) approved								
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC								
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH								
	EMC EMISSION	Compliance to BS EN/EN55015, BS EN/EN55032 (CISPR32) Class B, BS EN/EN61000-3-2 Class C (@ load≧60%) ; BS EN/EN61000-3-3,GB/T 17743 , GB17625.1(except for D-type), EAC TP TC 020, KSC 9815(except for D-type)								
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, BS EN/EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV), EAC TP TC 020, KSC 9547(except for D-type)								
OTHERS	MTBF	2176.1K hrs min. Telcordia SR-332(Bellcore) ; 166.4K hrs min. MIL-HDBK-217F (25℃)								
	DIMENSION	228*68*38.8mm								
	PACKING	1.15Kg; 12pcs/14.8Kg/0.8CUFT								

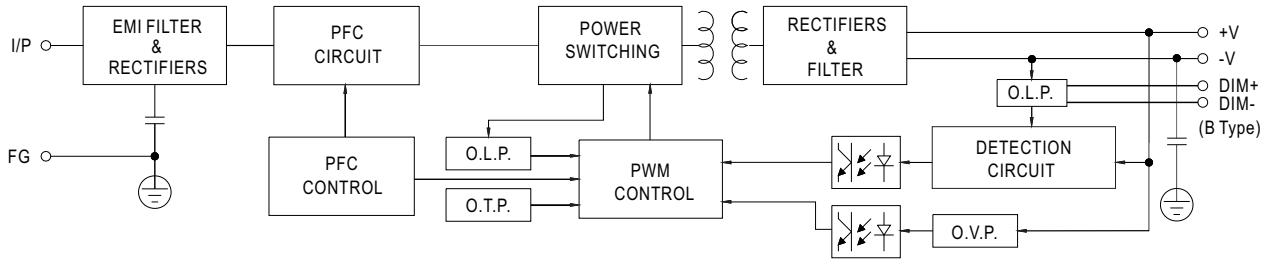
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. For OTP which triggered at light load/no load condition, proceed AC repower on to recovery.
10. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 80℃ or less.
11. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com.
12. 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).
13. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf
14. For A/AB type need to consider build in using to comply with Type HL application.
15. Products sourced from the Americas regions may only have the UL, CE and UKCA logos. Please contact your MEAN WELL sales for more information.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

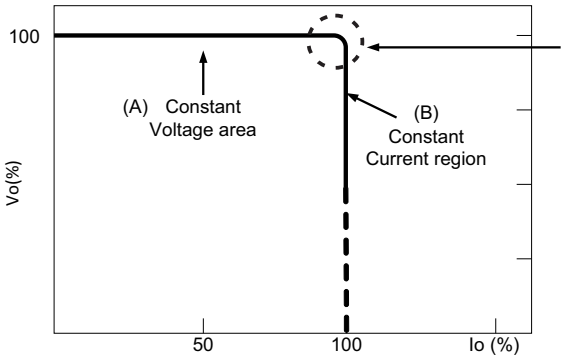
■ BLOCK DIAGRAM

Fosc : 100KHz



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

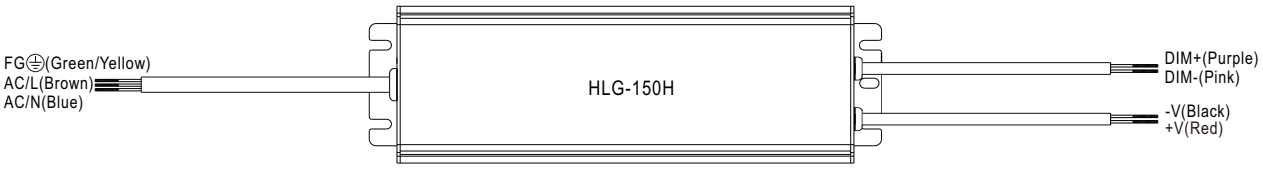


Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

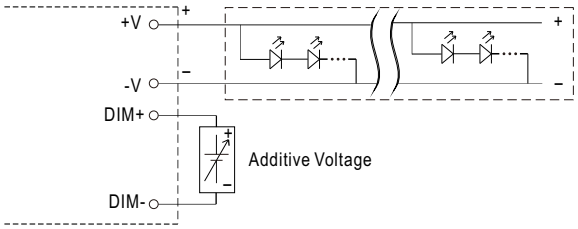
■ DIMMING OPERATION



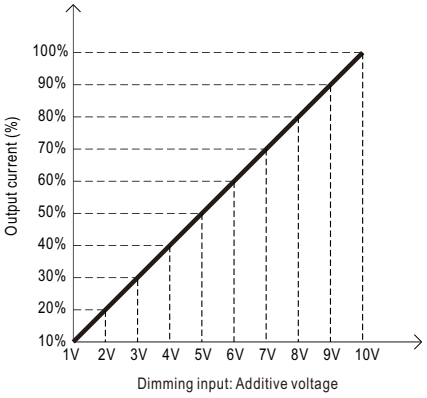
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

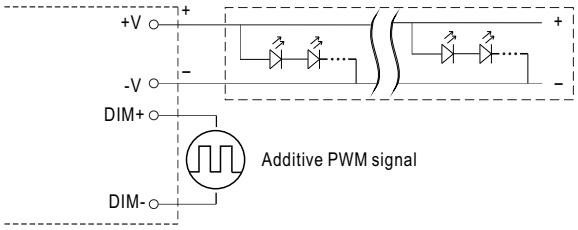
◎ Applying additive 1 ~ 10VDC



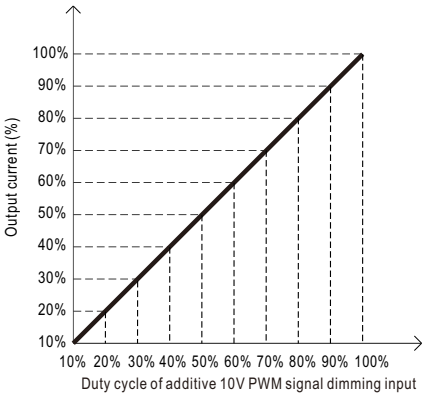
"DO NOT connect "DIM- to -V"



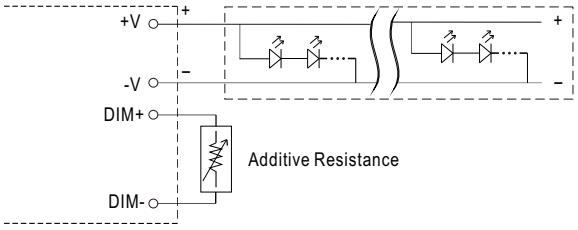
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



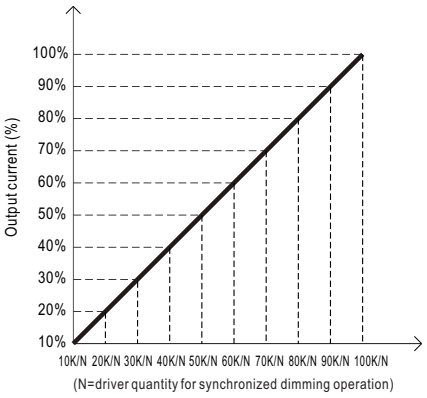
"DO NOT connect "DIM- to -V"



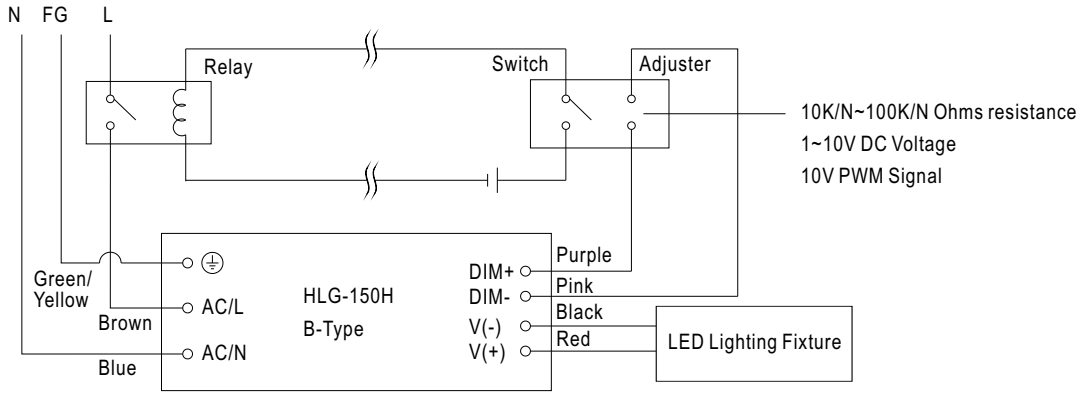
◎ Applying additive resistance:



"DO NOT connect "DIM- to -V"

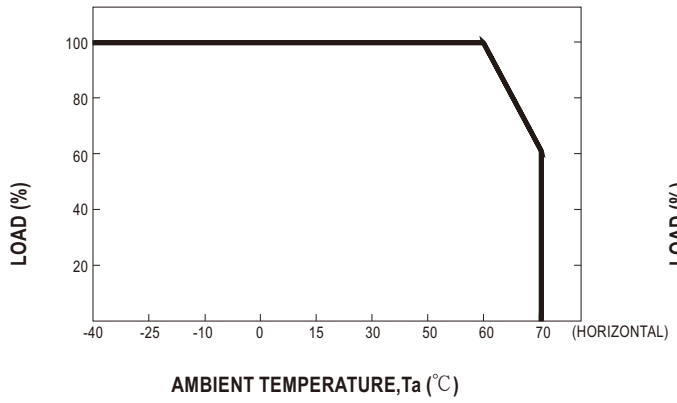


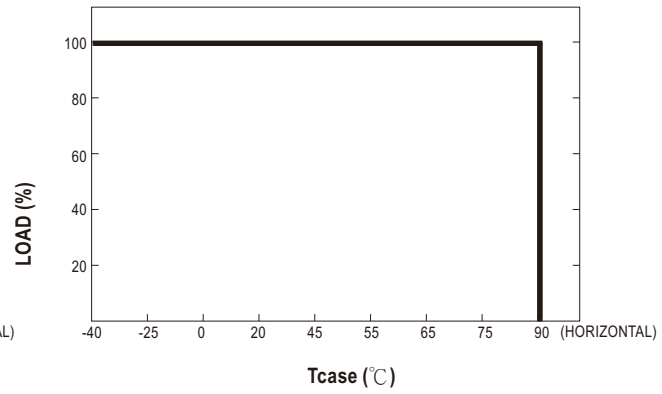
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.



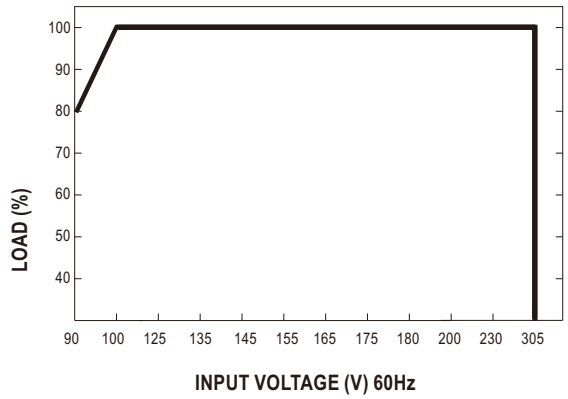
Using a switch and relay can turn ON/OFF the lighting fixture.

■ OUTPUT LOAD vs TEMPERATURE(Note.10)





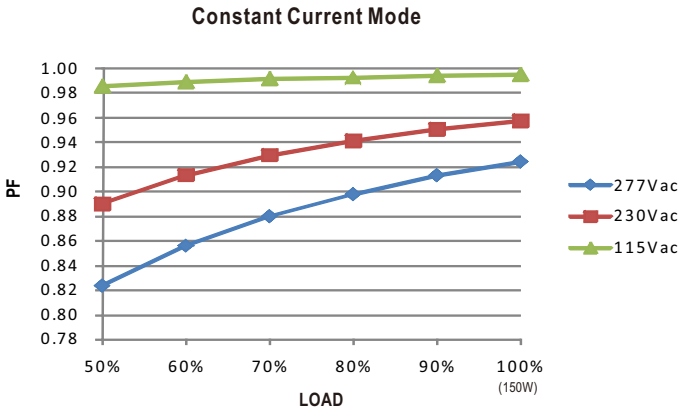
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

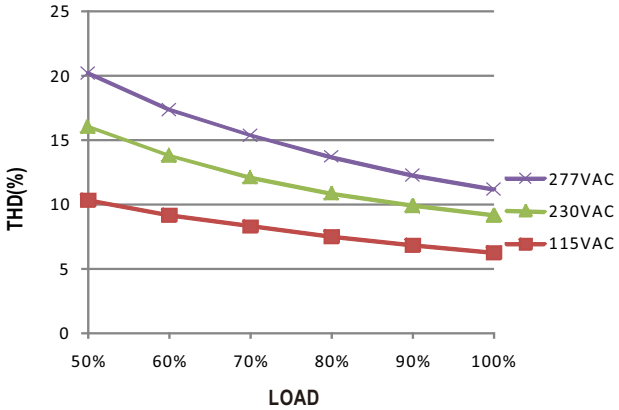
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 80℃



■ TOTAL HARMONIC DISTORTION (THD)

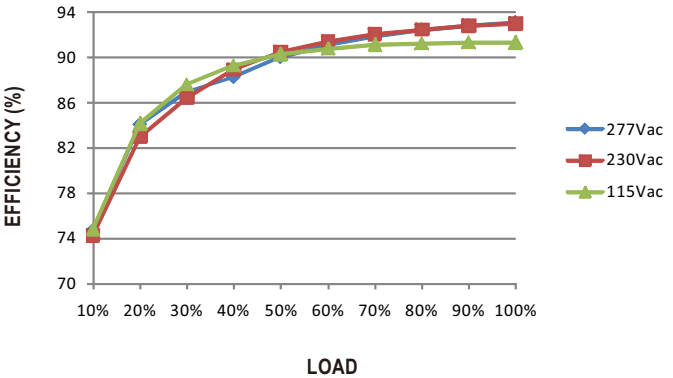
※ 48V Model, Tcase at 80℃



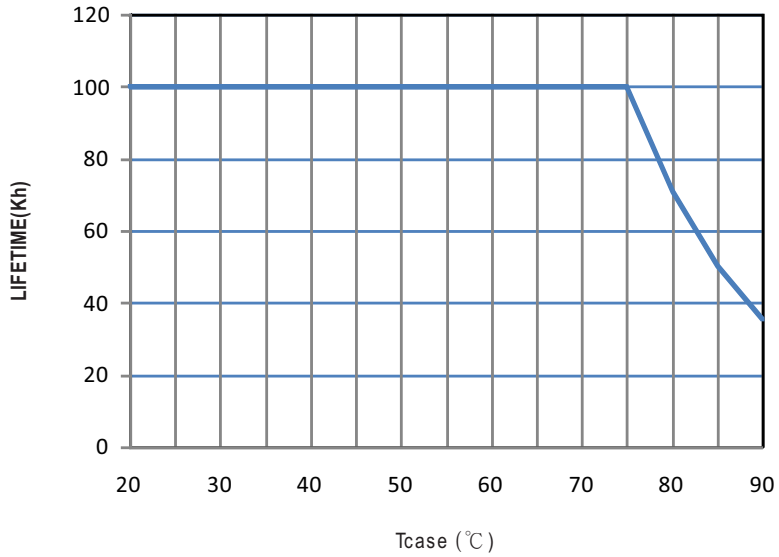
■ EFFICIENCY vs LOAD

HLG-150H series possess superior working efficiency that up to 94% can be reached in field applications.

※ 48V Model, Tcase at 80℃



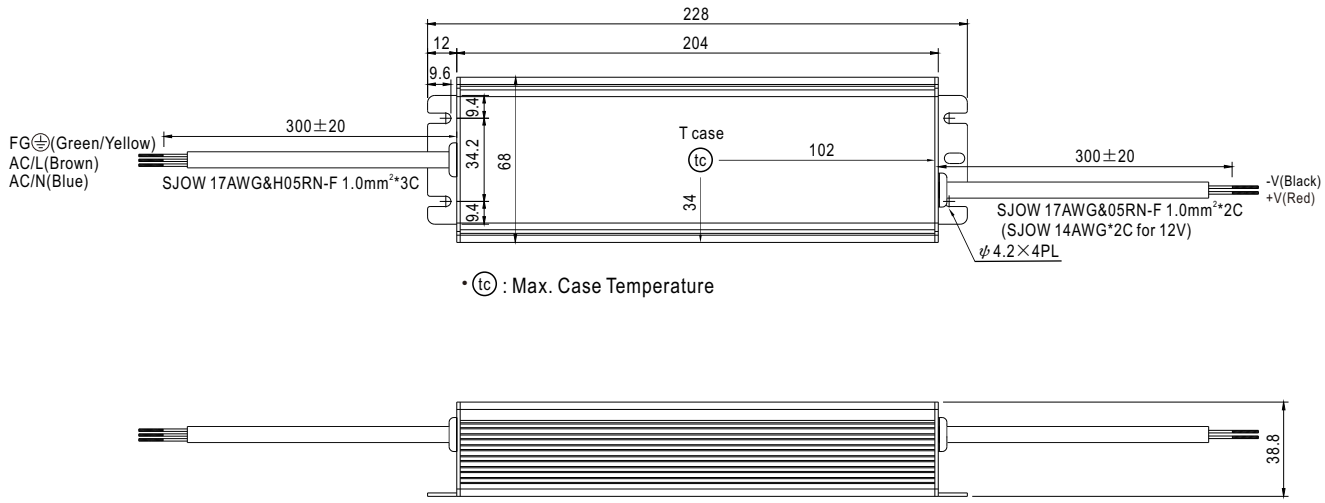
LIFE TIME



■ MECHANICAL SPECIFICATION

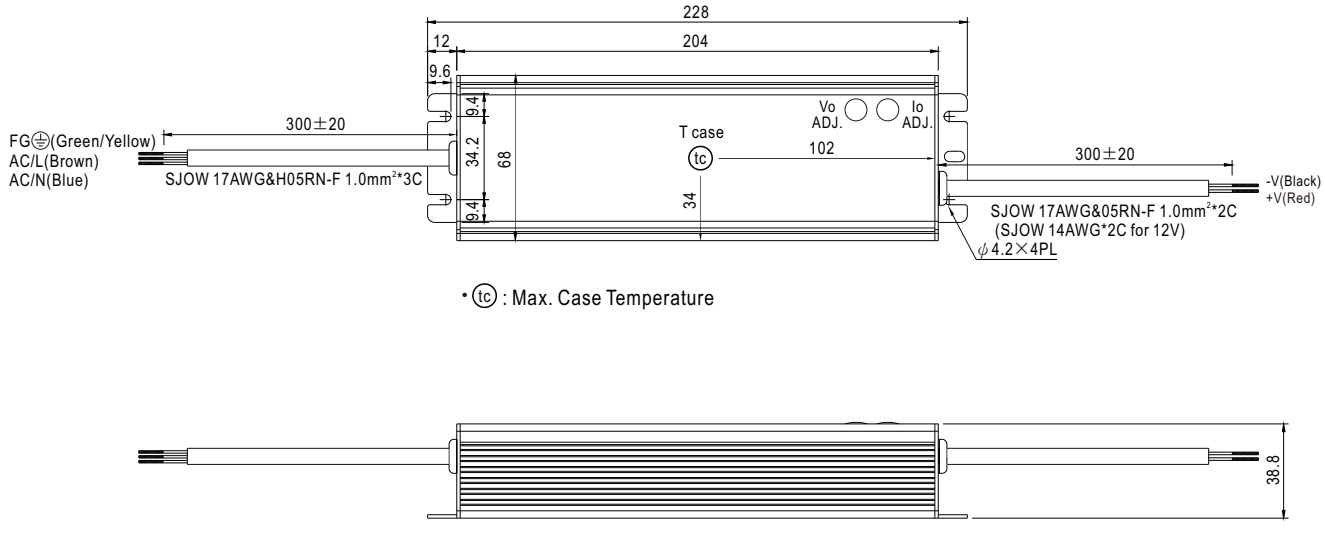
Case No.954D Unit:mm Tolerance:±1

※Blank/D-Type



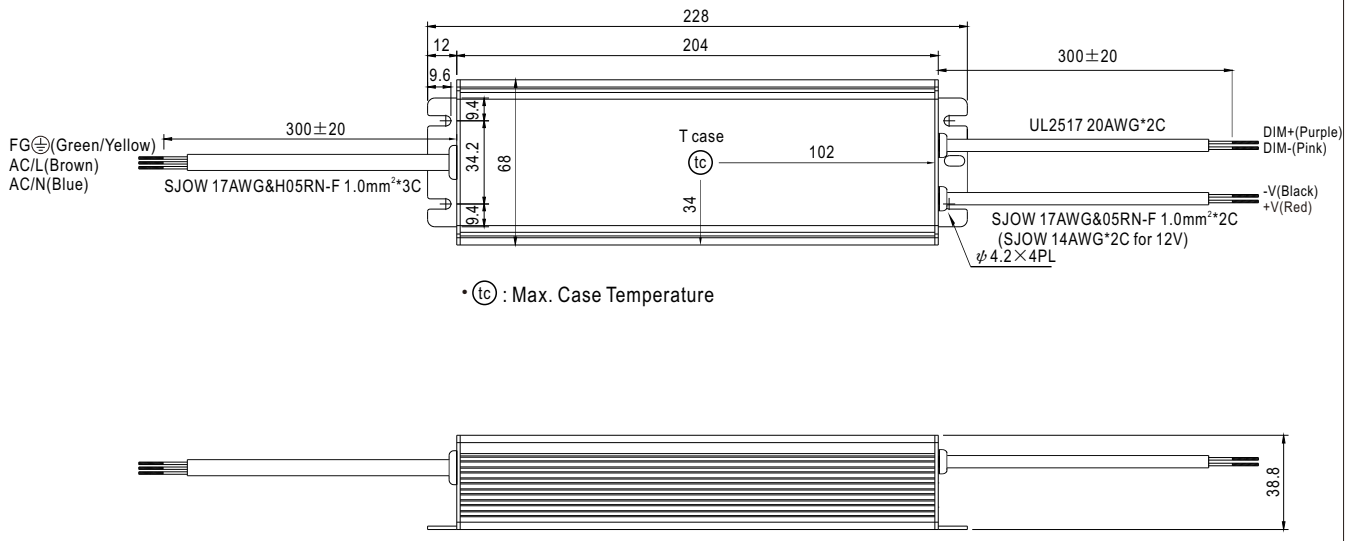
• tc : Max. Case Temperature

※A-Type



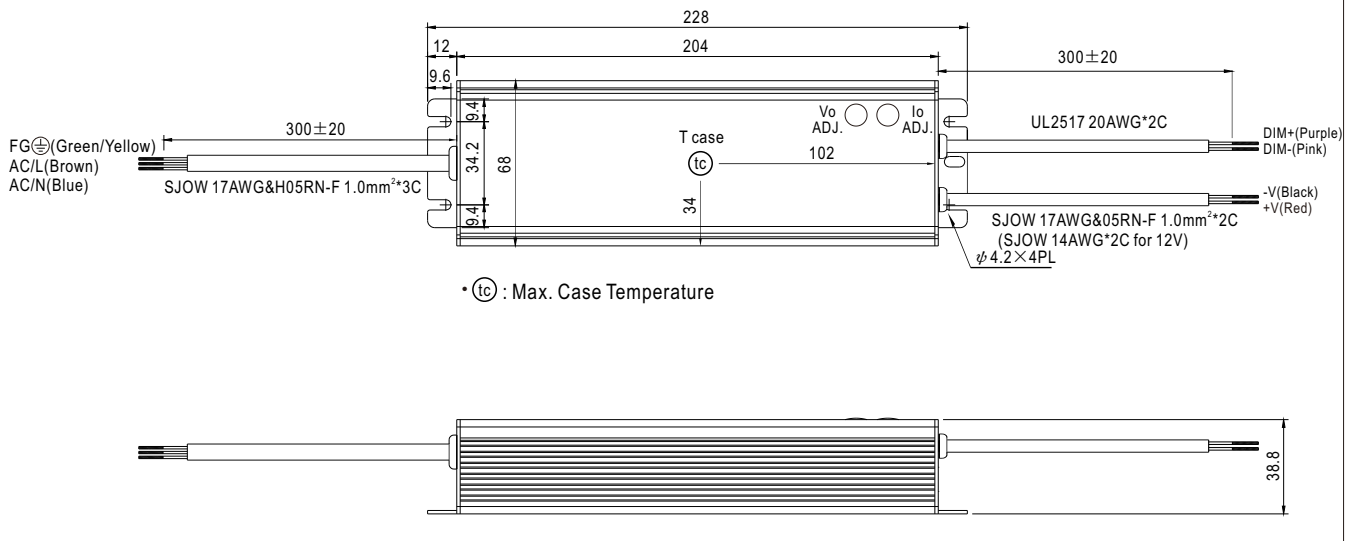
• tc : Max. Case Temperature

※B-Type



• (tc) : Max. Case Temperature

※AB-Type

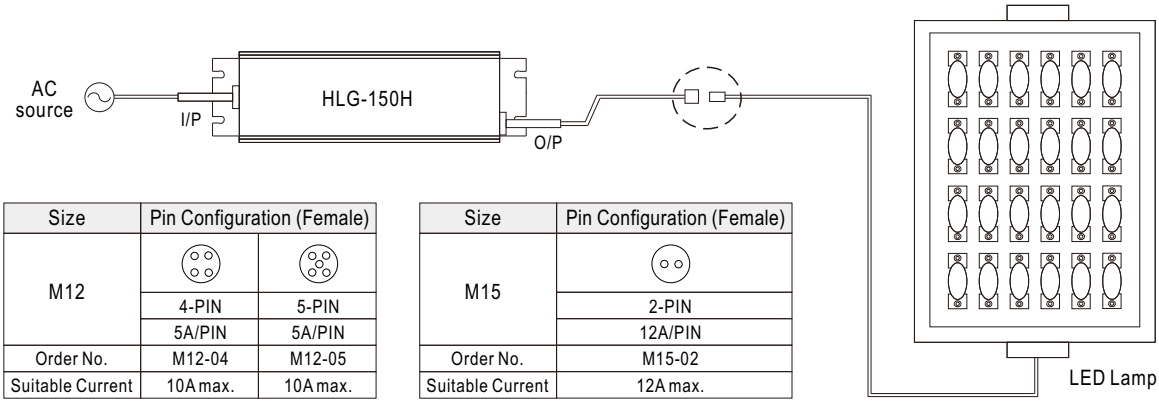


• (tc) : Max. Case Temperature

■ WATERPROOF CONNECTION

※ **Waterproof connector**

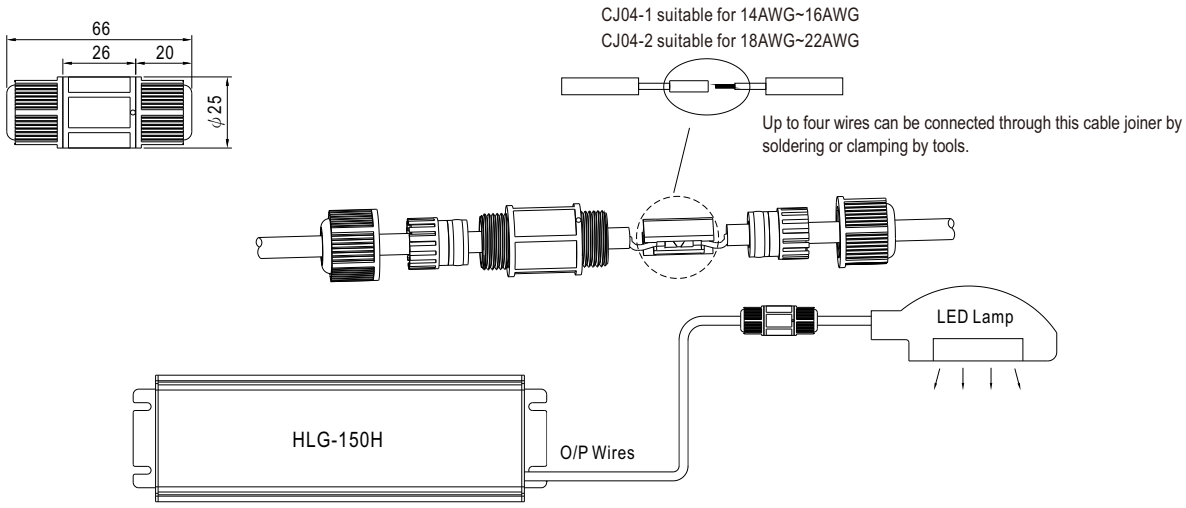
Waterproof connector can be assembled on the output cable of HLG-150H to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

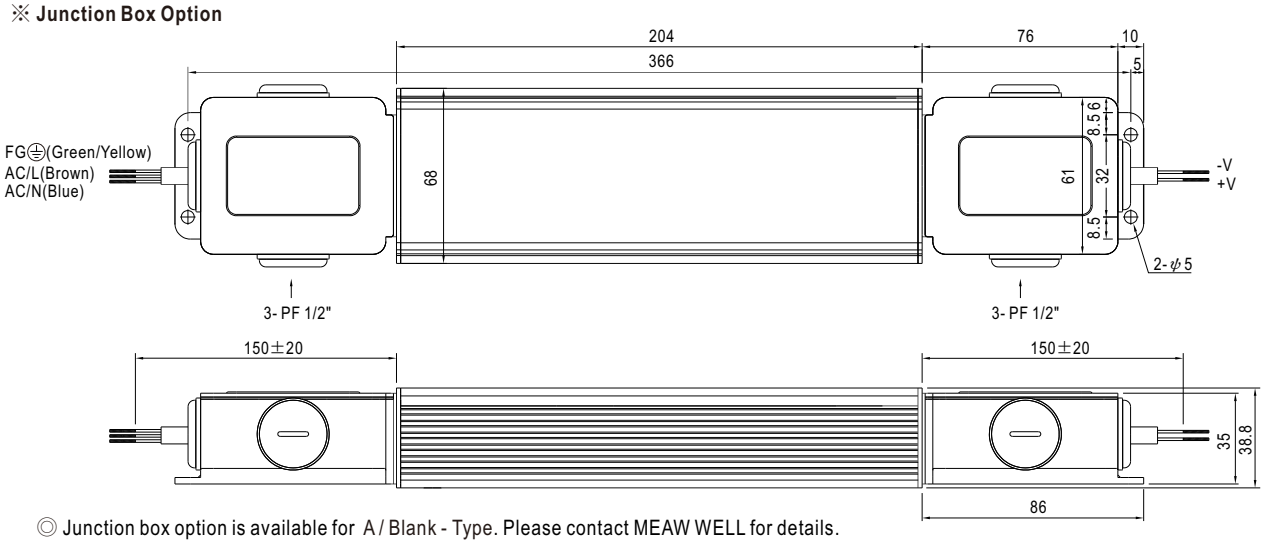
Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

※ **Cable Joiner**



◎ CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

※ **Junction Box Option**



◎ Junction box option is available for A / Blank - Type. Please contact MEAW WELL for details.

■ INSTALLATION MANUAL

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

185W Constant Voltage + Constant Current LED Driver HLG-185H series

User's Manual

TAIWAN EXCELLENCE 2011

(except for D-type) (except for D-type) (except for AB-type) (except for D-type) Type HL

SELV IP65 IP67

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming
- Typical lifetime > 62000 hours
- 7 years warranty

Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class I , Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

HLG-185H series is a 185W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-185H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 94%, with the fanless design, the entire series is able to operate for -40℃ ~ +90℃ case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-185H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 185H - 24 A

- A — Function options
- 24 — Rated output voltage (12V/15V/20V/24V/30V/36V/42V/48V/54V)
- 185H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

MEAN WELL

185W Constant Voltage + Constant Current LED Driver **HLG-185H series**

SPECIFICATION

MODEL			HLG-185H-12□	HLG-185H-15□	HLG-185H-20□	HLG-185H-24□	HLG-185H-30□	HLG-185H-36□	HLG-185H-42□	HLG-185H-48□	HLG-185H-54□
OUTPUT	DC VOLTAGE		12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4		6 ~12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT		13A	11.5A	9.3A	7.8A	6.2A	5.2A	4.4A	3.9A	3.45A
	RATED POWER		156W	172.5W	186W	187.2W	186W	187.2W	184.8W	187.2W	186.3W
	RIPPLE & NOISE (max.) Note.2		150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE		Adjustable for A/AB-Type only (via built-in potentiometer)								
			10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V
	CURRENT ADJ. RANGE		Adjustable for A/AB-Type only (via built-in potentiometer)								
			6.5 ~ 13A	5.75 ~ 11.5A	4.65 ~ 9.3A	3.9 ~ 7.8A	3.1 ~ 6.2A	2.6 ~ 5.2A	2.2 ~ 4.4A	1.95 ~ 3.9A	1.72 ~ 3.45A
	VOLTAGE TOLERANCE Note.3		±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION		±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6		1000ms,200ms/115VAC 500ms,200ms/230VAC								
	HOLD UP TIME (Typ.)		16ms / 115VAC, 230VAC								
INPUT	VOLTAGE RANGE Note.5		90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)								
	FREQUENCY RANGE		47 ~ 63Hz								
	POWER FACTOR (Typ.)		PF≧0.98/115VAC, PF≧0.95/230VAC, PF≧0.92/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)								
	TOTAL HARMONIC DISTORTION		THD< 20% (@ load≧50% / 115VAC,230VAC; @ load≧75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)								
	EFFICIENCY (Typ.)		91.5%	92%	93%	93.5%	93.5%	93.5%	94%	94%	94%
	AC CURRENT (Typ.)	12V	1.8A / 115VAC 0.8A / 230VAC 0.7A / 277VAC								
		15V ~ 54V	2.1A / 115VAC 0.9A / 230VAC 0.8A / 277VAC								
	INRUSH CURRENT (Typ.)		COLD START 65A(t_{width}=445μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410								
	MAX. No. of PSUs on 16A CIRCUIT BREAKER		4 units (circuit breaker of type B) / 7 units (circuit breaker of type C) at 230VAC								
	LEAKAGE CURRENT		<0.75mA / 277VAC								
PROTECTION	OVER CURRENT		95 ~ 108%								
			Constant current limiting, recovers automatically after fault condition is removed								
	SHORT CIRCUIT		Constant current limiting, recovers automatically after fault condition is removed								
	OVER VOLTAGE		14 ~ 17V	18 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 38V	41 ~ 46V	47 ~ 53V	54 ~ 63V	59 ~ 65V
			Shut down o/p voltage with auto-recovery or re-power on to recovery								
	OVER TEMPERATURE Note.9		Shut down o/p voltage, recovers automatically after temperature goes down								
ENVIRONMENT	WORKING TEMP.		Tcase= -40 ~ +90℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)								
	MAX. CASE TEMP.		Tcase= +90℃								
	WORKING HUMIDITY		20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY		-40 ~ +80℃, 10 ~ 95% RH								
	TEMP. COEFFICIENT		±0.03%/℃ (0 ~ 60℃)								
	VIBRATION		10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARDS		UL8750(type"HL"),CSA C22.2 No. 250.0-08;BS EN/EN 61347-1,BS EN/EN 61347-2-13, AS/NZS 61347-1(except for AB-type), AS/NZS 61347-2-13(except for AB-type) independent;GB19510.1,GB19510.14 (except for D-type) ; IP65 or IP67; J61347-1, J61347-2-13(except for D-type), EAC TP TC 004, KC61347-1,KC61347-2-13(except for D-type) approved								
	WITHSTAND VOLTAGE		I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC								
	ISOLATION RESISTANCE		I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH								
	EMC EMISSION		Compliance to BS EN/EN55015, BS EN/EN55032 (CISPR32) Class B, BS EN/EN61000-3-2 Class C (@ load≧50%) ; BS EN/EN61000-3-3,GB/T 17743 , GB17625.1(except for D-type) ,EAC TP TC 020, KSC 9815(except for D-type)								
	EMC IMMUNITY		Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, BS EN/EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV),EAC TP TC 020, KSC 9547(except for D-type)								
OTHERS	MTBF		2184.8K hrs min. Telcordia SR-332 (Bellcore) ; 197.3K hrs min. MIL-HDBK-217F (25℃)								
	DIMENSION		228*68*38.8mm (L*W*H)								
	PACKING		1.15Kg; 12pcs/14.8Kg/0.8CUFT								

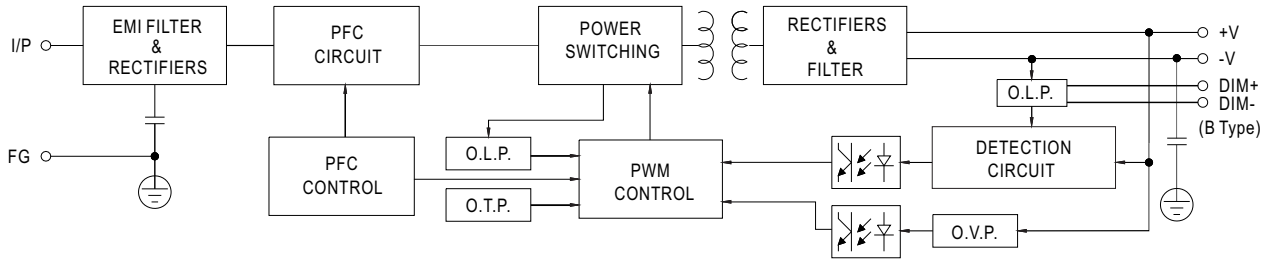
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. For OTP which triggered at light load/no load condition, proceed AC repower on to recovery.
10. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 75℃ or less.
11. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com.
12. 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).
13. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf
14. For A/AB type need to consider build in using to comply with Type HL application.
15. Products sourced from the Americas regions may only have the UL, CE and UKCA logos. Please contact your MEAN WELL sales for more information.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

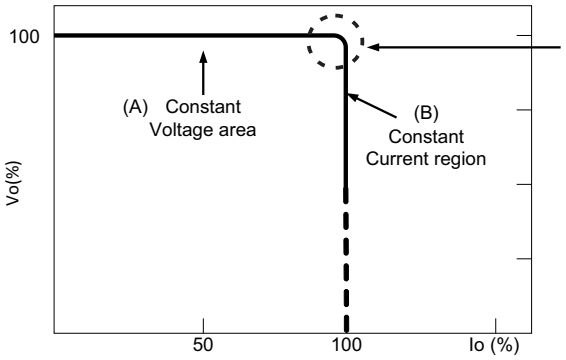
■ BLOCK DIAGRAM

Fosc : 100KHz



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

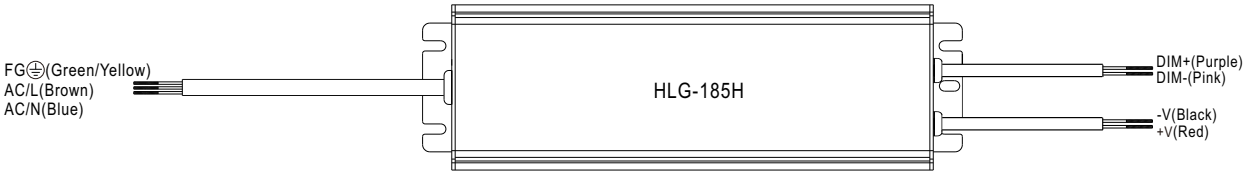


Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

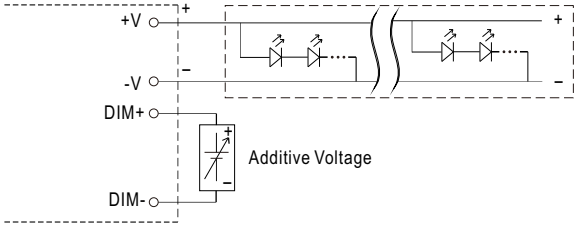
■ DIMMING OPERATION



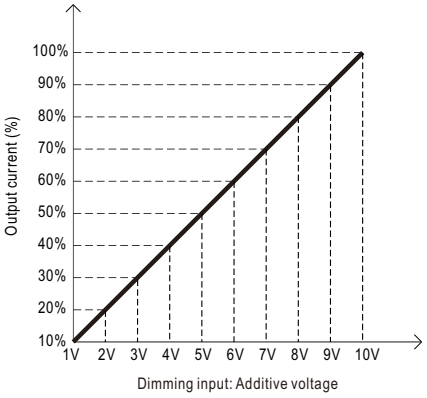
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

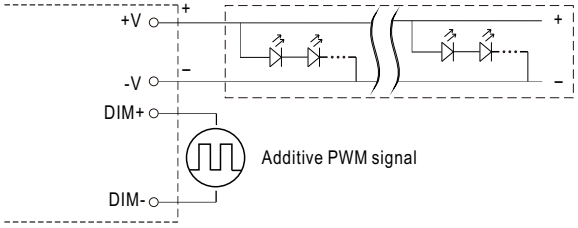
◎ Applying additive 1 ~ 10VDC



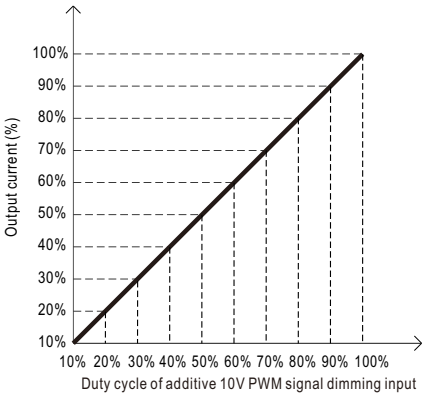
"DO NOT connect "DIM- to -V"



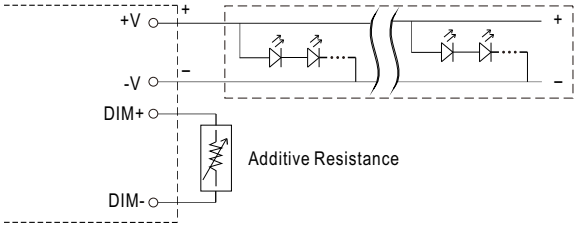
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



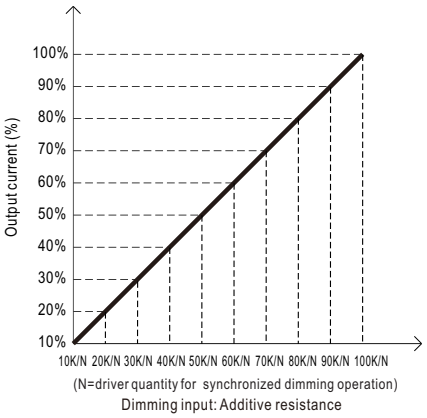
"DO NOT connect "DIM- to -V"



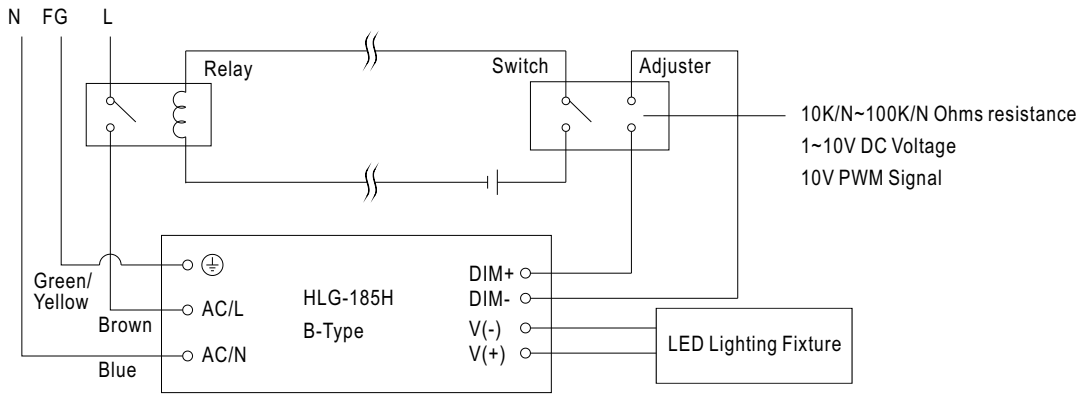
◎ Applying additive resistance:



"DO NOT connect "DIM- to -V"

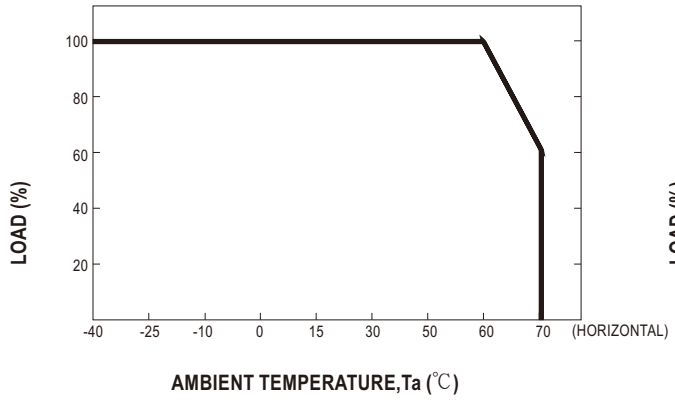


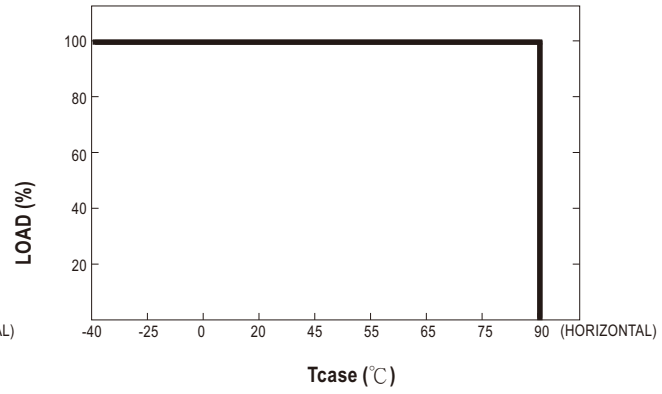
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.



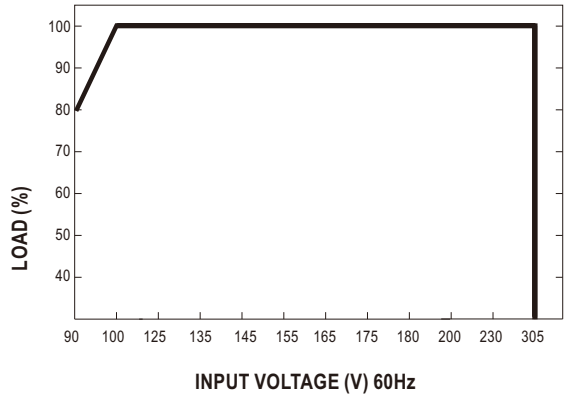
Using a switch and relay can turn ON/OFF the lighting fixture.

■ OUTPUT LOAD vs TEMPERATURE(Note.10)





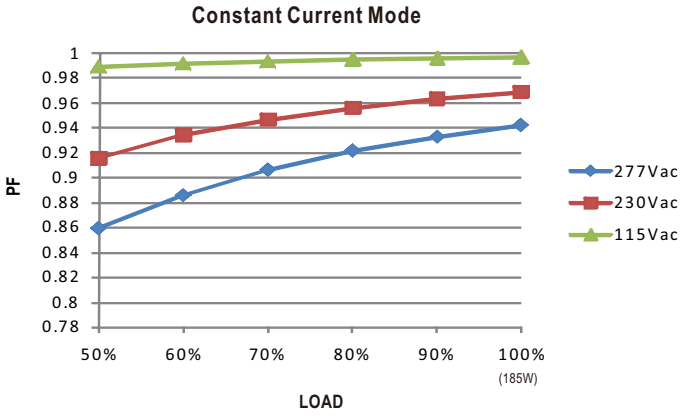
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

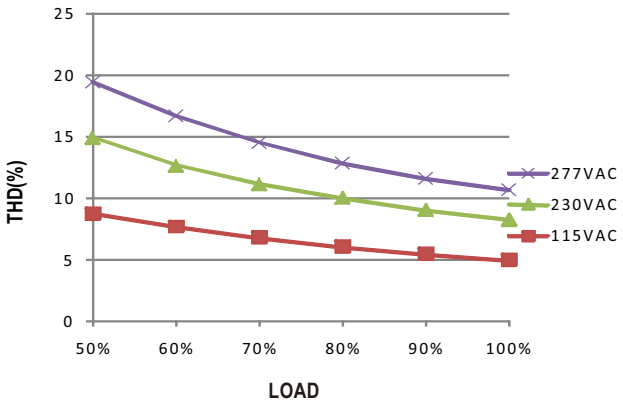
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 80℃



■ TOTAL HARMONIC DISTORTION (THD)

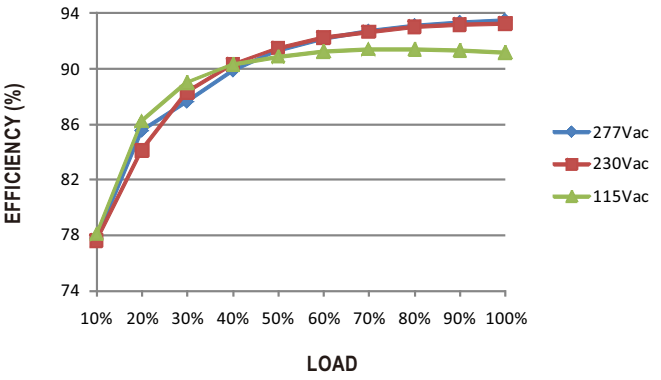
※ 48V Model, Tcase at 80℃



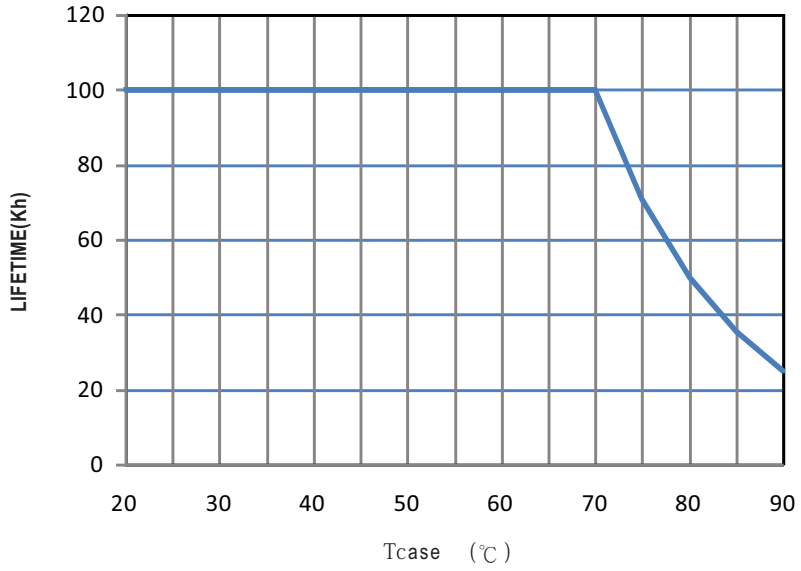
■ EFFICIENCY vs LOAD

HLG-185H series possess superior working efficiency that up to 94% can be reached in field applications.

※ 48V Model, Tcase at 80℃



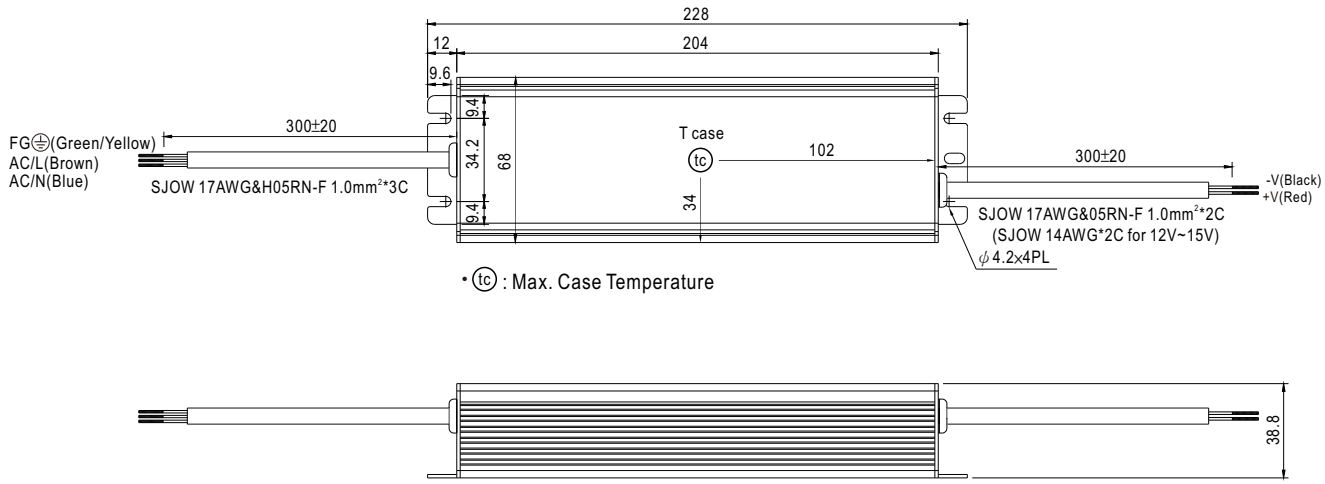
■ LIFE TIME



■ MECHANICAL SPECIFICATION

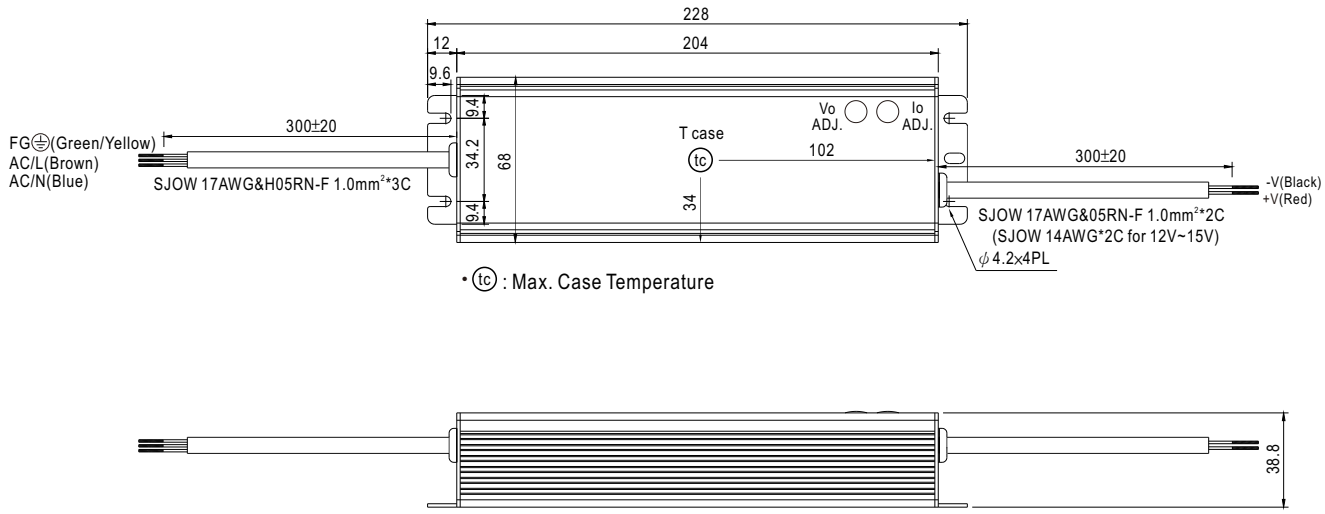
Case No.954D Unit:mm Tolerance:±1

※Blank/D-Type



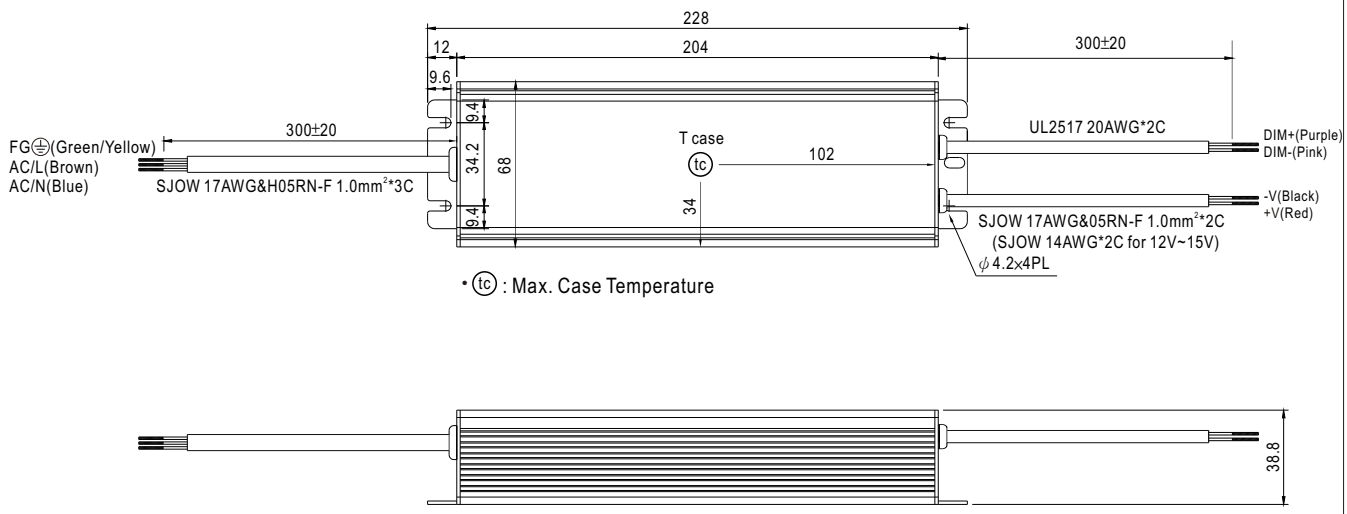
• tc : Max. Case Temperature

※A-Type



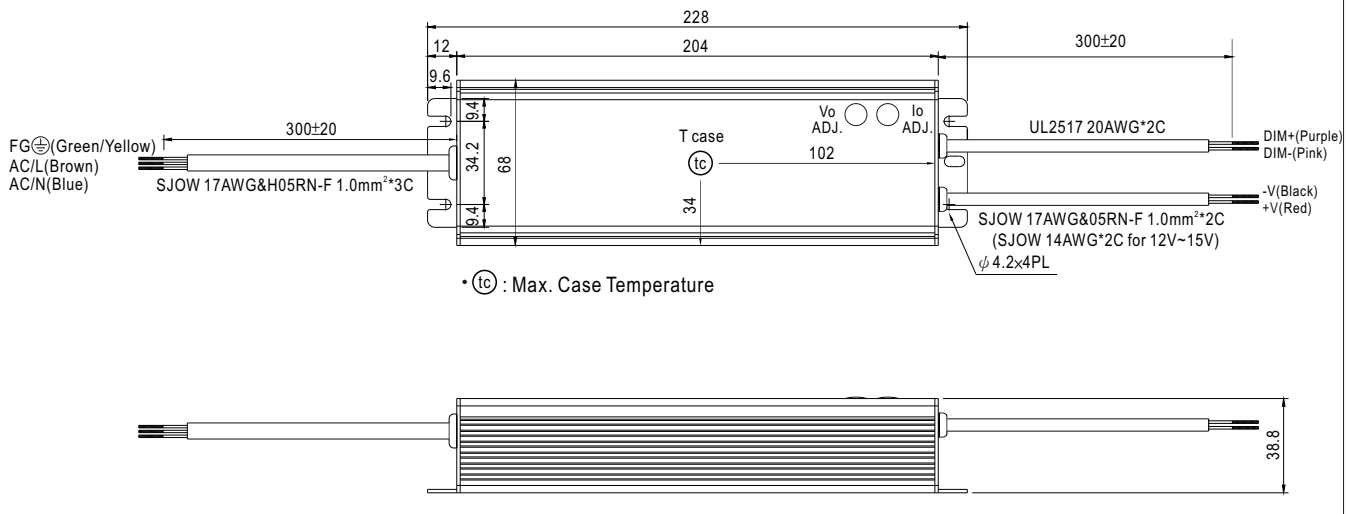
• tc : Max. Case Temperature

※B-Type



• tc : Max. Case Temperature

※AB-Type

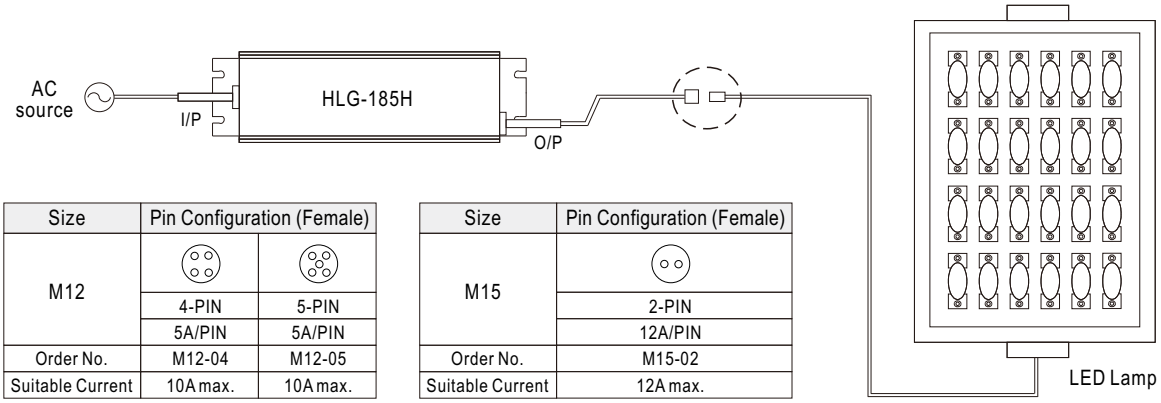


• tc : Max. Case Temperature

■ WATERPROOF CONNECTION

※ **Waterproof connector**

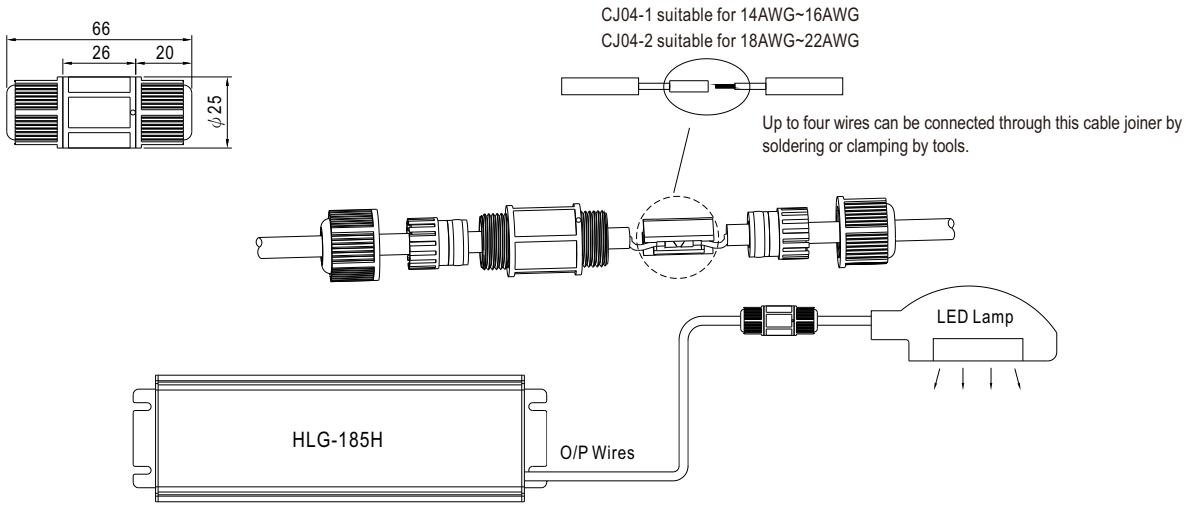
Waterproof connector can be assembled on the output cable of HLG-185H to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

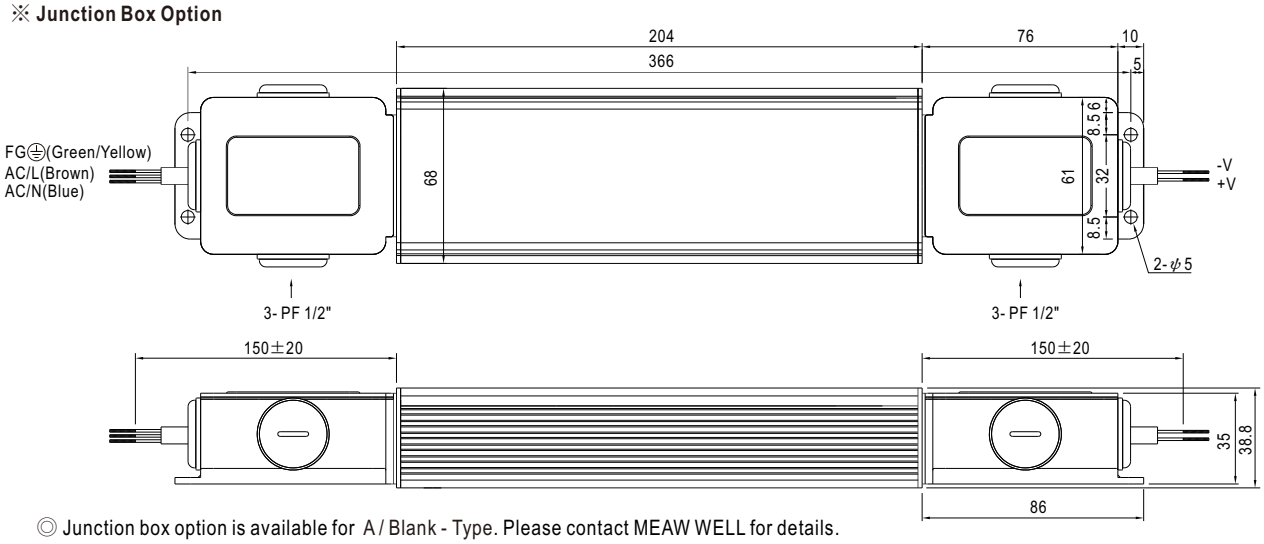
Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

※ **Cable Joiner**



◎ CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

※ **Junction Box Option**



◎ Junction box option is available for A / Blank - Type. Please contact MEAW WELL for details.

■ INSTALLATION MANUAL

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

240W Constant Voltage + Constant Current LED Driver **HLG-240H series**

User's Manual

TAIWAN EXCELLENCE 2011

(except for AB,C,D-type) (except for C,D-type) (except for C-type) IS 15885(Part 2/Sec13) R-41027766 (for 48V only) Type HL

SELV IP65 IP67

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming
- Typical lifetime > 62000 hours
- 7 years warranty

Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class I , Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

HLG-240H series is a 240W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-240H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 93.5%, with the fanless design, the entire series is able to operate for -40℃ ~ +90℃ case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-240H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 240H - 15 A

- A — Function options
- 15 — Rated output voltage (12V/15V/20V/24V/30V/36V/42V/48V/54V)
- 240H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
C	------	Terminal block for I/O connection. Output voltage and constant current level can be adjusted through internal potentiometer.	By request
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

SPECIFICATION

MODEL		HLG-240H-12□	HLG-240H-15□	HLG-240H-20□	HLG-240H-24□	HLG-240H-30□	HLG-240H-36□	HLG-240H-42□	HLG-240H-48□	HLG-240H-54□
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	6 ~12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT	16A	15A	12A	10A	8A	6.7A	5.72A	5A	4.45A
	RATED POWER	192W	225W	240W	240W	240W	241.2W	240.24W	240W	240.3W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p
	VOLTAGE ADJ. RANGE	Adjustable for A/AB/C-Type only (via built-in potentiometer)								
		11.2 ~ 12.8V	14 ~ 16V	18.6 ~ 21.4V	22.4 ~ 25.6V	28 ~ 32V	33.5 ~ 38.5V	39 ~ 45V	44.8 ~ 51.2V	50 ~ 57V
	CURRENT ADJ. RANGE	Adjustable for A/AB/C-Type only (via built-in potentiometer)								
		8 ~ 16A	7.5 ~ 15A	6 ~ 12A	5 ~ 10A	4 ~ 8A	3.3 ~ 6.7A	2.86 ~ 5.72A	2.5 ~ 5A	2.23 ~ 4.45A
	VOLTAGE TOLERANCE Note.3	±2.5%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6	1000ms,80ms/115VAC 500ms,80ms/230VAC								
	HOLD UP TIME (Typ.)	15ms / 115VAC, 230VAC								
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF≧0.98/115VAC, PF≧0.95/230VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)								
	TOTAL HARMONIC DISTORTION	THD< 20% (@ load≧50% / 115VAC,230VAC; @ load≧75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)								
	EFFICIENCY (Typ.)	90%	90%	91.5%	92.5%	92.5%	92.5%	92.5%	93%	93.5%
	AC CURRENT (Typ.)	4A / 115VAC 2A / 230VAC 1.2A / 277VAC								
	INRUSH CURRENT (Typ.)	COLD START 75A(t_{width}=570μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410								
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	2 units (circuit breaker of type B) / 4 units (circuit breaker of type C) at 230VAC								
	LEAKAGE CURRENT	<0.75mA / 277VAC								
PROTECTION	OVER CURRENT	95 ~ 108%								
		Constant current limiting, recovers automatically after fault condition is removed								
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	13.5 ~ 18V	17.5 ~ 21.5V	23.5 ~ 27.5V	27 ~ 34V	33 ~ 39V	43 ~ 49V	48 ~ 54V	55 ~ 63V	60 ~ 67V
		Shut down and latch off o/p voltage, re-power on to recover								
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down								
ENVIRONMENT	WORKING TEMP.	Tcase= -40 ~ +90℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)								
	MAX. CASE TEMP.	Tcase= +90℃								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)								
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARDS	UI1012, CAN/CSA-C22.2 No. 107.1-01, UL8750(type"HL"), CSA C22.2 No. 250.0-08; BS EN/EN/AS/NZS 61347-1, BS EN/EN/AS/NZS 61347-2-13 independent (except for HLG-240H C type); IEC/UL/BS EN/EN 62368-1(except for AB,D type), UL8750;GB19510.1,GB19510.14(except for C-type);IP65 or IP67;J61347-1,J61347-2-13(except for C,D-type), BIS IS15885(for 48V only), EAC TP TC 004,KC61347-1,KC61347-2-13(except for AB,C,D-type) approved								
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC								
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH								
	EMC EMISSION	Compliance to BS EN/EN55015, BS EN/EN55032 (CISPR32) Class B, BS EN/EN61000-3-2 Class C (@ load≧50%) ; BS EN/EN61000-3-3,GB/T 17743 , GB17625.1,EAC TP TC 020;KC KN15,KN61547(except for AB,C,D-type)								
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, BS EN/EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV) EAC TP TC 020;KC KN15,KN61547(except for AB,C,D-type)								
OTHERS	MTBF	2015.1K hrs min. Telcordia SR-332 (Bellcore) ; 176.4K hrs min. MIL-HDBK-217F (25℃)								
	DIMENSION	244.2*68*38.8mm (L*W*H)(HLG-240H-Blank/A/B) 251*68*38.8mm (L*W*H)(HLG-240H C-Type)								
	PACKING	1.3Kg; 12pcs/16.6Kg/0.84CUFT(HLG-240-Blank/A/B) 1.23Kg; 12pcs/15.8Kg/1.16CUFT(HLG-240 C-Type)								

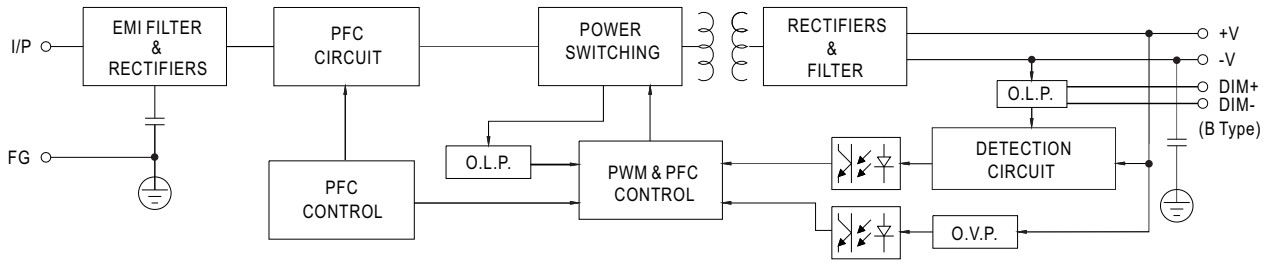
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 75℃ or less.
10. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com.
11. 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).
12. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf
13. For A/AB type need to consider build in using to comply with Type HL application.
14. Products sourced from the Americas regions may only have the UL, CE and UKCA logos. Please contact your MEAN WELL sales for more information.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

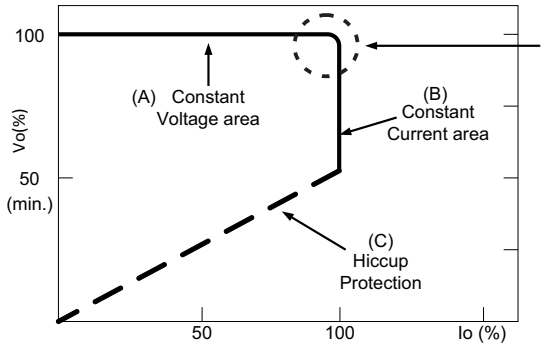
■ BLOCK DIAGRAM

Fosc : 100KHz



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

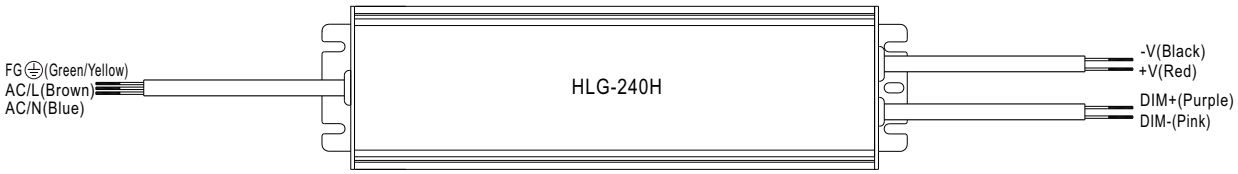


Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

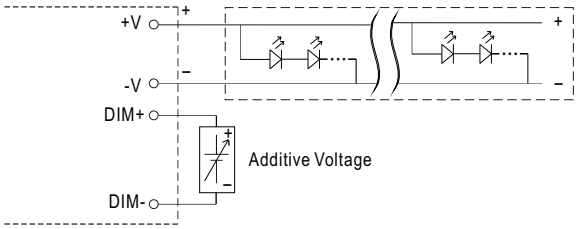
■ DIMMING OPERATION



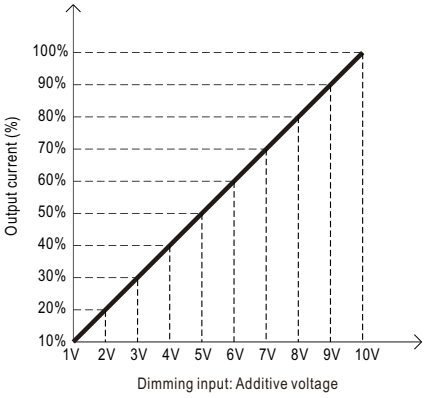
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

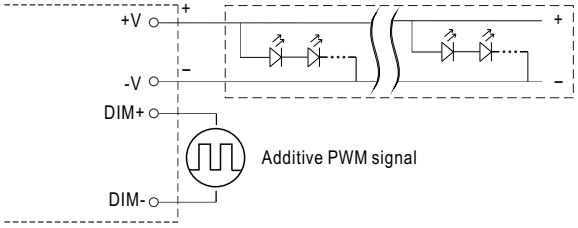
◎ Applying additive 1 ~ 10VDC



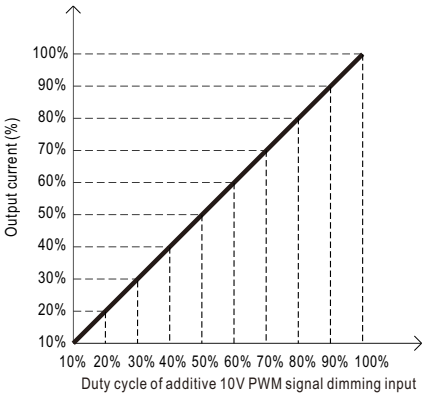
"DO NOT connect "DIM- to -V"



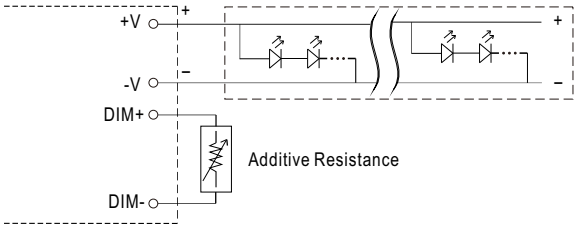
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



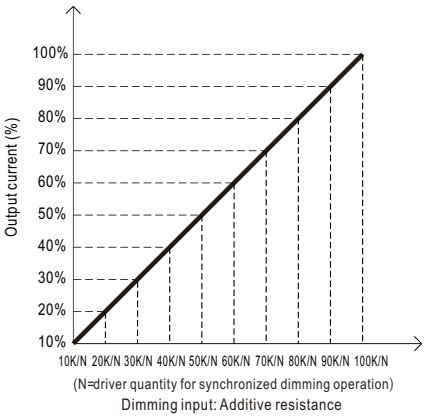
"DO NOT connect "DIM- to -V"



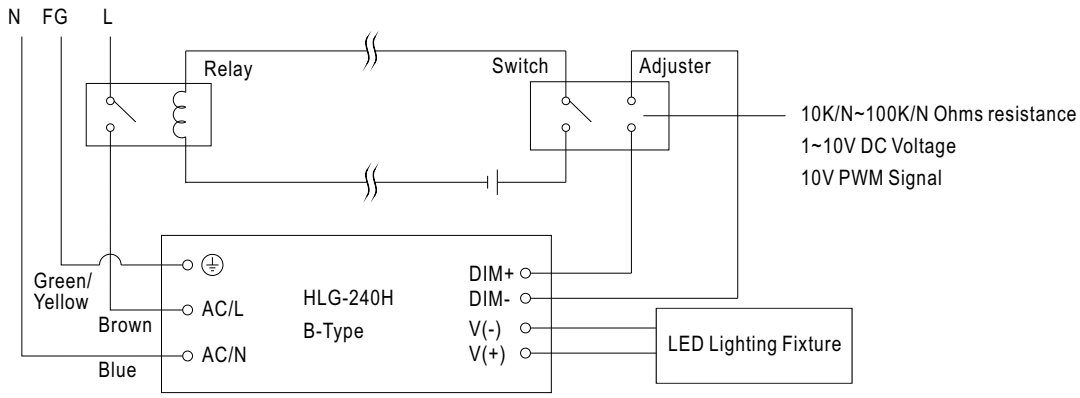
◎ Applying additive resistance:



"DO NOT connect "DIM- to -V"

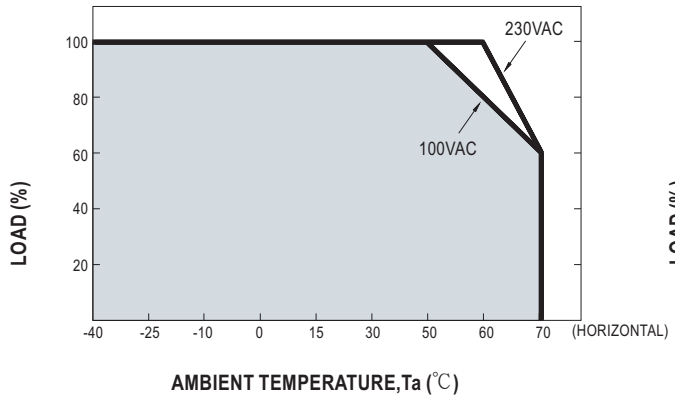


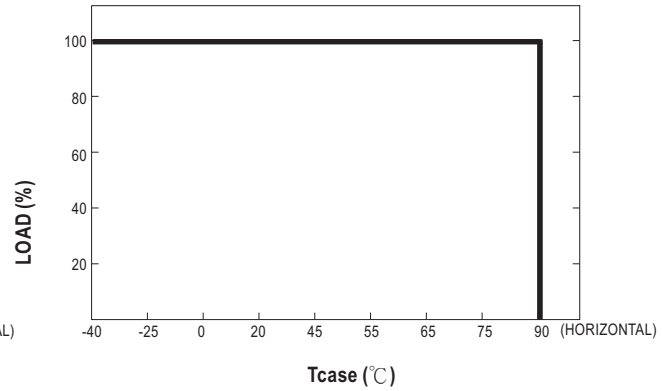
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.



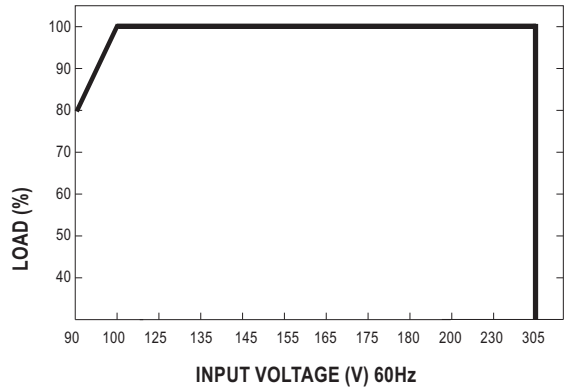
Using a switch and relay can turn ON/OFF the lighting fixture.

■ OUTPUT LOAD vs TEMPERATURE(Note. 10)





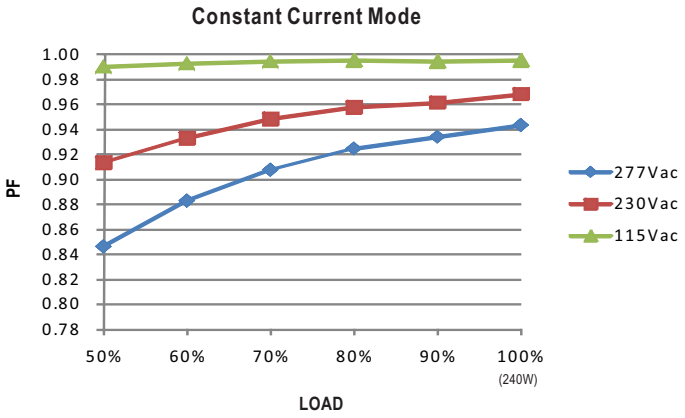
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

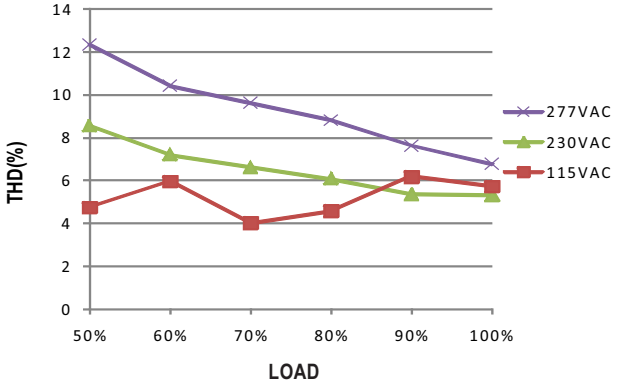
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 80℃



■ TOTAL HARMONIC DISTORTION (THD)

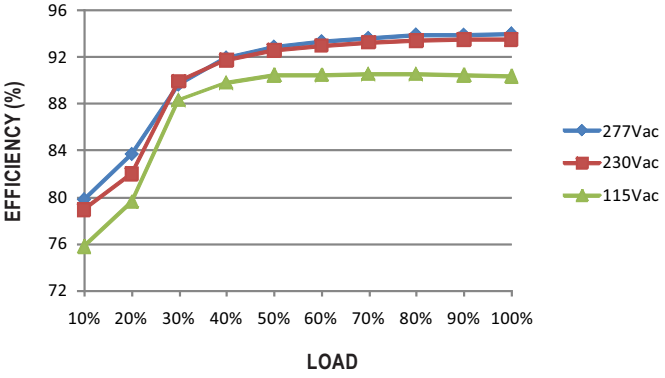
※ 48V Model, Tcase at 80℃



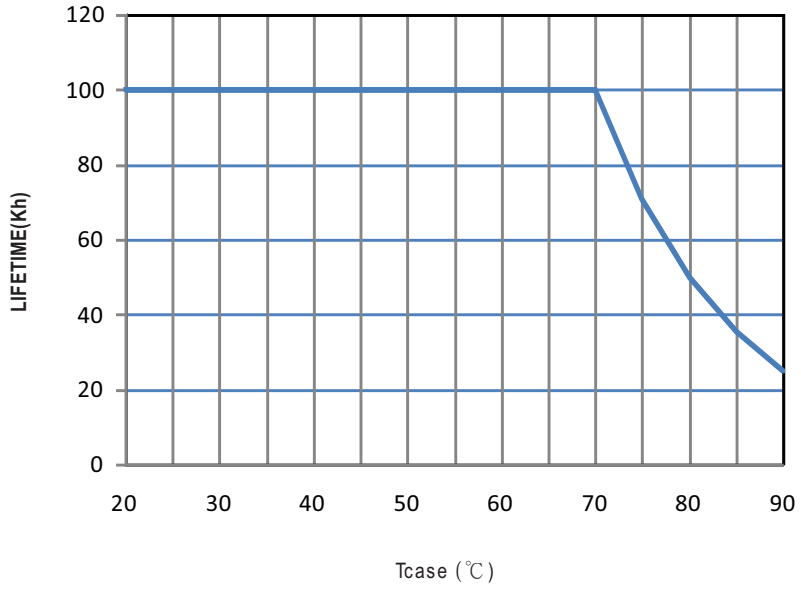
■ EFFICIENCY vs LOAD

HLG-240H series possess superior working efficiency that up to 93.5% can be reached in field applications.

※ 48V Model, Tcase at 80℃



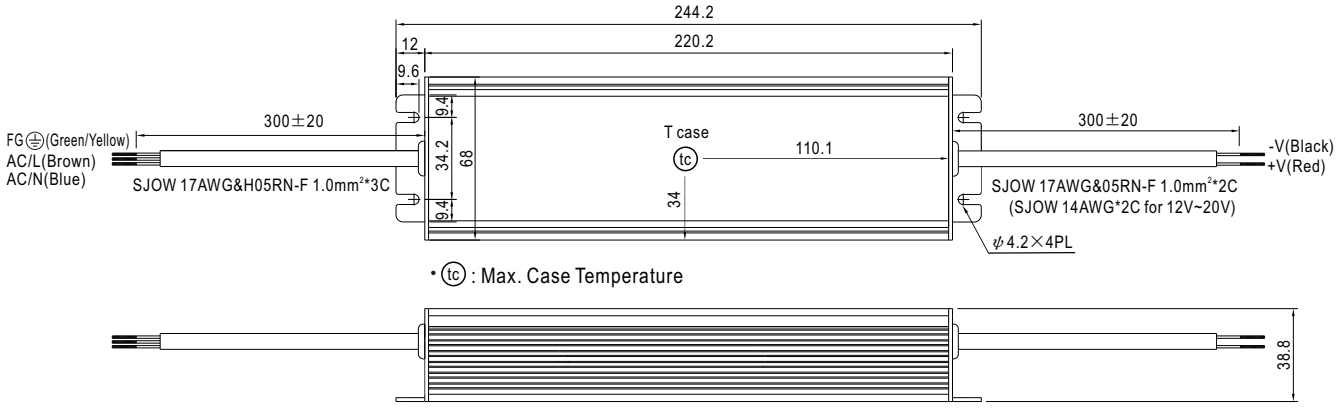
■ LIFE TIME



■ MECHANICAL SPECIFICATION

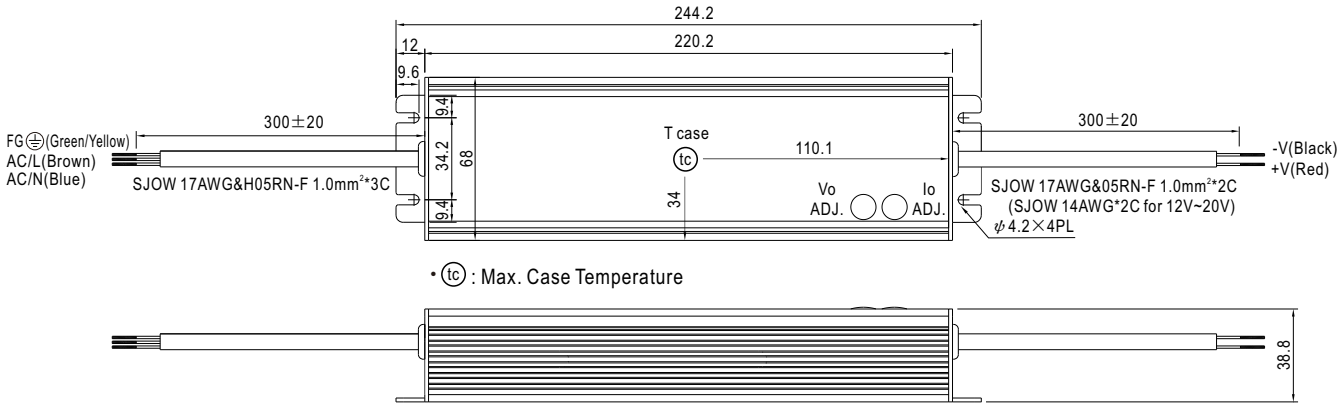
Case No.994C Unit:mm Tolerance:±1

※**Blank/D-Type**



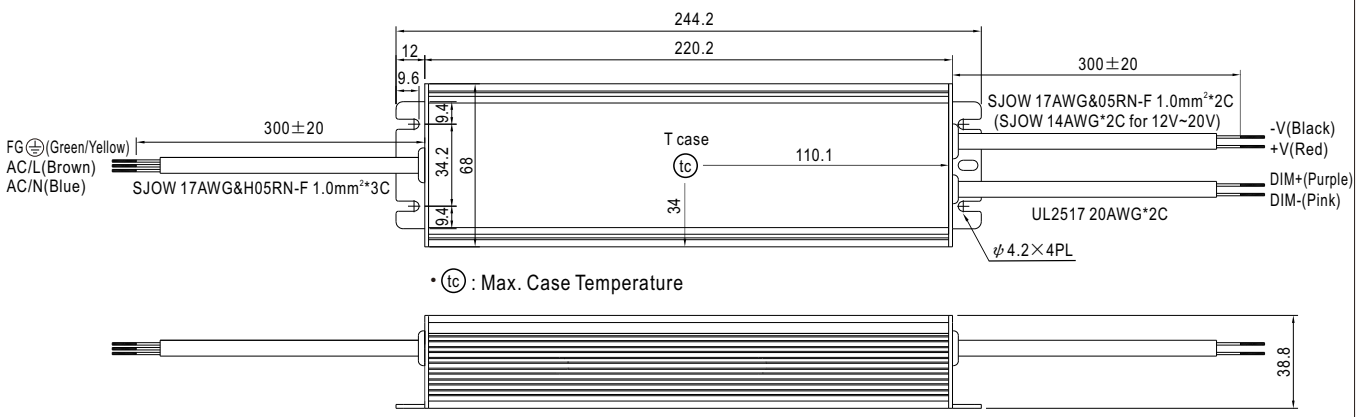
• tc : Max. Case Temperature

※**A-Type**



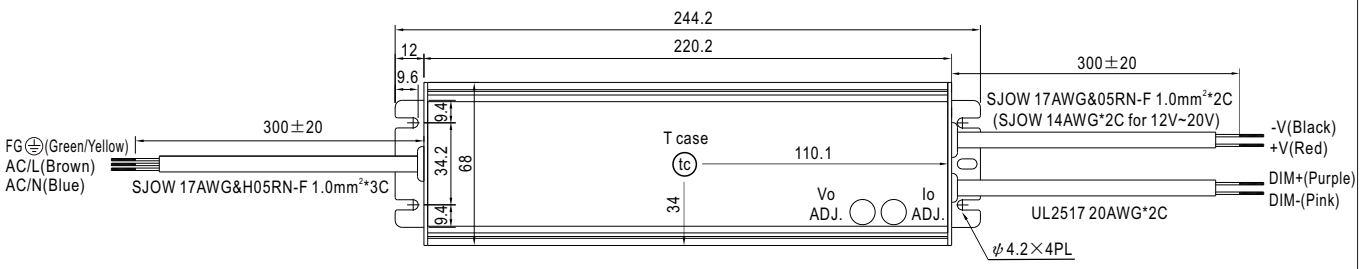
• tc : Max. Case Temperature

※**B-Type**



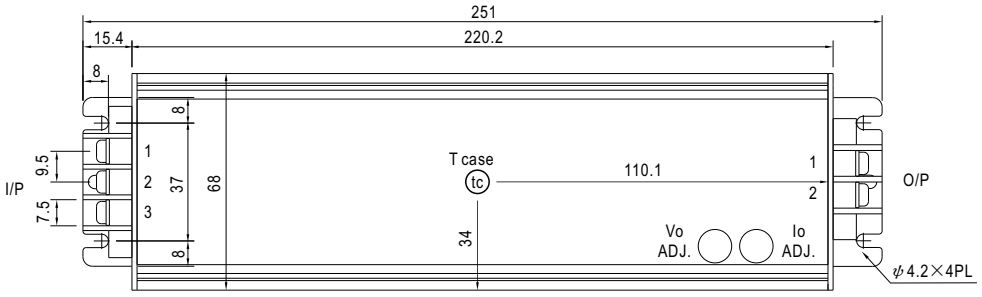
• tc : Max. Case Temperature

※**AB-Type**

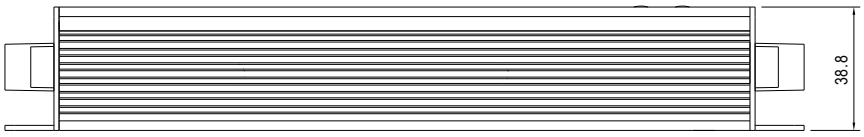


• tc : Max. Case Temperature

※**C-Type**



• tc : Max. Case Temperature



AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	FG ⏚
2	AC/L
3	AC/N

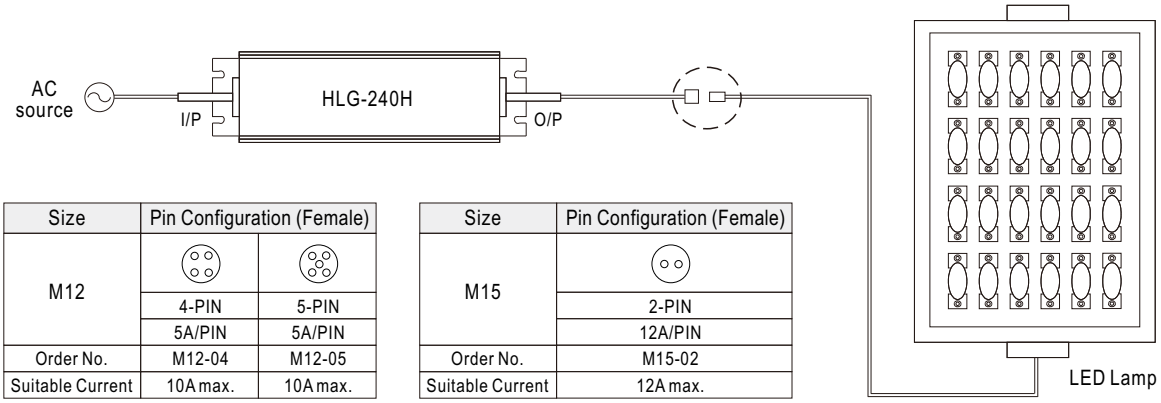
DC Output Terminal Pin No. Assignment

Pin No.	Assignment
1	-V
2	+V

■ WATERPROOF CONNECTION

※ Waterproof connector

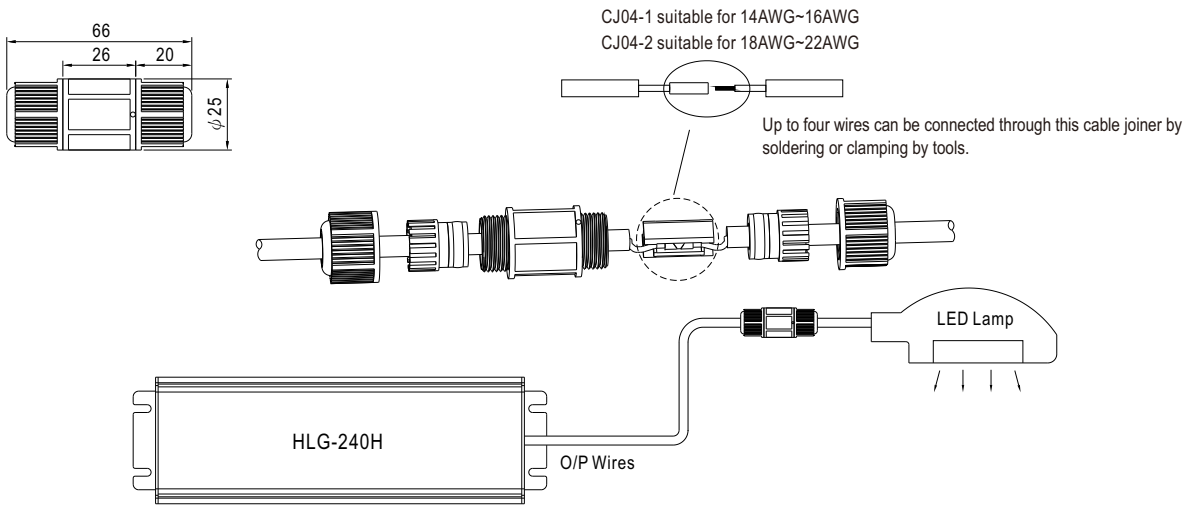
Waterproof connector can be assembled on the output cable of HLG-240H to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

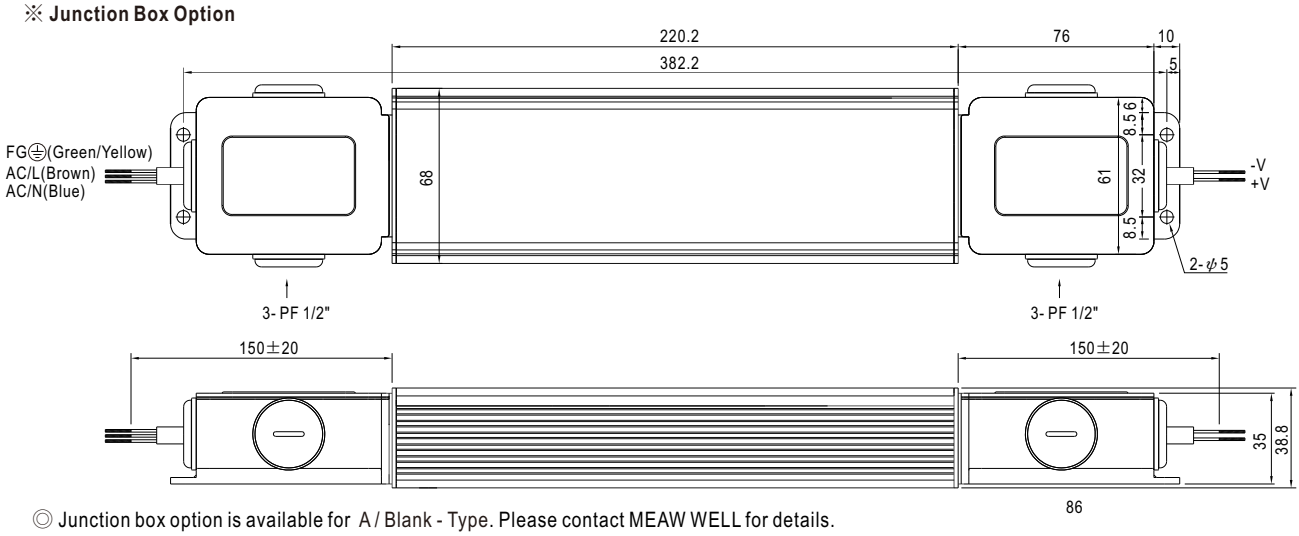
Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

※ **Cable Joiner**



◎ CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

※ **Junction Box Option**



◎ Junction box option is available for A / Blank - Type. Please contact MEAW WELL for details.

■ INSTALLATION MANUAL

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

320W Constant Voltage + Constant Current LED Driver HLG-320H series

User's Manual

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- Built-in active PFC function
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming
- Typical lifetime > 62000 hours
- 7 years warranty

Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class I , Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

HLG-320H series is a 320W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-320H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 94%, with the fanless design, the entire series is able to operate for -40℃ ~ +90℃ case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-320H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 320H - 15 A

- A — Function options
- 15 — Rated output voltage (12V/15V/20V/24V/30V/36V/42V/48V/54V)
- 320H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
C	------	Terminal block for I/O connection. Output voltage and constant current level can be adjusted through internal potentiometer.	By request
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

SPECIFICATION

MODEL		HLG-320H-12□	HLG-320H-15□	HLG-320H-20□	HLG-320H-24□	HLG-320H-30□	HLG-320H-36□	HLG-320H-42□	HLG-320H-48□	HLG-320H-54□
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	6 ~12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT	22A	19A	15A	13.34A	10.7A	8.9A	7.65A	6.7A	5.95A
	RATED POWER	264W	285W	300W	320.16W	321W	320.4W	321.3W	321.6W	321.3W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p
	VOLTAGE ADJ. RANGE	Adjustable for A/C-Type only (via built-in potentiometer)								
		10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	21 ~ 26V	26 ~ 32V	32 ~ 39V	38 ~ 45V	43 ~ 52V	49 ~ 58V
	CURRENT ADJ. RANGE	Adjustable for A/AB/C-Type only (via built-in potentiometer)								
		11 ~ 22A	9.5 ~ 19A	7.5 ~ 15A	6.67 ~ 13.34A	5.35 ~ 10.7A	4.45 ~ 8.9A	3.8 ~ 7.65A	3.35 ~ 6.7A	2.97 ~ 5.95A
	VOLTAGE TOLERANCE Note.3	±3.0%	±2.0%	±1.5%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6	2500ms,80ms/115VAC 600ms,80ms/230VAC								
	HOLD UP TIME (Typ.)	15ms / 115VAC, 230VAC								
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF≧0.98/115VAC, PF≧0.95/230VAC, PF≧0.94/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)								
	TOTAL HARMONIC DISTORTION	THD< 20% (@ load≧50% / 115VAC,230VAC; @ load≧75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)								
	EFFICIENCY (Typ.) (230Vac)	91%	92.5%	93.5%	94%	94%	94.5%	95%	95%	95%
	EFFICIENCY (Typ.) (277Vac)	91.5%	93%	94%	94.5%	94.5%	95%	95%	95%	95%
	AC CURRENT (Typ.)	3.5A / 115VAC 1.65A / 230VAC 1.45A / 277VAC								
	INRUSH CURRENT(Typ.)	COLD START 70A(t_{width}=1010μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410								
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	1 unit (circuit breaker of type B) / 2 units (circuit breaker of type C) at 230VAC								
	LEAKAGE CURRENT	<0.75mA / 277VAC								
PROTECTION	OVER CURRENT Note.4	95 ~ 108%								
		Constant current limiting, recovers automatically after fault condition is removed								
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	14 ~ 17V	17.5 ~ 21V	22.5 ~ 27V	27 ~ 33V	33 ~ 37V	40 ~ 46V	46.5 ~ 53V	53.5 ~ 60V	59 ~ 65V
		Shut down and latch off o/p voltage, re-power on to recover								
	OVER TEMPERATURE	Shut down and latch off o/p voltage, re-power on to recover								
ENVIRONMENT	WORKING TEMP.	Tcase= -40 ~ +90℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)								
	MAX. CASE TEMP.	Tcase= +90℃								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)								
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARDS	UL8750(type"HL"), CSA C22.2 No. 250.0-08; BS EN/EN/AS/NZS 61347-1, BS EN/EN/AS/NZS 61347-2-13 independent; GB19510.1,GB19510.14; IP65 or IP67 (except for HLG-320H C-type); J61347-1, J61347-2-13 (except for C-type), EAC TP TC 004;KC61347-1,KC61347-2-13(except for AB,C-type), BIS IS 15885(Part2/Sec13) (NOTE 13) approved								
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC								
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH								
	EMC EMISSION	Compliance to BS EN/EN55015, BS EN/EN55032 (CISPR32) Class B, BS EN/EN61000-3-2 Class C (@ load≧50%) ; BS EN/EN61000-3-3,GB/T 17743 , GB17625.1,EAC TP TC 020								
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, BS EN/EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV), EAC TP TC 020								
OTHERS	MTBF	1702.2K hrs min. Telcordia SR-332 (Bellcore) ; 157.2K hrs min. MIL-HDBK-217F (25℃)								
	DIMENSION	252*90*43.8mm (L*W*H)								
	PACKING	1.88Kg; 8pcs/16Kg/0.92CUFT								

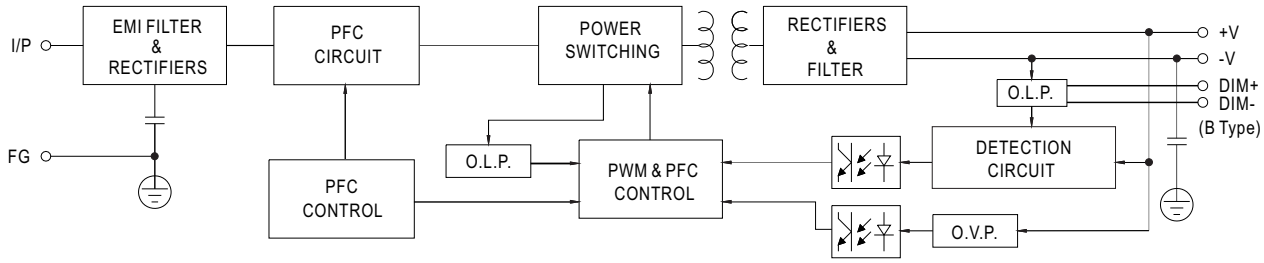
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 75℃ or less.
10. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com.
11. 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).
12. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf
13. BIS certification is for HLG-320H-A only, but products sourced from Taiwan do not have the BIS logo, please contact your MEAN WELL sales for more information.
14. For A/AB type need to consider build in using to comply with Type HL application.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

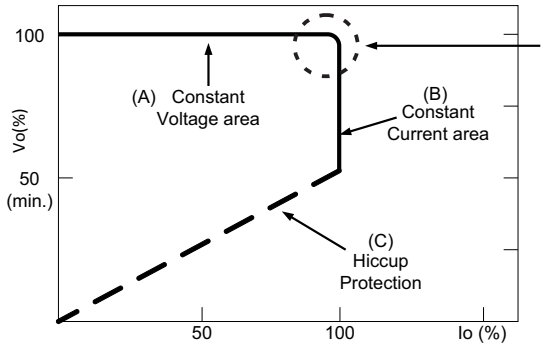
■ BLOCK DIAGRAM

Fosc : 65KHz



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

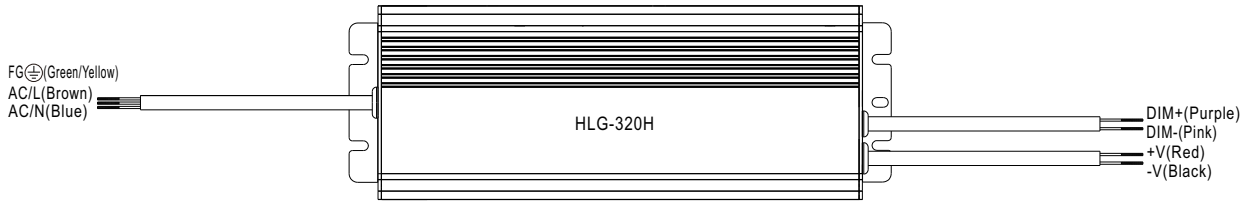


Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

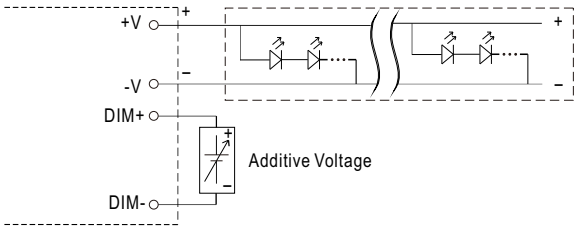
■ DIMMING OPERATION



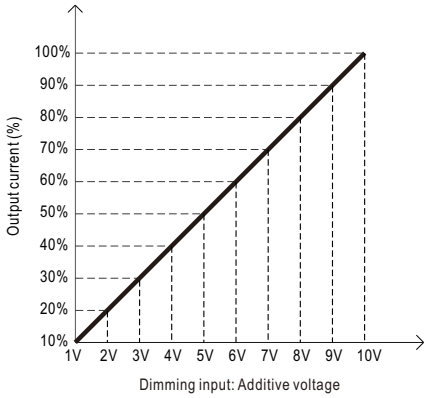
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

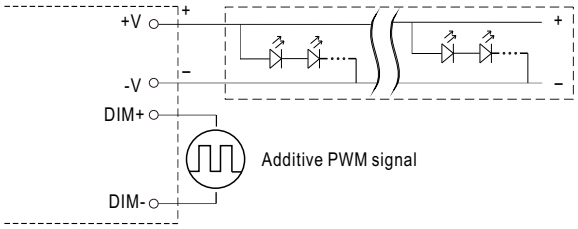
◎ Applying additive 1 ~ 10VDC



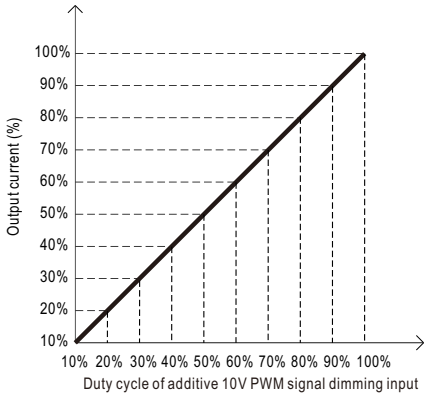
"DO NOT connect "DIM- to -V"



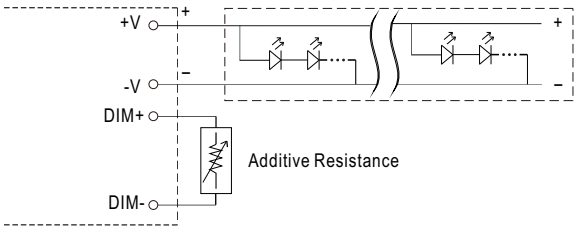
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



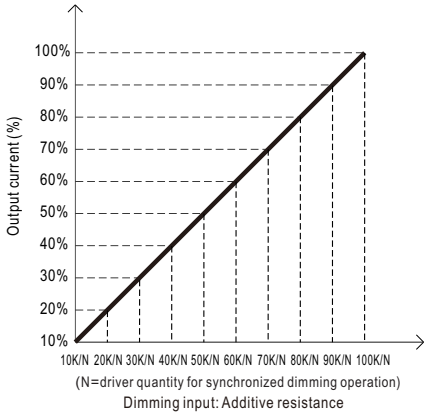
"DO NOT connect "DIM- to -V"



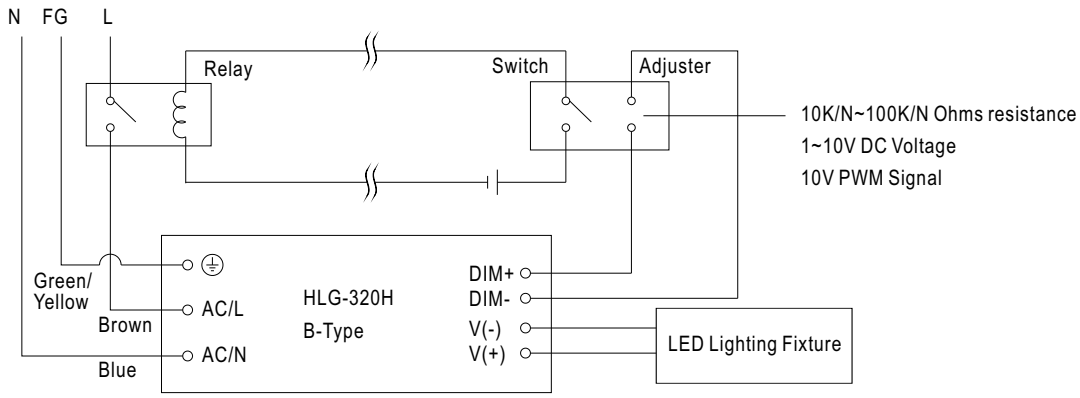
◎ Applying additive resistance:



"DO NOT connect "DIM- to -V"

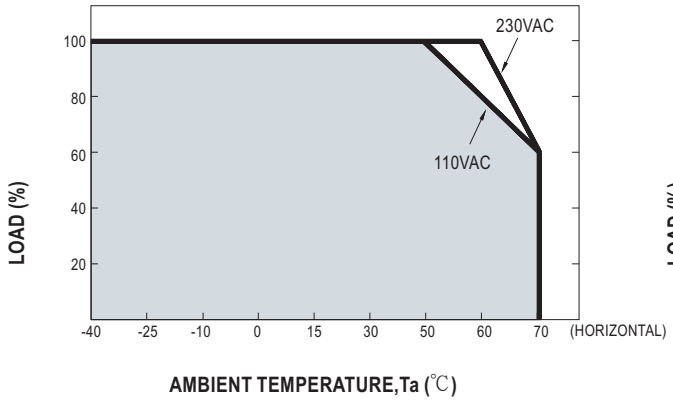


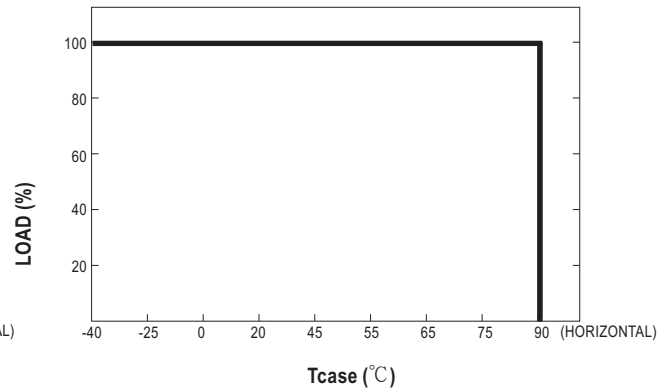
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.



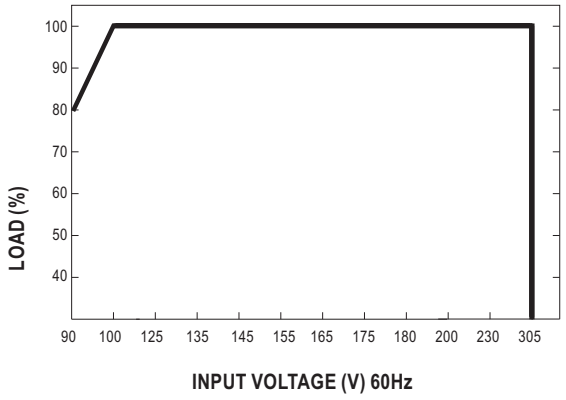
Using a switch and relay can turn ON/OFF the lighting fixture.

■ OUTPUT LOAD vs TEMPERATURE(Note.10)





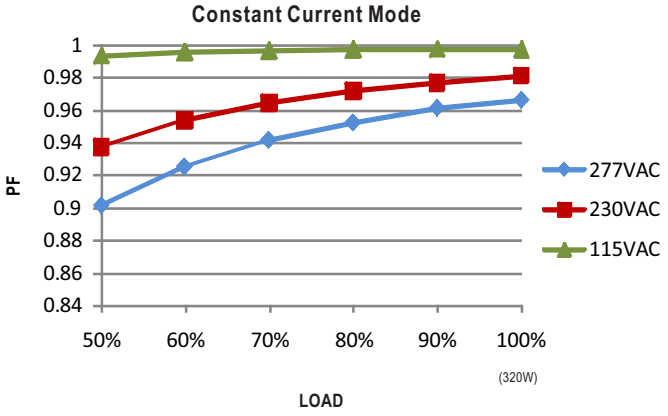
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

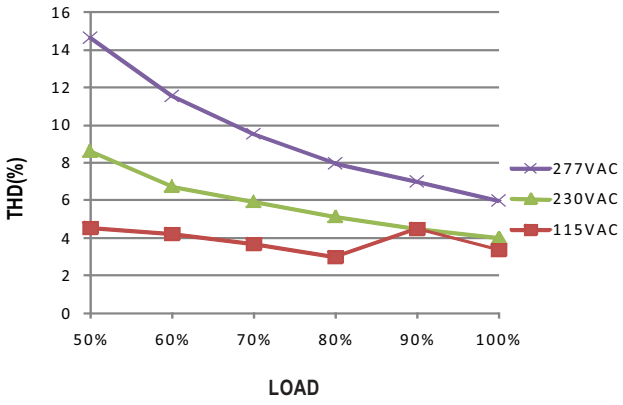
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 80℃



■ TOTAL HARMONIC DISTORTION (THD)

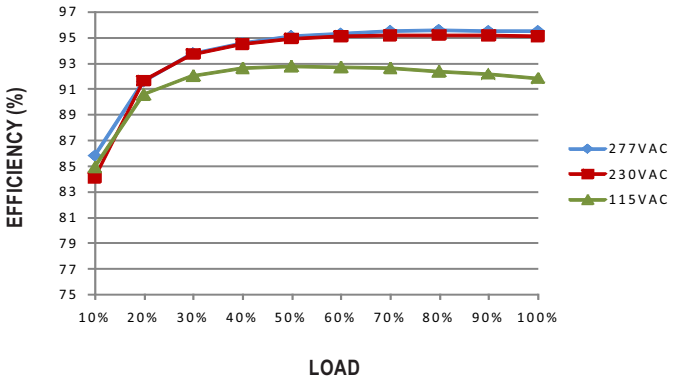
※ 48V Model, Tcase at 80℃



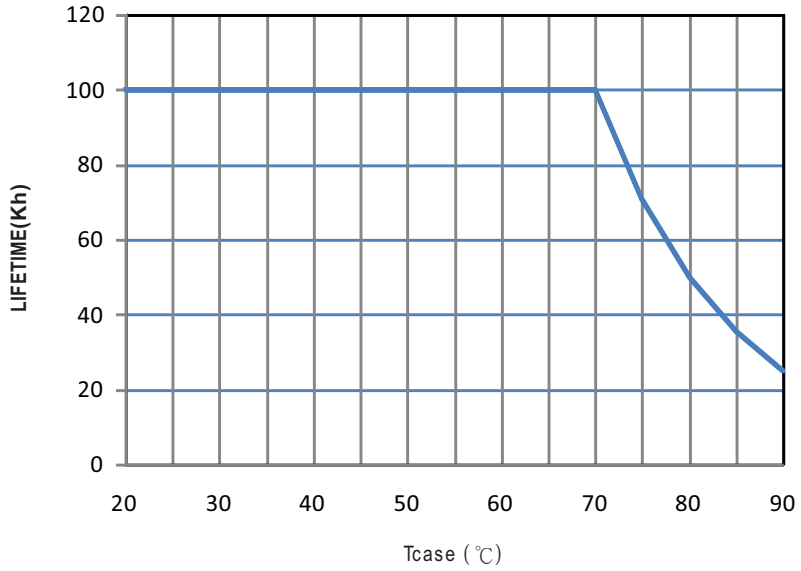
■ EFFICIENCY vs LOAD

HLG-320H series possess superior working efficiency that up to 95% can be reached in field applications.

※ 48V Model, Tcase at 80℃



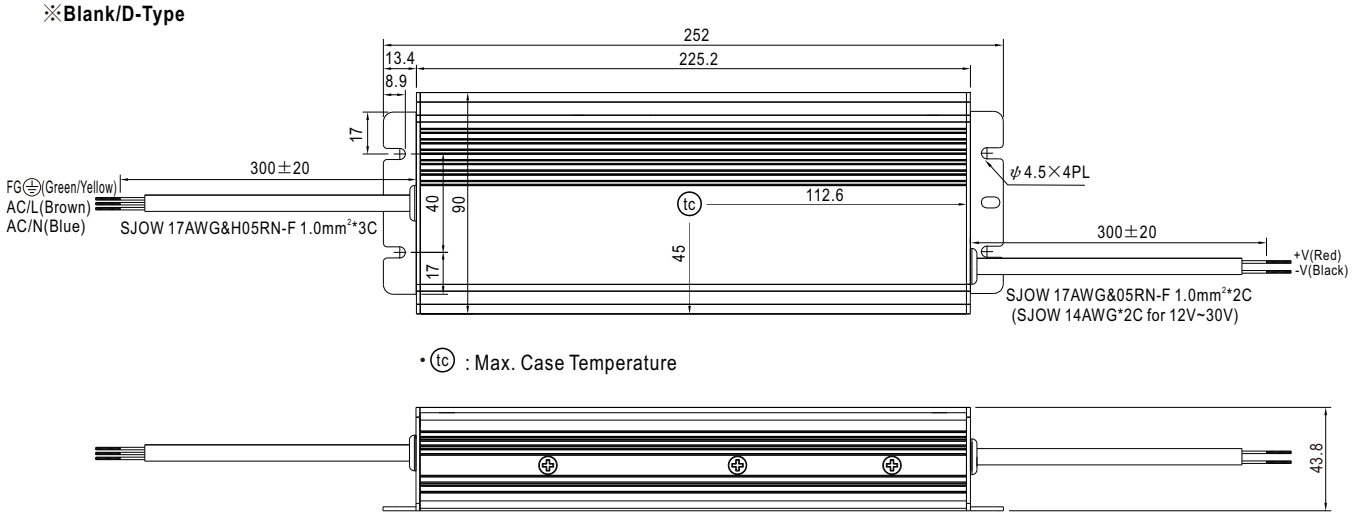
■ LIFE TIME



■ MECHANICAL SPECIFICATION

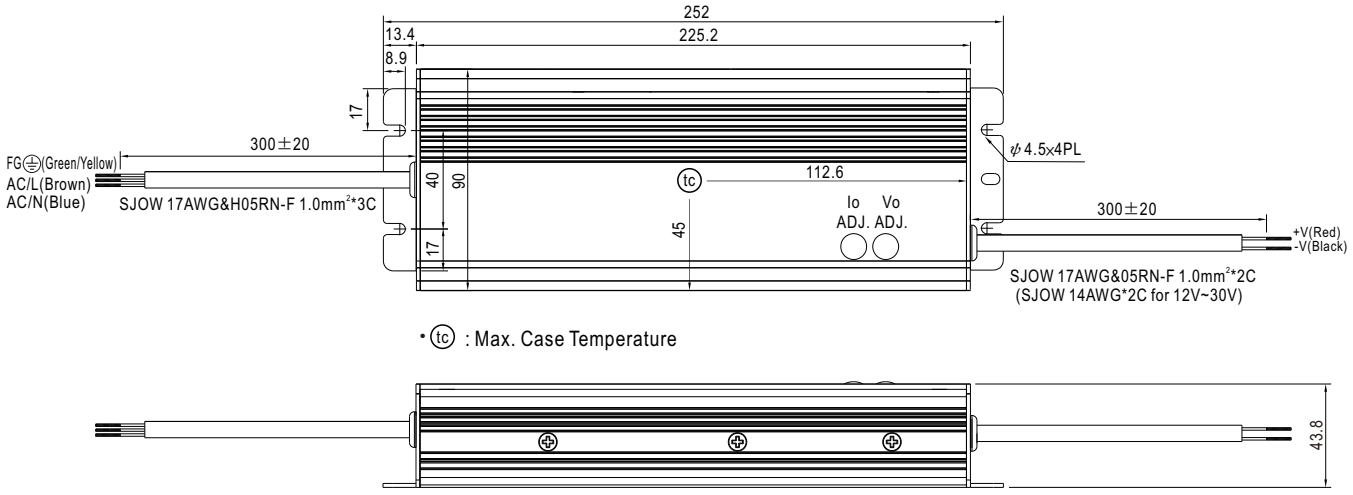
Case No.202A Unit:mm Tolerance:±1

※Blank/D-Type



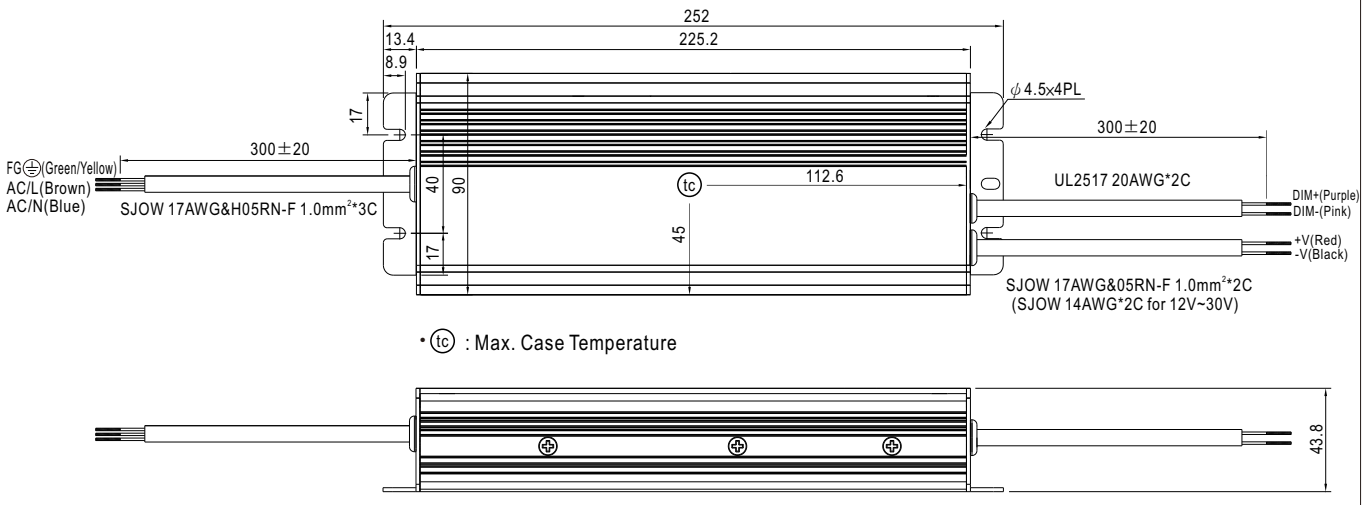
• tc : Max. Case Temperature

※A-Type



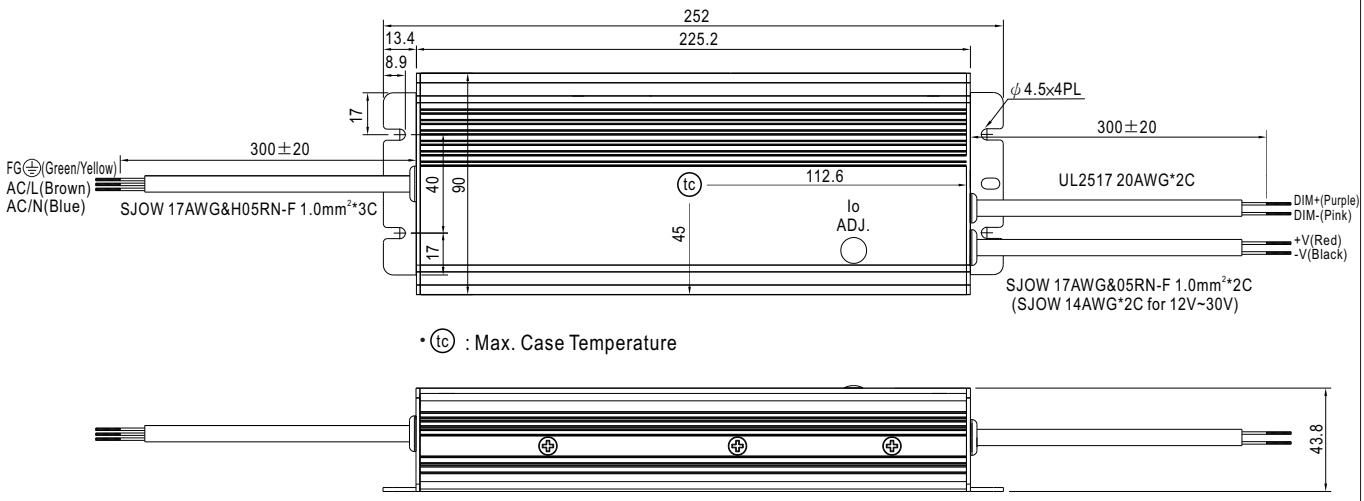
• tc : Max. Case Temperature

※B-Type



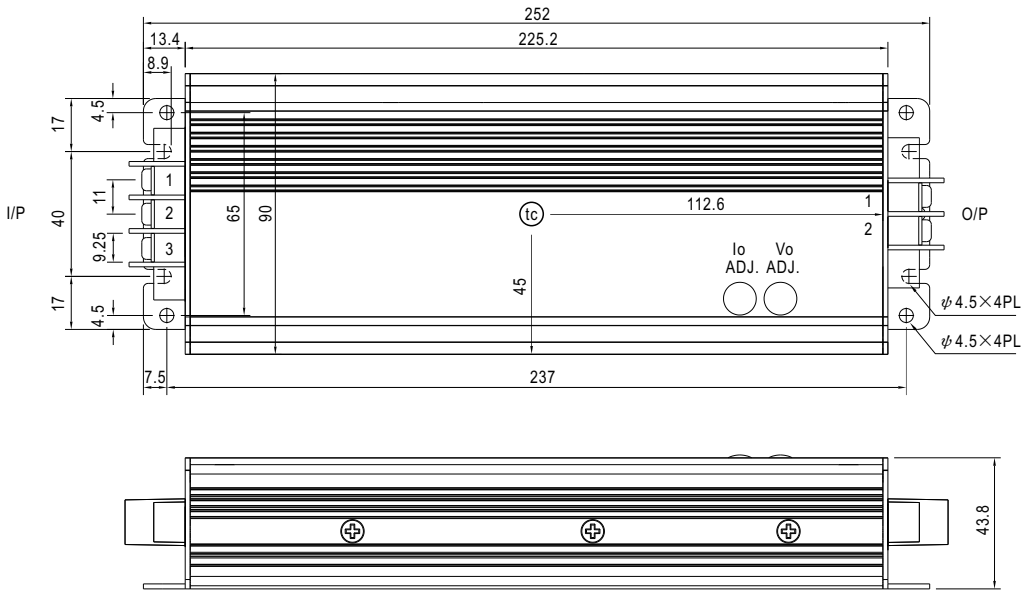
• tc : Max. Case Temperature

※**AB-Type**



• tc : Max. Case Temperature

※**C-Type**



AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	FG ⏚
2	AC/L
3	AC/N

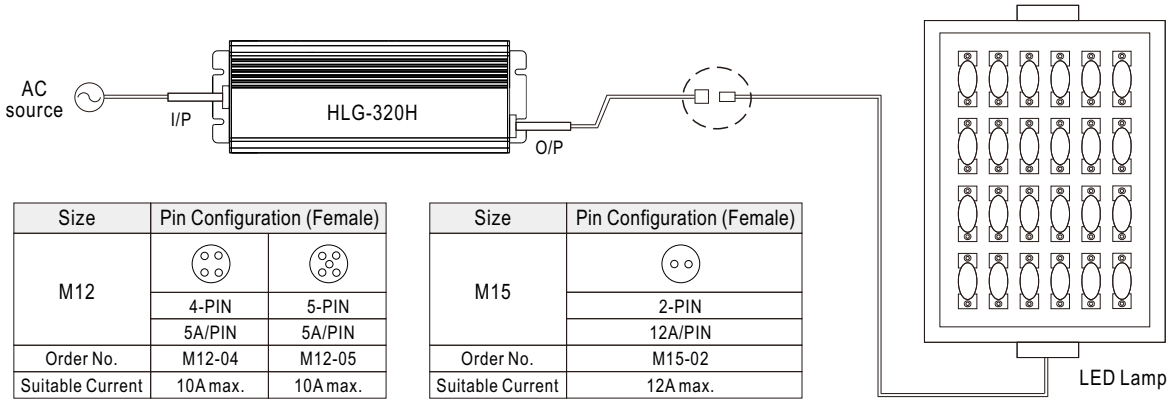
DC Output Terminal Pin No. Assignment

Pin No.	Assignment
1	+V
2	-V

■ WATERPROOF CONNECTION

※ **Waterproof connector**

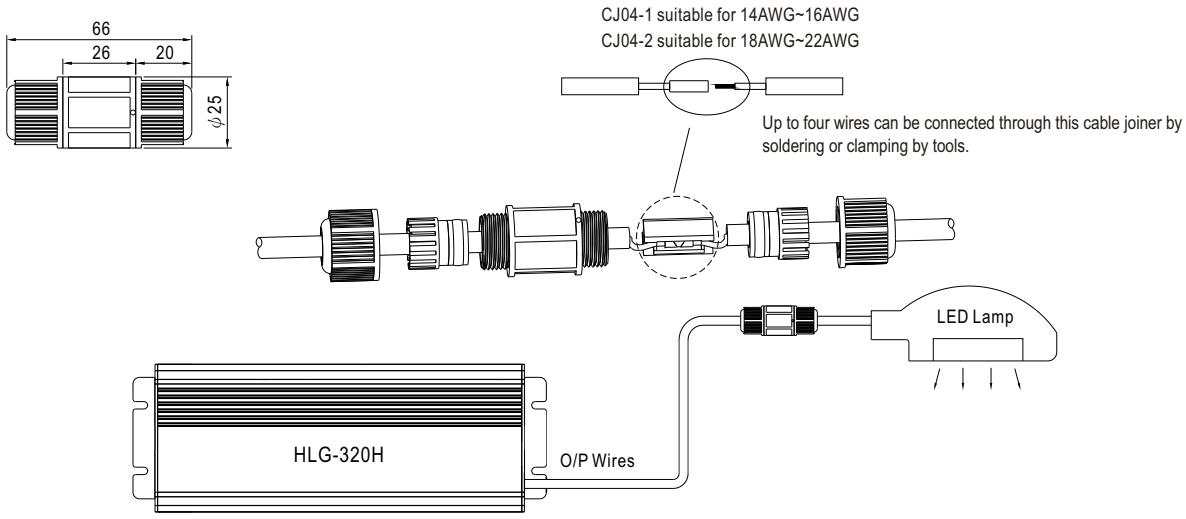
Waterproof connector can be assembled on the output cable of HLG-320H to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

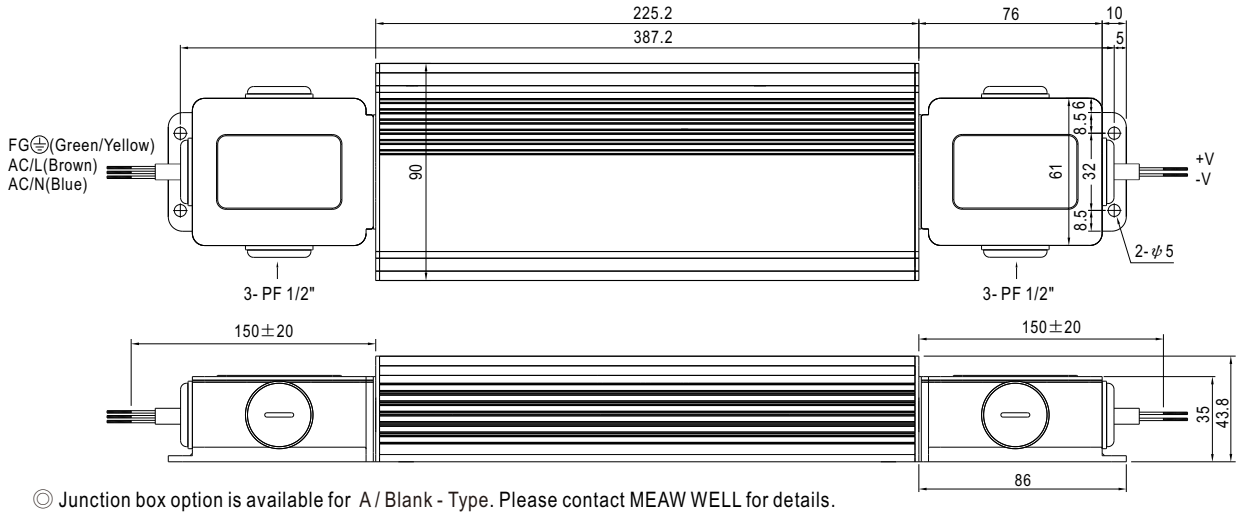
Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

※ **Cable Joiner**



◎ CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

※ **Junction Box Option**



◎ Junction box option is available for A / Blank - Type. Please contact MEAW WELL for details.

■ INSTALLATION MANUAL

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

480W Constant Voltage + Constant Current LED Driver HLG-480H series

User's Manual

(except for AB,Dx,D2-type) (except for Dx type) Type HL SELV IP65 IP67

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class Ⅰ design
- Built-in active PFC function
- IP67 / IP65 design for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming (dim-to-off, isolated design) ; smart timer dimming; junction box
- Typical lifetime > 62000 hours
- 7 years warranty (Note.9)

Applications

- LED Harbour
- LED greenhouse lighting
- LED statium lighting
- LED mining lighting
- Type "HL" for use in Class Ⅰ , Division 2 hazardous(Classified) location

GTIN CODE

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

Description

HLG-480H series is a 480W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-480H operates from 90～305VAC and offers models with different rated voltage ranging between 24V and 54V. Thanks to the high efficiency up to 95.5%, with the fanless design, the entire series is able to operate for -40℃ ~ +90℃ case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications.HLG-480H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 480H - 24 A

- A — Function options
- 24 — Rated output voltage (24V/30V/36V/42V/48V/54V)
- 480H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (0~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance)	In Stock
Dx	IP67	Built-in Smart timer dimming function by user request.	By request
D2	IP67	Built-in Smart timer dimming and programmable function.	In Stock

480W Constant Voltage + Constant Current LED Driver HLG-480H series

SPECIFICATION

MODEL			HLG-480H-24□	HLG-480H-30□	HLG-480H-36□	HLG-480H-42□	HLG-480H-48□	HLG-480H-54□
OUTPUT	DC VOLTAGE		24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4		12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT		20A	16A	13.3A	11.4A	10A	8.9A
	RATED POWER		480W	480W	478.8W	478.8W	480W	480.6W
	RIPPLE & NOISE (max.) Note.2		200mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p
	VOLTAGE ADJ. RANGE		Adjustable for A/AB-Type only (via built-in potentiometer)					
			20.4 ~ 25.2V	25.5 ~ 31.5V	30.6 ~ 37.8V	35.7 ~ 44.1V	40.8 ~ 50.4V	45.9 ~ 56.7V
	CURRENT ADJ. RANGE		Adjustable for A/AB-Type only (via built-in potentiometer)					
			10 ~ 20A	8 ~ 16A	6.6 ~ 13.3A	5.7 ~ 11.4A	5 ~ 10A	4.4 ~ 8.9A
	VOLTAGE TOLERANCE Note.3		±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6		500ms, 80ms 115VAC/230VAC					
	HOLD UP TIME (Typ.)		16ms 115VAC/230VAC					
INPUT	VOLTAGE RANGE Note.5		90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE		47 ~ 63Hz					
	POWER FACTOR (Typ.)		PF≧0.98/115VAC, PF≧0.97/230VAC, PF≧0.95/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION		THD< 20% (@ load≧40% / 115VAC,230VAC,277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)					
	EFFICIENCY (Typ.)	230VAC	94%	94.5%	95%	95%	94.5%	95%
		277VAC	94.5%	95%	95.5%	95.5%	95%	95%
	AC CURRENT (Typ.)		5A / 115VAC 2.45A / 230VAC 2A / 277VAC					
	INRUSH CURRENT(Typ.)		COLD START 35A(t_{width}=1800μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410					
	LEAKAGE CURRENT		<0.75mA / 277VAC					
	MAX. NO. of PSUs on 16A CIRCUIT BREAKER		2unit(circuit breaker of type B) / 3units(circuit breaker of type C) at 230VAC					
PROTECTION	OVER CURRENT		95 ~ 108%					
			Constant current limiting, recovers automatically after fault condition is removed					
	SHORT CIRCUIT		Constant current limiting, recovers automatically after fault condition is removed					
	OVER VOLTAGE		27 ~ 33V	33 ~ 40V	40 ~ 50V	46 ~ 55V	53 ~ 63V	60 ~ 70V
			Shut down output voltage, re-power on to recovery					
	OVER TEMPERATURE		Shut down output voltage, re-power on to recovery					
ENVIRONMENT	WORKING TEMP.		Tcase= -40 ~ +90℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.		Tcase= +90℃					
	WORKING HUMIDITY		20 ~ 95% RH non-condensing					
	STORAGE TEMP., HUMIDITY		-40 ~ +80℃, 10 ~ 95% RH non-condensing					
	TEMP. COEFFICIENT		±0.02%/℃ (0 ~ 60℃)					
	VIBRATION		10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes					
SAFETY & EMC	SAFETY STANDARDS		UL8750(type"HL"), CSA C22.2 No. 250.13-12; ENEC BS EN/EN61347-1, BS EN/EN61347-2-13 independent, BS EN/EN62384; GB19510.14,GB19510.1;IP65 or IP67, EAC TP TC 004,AS/NZS IEC 61347.2.13:2013,AS/NZS 61347.1:2016;KC61347-1, KC61347-2-13(except for AB,Dx,D2-type), J61347-1(H29), J61347-2-13(H29)(except for Dx type)approved					
	WITHSTAND VOLTAGE		I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC					
	ISOLATION RESISTANCE		I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION		Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (@ load≧50%) ; BS EN/EN61000-3-3;GB/T 17743, GB17625.1, EAC TP TC 020;KC KN15,KN61547(except for AB,Dx,D2-type),J55015(H29)(for Blank/A-type)					
	EMC IMMUNITY		Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV), EAC TP TC 020;KC KN15,KN61547(except for AB,Dx,D2-type),J55015(H29)(for Blank/A-type)					
OTHERS	MTBF		1185.9K hrs min. Telcordia SR-332(Bellcore) ; 95.4K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION		262*125*43.8mm (L*W*H)					
	PACKING		2.8Kg;4pcs/12.2Kg/0.55CUFT					

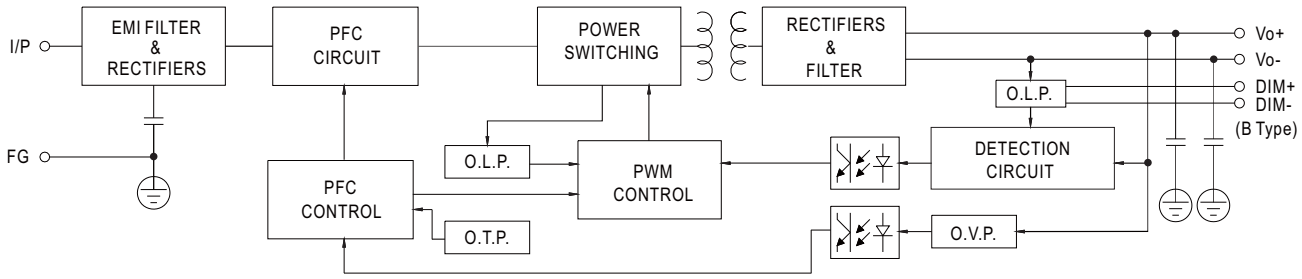
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. 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. (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 75℃ or less.
10. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com
11. 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).
12. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf
13. For A/AB type need to consider build in using to comply with Type HL application.

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

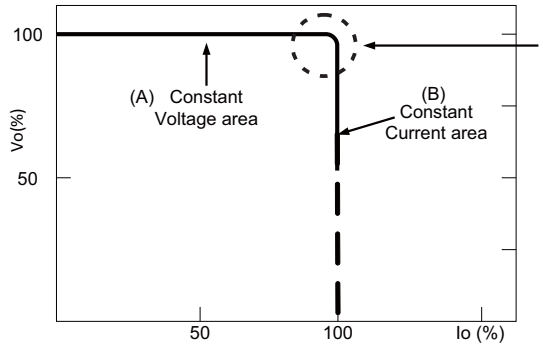
■ BLOCK DIAGRAM

PFC fosc : 45KHz
PWM fosc : 55KHz



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



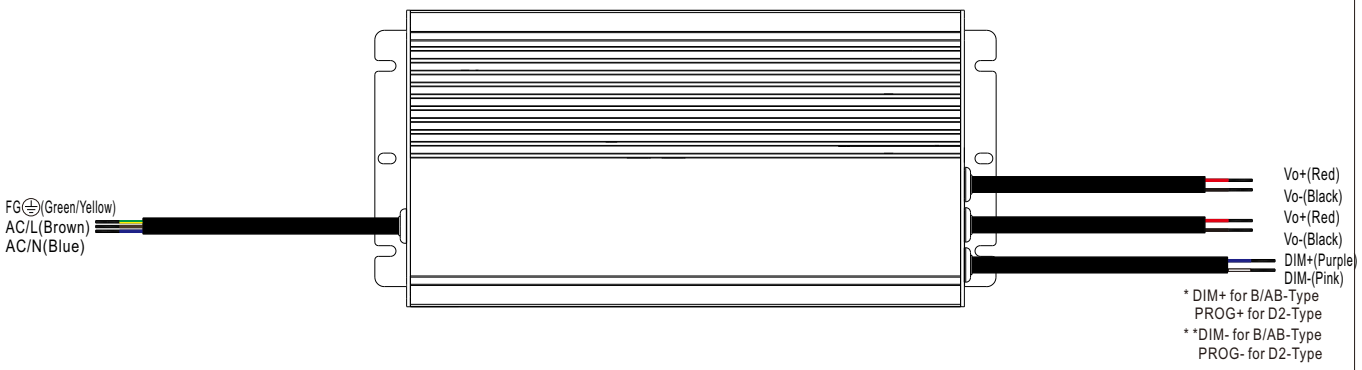
Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

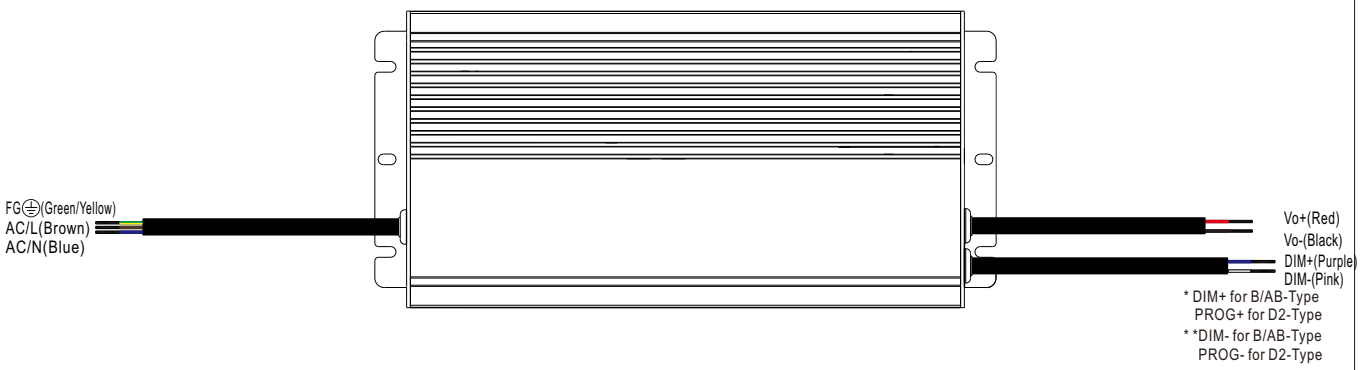
Should there be any compatibility issues, please contact MEAN WELL.

■ DIMMING OPERATION

For 24V,30V,36V,42V



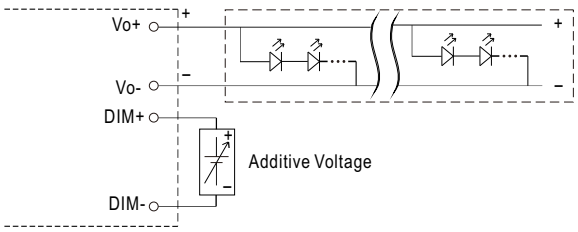
For 48V,54V



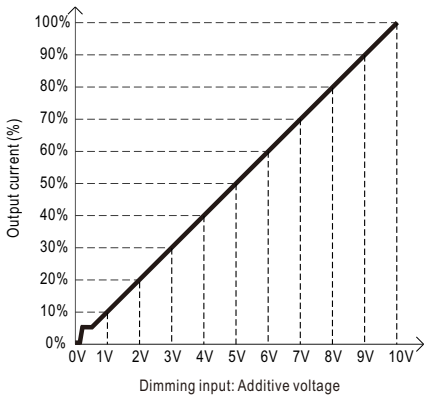
※ 3 in 1 dimming function (for B/AB-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 0 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

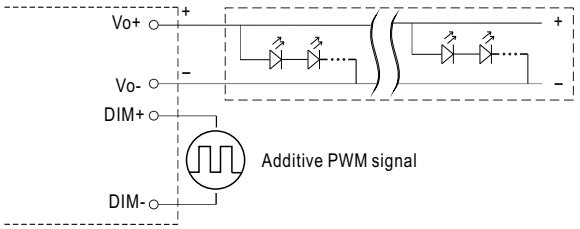
◎ Applying additive 0 ~ 10VDC



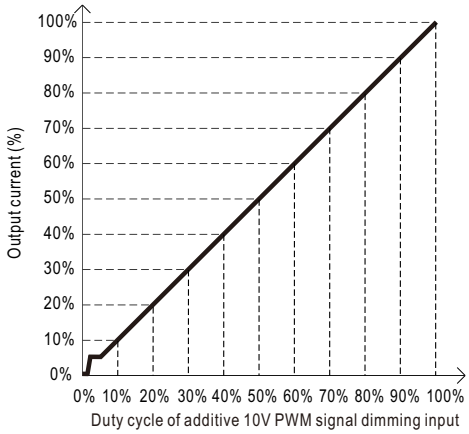
"DO NOT connect "DIM- to Vo-"



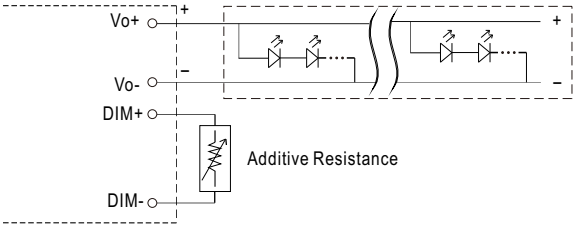
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



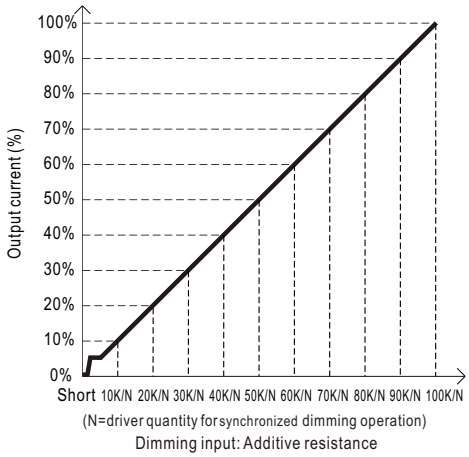
"DO NOT connect "DIM- to Vo+"



◎ Applying additive resistance:



"DO NOT connect "DIM- to Vo-"

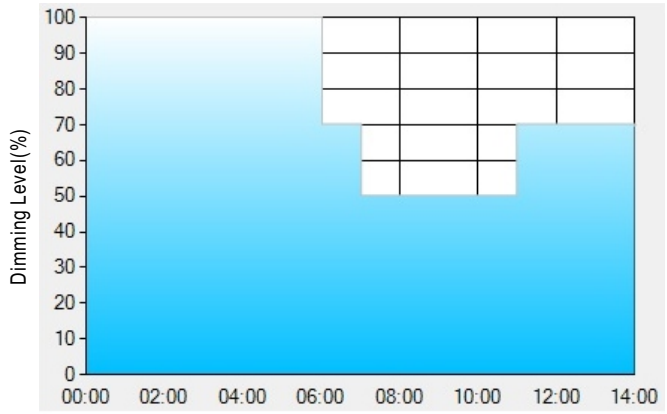


Note : 1. Min. dimming level is about 6% and the output current is not defined when 0%< Iout<6%.
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.

※ **Smart timer dimming function (for Dxx-Type by User definition)**

MEAN WELL Smart timer dimming primarily provides the adaptive proportion dimming profile for the output constant current level to perform up to 14 consecutive hours. 3 dimming profiles hereunder are defined accounting for the most frequently seen applications. If other options may be needed, please contact MEAN WELL for details.

Ex : ◎ D01-Type: the profile recommended for residential lighting



Set up for D01-Type in Smart timer dimming software program:

	T1	T2	T3	T4
TIME**	06:00	07:00	11:00	---
LEVEL**	100%	70%	50%	70%

**: TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a residential lighting application adopts D01-Type, when turning on the power supply at 6:00pm, for instance:

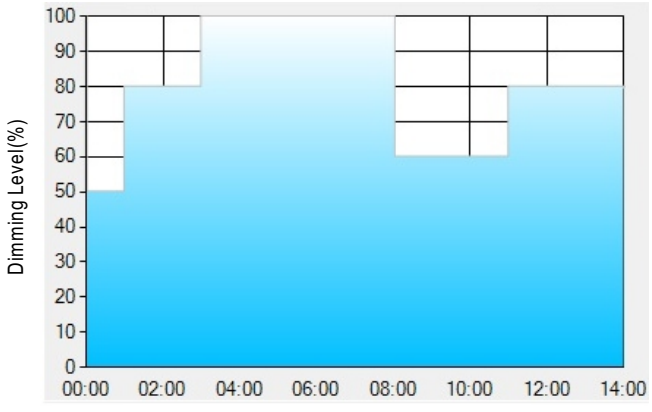
[1] The power supply will switch to the constant current level at 100% starting from 6:00pm.

[2] The power supply will switch to the constant current level at 70% in turn, starting from 0:00am, which is 06:00 after the power supply turns on.

[3] The power supply will switch to the constant current level at 50% in turn, starting from 1:00am, which is 07:00 after the power supply turns on.

[4] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on. The constant current level remains till 8:00am, which is 14:00 after the power supply turns on.

Ex: ◎ D02-Type: the profile recommended for street lighting



Set up for D02-Type in Smart timer dimming software program:

	T1	T2	T3	T4	T5
TIME**	01:00	03:00	8:00	11:00	---
LEVEL**	50%	80%	100%	60%	80%

**: TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a street lighting application adopts D02-Type, when turning on the power supply at 5:00pm, for instance:

[1] The power supply will switch to the constant current level at 50% starting from 5:00pm.

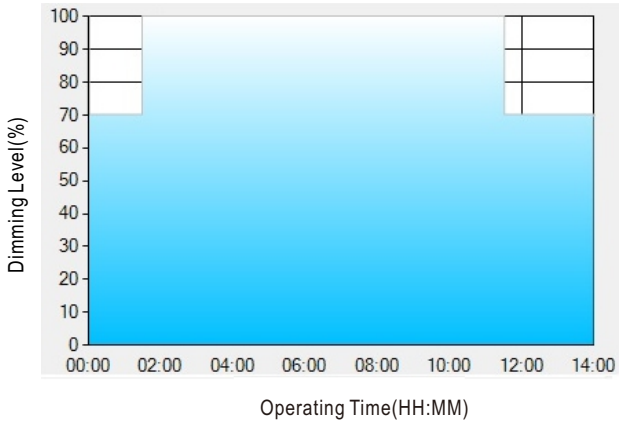
[2] The power supply will switch to the constant current level at 80% in turn, starting from 6:00pm, which is 01:00 after the power supply turns on.

[3] The power supply will switch to the constant current level at 100% in turn, starting from 8:00pm, which is 03:00 after the power supply turns on.

[4] The power supply will switch to the constant current level at 60% in turn, starting from 1:00am, which is 08:00 after the power supply turns on.

[5] The power supply will switch to the constant current level at 80% in turn, starting from 4:00am, which is 11:00 after the power supply turns on. The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.

Ex: ◎ D03-Type: the profile recommended for tunnel lighting

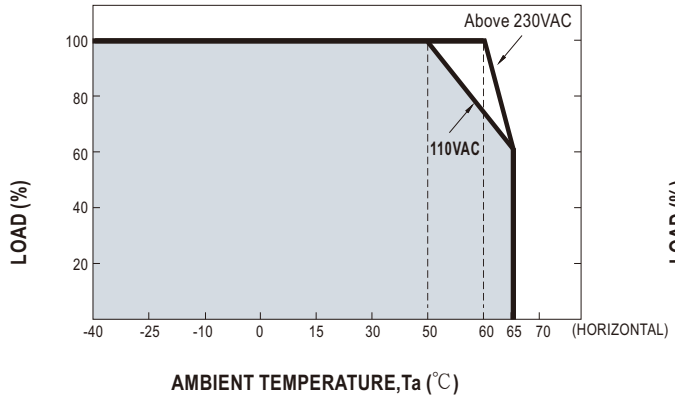


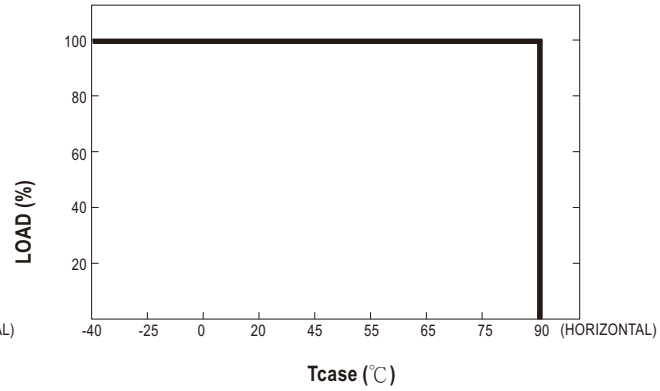
Set up for D03-Type in Smart timer dimming software program:

	T1	T2	T3
TIME**	01:30	11:00	---
LEVEL**	70%	100%	70%

**: TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.
Example: If a tunnel lighting application adopts D03-Type, when turning on the power supply at 4:30pm, for instance:
[1] The power supply will switch to the constant current level at 70% starting from 4:30pm.
[2] The power supply will switch to the constant current level at 100% in turn, starting from 6:00pm, which is 01:30 after the power supply turns on.
[3] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on.
The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.

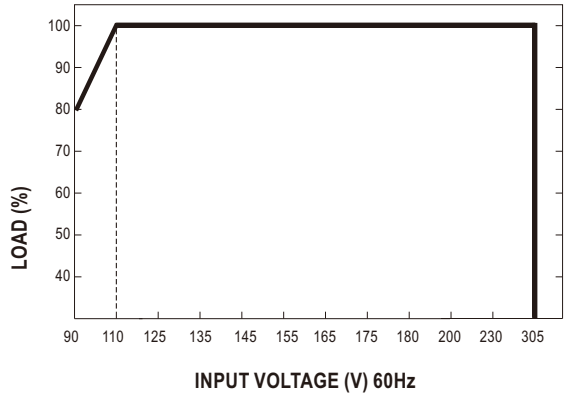
■ OUTPUT LOAD vs TEMPERATURE(Note.10)





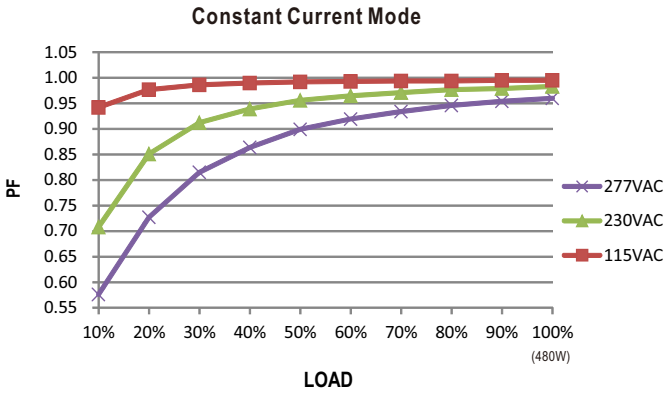
◎ If HLG-480H operates in constant current mode with the rated current, the maximum workable Ta is 60℃.(Typ. 230VAC)

■ STATIC CHARACTERISTICS



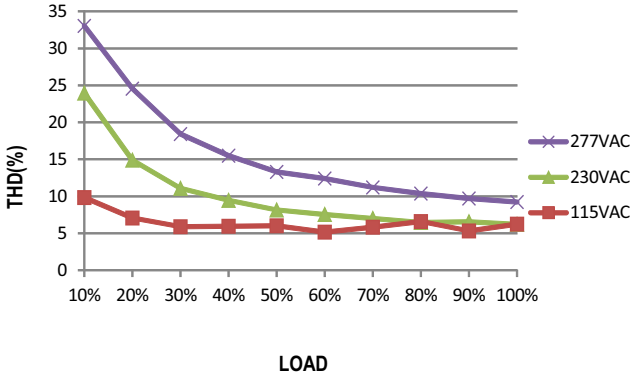
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 75℃



■ TOTAL HARMONIC DISTORTION (THD)

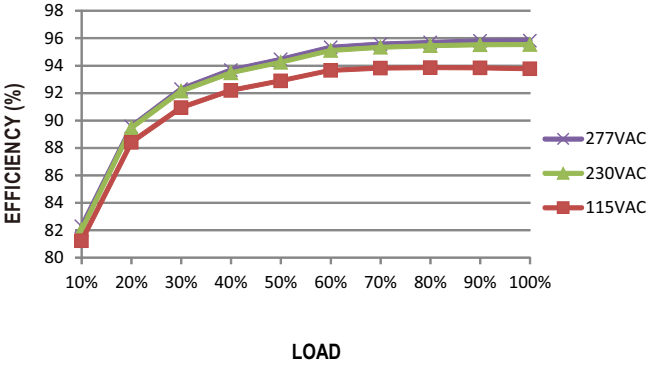
※ 42V Model, Tcase at 75℃



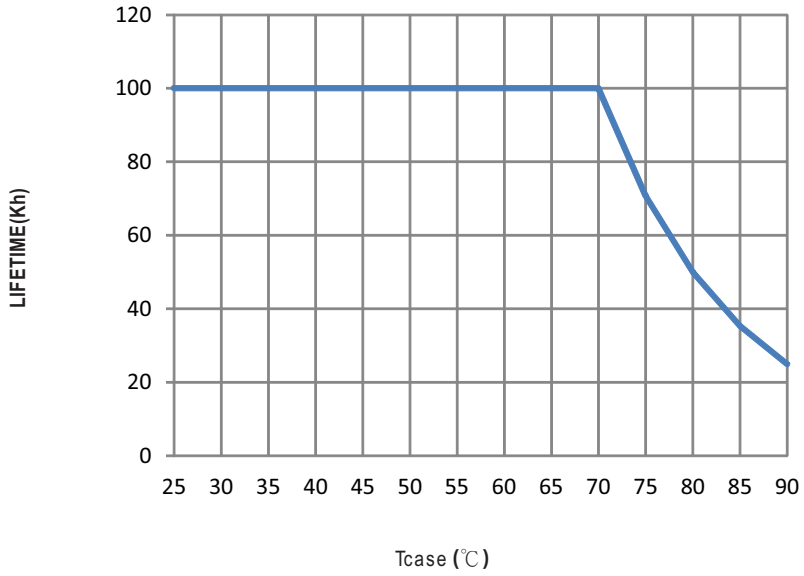
■ EFFICIENCY vs LOAD

HLG-480H series possess superior working efficiency that up to 95.5% can be reached in field applications.

※ 42V Model, Tcase at 75℃



■ LIFE TIME

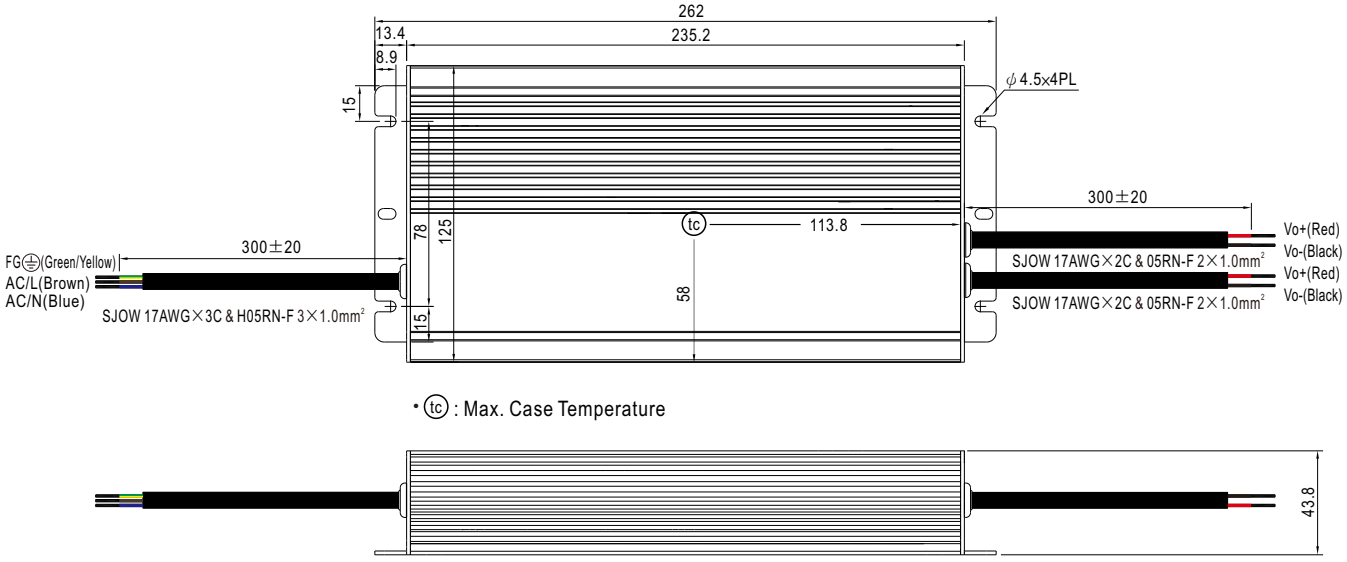

LIFETIME(Kh)
120
100
80
60
40
20
0
25 30 35 40 45 50 55 60 65 70 75 80 85 90
Tcase (℃)

■ MECHANICAL SPECIFICATION

Case No. 251 Unit:mm Tolerance:±1

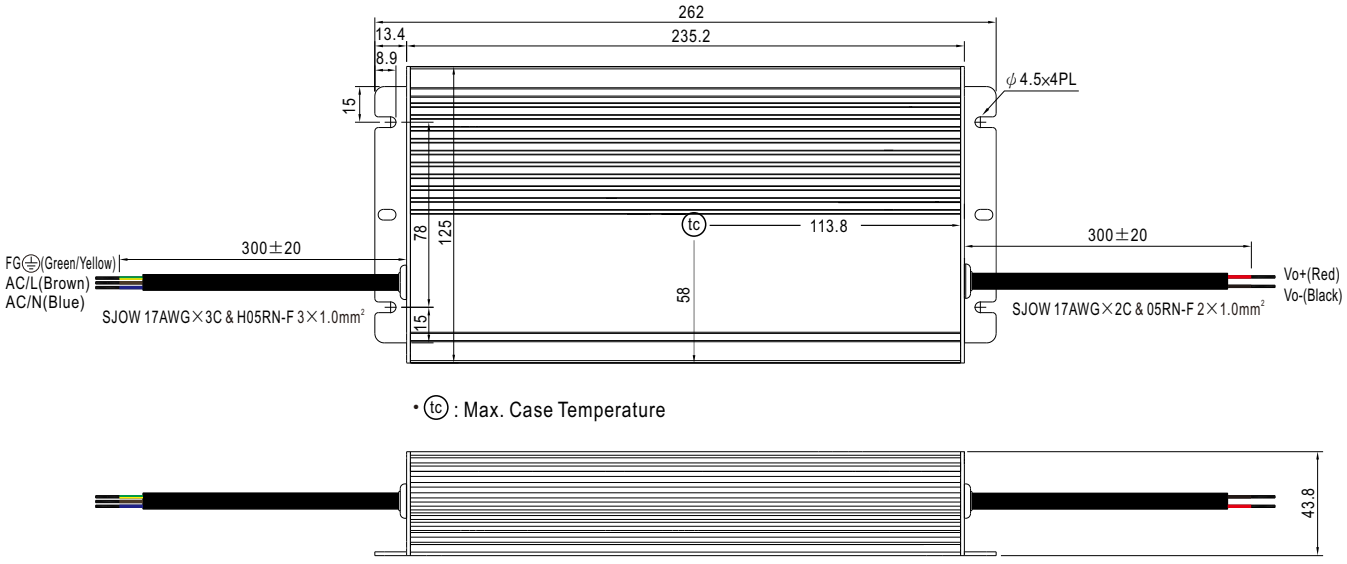
※**Blank-Type**

For 24V,30V,36V,42V



• tc : Max. Case Temperature

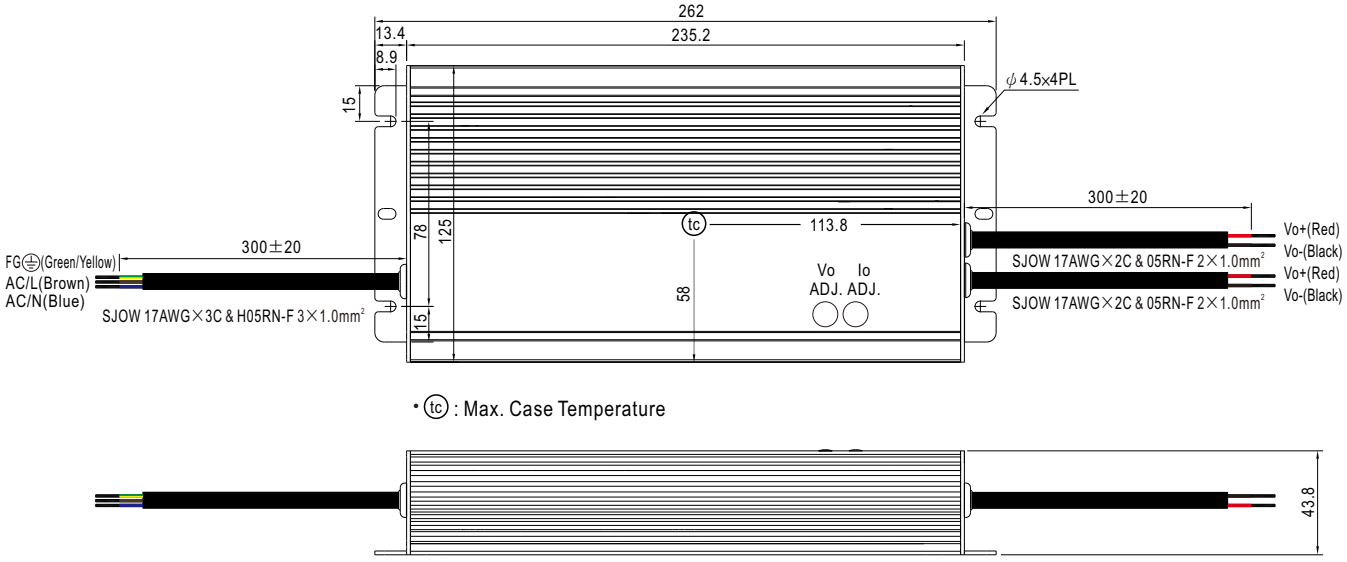
For 48V,54V



• tc : Max. Case Temperature

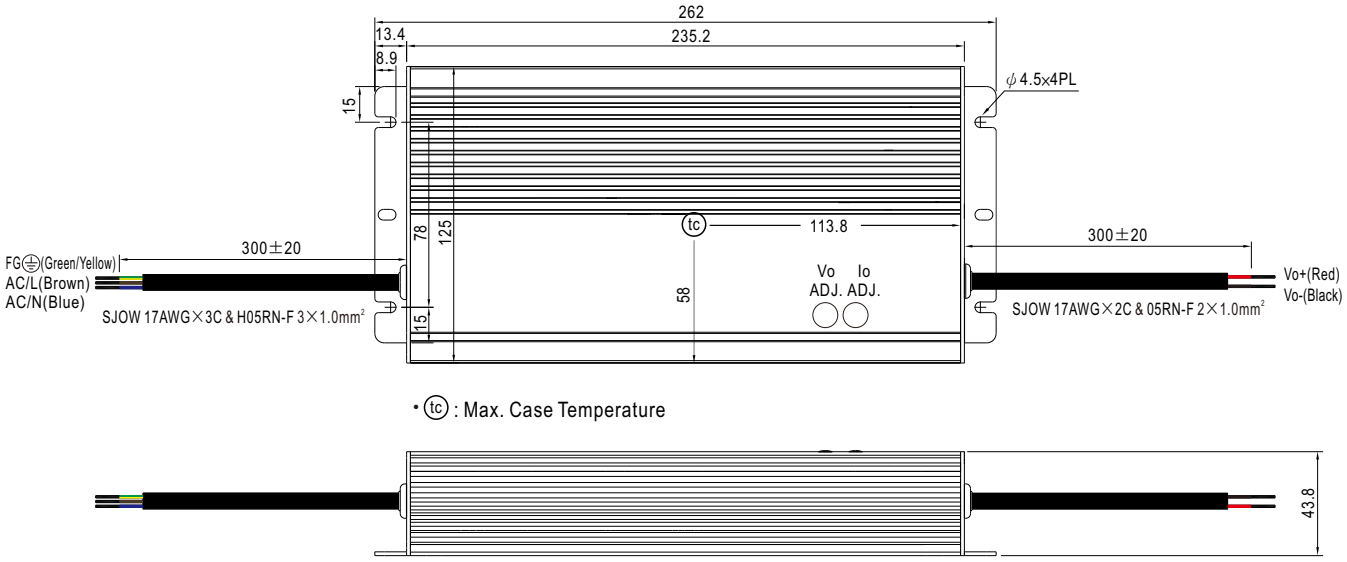
※**A-Type**

For 24V,30V,36V,42V



• tc : Max. Case Temperature

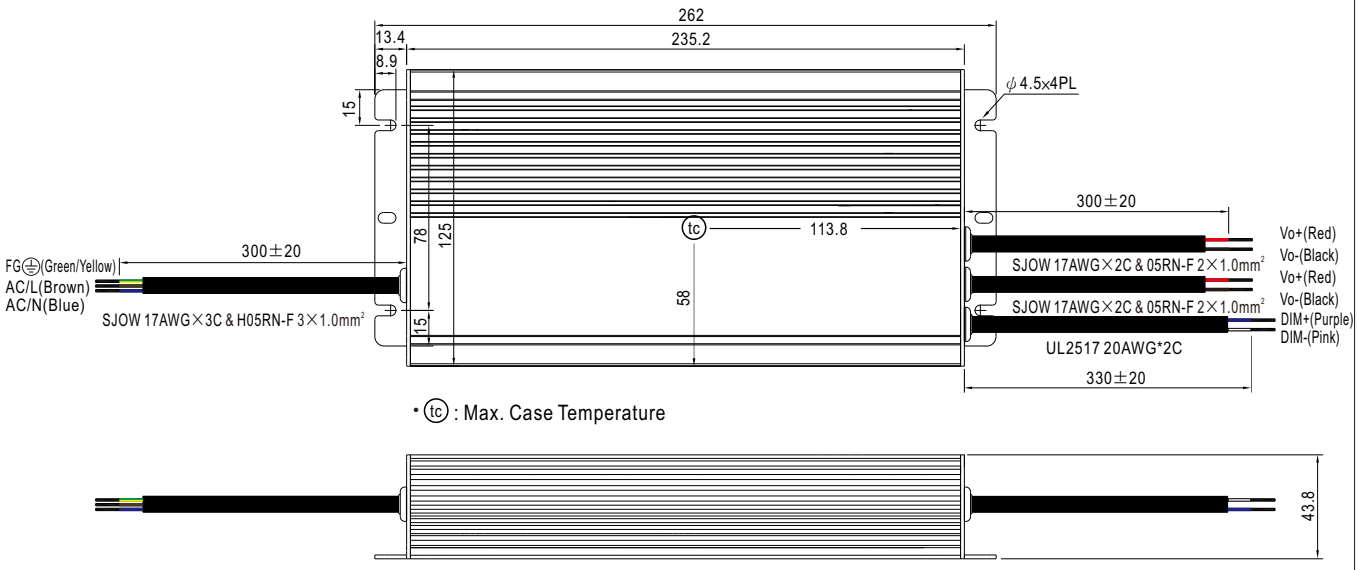
For 48V,54V



• tc : Max. Case Temperature

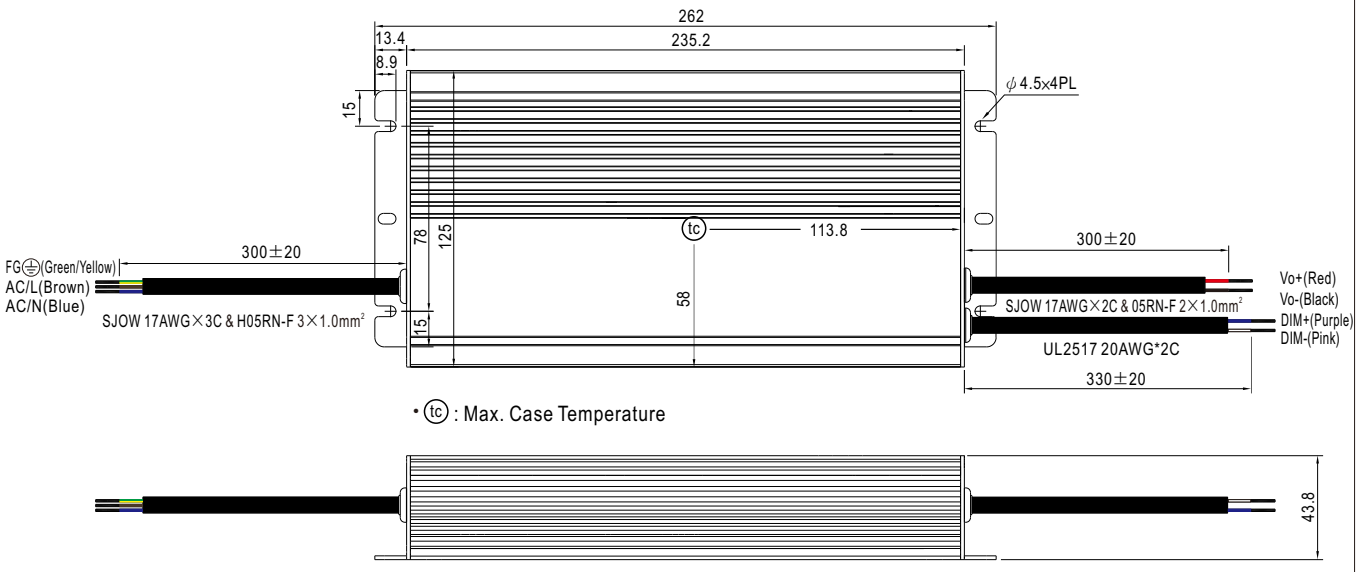
※**B/D2-Type**

For 24V,30V,36V,42V



• tc : Max. Case Temperature

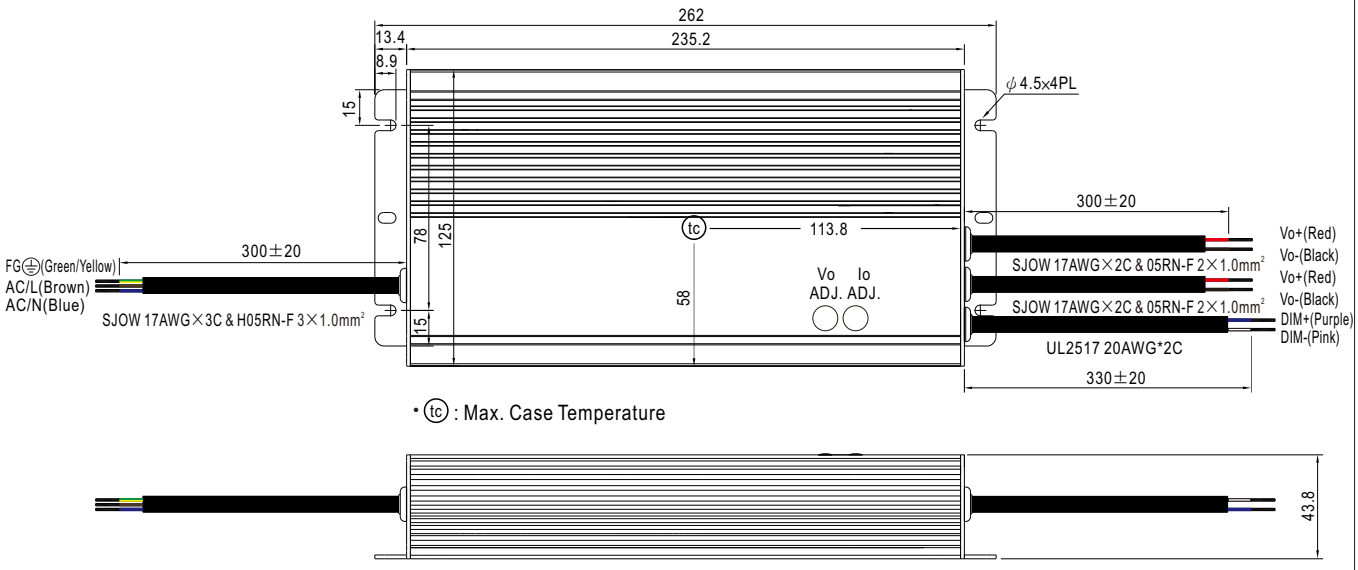
For 48V,54V



• tc : Max. Case Temperature

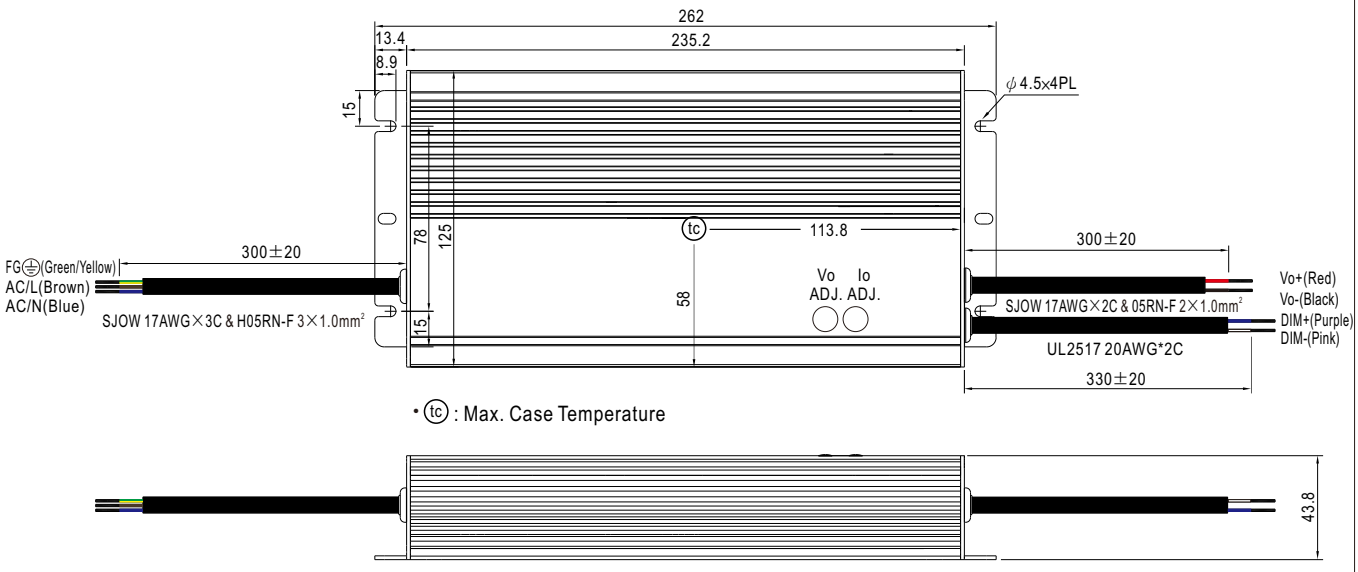
※**AB-Type**

For 24V,30V,36V,42V



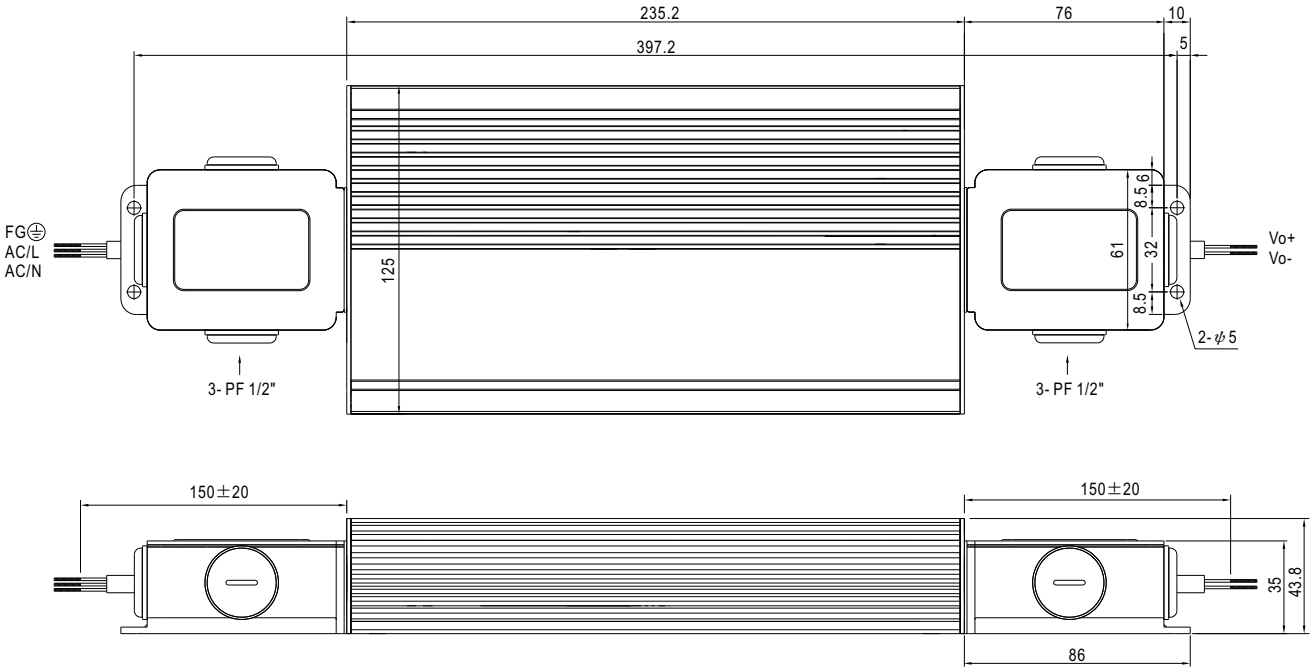
• tc : Max. Case Temperature

For 48V,54V



• tc : Max. Case Temperature

※ **Junction Box Option**



◎ Junction box option is available for all types. Please contact MEAW WELL for details.

■ INSTALLATION MANUAL

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

HLG-600H series

600W Constant Voltage + Constant Current LED Driver

User's Manual

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- Standby power consumption <0.5W at remote off
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming (dim-to-off)
- Typical lifetime > 62000 hours
- 7 years warranty

Applications

- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class I , Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

HLG-600H series is a 600W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-600H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 12V and 54V. Thanks to the high efficiency up to 96%, with the fanless design, the entire series is able to operate for -40℃ ~ +90℃ case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-600H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 600H - 15 A

- A — Function options
- 15 — Rated output voltage (12V/15V/20V/24V/30V/36V/42V/48V/54V)
- 600H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (0~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (0~10VDC,10V PWM signal and resistance)	In Stock
Blank	IP67	Io and Vo fixed	In Stock

SPECIFICATION

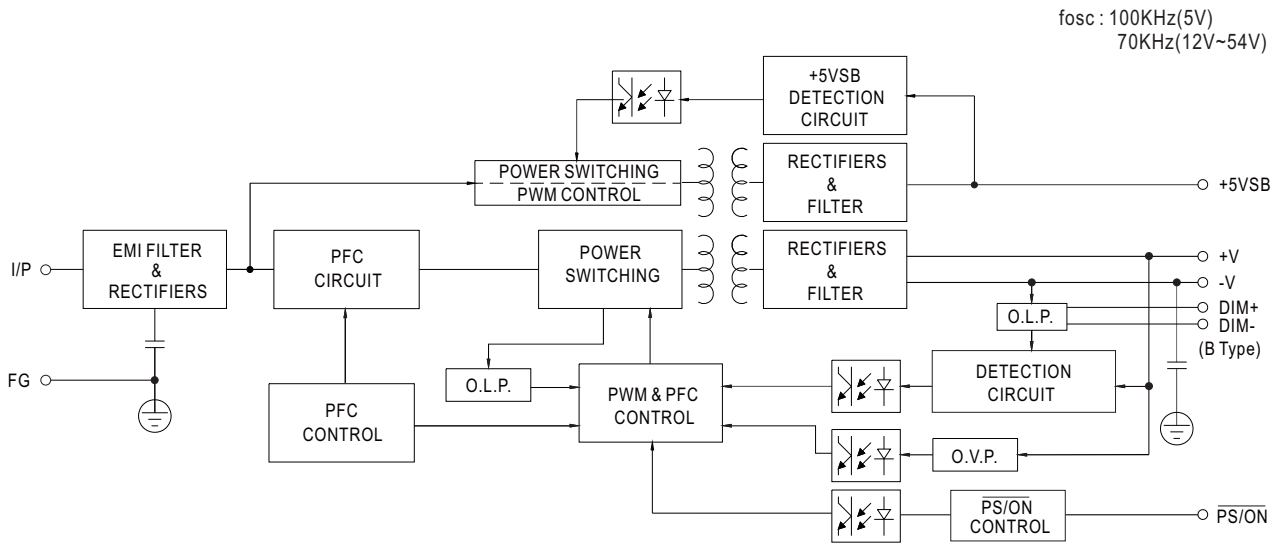
MODEL			HLG-600H-12□	HLG-600H-15□	HLG-600H-20□	HLG-600H-24□	HLG-600H-30□	HLG-600H-36□	HLG-600H-42□	HLG-600H-48□	HLG-600H-54□
OUTPUT	DC VOLTAGE		12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4		6 ~12V	7.5 ~ 15V	10 ~ 20V	12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT		40A	36A	28A	25A	20A	16.7A	14.3A	12.5A	11.2A
	RATED POWER		480W	540W	560W	600W	600W	601.2W	600.6W	600W	604.8W
	RIPPLE & NOISE (max.) Note.2		150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p
	VOLTAGE ADJ. RANGE		Adjustable for A/AB-Type only (via built-in potentiometer)								
			10.2 ~ 12.6V	12.7 ~ 15.8V	17 ~ 21V	20.4 ~ 25.2V	25.5 ~ 31.5V	30.6 ~ 37.8V	35.7 ~ 44.1V	40.8 ~ 50.4V	45.9 ~ 56.7V
	CURRENT ADJ. RANGE		Adjustable for A/AB-Type only (via built-in potentiometer)								
			20 ~ 40A	18 ~ 36A	14 ~ 28A	12.5 ~ 25A	10 ~ 20A	8.3 ~ 16.7A	7.1 ~ 14.3A	6.2 ~ 12.5A	5.6 ~ 11.2A
	VOLTAGE TOLERANCE Note.3		±3.0%	±2.0%	±1.5%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION		±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6		500ms, 80ms/ 115VAC, 230VAC								
	HOLD UP TIME (Typ.)		15ms / 115VAC, 230VAC								
INPUT	VOLTAGE RANGE Note.5		90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)								
	FREQUENCY RANGE		47 ~ 63Hz								
	POWER FACTOR (Typ.)		PF≧0.98/115VAC, PF≧0.95/230VAC, PF≧0.93/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)								
	TOTAL HARMONIC DISTORTION		THD< 20% (@ load≧50% /115VAC, 230VAC; @ load≧75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)								
	EFFICIENCY (Typ.)	230VAC	92%	93.5%	94.5%	95%	95%	95.5%	96%	96%	96%
		277VAC	92.5%	93.5%	94.5%	95%	95%	95.5%	96%	96%	96%
	AC CURRENT (Typ.)		7A / 115VAC 3.3A / 230VAC 2.9A / 277VAC								
	INRUSH CURRENT(Typ.)		COLD START 70A(t_{width}=1000μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410								
	MAX. No. of PSUs on 16A CIRCUIT BREAKER		1 unit (circuit breaker of type B) / 2 units (circuit breaker of type C) at 230VAC								
	LEAKAGE CURRENT		<0.75mA / 277VAC								
	STANDBY POWER CONSUMPTION		<0.5W at remote off								
PROTECTION	OVER CURRENT Note.4		95 ~ 108%								
			Constant current limiting, recovers automatically after fault condition is removed								
	SHORT CIRCUIT		Constant current limiting, recovers automatically after fault condition is removed								
	OVER VOLTAGE		13 ~ 16V	16.5 ~ 20.5V	22 ~ 26V	26 ~ 30V	32.5 ~ 36.5V	39.5 ~ 43.5V	46 ~ 50V	52.5 ~ 56.5V	59 ~ 63V
			Shut down o/p voltage, re-power on to recover								
	OVER TEMPERATURE		Shut down o/p voltage, re-power on to recover								
FUNCTION	REMOTE ON/OFF CONTROL		Power on : "High" >2 ~ 5V or Open circuit Power off : "Low" <0 ~ 0.5V or Short circuit								
	5V STANDBY		$5V_{SB}$: 5V@0.5A ; tolerance ±5%, ripple : 100mVp-p(max.)								
ENVIRONMENT	WORKING TEMP.		Tcase= -40 ~ +90℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)								
	MAX. CASE TEMP.		Tcase= +90℃								
	WORKING HUMIDITY		20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY		-40 ~ +85℃, 10 ~ 95% RH non-condensing								
	TEMP. COEFFICIENT		±0.03%/℃ (0 ~ 55℃)								
	VIBRATION		10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
SAFETY & EMC (Note 10)	SAFETY STANDARDS Note.7		UL60950-1, UL8750(type"HL"), CSA C22.2 No. 250.13-12, ENEC BS EN/EN61347-1, BS EN/EN61347-2-13 independent, BS EN/EN62384, IP65 or IP67, J61347-1, J61347-2-13, GB19510.1,GB19510.14, EAC TP TC 004, AS/NZS 60950.1(by CB)(AB type except),KC61347-1, KC61347-2-13(except for AB type) approved								
	WITHSTAND VOLTAGE		I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC								
	ISOLATION RESISTANCE		I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH								
	EMC EMISSION Note.7		Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (@ load≧50%) ; BS EN/EN61000-3-3, EAC TP TC 020; GB/T 17743,GB17625.1, KS C 9815, KS C 9547								
	EMC IMMUNITY		Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN61547, BS EN/EN55024, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV), EAC TP TC 020; KS C 9815, KS C 9547								
OTHERS	MTBF		913.4K hrs min. Telcordia SR-332 (Bellcore) ; 76.9K hrs min. MIL-HDBK-217F (25℃)								
	DIMENSION		280*144*48.5mm (L*W*H)								
	PACKING		3.9Kg; 4pcs/16.6Kg/0.9CUFT								

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. The model certified for CCC(GB19510.14, GB19510.1, GB17743 and GB17625.1) is an optional model . Please contact MEAN WELL for details.
8. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 75℃ or less.
9. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com
10. The driver is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
11. 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).
12. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf
13. For A/AB type need to consider build in using to comply with Type HL application.

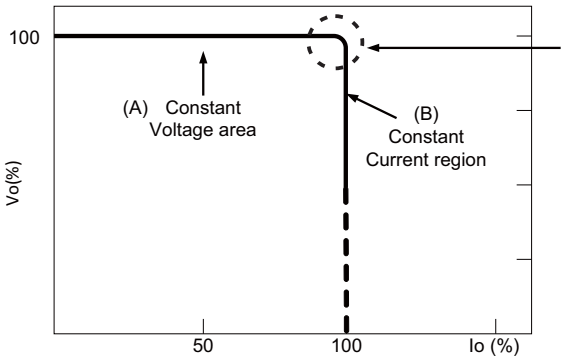
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ BLOCK DIAGRAM



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

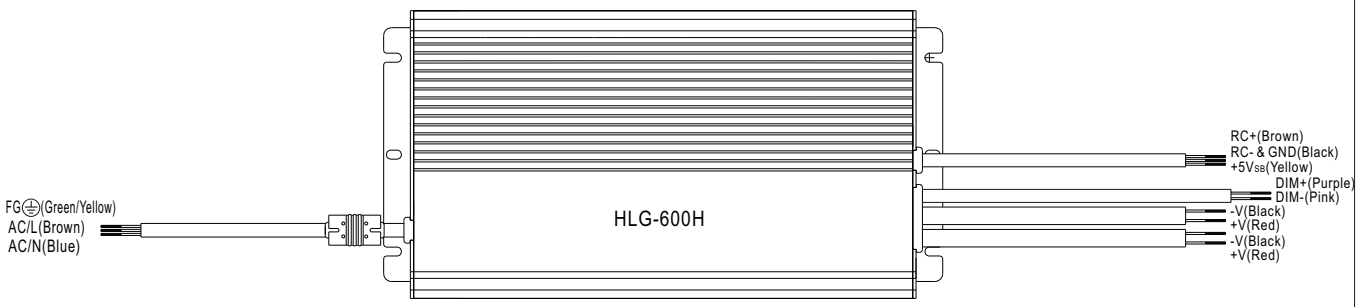


Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

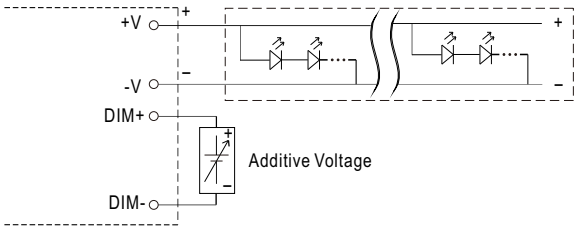
■ DIMMING OPERATION



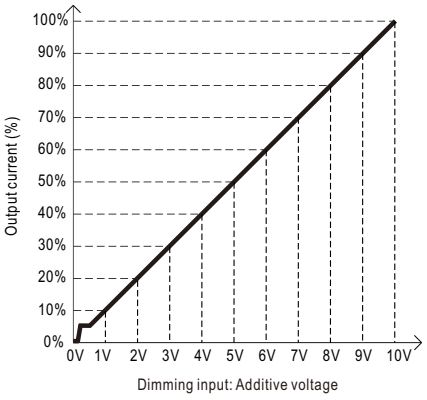
※ **3 in 1 dimming function (for B/AB-Type)**

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 0 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

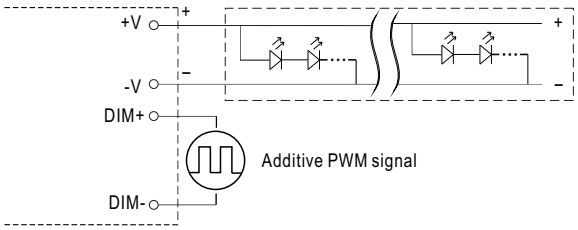
◎ Applying additive 0 ~ 10VDC



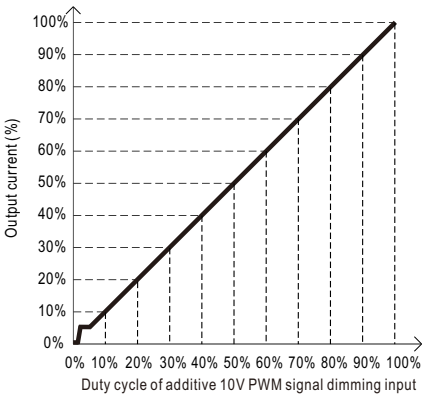
"DO NOT connect "DIM- to -V"



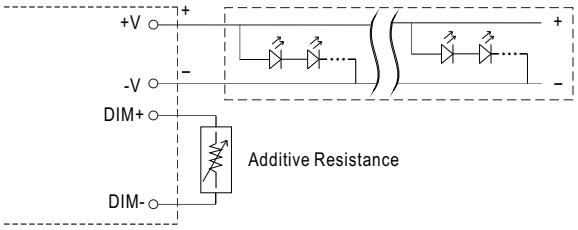
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



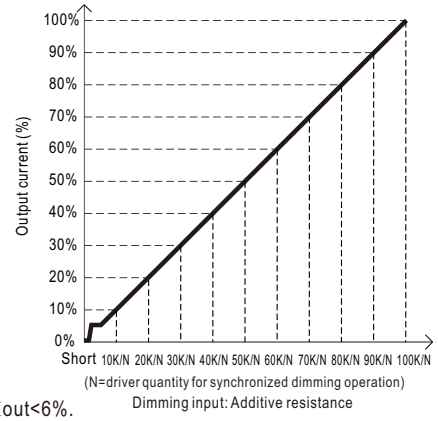
"DO NOT connect "DIM- to -V"



◎ Applying additive resistance:

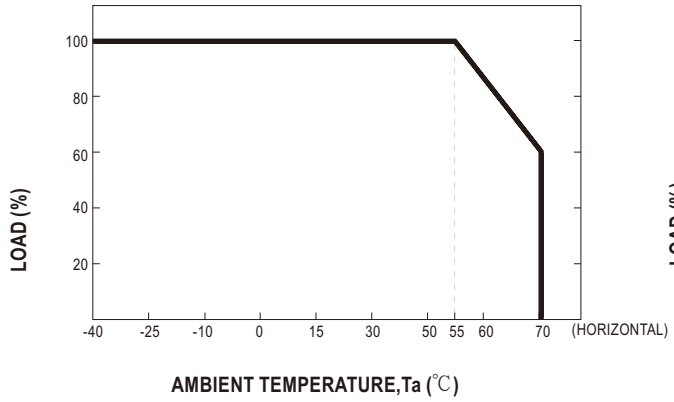


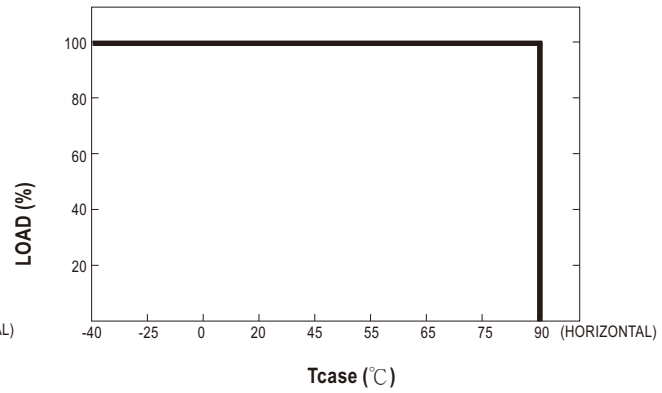
"DO NOT connect "DIM- to -V"



Note : 1. Min. dimming level is about 6% and the output current is not defined when 0%< Iout<6%.
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.

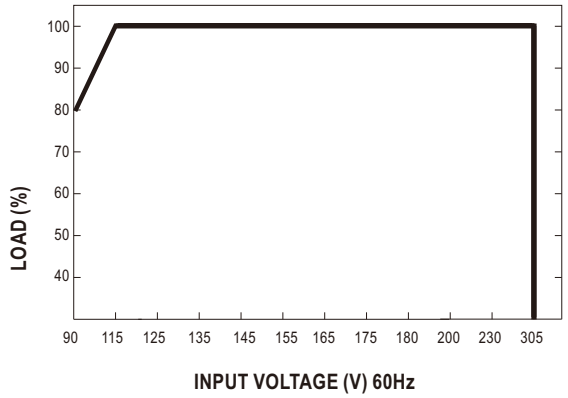
■ OUTPUT LOAD vs TEMPERATURE





◎ If HLG-600H operates in constant current mode with the rated current, the maximum workable Ta is 55℃.

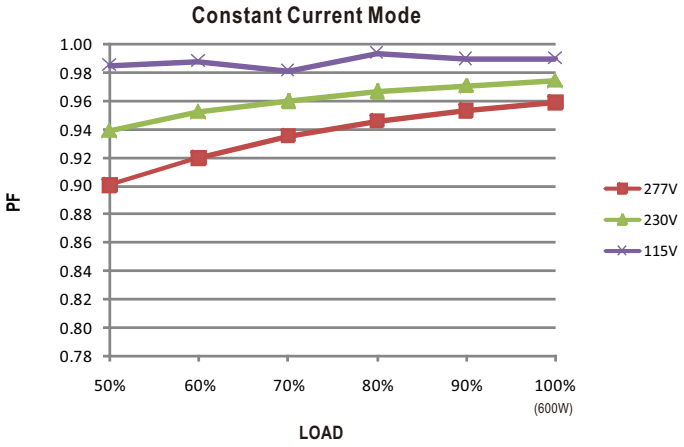
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

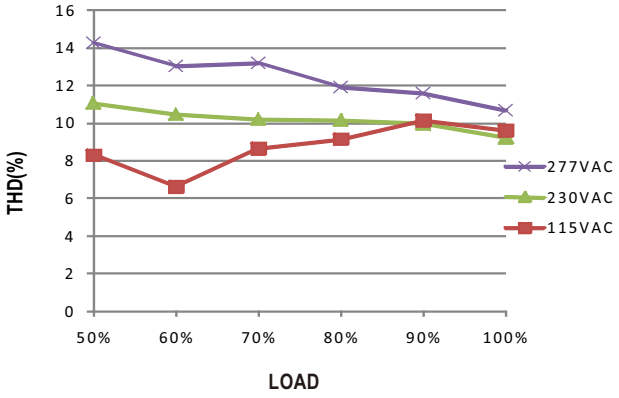
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 80℃



■ TOTAL HARMONIC DISTORTION (THD)

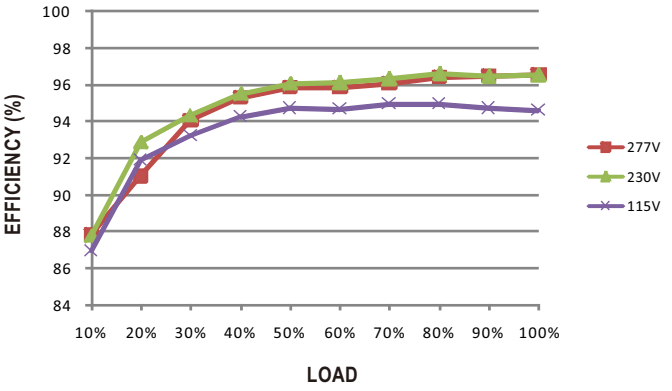
※ 48V Model, Tcase at 80℃



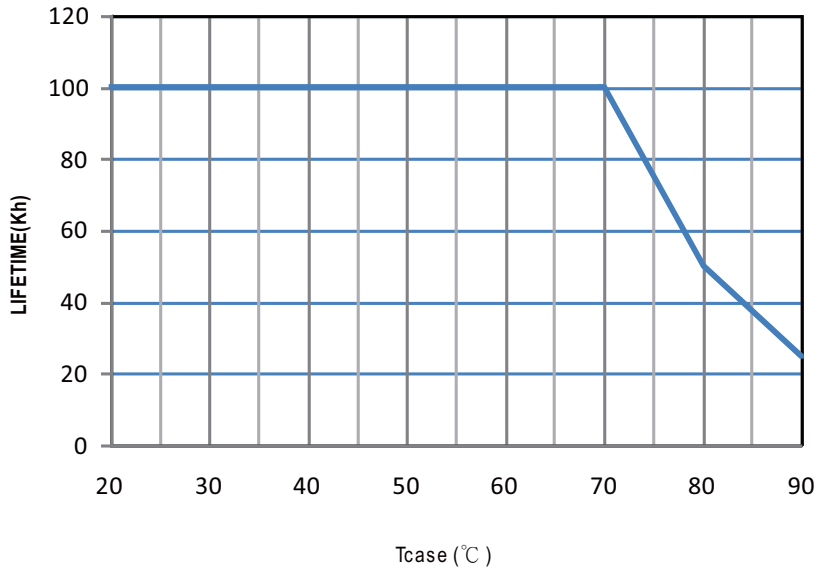
■ EFFICIENCY vs LOAD

HLG-600H series possess superior working efficiency that up to 96% can be reached in field applications.

※ 48V Model, Tcase at 80℃



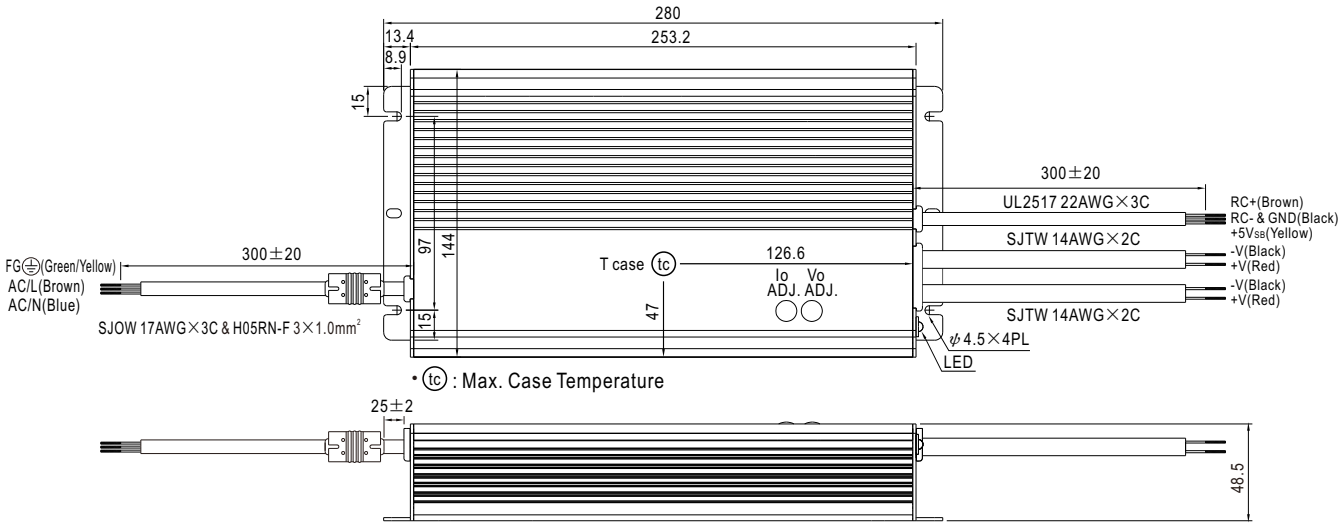
■ LIFETIME



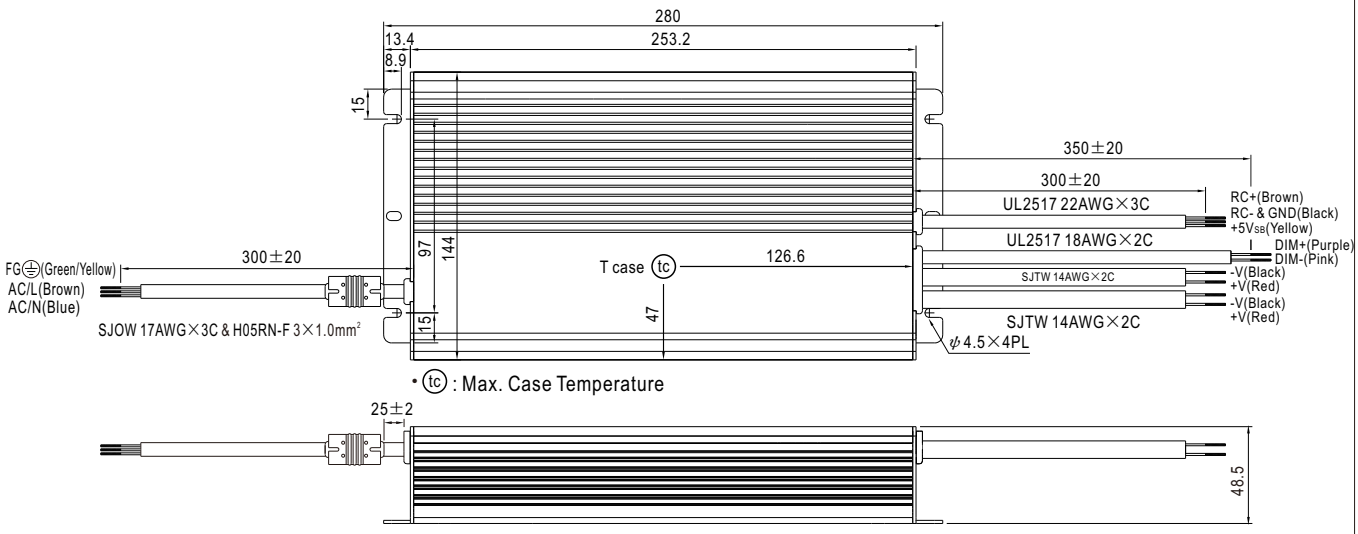
■ MECHANICAL SPECIFICATION

Case No. 228 Unit:mm Tolerance:±1

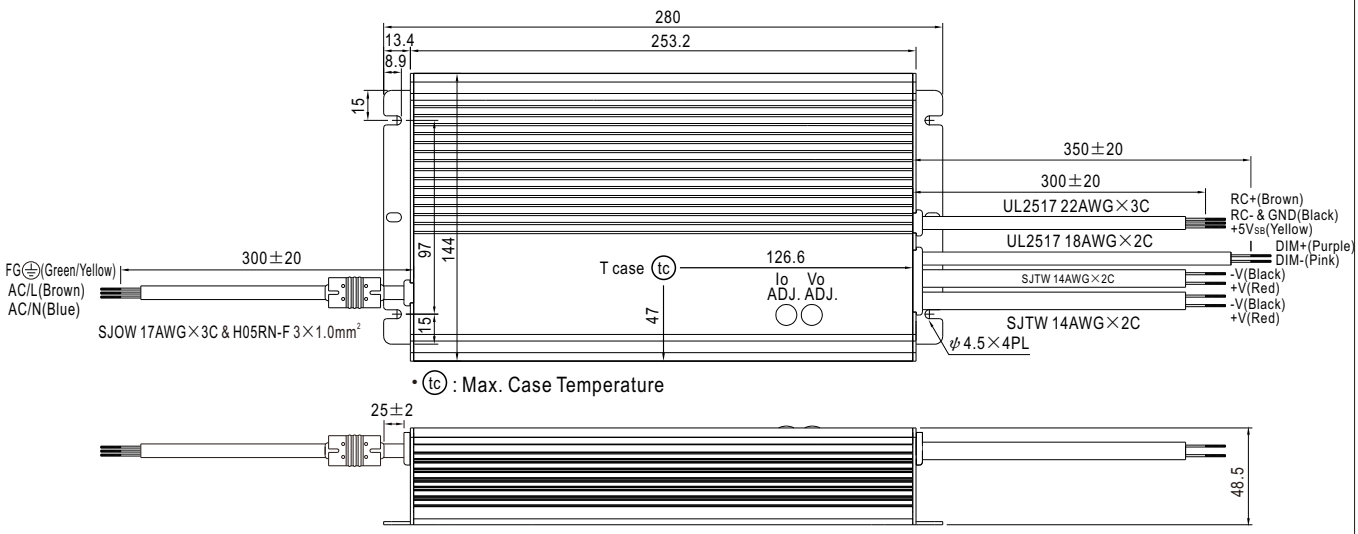
※A-Type



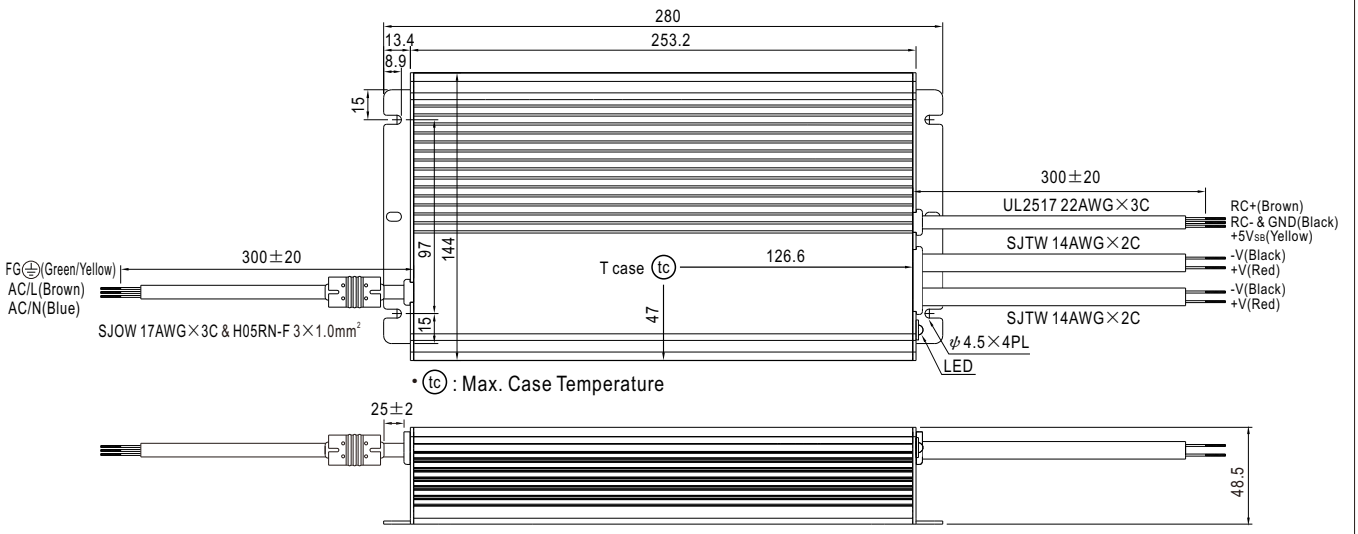
※B-Type



※**AB-Type**



※**Blank-Type**



■ INSTALLATION MANUAL

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