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

SELV IP65 IP68 Type HL

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class Ⅰ design
- Built-in active PFC function
- IP68 / IP65 rating 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

Applications

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

Description

HLGP-480H series is a 480W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLGP-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 -55℃ ~ +90℃ case temperature under free air convection. The design of metal housing and IP68/IP65 ingress protection level allows this series to fit both indoor and outdoor applications.HLGP-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

HLGP - 480H - 24 A

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

Type	IP Level	Function	Note
Blank	IP68	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock

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SPECIFICATION

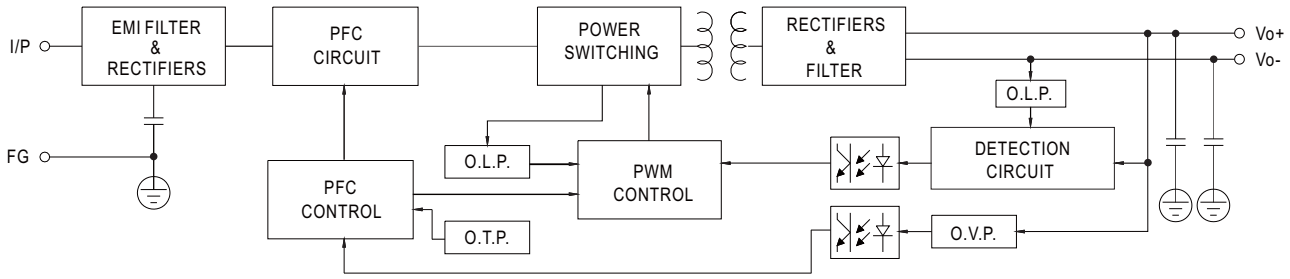
MODEL			HLGP-480H-24□	HLGP-480H-30□	HLGP-480H-36□	HLGP-480H-42□	HLGP-480H-48□	HLGP-480H-54□
OUTPUT	DC VOLTAGE		24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.2		12 ~ 24V	15 ~ 30V	18 ~ 36V	21 ~ 42V	24 ~ 48V	27 ~ 54V
	RATED CURRENT		20A	16A	13.3A	11.4A	10A	8.9A
	RATED POWER		480W	480W	478.8W	478.8W	480W	480.6W
	RIPPLE & NOISE (max.) Note.4		200mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p
	VOLTAGE ADJ. RANGE		Adjustable for A-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-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.5		500ms, 80ms 115VAC/230VAC					
	HOLD UP TIME (Typ.)		16ms 115VAC/230VAC					
INPUT	VOLTAGE RANGE Note.3		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= -55 ~ +90℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.		Tcase= +90℃					
	WORKING HUMIDITY		20 ~ 95% RH non-condensing					
	STORAGE TEMP., HUMIDITY		-60 ~ +80℃, 10 ~ 95% RH non-condensing					
	TEMP. COEFFICIENT		±0.02%/℃ (0 ~ 60℃)					
	VIBRATION		10 ~ 500Hz, 10G 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 EN61347-1, EN61347-2-13 independent, EN62384; GB19510.14,GB19510.1; IP65 or IP68 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 EN55015,EN61000-3-2 Class C (@ load≧50%) ; EN61000-3-3; GB17743, GB17625.1					
	EMC IMMUNITY		Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level (surge immunity Line-Earth 6KV, Line-Line 3KV)					
OTHERS	MTBF		345.5K hrs min. Telcordia SR-332(Bellcore) ; 95.3K 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.
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

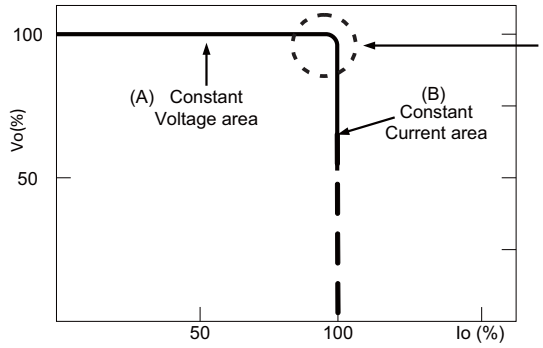
■ BLOCK DIAGRAM

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.

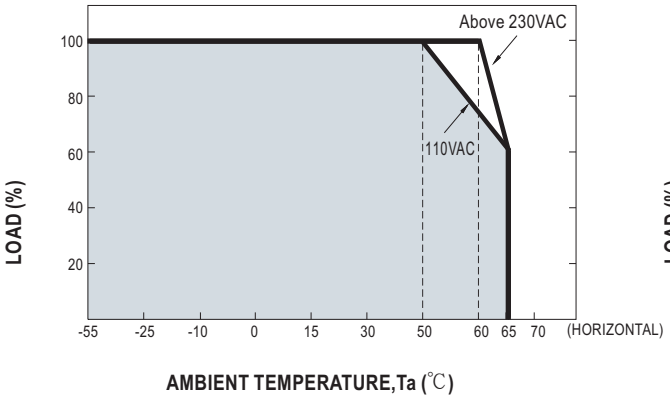


Typical output current normalized by rated current (%)

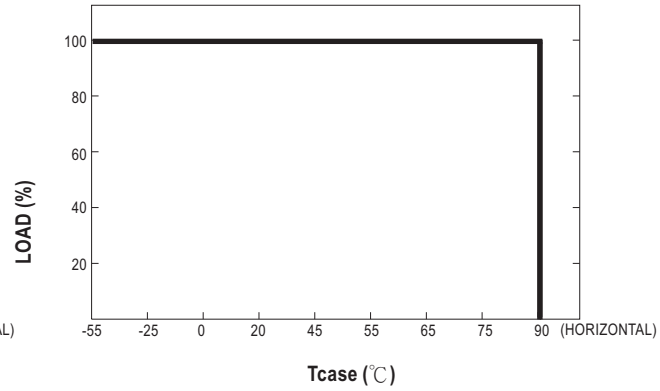
In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

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

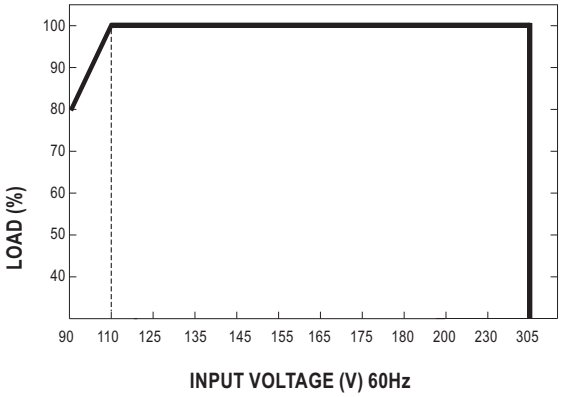
■ OUTPUT LOAD vs TEMPERATURE



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

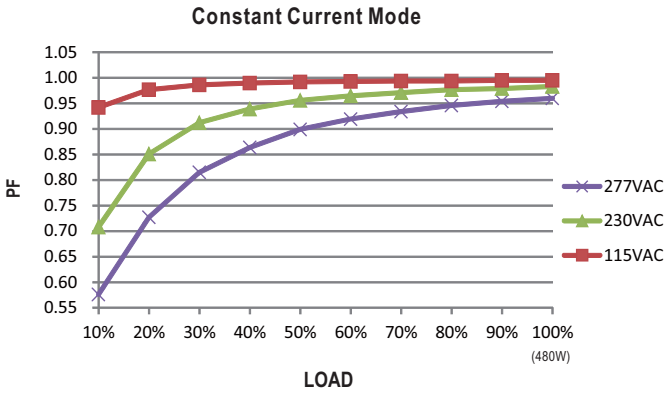


■ STATIC CHARACTERISTICS



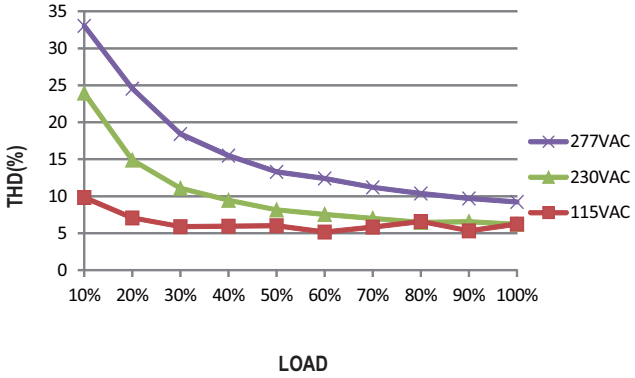
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 75℃



■ TOTAL HARMONIC DISTORTION (THD)

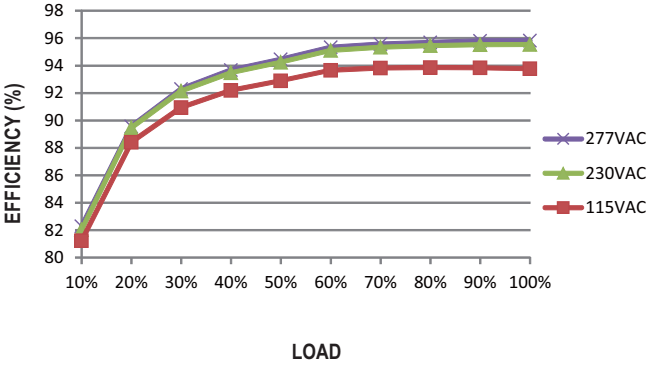
※ 42V Model, Tcase at 75℃



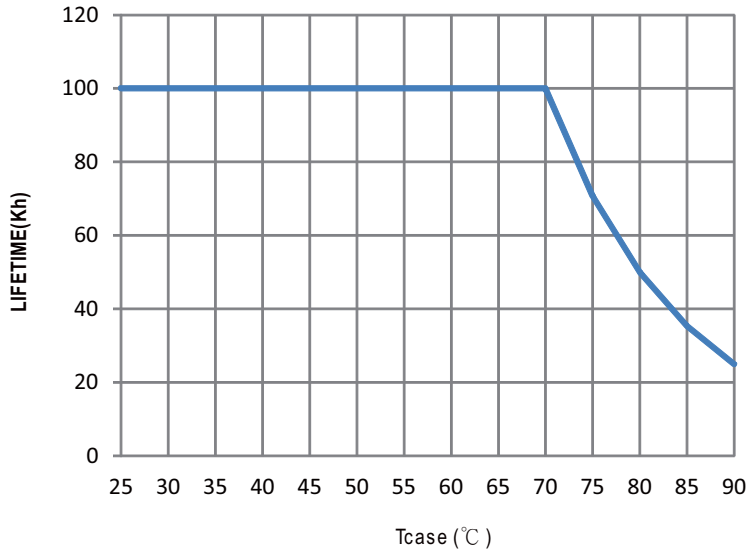
■ EFFICIENCY vs LOAD

HLGP-480H series possess superior working efficiency that up to 95% can be reached in field applications.

※ 42V Model, Tcase at 75℃



■ LIFE TIME

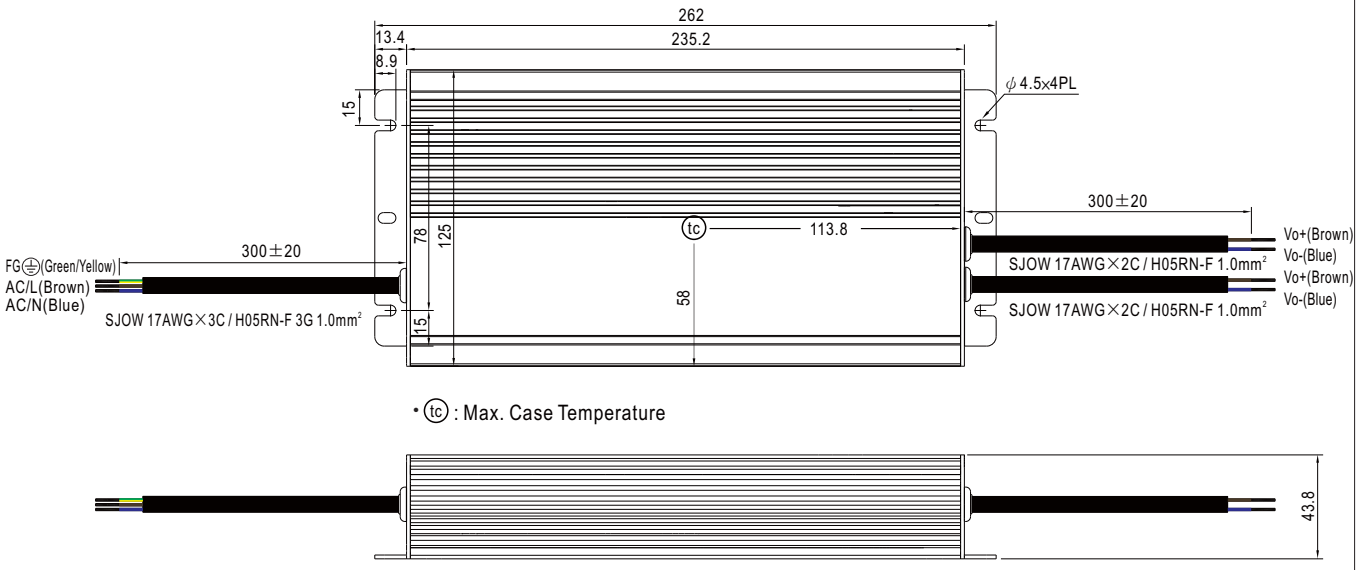

120
100
80
60
40
20
0
LIFETIME(Kh)
25 30 35 40 45 50 55 60 65 70 75 80 85 90
Tcase (℃)

■ MECHANICAL SPECIFICATION

Case No. 251 Unit:mm

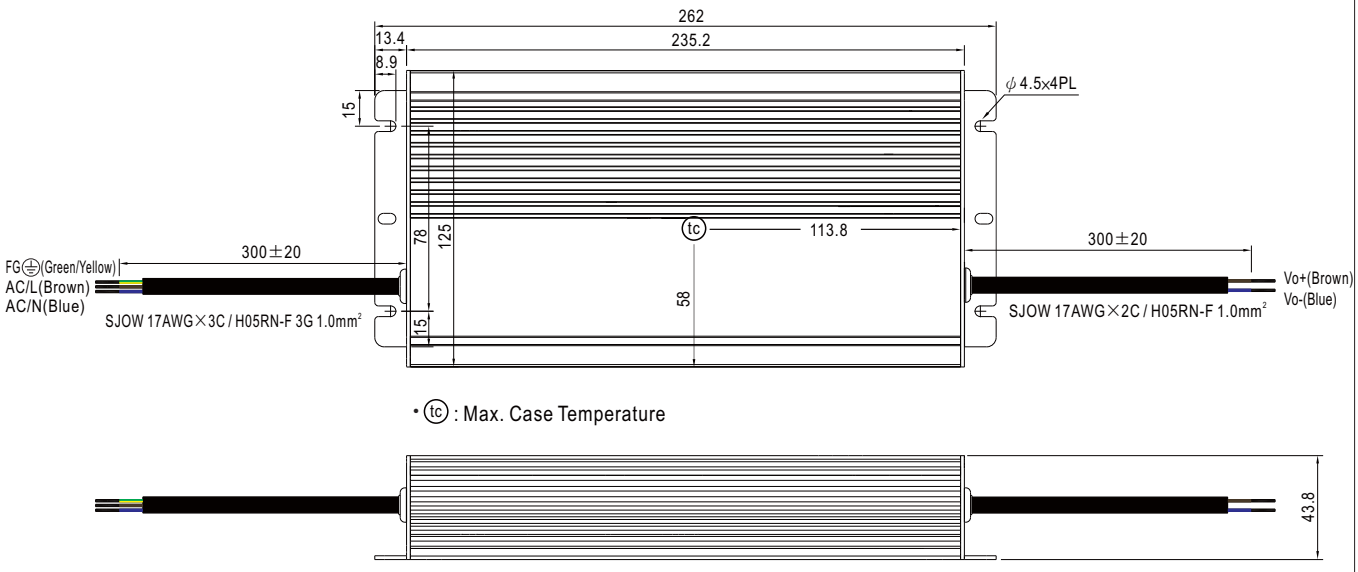
※**Blank-Type**

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



• tc : Max. Case Temperature

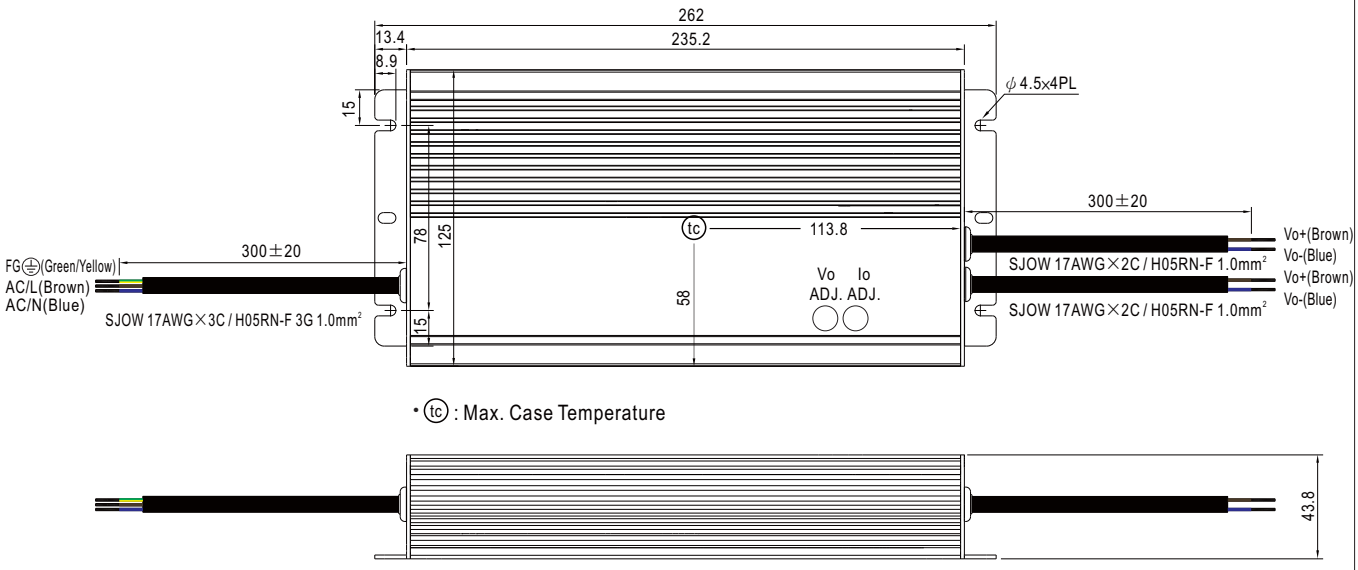
For Others



• tc : Max. Case Temperature

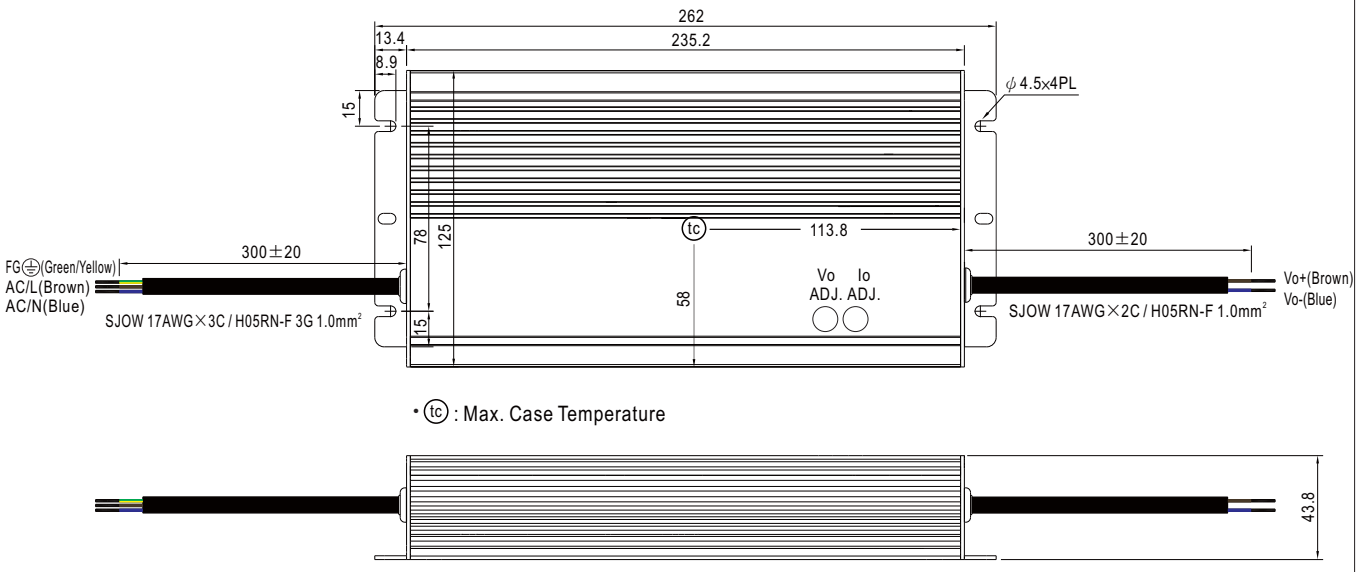
※**A-Type**

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



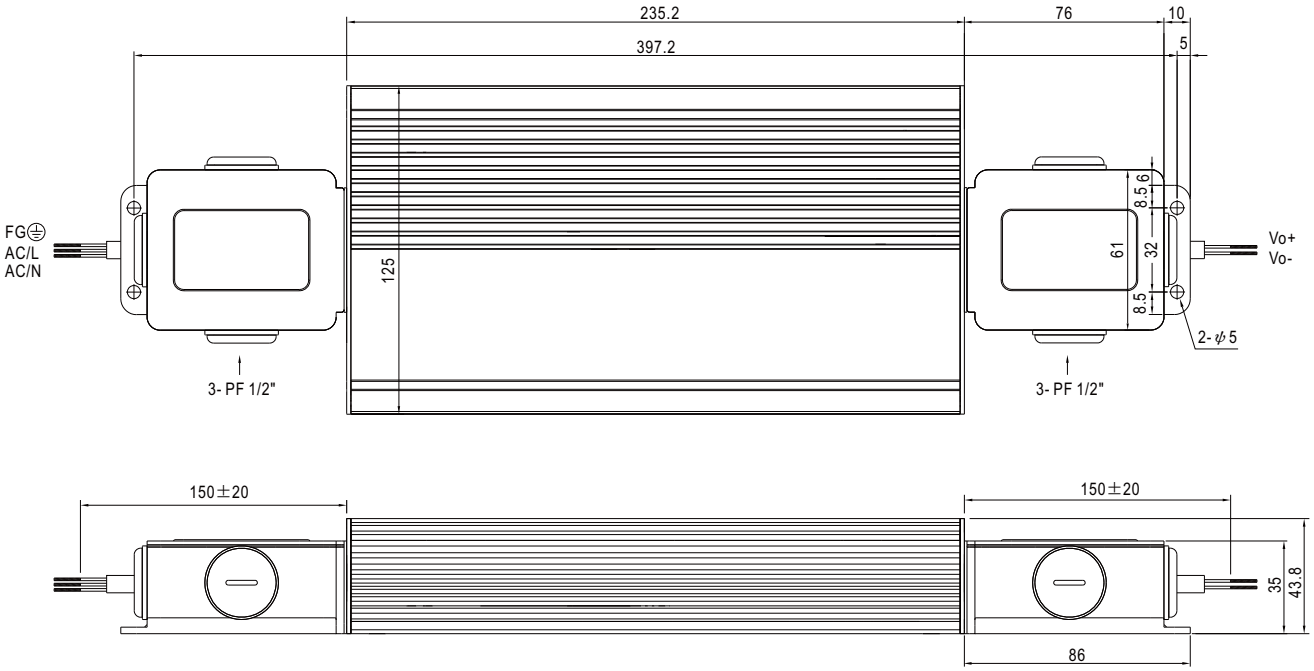
• tc : Max. Case Temperature

For Others



• 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