



185W Premium Single Output LED Power Supply

HLGP-185H series



Features

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 94%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Fanless design, cooling by free air convection
- OCP point adjustable through output cable or internal potentiometer
- IP68 / IP65 design for indoor or outdoor installations
- Three in one dimming function (1~10Vdc or PWM signal or resistance)
- Type "HL" for use in class I , Division 2 hazardous(Classified) location luminaires
- 7 years warranty (Note.10)

Applications

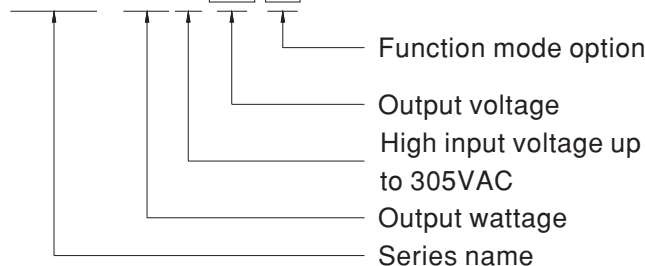
- LED street lighting
- LED searchlight
- LED flood lights
- LED fishing lamp
- LED greenhouse lighting
- Class I , Division 2 hazardous (Classified) location luminaires

Description

HLGP-185H is the advanced version of the industry-leading LED power supply, HLGP-185H series with the rated power up to 185W. With the identical electrical specification and fanless design, HLGP-185H further provides the low start up temperature at -55°C, the surge immunity level for line-to-line up to 6KV, the anti-vibration capability up to 10G and the IP68 protection against dust and water (for Blank-Type and B-Type), offering the optimal solution for the LED luminaire built in various type of demanding environment.

Model Encoding

HLGP-185H 12 A



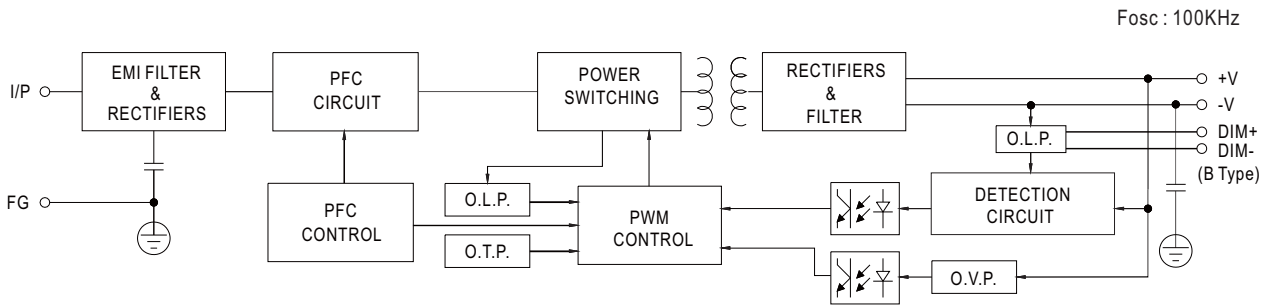
- Blank: IP68 rated. Constant voltage level and constant current level fixed.
- A: IP65 rated. Constant voltage level and constant current level adjustable via potentiometer.
- B: IP68 rated. Constant current level adjustable with additive 0~10VDC, 10V PWM signal or resistance.



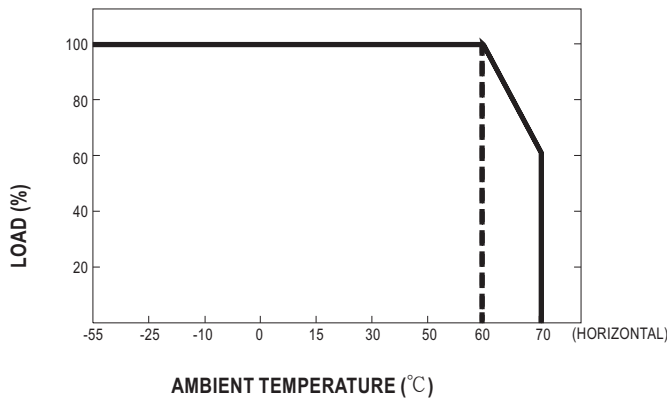
SPECIFICATION

MODEL		HLGP-185H-12	HLGP-185H-15	HLGP-185H-20	HLGP-185H-24	HLGP-185H-30	HLGP-185H-36	HLGP-185H-42	HLGP-185H-48	HLGP-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 Note.6	10.8 ~ 13.5V	13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	38 ~ 46V	43 ~ 53V	49 ~ 58V	
	CURRENT ADJ. RANGE	Can be adjusted by internal potentiometer A type only									
		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.8	1000ms,50ms/115VAC 500ms,50ms/230VAC at full load ; B type 1000ms,200ms/115VAC 500ms,200ms/230VAC at 95% load										
HOLD UP TIME (Typ.)	16ms at full load 230VAC / 115VAC										
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC		127 ~ 431VDC							
	FREQUENCY RANGE	47 ~ 63Hz									
	POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.95/230VAC, PF>0.92/277VAC at full load (Please refer to "Power Factor Characteristic" curve)									
	TOTAL HARMONIC DISTORTION	THD< 20% when output loading ≥ 50% at 115VAC/230VAC input and output loading ≥ 75% at 277VAC input									
	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(twidth=445μs measured at 50% Ipeak) at 230VAC									
LEAKAGE CURRENT	<0.75mA / 277VAC										
PROTECTION	OVER CURRENT	95 ~ 108%									
		Protection type : 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	
	Protection type : Shut down o/p voltage with auto-recovery or re-power on to recovery										
OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down										
ENVIRONMENT	WORKING TEMP.	-55 ~ +70°C (Refer to "Derating Curve")									
	WORKING HUMIDITY	20 ~ 95% RH non-condensing									
	STORAGE TEMP., HUMIDITY	-60 ~ +80°C, 10 ~ 95% RH									
	TEMP. COEFFICIENT	± 0.03%/°C (0 ~ 50°C)									
	VIBRATION	20 ~ 500Hz, 10G 12min./1cycle, period for 72min. each along X, Y, Z axes									
SAFETY & EMC	SAFETY STANDARDS Note.7	UL8750(type"HL"), CSA C22.2 No. 250.0-08, EN61347-1, EN61347-2-13 independent IP65 or IP68, J61347-1, J61347-2-13 approved ; design refer to UL60950-1, TUV EN60950-1									
	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°C / 70% RH									
	EMC EMISSION	Compliance to EN55015, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (≥ 50% load) ; EN61000-3-3									
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge 6KV), criteria A									
OTHERS	MTBF	192.2K hrs min. MIL-HDBK-217F (25°C)									
	DIMENSION	228*68*38.8mm (L*W*H)									
	PACKING	1.15Kg; 12pcs/14.8Kg/0.8CUFT									
NOTE	<ol style="list-style-type: none"> All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. Tolerance : includes set up tolerance, line regulation and load regulation. Please refer to "DRIVING METHODS OF LED MODULE". Derating may be needed under low input voltages. Please check the static characteristics for more details. A type only. Safety and EMC design refer to EN60598-1, subject 8750(UL), CNS15233, GB7000.1, FCC part18. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time. The power supply 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. Refer to warranty statement of HLG series with the identical power rating on MEAN WELL's website. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains. 										

Block Diagram



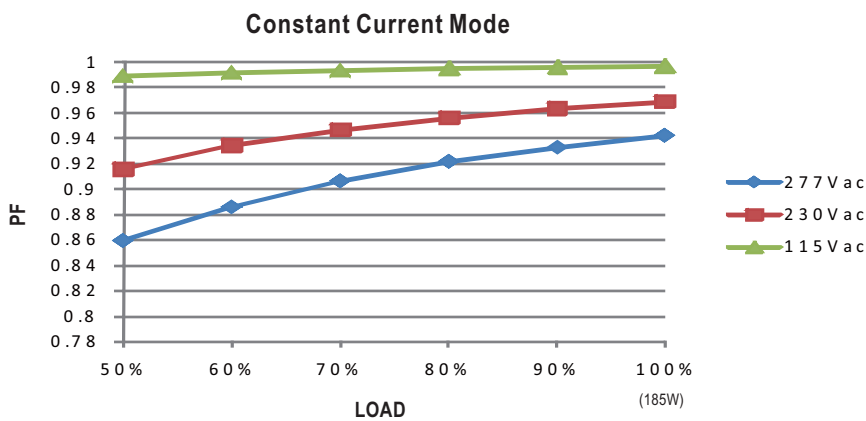
Derating Curve



Static Characteristics

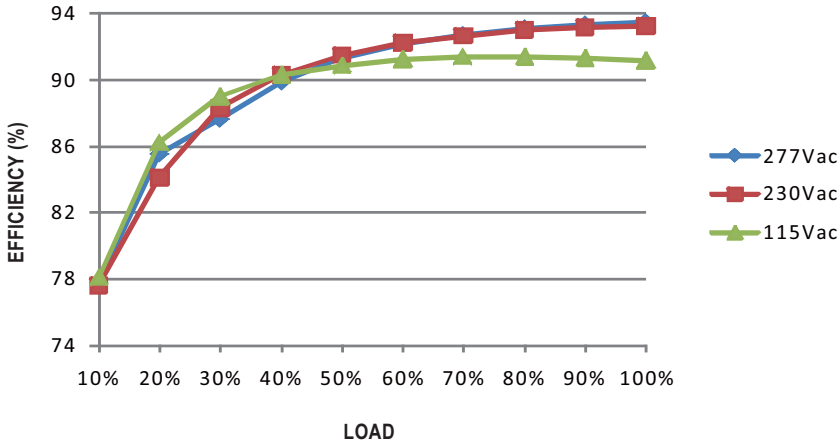


Power Factor Characteristic



EFFICIENCY vs LOAD (48V Model)

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

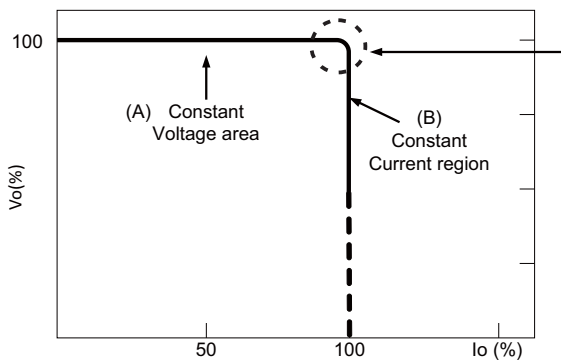


DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B)).

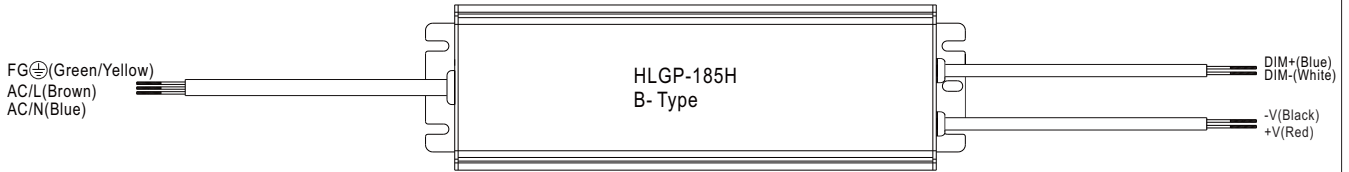


Typical LED power supply I-V curve

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 B-Type only)



※ Built-in 3 in 1 dimming function, IP68 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 1 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-.

※ Please DO NOT connect "DIM-" to "-V".

※ Reference resistance value for output current adjustment (Typical)

Resistance value	Single driver	10KΩ	20KΩ	30KΩ	40KΩ	50KΩ	60KΩ	70KΩ	80KΩ	90KΩ	100KΩ	OPEN
	Multiple drivers (N=driver quantity for synchronized dimming operation)	10KΩ/N	20KΩ/N	30KΩ/N	40KΩ/N	50KΩ/N	60KΩ/N	70KΩ/N	80KΩ/N	90KΩ/N	100KΩ/N	-----
Percentage of rated current		10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ 1 ~ 10V dimming function for output current adjustment (Typical)

Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

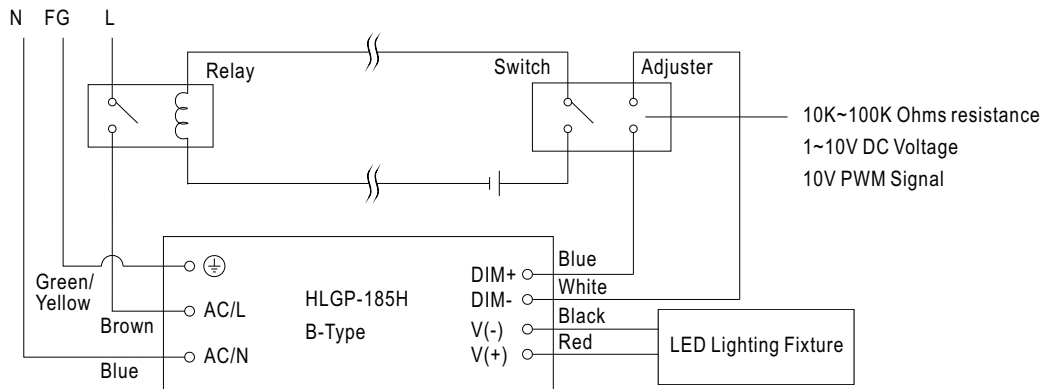
※ 10V PWM signal for output current adjustment (Typical): Frequency range : 100Hz ~ 3KHz

Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ Using the built-in dimming function on B-Type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.

※ Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.

Dimming connection diagram for turning the lighting fixture ON/OFF :



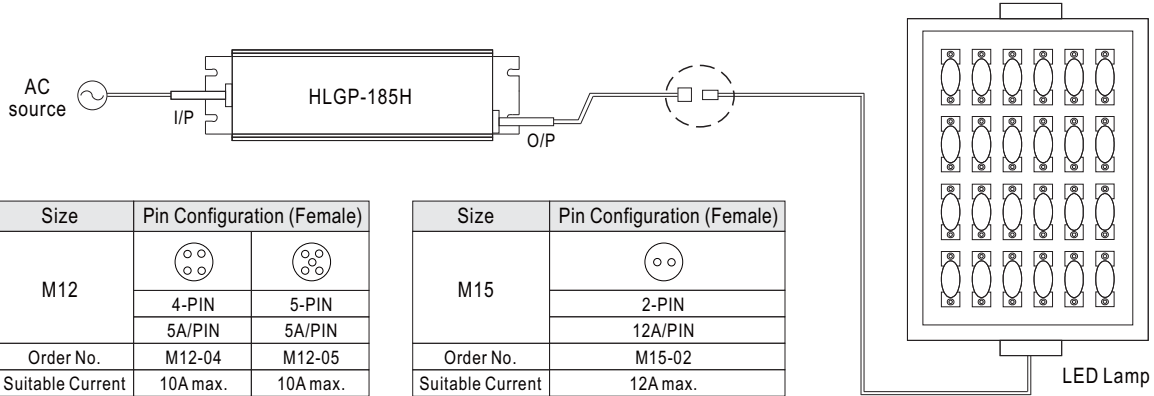
Using a switch and relay can turn ON/OFF the lighting fixture.

1. Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
2. The LED lighting fixture can be turned ON/OFF by the switch.

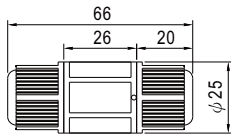
WATERPROOF CONNECTION

Waterproof connector

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



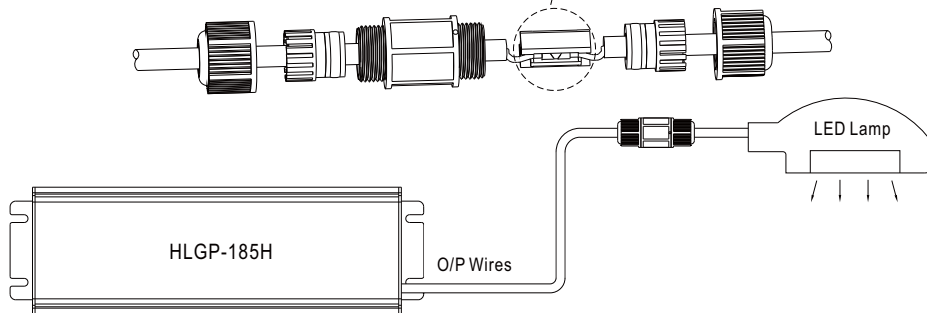
Cable Joiner



CJ04-1 suitable for 14AWG~16AWG
CJ04-2 suitable for 18AWG~22AWG



Up to four wires can be connected through this cable joiner by soldering or clamping by tools.

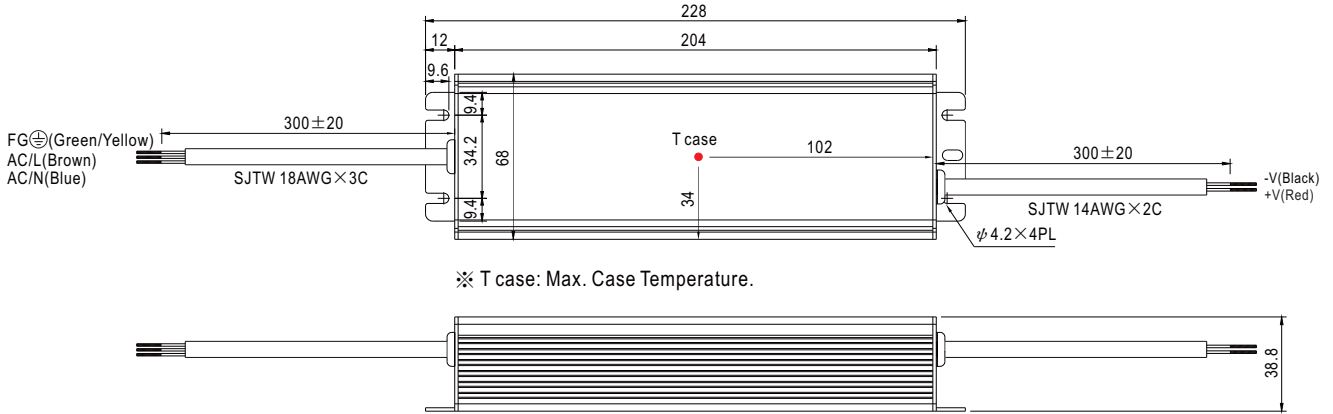


※CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

Mechanical Specification

Case No.994D Unit:mm

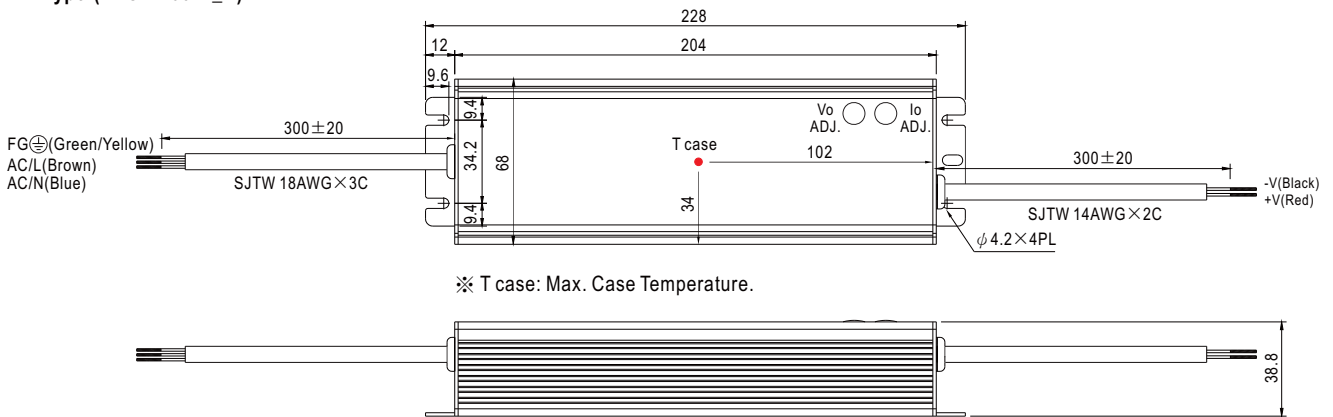
Blank:(HLGP-185H-)



※ T case: Max. Case Temperature.

※IP68 rated. Cable for I/O connection.

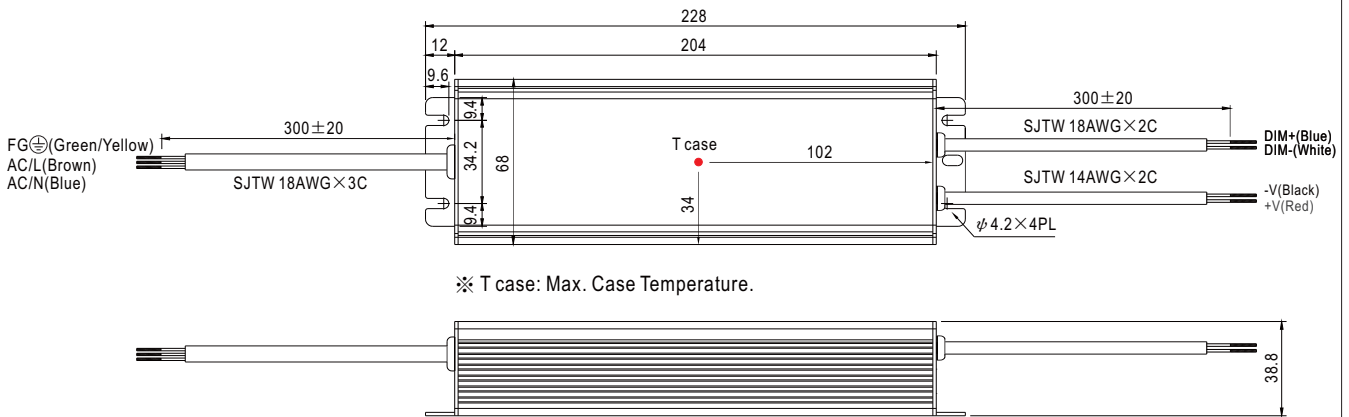
A-Type:(HLGP-185H- A)



※ T case: Max. Case Temperature.

※ IP65 rated. Output voltage and constant current level can be adjusted through internal potentiometer.
(Can access by removing the rubber stopper on the case.)

B-Type:(HLGP-185H- B)



※ T case: Max. Case Temperature.

Installation Manual

Please refer to : <http://www.meanwell.com/webnet/search/InstallationSearch.html>