



300W Constant Power Mode LED Driver

**HBGC-300 series**



**Features**

- Wide input range 90 ~ 305VAC
- Full power at 60~100% max current (Constant Power )
- Built-in active PFC function
- Circular metal housing design with IP67
- Function options: output adjustable via potentiometer;  
3 in 1 dimming (Dim to off and Isolation) ; DALI-2 dimming
- Typical lifetime>50000 hours
- 5 years warranty

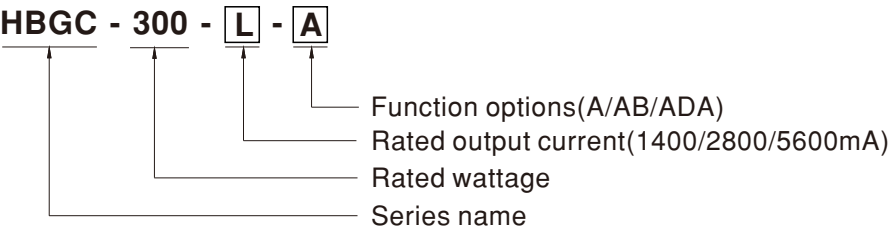
**Applications**

- Bay lighting
- Stage lighting
- Flood lighting
- Stadium lighting
- Type HL for use in class I ,Division 2

**Description**

HBGC-300 series is a 300W LED AC/DC driver featuring the constant power mode and high voltage output. HBGC-300 operates from 90~305VAC and offers models with different rated current ranging between 1300mA and 8670mA. Thanks to the high efficiency up to 94.5%, 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 ingress protection level allows this series to fit both indoor and outdoor applications. Moreover the innovative environment-adaptive capability allows this series to reliably light on the LEDs for all kinds of application environments in almost any spots that may install LED luminaires in the world. HBGC-300 is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

**Model Encoding**



Type	IP Level	Function	Note
A	IP67	output constant power adjustable via built-in potentiometer	In Stock
AB	IP67	output constant power adjustable via built-in potentiometer + 3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance)	In Stock
ADA	IP67	DALI-2 control technology with Io Adjustable via build-in Potentiometer	In Stock



## SPECIFICATION

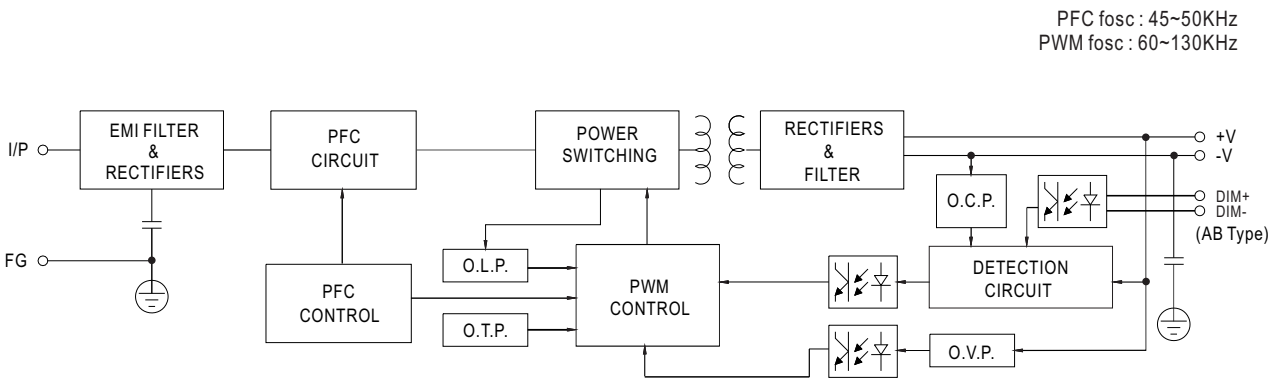
MODEL		HBGC-300-L□	HBGC-300-M□	HBGC-300-H□
OUTPUT	DEFAULT CURRENT	1400mA	2800mA	5600mA
	RATED POWER	301.6W	301.6W	301.6W
	CONSTANT CURRENT REGION	116 ~232V	58 ~ 116V	29 ~ 58V
	FULL POWER CURRENT RANGE	1300~2170mA	2600~4330mA	5200~8670mA
	OPEN CIRCUIT VOLTAGE (max.)	240V	120V	62V
	CURRENT ADJ. RANGE	650~2170mA	1300~4330mA	2600~8670mA
	CURRENT RIPPLE	5.0% max. @rated current		
	CURRENT TOLERANCE	± 5%		
SET UP TIME		500ms/230VAC, 500ms/115VAC		
INPUT	VOLTAGE RANGE	Note.2 90 ~ 305VAC    127VDC ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)		
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	PF ≥ 0.97 / 115VAC, PF ≥ 0.95 / 230VAC, PF ≥ 0.92 / 277VAC at full load (Please refer to "Power Factor Characteristic" section)		
	TOTAL HARMONIC DISTORTION	THD< 10% (@ load ≥ 50% at 115VAC/230VAC ,@load ≥ 75% at 277VAC) Please refer to "TOTAL HARMONIC DISTORTION (THD)" section		
	EFFICIENCY (Typ.)	94.5%	93.5%	92.5%
	AC CURRENT (Typ.)	3A / 115VAC    1.6A / 230VAC    1.3A / 277VAC		
	INRUSH CURRENT(Typ.)	COLD START 45A(twidth=1300μs measured at 50% Ipeak) at 230VAC; Per NEMA 410		
	MAX. NO. of PSUs on 16A CIRCUIT BREAKER	2 unit(circuit breaker of type B) / 4 units(circuit breaker of type C) at 230VAC		
	LEAKAGE CURRENT	<0.75mA / 277VAC		
	NO LOAD / STANDBY POWER CONSUMPTION	Standby power consumption <0.5W for AB / ADA-Type Blank/A-Type please refer to Note. 5		
PROTECTION	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed		
	OVER VOLTAGE	241 ~ 275V	121 ~ 145V	61 ~ 78V
		Shut down output voltage, re-power on to recovery		
	OVER TEMPERATURE	Tcase>80℃ ±5℃, derate power automatically by 6%/℃ max.		
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 non-condensing		
	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. 250.13-12; ENEC BS EN/EN61347-1, BS EN/EN61347-2-13 independent, BS EN/EN62384; EAC TP TC 004; GB19510.1, GB19510.14; IP67 approved		
	DALI STANDARDS	Compliance to IEC62386-101,102,207 for ADA Type only		
	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, 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 6KV, Line-Line 4KV), EAC TP TC 020		
OTHERS	MTBF	561.2K hrs min.    Telcordia SR-332(Bellcore) ; 154.9K hrs min.    MIL-HDBK-217F (25℃)		
	LIFETIME	Note.4	50000 hrs min.	
	DIMENSION	φ 191.5mm *69mm		
	PACKING	2.2Kg; 8pcs/19.8Kg/2.09CUFT		
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature. 2. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. 3. 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. 4. This series meets the typical life expectancy of >50,000 hours of operation when Tcase, particularly tc point (or TMP, per DLC), is about 75℃ or less. 5. To fulfill requirements of the latest ErP regulation for lighting fixture, this LED drive can only be used behind a switch without permanently connected to the mains. 6. Please refer to the warranty statement on MEAN WELL's website at <a href="http://www.meanwell.com">http://www.meanwell.com</a> 7. 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). 8. For any application note and IP water proof function installation caution, please refer our user manual before using. <a href="https://www.meanwell.com/Upload/PDF/LED_EN.pdf">https://www.meanwell.com/Upload/PDF/LED_EN.pdf</a> ※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a>			



# 300W Constant Power Mode LED Driver

# HBGC-300 series

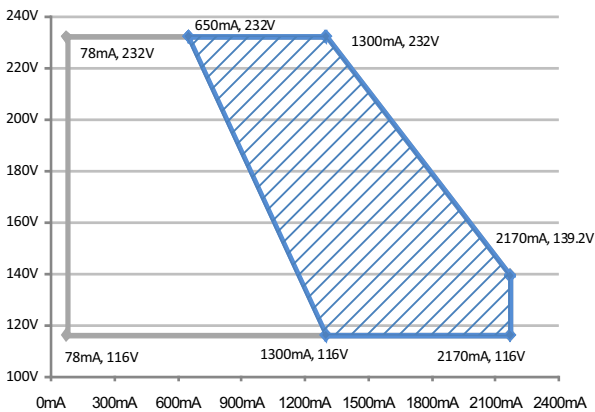
## BLOCK DIAGRAM



## DRIVING METHODS OF LED MODULE

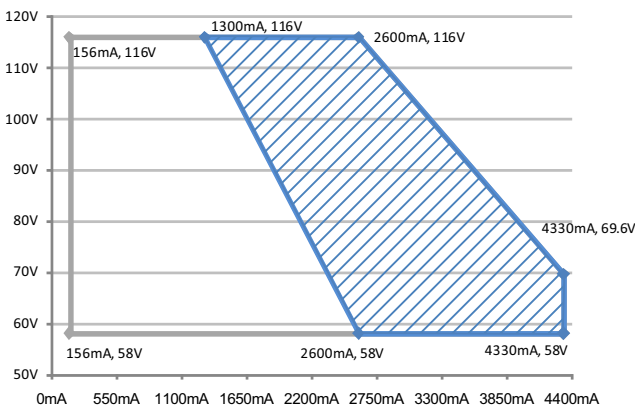
※ I-V Operating Area

◎ HBGC-300-L



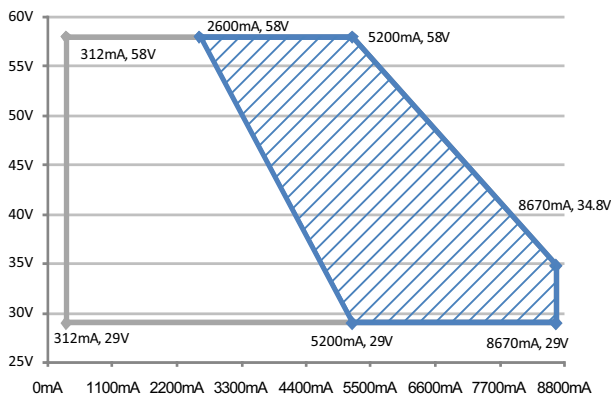
High Performance Region Operational Region

◎ HBGC-300-M



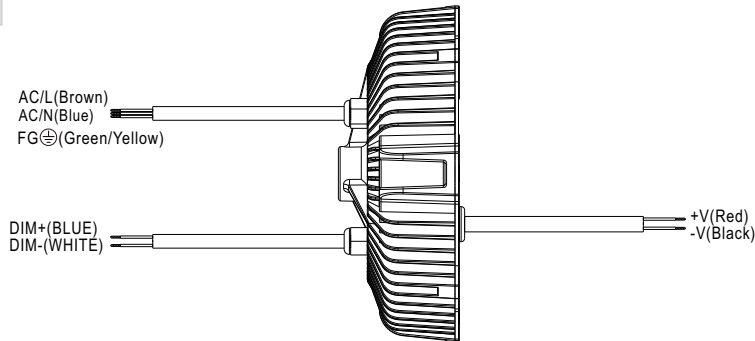
High Performance Region Operational Region

◎ HBGC-300-H



High Performance Region Operational Region

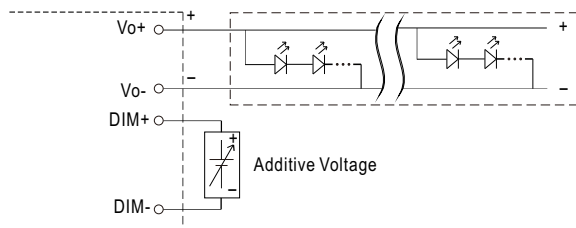
## DIMMING OPERATION



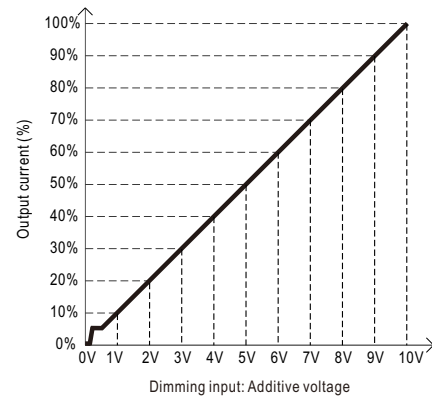
### ※ 3 in 1 dimming function (for AB-Type)

- 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: 100 $\mu$ A (typ.)

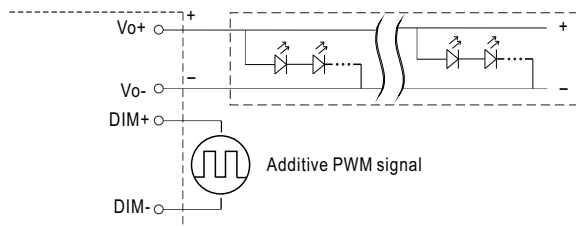
#### ○ Applying additive 0 ~ 10VDC



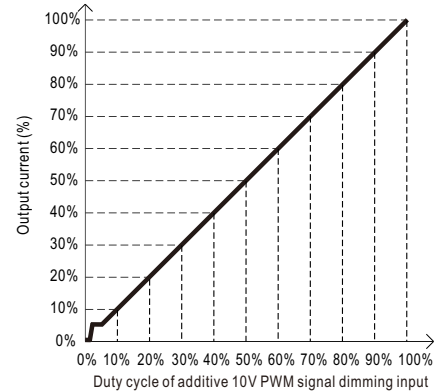
"DO NOT connect "DIM- to Vo-"



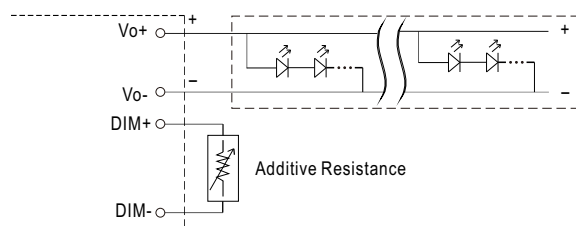
#### ○ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



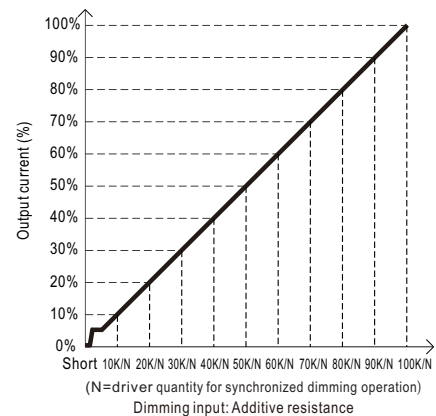
"DO NOT connect "DIM- to Vo-"



#### ○ Applying additive resistance:



"DO NOT connect "DIM- to Vo-"



Note : 1. Min. dimming level is about 8% and the output current is not defined when 0% < I<sub>out</sub> < 8%.

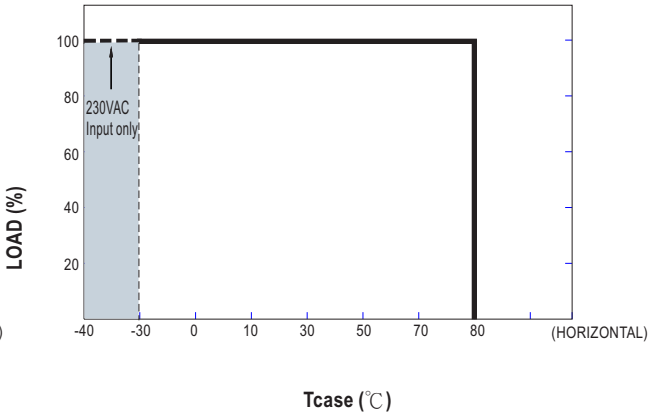
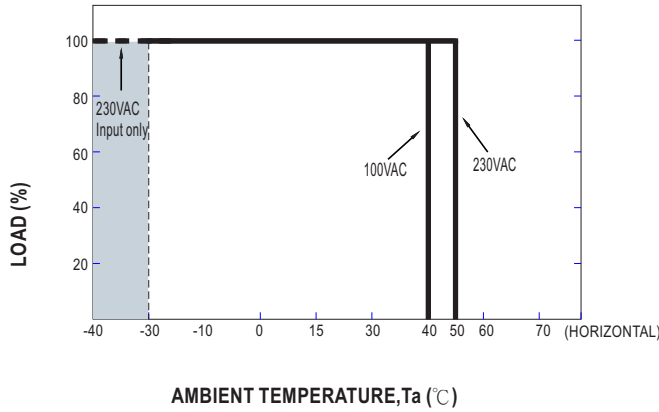
2. The output current could drop down to 0% when dimming input is about 0k $\Omega$  or 0Vdc, or 10V PWM signal with 0% duty cycle.



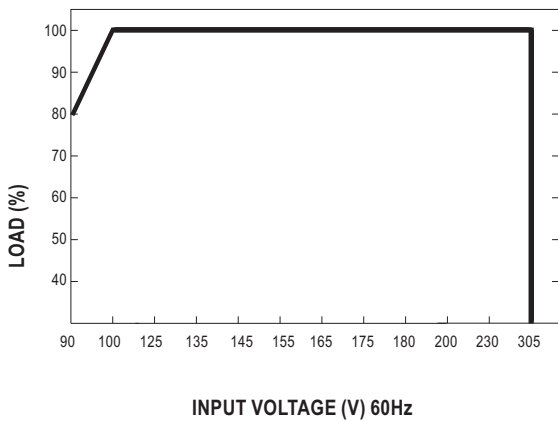
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## OUTPUT LOAD vs TEMPERATURE

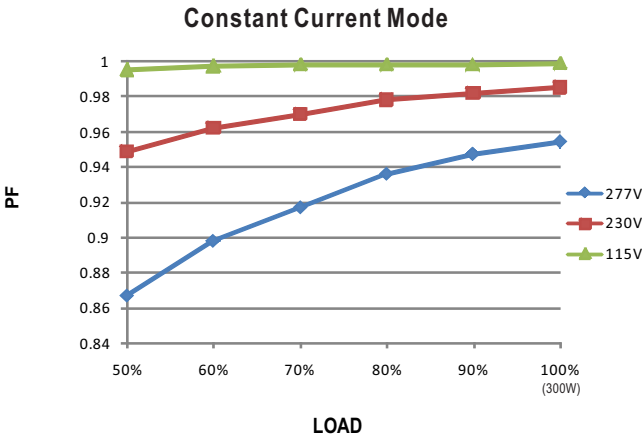


## STATIC CHARACTERISTIC



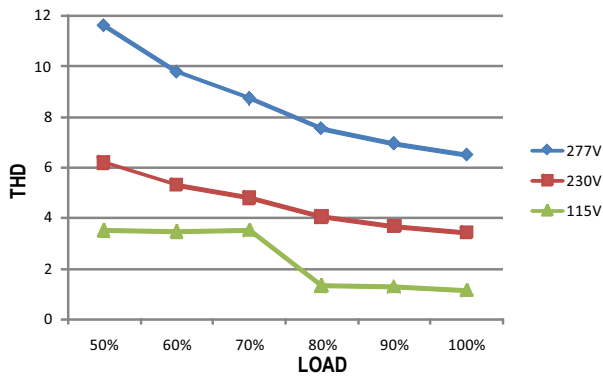
## POWER FACTOR (PF) CHARACTERISTIC

※  $T_{case}$  at 65°C



## TOTAL HARMONIC DISTORTION (THD)

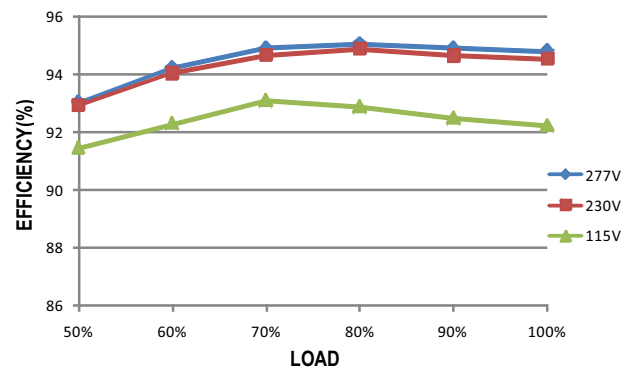
※ HBGC-300-L Model,  $T_{case}$  at 65°C



## EFFICIENCY vs LOAD

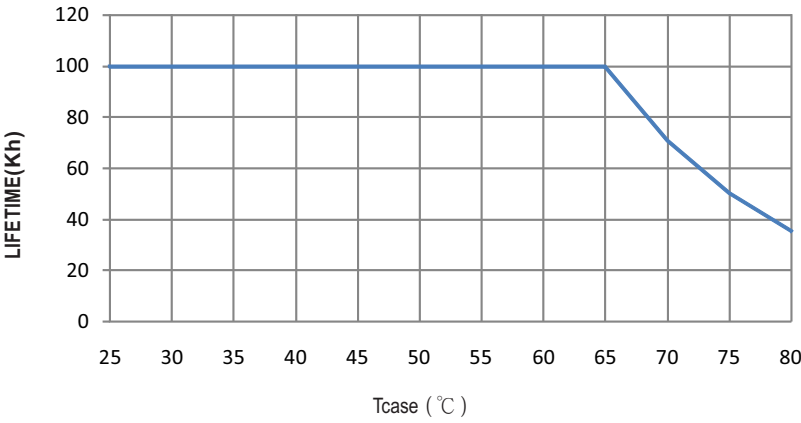
HBGC-300 series possess superior working efficiency that up to 94.5% can be reached in field applications.

※ HBGC-300-L Model,  $T_{case}$  at 65°C





■ LIFE TIME





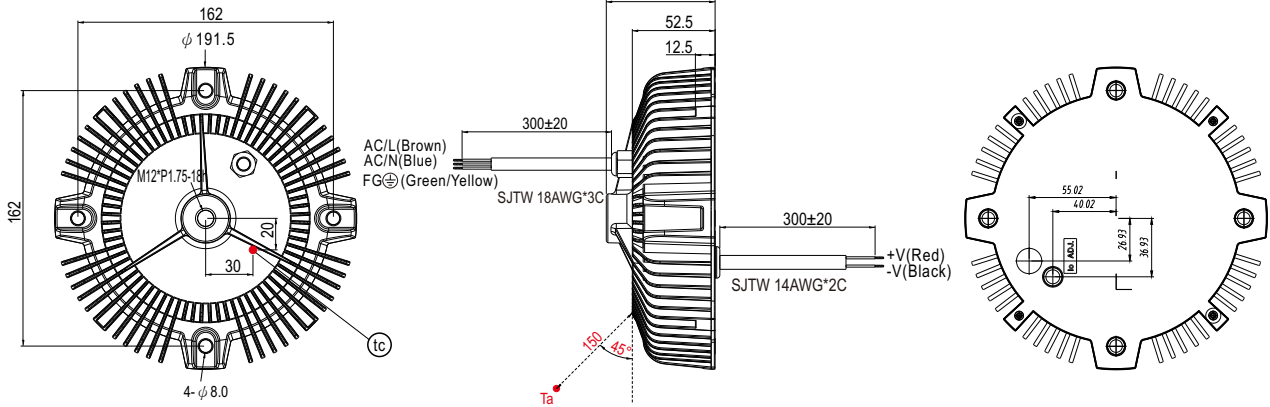
## 300W Constant Power Mode LED Driver

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Case No.213 Unit:mm

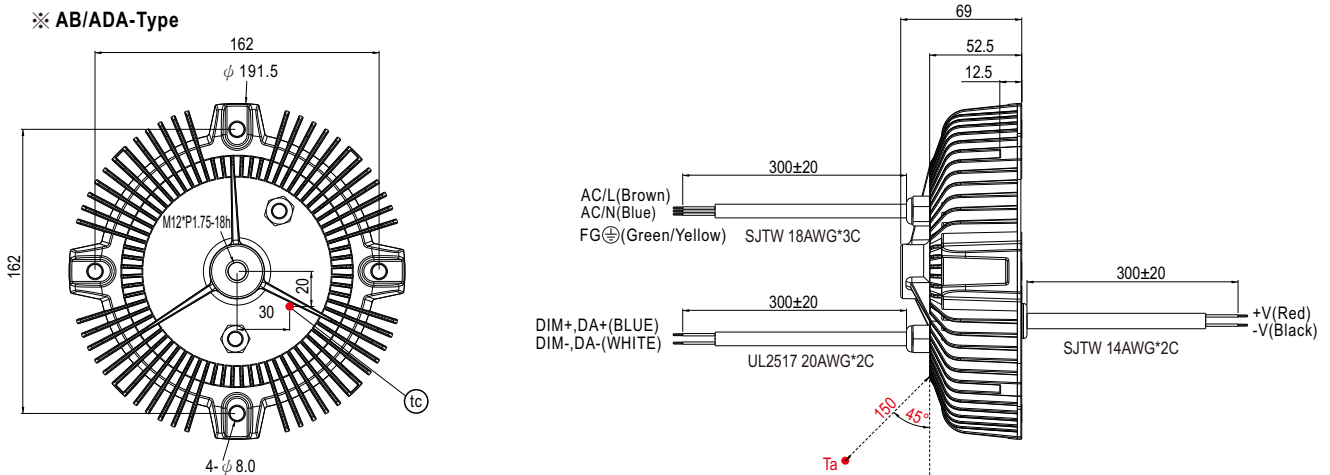
### MECHANICAL SPECIFICATION

#### ※ A-Type



- (tc) : Max. Case Temperature. (case temperature measured point)
- Ta: Ambient Temperature measured point

#### ※ AB/ADA-Type



- (tc) : Max. Case Temperature. (case temperature measured point)
- Ta: Ambient Temperature measured point

### INSTALLATION MANUAL

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