



■ Features

- Constant Voltage + Constant Current mode output
- MEAN WELL patented circular metal housing with class I design(Patent No.: CN201220314551)
- Built-in active PFC function
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming; DALI
- Typical lifetime>50000 hours
- 5 years warranty

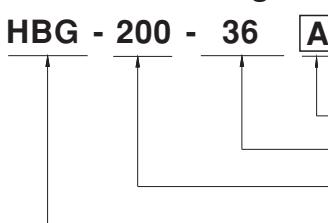
■ Applications

- LED high/low bay lighting
- LED canopy lighting
- LED stage lighting
- LED spot lighting
- Outdoor architectural lighting system
- Type "HL" for use in Class I, Division 2 hazardous (Classified) location.

■ Description

HBG-200 series is a 200W AC/DC LED driver featuring the circular shape design. It operates from 90~305VAC and offers the dual modes constant voltage and constant current output models with different rated voltage between 36V and 60V. Thanks to the high efficiency up to 93.5%, with the fanless design, the entire series is able to operate for -40°C ~ +85°C 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. HBG-200 is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

■ Model Encoding



- Function mode option
- Rated output voltage(36/48/60V)
- Rated wattage
- Series name

Type	IP Level	Function	Note
Blank	IP67	I _o fixed.	In Stock
A	IP65	I _o 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	I _o adjustable through built-in potentiometer with 3 in 1 dimming function	In Stock
DA	IP67	DALI control technology.	In Stock



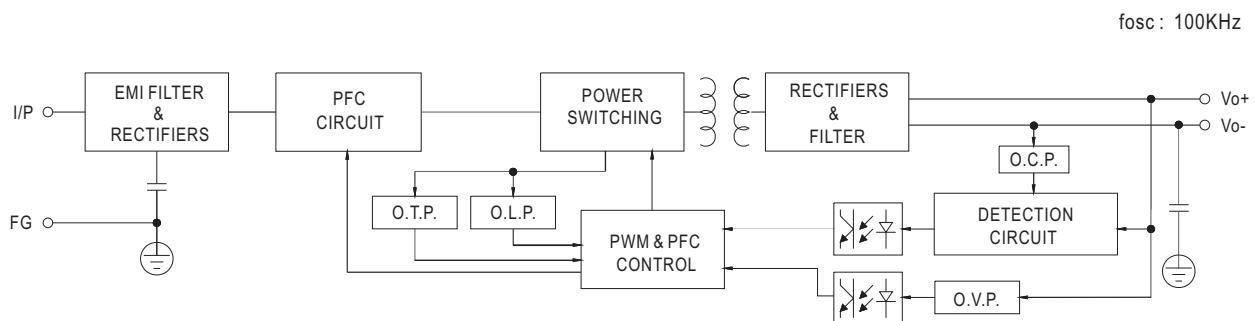
200W Constant Voltage + Constant Current LED Driver

HBG-200 series

SPECIFICATION

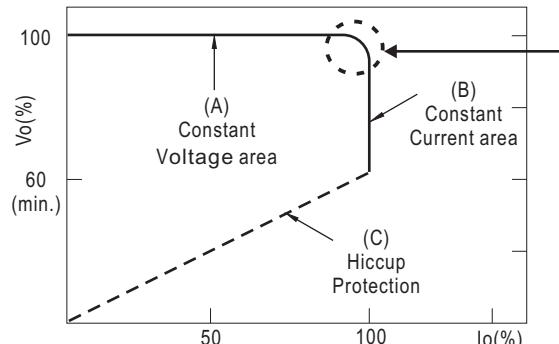
MODEL	HBG-200-36 <input type="checkbox"/>	HBG-200-48 <input type="checkbox"/>	HBG-200-60 <input type="checkbox"/>
OUTPUT	DC VOLTAGE	36V	48V
	CONSTANT CURRENT REGION Note.2	21.6 ~ 36V	28.8 ~ 48V
	RATED CURRENT	5.5A	4.1A
	RATED POWER	198W	196.8W
	RIPPLE & NOISE (max.) Note.3	250mVp-p	250mVp-p
	CURRENT ADJ. RANGE	Adjustable for A-Type and AB-Type (via built-in potentiometer)	
	3.3 ~ 5.5A	2.46 ~ 4.1A	1.98 ~ 3.3A
	VOLTAGE TOLERANCE Note.4	±2.0%	
	LINE REGULATION	±0.5%	
	LOAD REGULATION	±1.0%	
INPUT	SETUP, RISE TIME Note.6	2500ms,200ms /115VAC	500ms,200ms /230VAC
	HOLD UP TIME (Typ.)	12ms /115VAC, 230VAC	
	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)	
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR	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%/115V,230VAC; @load≥75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)	
	EFFICIENCY (Typ.)	92%	93%
	AC CURRENT (Typ.)	1.9A / 115VAC	1A / 230VAC
	INRUSH CURRENT (Typ.)	COLD START 85A(twidth=600μs measured at 50% Ipeak) 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	
PROTECTION	LEAKAGE CURRENT	<0.75mA / 277VAC	
	OVER CURRENT	95~108% Constant current limiting, recovers automatically after fault condition is removed	
	SHORT CIRCUIT	Hiccup mode or constant current limiting, recovers automatically after fault condition is removed	
	OVER VOLTAGE	41 ~ 47V	54 ~ 62V
	OVER TEMPERATURE	Shut down o/p voltage with auto-recovery or re-power on to recovery	
ENVIRONMENT	WORKING TEMP.	Tcase=-40 ~ +85°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)	
	MAX. CASE TEMP.	Tcase=+85°C	
	WORKING HUMIDITY	20 ~ 95% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)	
	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 EN61347-1, EN61347-2-13 independent, EN62384; GB19510.14, GB19510.1; EAC TP TC 004, IP65 or IP67 approved	
	DALI STANDARDS	Compliance to IEC62386-101, 102, 207 for DA type only	
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH	
	EMC EMISSION Note.8	Compliance to EN55015, EN61000-3-2 Class C (@load≥60%) ; EN61000-3-3; GB17625.1, GB17743, EAC TP TC 020	
OTHERS	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, light industry level (surge immunity:Line-Earth:4KV, Line-Line:2KV), EAC TP TC 020	
	MTBF	252.3Khrs min. MIL-HDBK-217F (25°C)	
	DIMENSION	Refer to mechanical specification	
NOTE	PACKING	1.53Kg; 8pcs/13.8Kg/1.61CUFT	
	1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C of ambient temperature. 2. Please refer to "DRIVING METHODS OF LED MODULE". 3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 4. Tolerance : includes set up tolerance, line regulation and load regulation. 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 cold first 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. The model certified for CCC(GB19510.14, GB19510.1, GB17743 and GB17625.1) is an optional model . Please contact MEAN WELL for details. 9. 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. 10. This series meets the typical life expectancy of >50,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 70°C or less. 11. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com		

■ BLOCK DIAGRAM



■ DRIVING METHODS OF LED MODULE

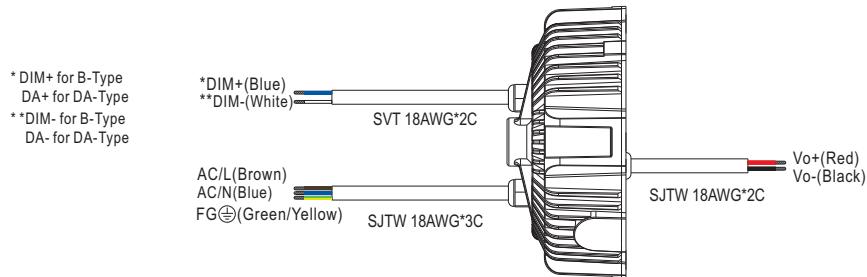
※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



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.

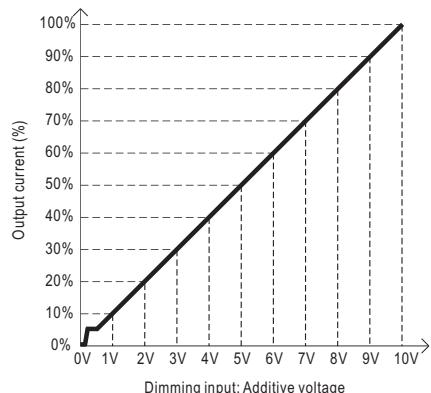
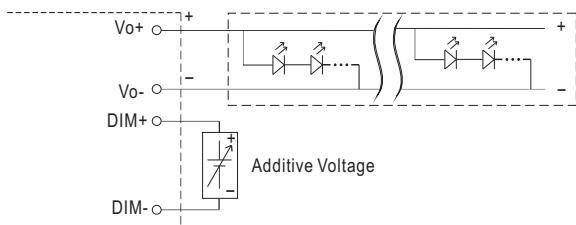
■ DIMMING OPERATION



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

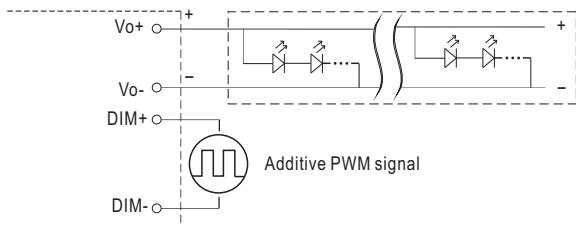
- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 0 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100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

◎ Applying additive 0 ~ 10VDC

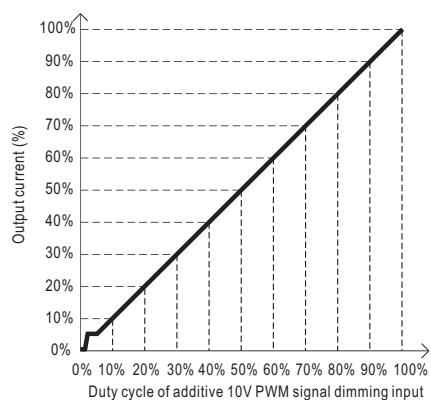


"DO NOT connect "DIM- to -V"

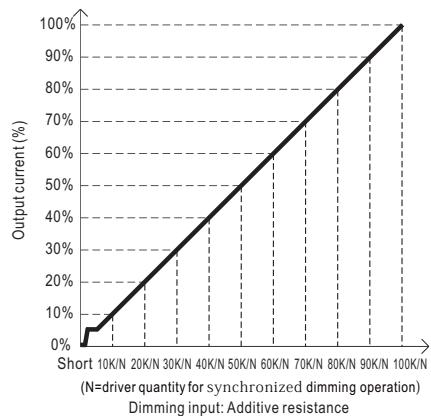
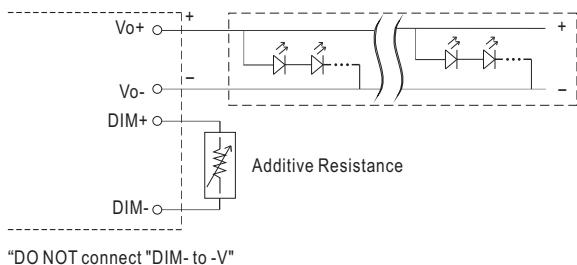
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



"DO NOT connect "DIM- to -V"



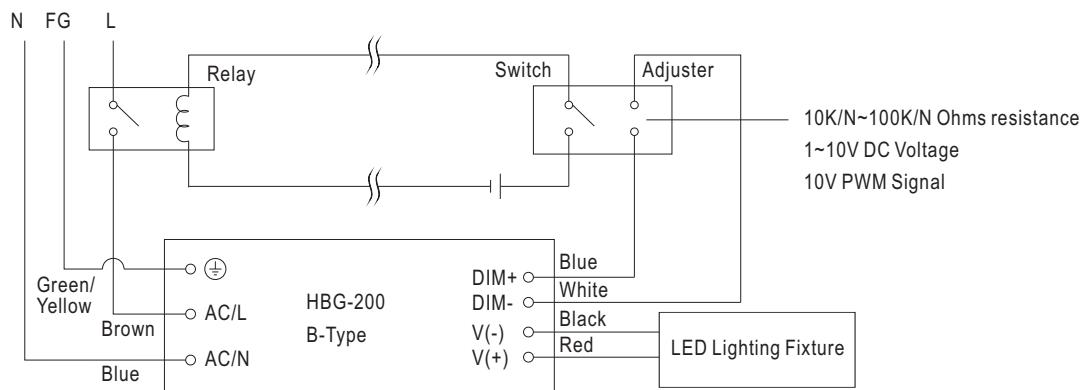
○ Applying additive resistance:



Note : 1. Min. dimming level is about 8% and the output current is not defined when $0\% < I_{out} < 8\%$.

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

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.

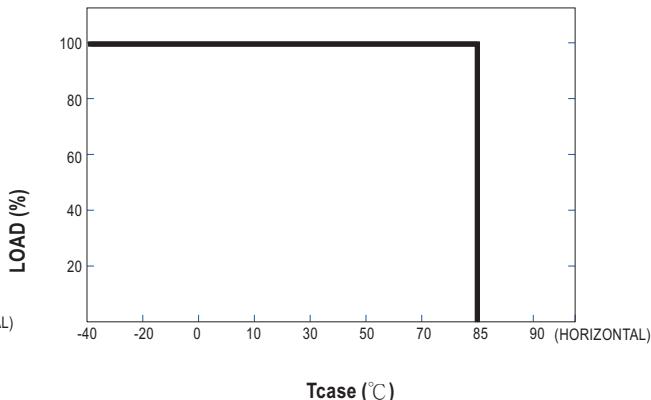
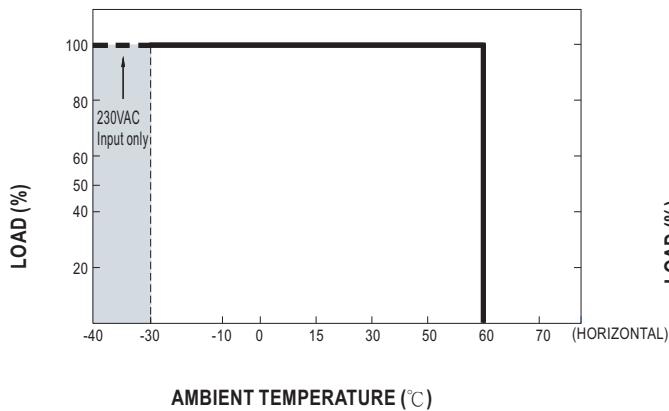


Using a switch and relay can turn ON/OFF the lighting fixture.

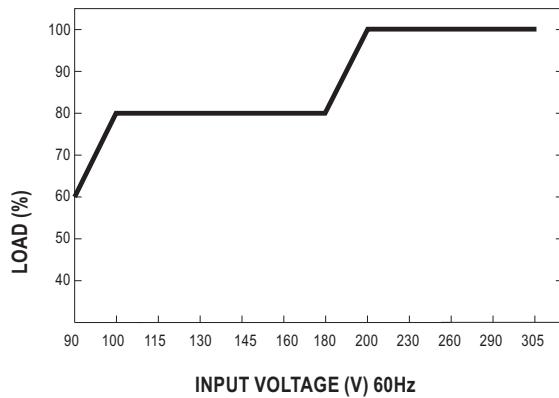
※ DALI Interface (primary side; for DA-Type)

- Apply DALI signal between DA+ and DA-.
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 8% of output.

■ OUTPUT LOAD vs TEMPERATURE

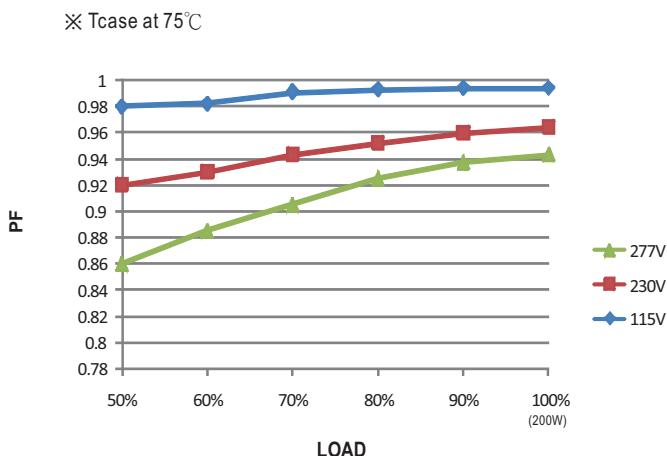


■ STATIC CHARACTERISTIC



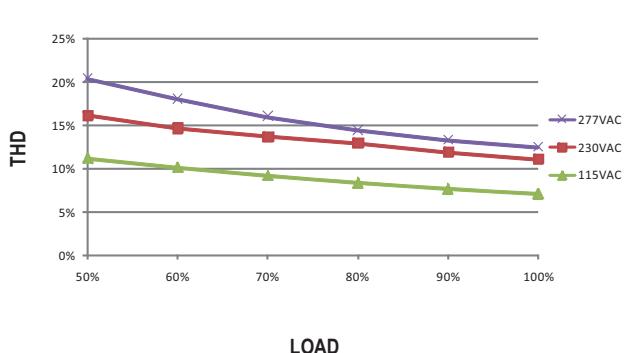
※ De-rating is needed under low input voltage.

■ POWER FACTOR (PF) CHARACTERISTIC



■ TOTAL HARMONIC DISTORTION (THD)

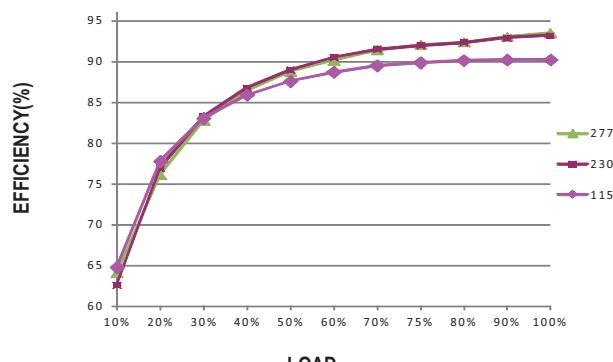
※ 48V Model, Tcase at 75°C

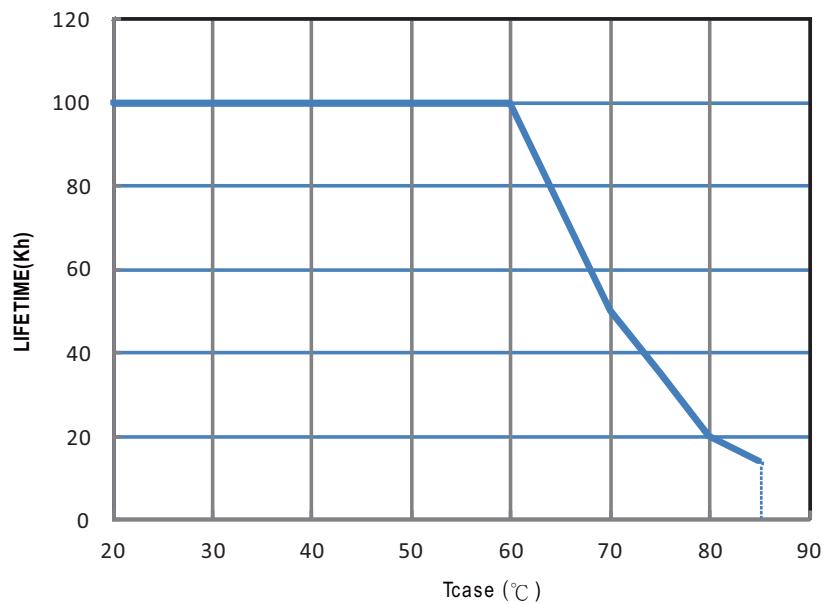


■ EFFICIENCY vs LOAD

HBG-200 series possess superior working efficiency that up to 93.5% can be reached in field applications.

※ 48V Model, Tcase at 75°C

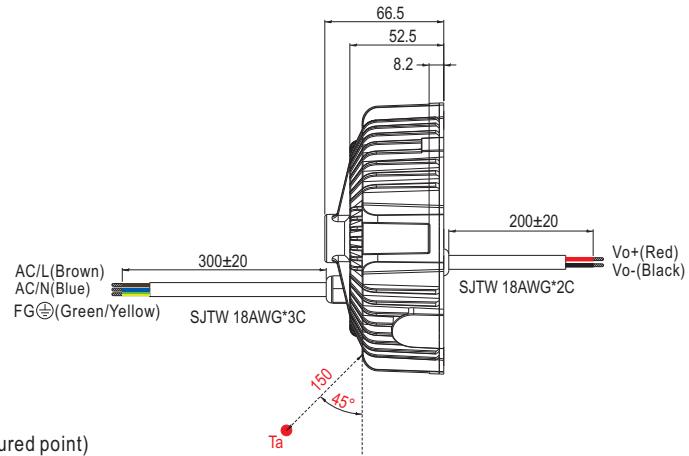
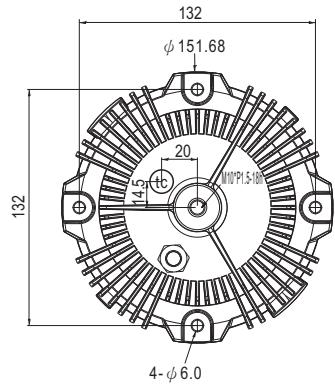


LIFE TIME

■ MECHANICAL SPECIFICATION

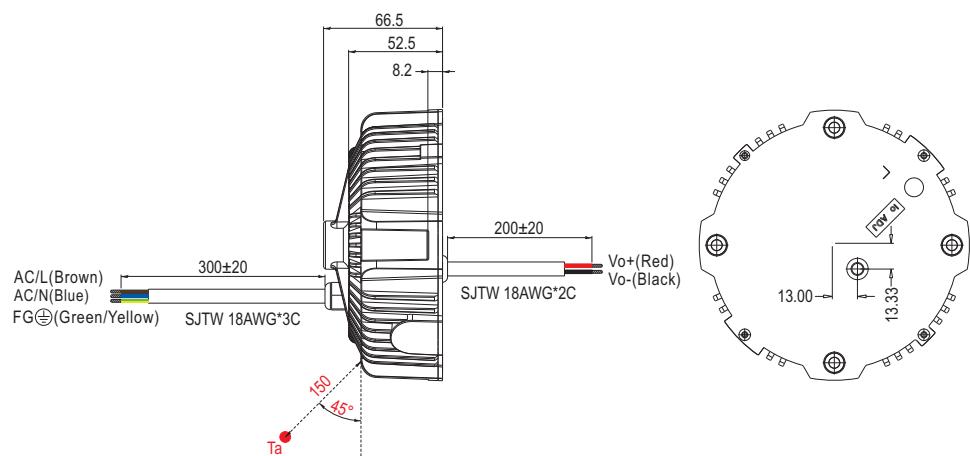
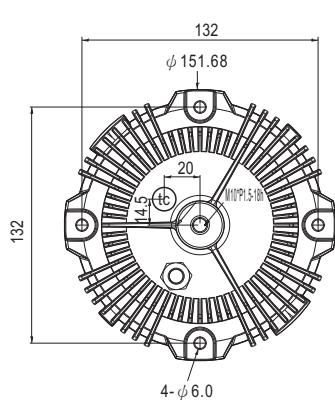
Case No.211 Unit:mm

※ Blank-Type



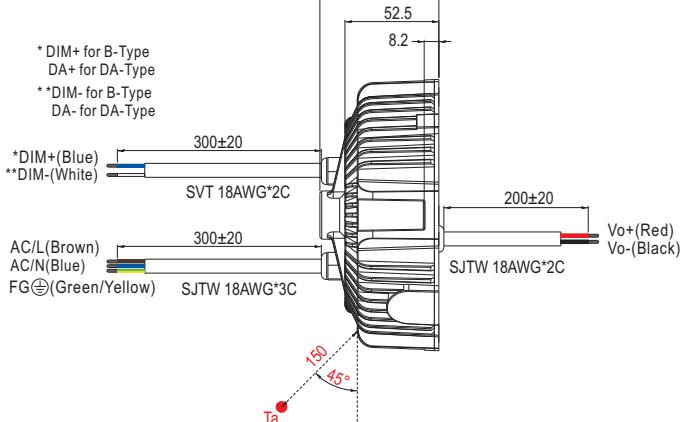
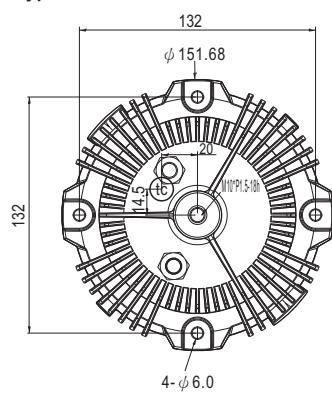
- (t_c): Max. Case Temperature.(case temperature measured point)
- Ta: Ambient Temperature measured point

※ A-Type



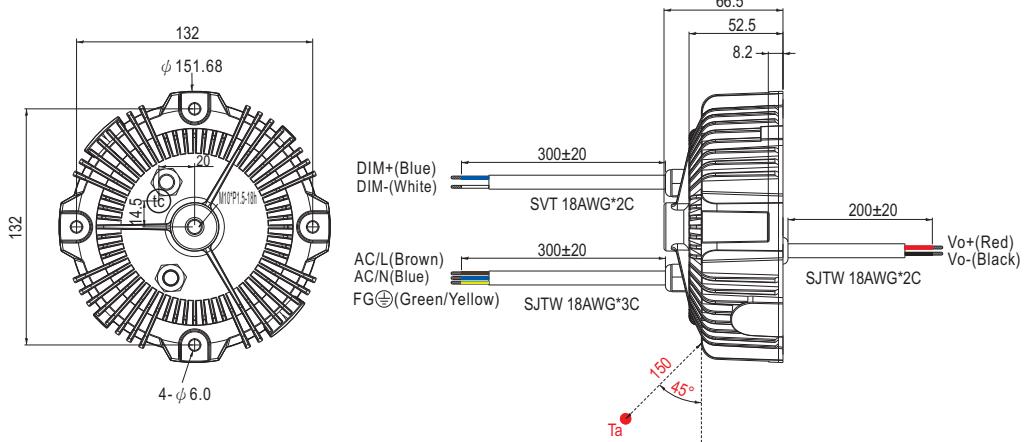
- (t_c): Max. Case Temperature.(case temperature measured point)
- Ta: Ambient Temperature measured point

※ B/DA-Type



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

※ AB-Type



- (t_c) : Max. Case Temperature.(case temperature measured point)
- T_a : Ambient Temperature measured point

■ INSTALLATIONS**Caution**

- ※ Please inspect the appearance of the driver if the package is damaged. There should not be any cracks.
- ※ Please do not drop or bump the driver.
- ※ All screws including the suspension screw should be paired with a spring washer and locked tight.
- ※ The entire luminaire, including the driver, should be limited to 10Kg or less.
- ※ The luminaire should be cautiously protected from damage due to shock throughout packaging and transportation.
- ※ Please thoroughly follow the preceding cautionary notes to prevent the luminaire from falling, leading to injuries.

■ INSTALLATION MANUAL

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