



300W Constant Power Mode LED Driver

ELGC-300 series

User's Manual



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SELV
(for H/M Type)

■ Features

- Full power at 65~100% operation(Constant Power)
- Protection Functions: OCP,SCP,OVP,OTP
- IP67 design for indoor or outdoor installations
- Function options: output adjustable via potentiometer;
3 in 1 dimming (dim-to-off) ; DALI-2 dimming
- Typical lifetime>50000 hours and 5 years warranty
- Surge protection with 6KV/4KV
- Latest safety requirements of IEC61347/GB/T19510 and UL8750

■ Applications

- LED bay lighting
- LED stage lighting
- LED flood lighting
- LED fishing lighting
- LED horticulture lighting
- Stadium lighting
- Type "HL" for use in class I , Division 2

■ GTIN CODE

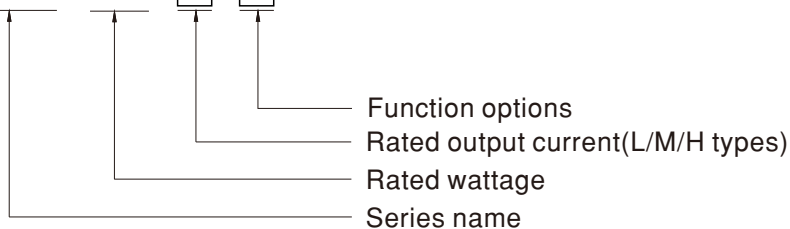
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

■ Description

ELGC-300 series is a 300W LED AC/DC driver featuring the constant power mode and high voltage output. ELGC-300 operates from 100~305VAC and offers models with different rated current ranging between 1300mA and 8000mA. Thanks to the high efficiency up to 94.5%, 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 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. ELGC-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

ELGC - 300 - L - A



Type	IP Level	Function	Note
Blank	IP67	Blank type available by modification	By request
A	IP67	Output constant power adjustable via built-in lo potentiometer	In Stock
AB	IP67	Output constant power adjustable via built-in lo potentiometer + 3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance)	In Stock
ADA	IP67	DALI-2 control technology with lo Adjustable via built-in Potentiometer	In Stock



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SPECIFICATION

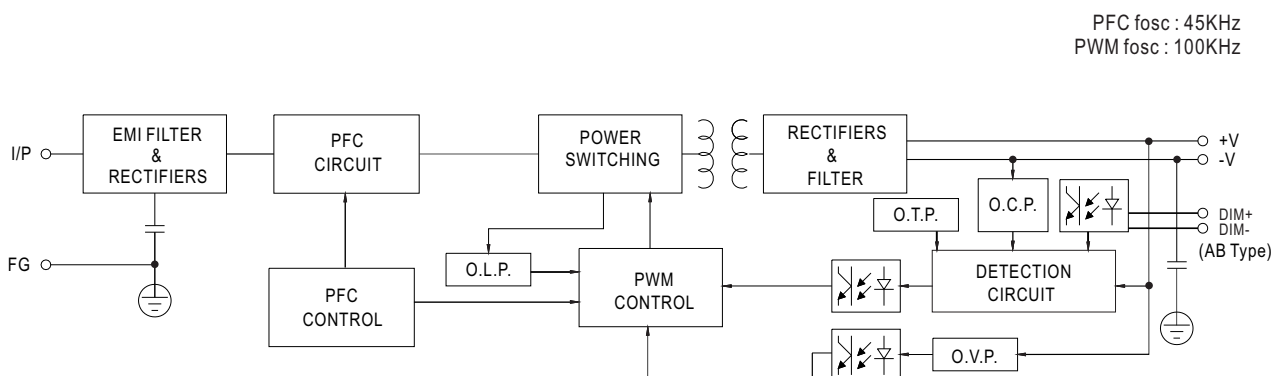
MODEL		ELGC-300-L-□	ELGC-300-M-□	ELGC-300-H-□	
OUTPUT	DEFAULT CURRENT		1400mA	2800mA	
	RATED POWER	(200 ~ 305VAC)	301W	301W	
		(100 ~ 180VAC)	256W	256W	
	CONSTANT CURRENT REGION		116 ~232V	58 ~ 116V	
	FULL POWER CURRENT RANGE		1300~2000mA	2600~4000mA	
	OPEN CIRCUIT VOLTAGE (max.)		240V	120V	
	CURRENT ADJ. RANGE	(200 ~ 305VAC)	650~2000mA	1300~4000mA	
		(100 ~ 180VAC)	650~1700mA	1300~3400mA	
	CURRENT RIPPLE		5.0% max. @rated current		
CURRENT TOLERANCE		± 5%			
SET UP TIME		Note.9 500ms/230VAC, 500ms/115VAC			
INPUT	VOLTAGE RANGE	Note.2	100 ~ 305VAC 142VDC ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" ang " DRIVING METHODS OF LED MODULE"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=1200μs 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		
	STANDBY POWER CONSUMPTION		Note.5	Standby power consumption <0.5W for AB / ADA-Type(Dimming OFF)	
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>85℃ ± 5℃,derate power automatically by 6%/℃ max			
ENVIRONMENT	WORKING TEMP.		Tcase=-40 ~ +85℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)		
	MAX. CASE TEMP.		Tcase=+85℃		
	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;GB/T19510.1 , GB/T19510.213; IP67;KC61347-1,KC61347-2-13 approved; Designed refer to AS/NZS 61347 & AS/NZS 60598		
	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;GB/T 17743,GB17625.1;KN15		
OTHERS	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);KN61547		
	MTBF		1637.5K hrs min. Telcordia SR-332 (Bellcore) ;170.1K hrs min. MIL-HDBK-217F (25℃)		
	LIFETIME		Note.4	50000 hrs min.	
	DIMENSION			246*77*39.5mm (L*W*H)	
	PACKING			1.45Kg;9pcs/14Kg/0.76CUFT	
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. (as available on https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf) 4. This series meets the typical life expectancy >50,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is 70℃ or less. 5. To fulfill requirements of the latest ErP regulation for lighting fixture, this LED driver 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 http://www.meanwell.com 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. https://www.meanwell.com/Upload/PDF/LED_EN.pdf 9. Based on IEC 62386-101/102 DALI power on timing and interruption regulations, the set up time needs to test with a DALI controller which can support for DALI power on function, otherwise the set up time will be higher than 0.5 second for DA type. 10. RCM is on a voluntary basis. Non IC classification Independent LED control gear is not suitable for residential installations. 11. Products sourced from the Americas regions may not have the ENEC/BIS/CCC/KC logo. Please contact your MEAN WELL sales for more information. 12. For A/AB/ADA 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			



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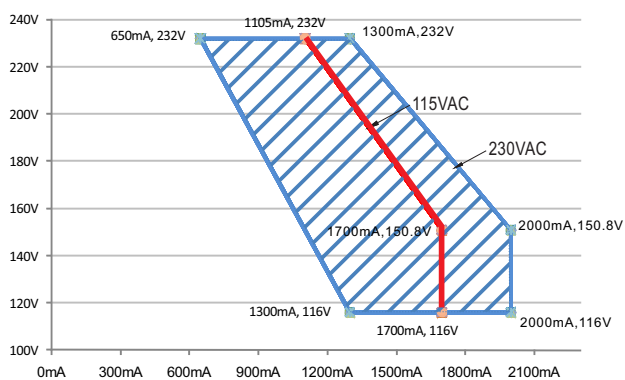
BLOCK DIAGRAM



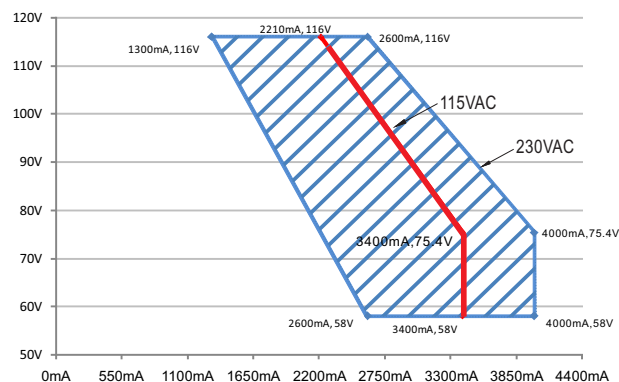
DRIVING METHODS OF LED MODULE

※ I-V Operating Area: (Red Line for AC 115V operation)

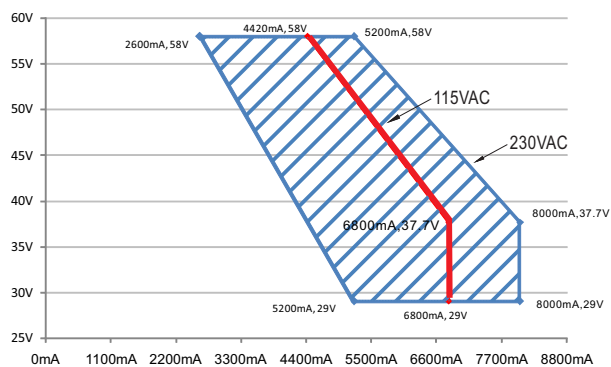
◎ ELGC-300-L



◎ ELGC-300-M



◎ ELGC-300-H

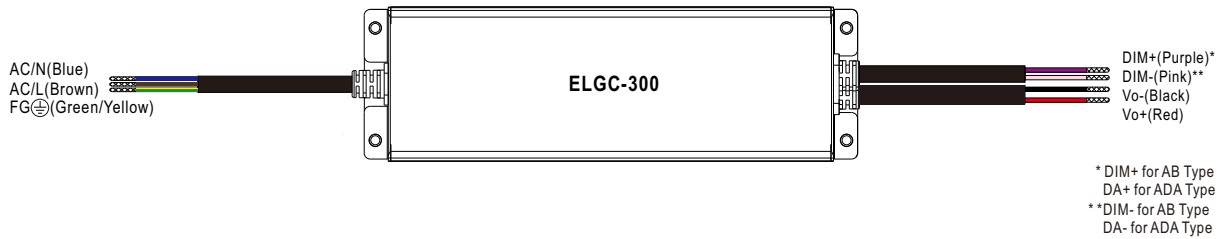




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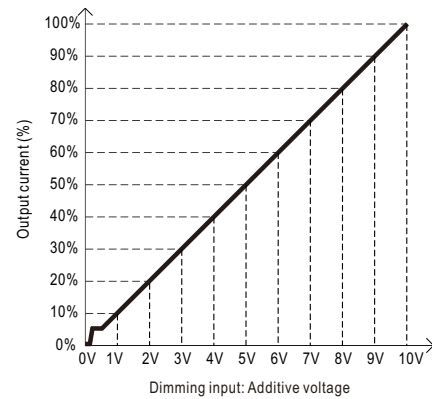
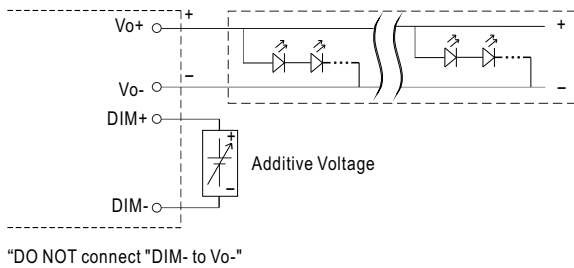
DIMMING OPERATION



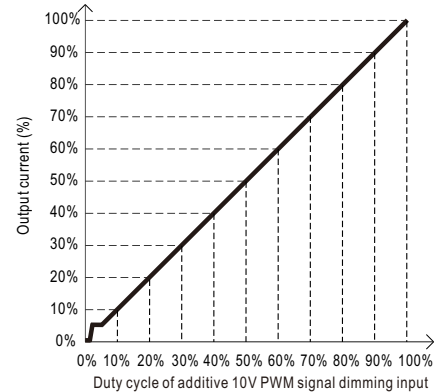
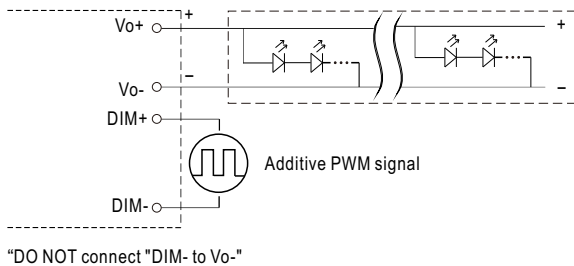
※ 3 in 1 dimming function (for AB-Type)

- 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 μ A (typ.)

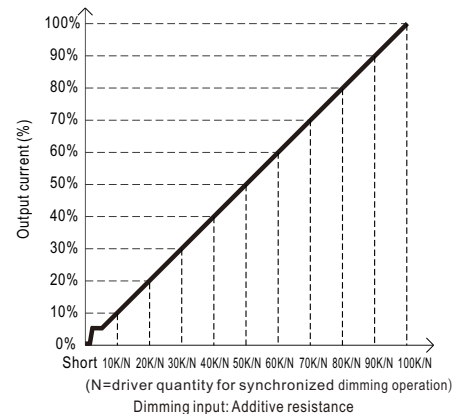
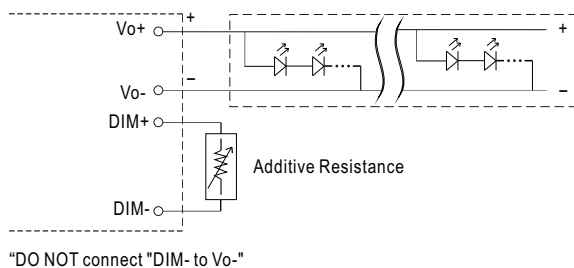
☉ Applying additive 0 ~ 10VDC



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



☉ 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 0 Ω or 0Vdc, or 10V PWM signal with 0% duty cycle.

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

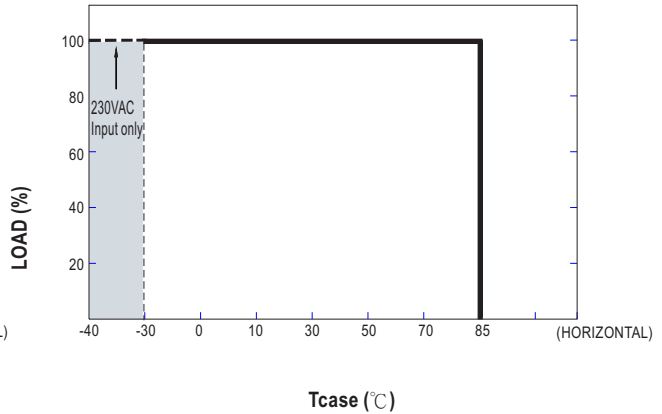
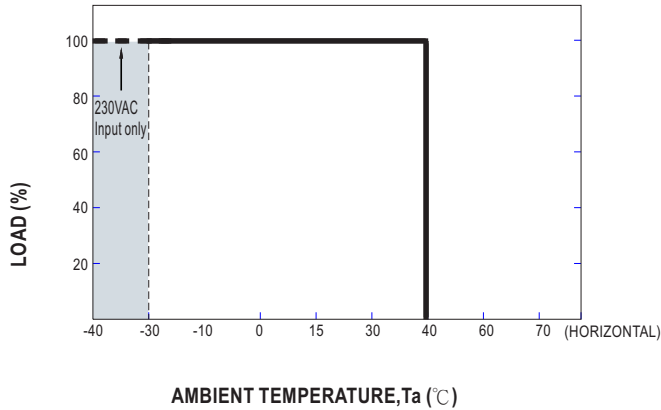
- Apply DALI signal between DA+ and DA-.
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 8% of output.



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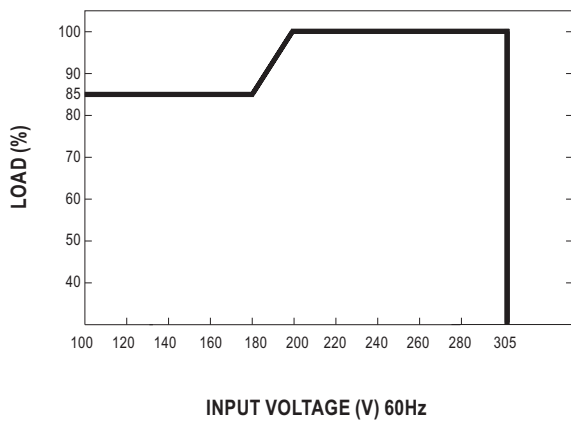
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OUTPUT LOAD vs TEMPERATURE



⊙ $T_{case} > 85^\circ\text{C} \pm 5^\circ\text{C}$ derate power automatically

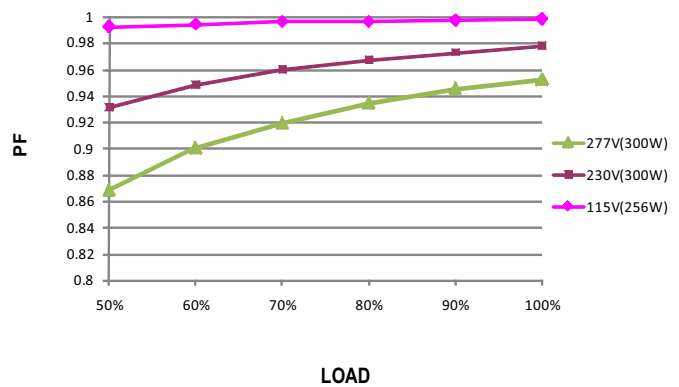
STATIC CHARACTERISTIC



POWER FACTOR (PF) CHARACTERISTIC

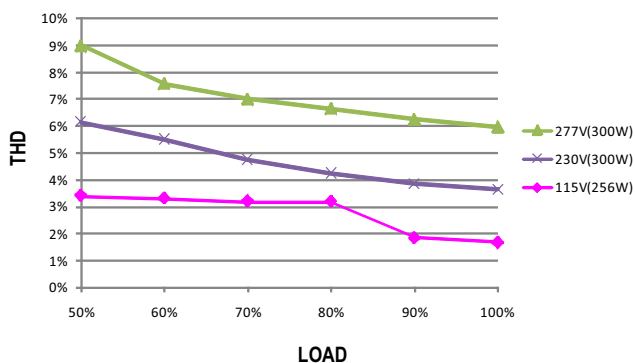
※ T_{case} at 75°C

Constant Current Mode



TOTAL HARMONIC DISTORTION (THD)

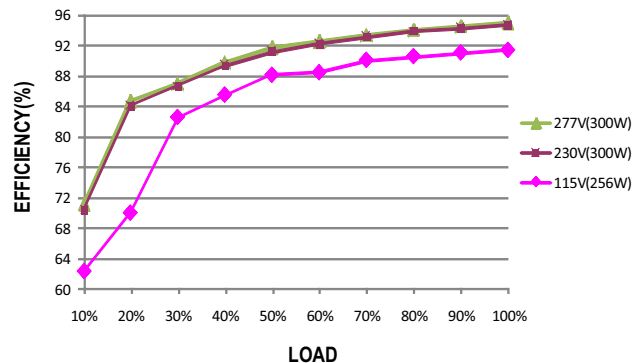
※ ELGC-300-L Model, T_{case} at 75°C



EFFICIENCY vs LOAD

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

※ ELGC-300-L Model, T_{case} at 75°C

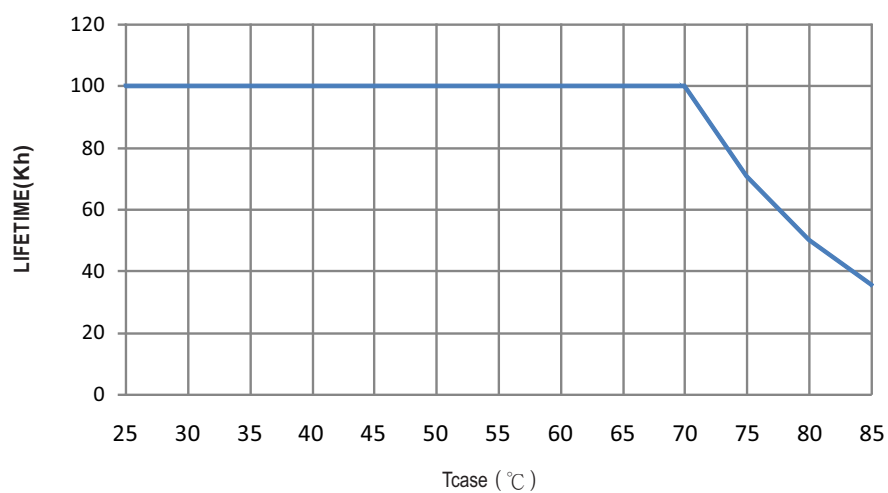




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■ LIFE TIME





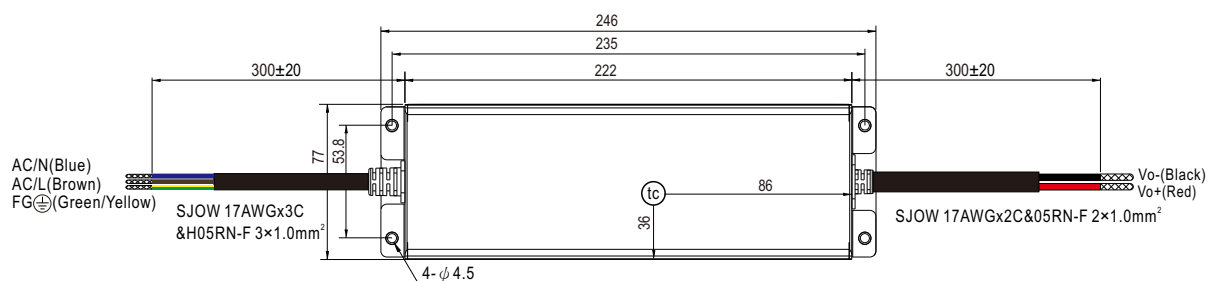
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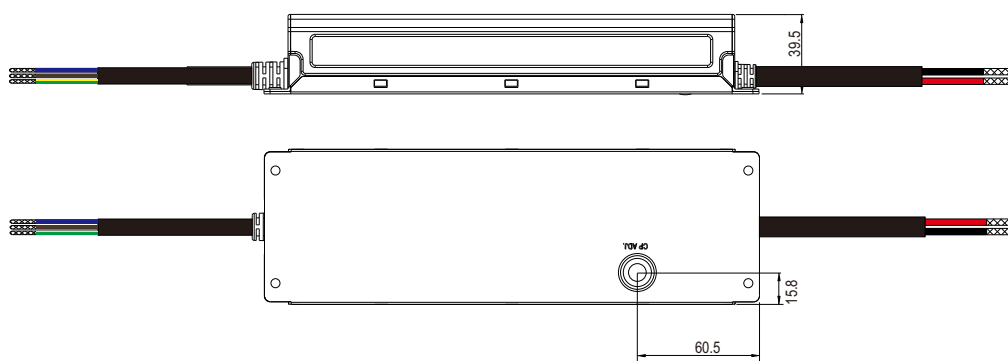
MECHANICAL SPECIFICATION

Case No.:266A Unit:mm Tolerance:±1

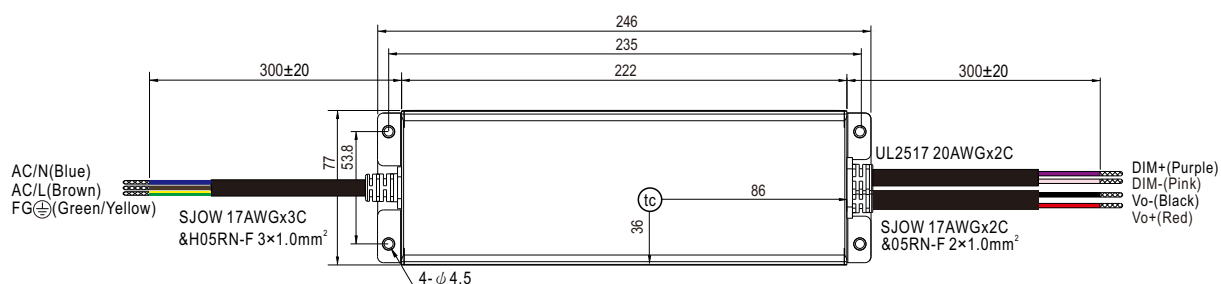
※ A-Type



• (tc) : Max. Case Temperature



※ AB-Type



• (tc) : Max. Case Temperature

