



■ Features

- Full power at 65~100% max current (Constant Power)
- Built-in active PFC function
- IP67 design for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming (dim-to-off) ; DALI dimming
- Typical lifetime>50000 hours
- 5 years warranty

■ Applications

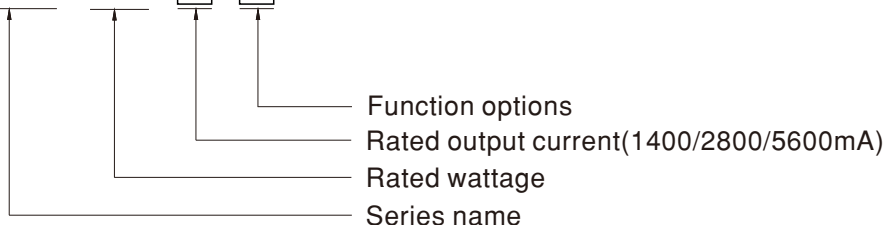
- LED bay lighting
- LED stage lighting
- LED spot lighting
- LED fishing lighting
- LED horticulture lighting
- Stadium lighting

■ 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
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
DA	IP67	DALI control technology.	In Stock
D2	IP67	Built-in Smart timer dimming and programmable function.	By request

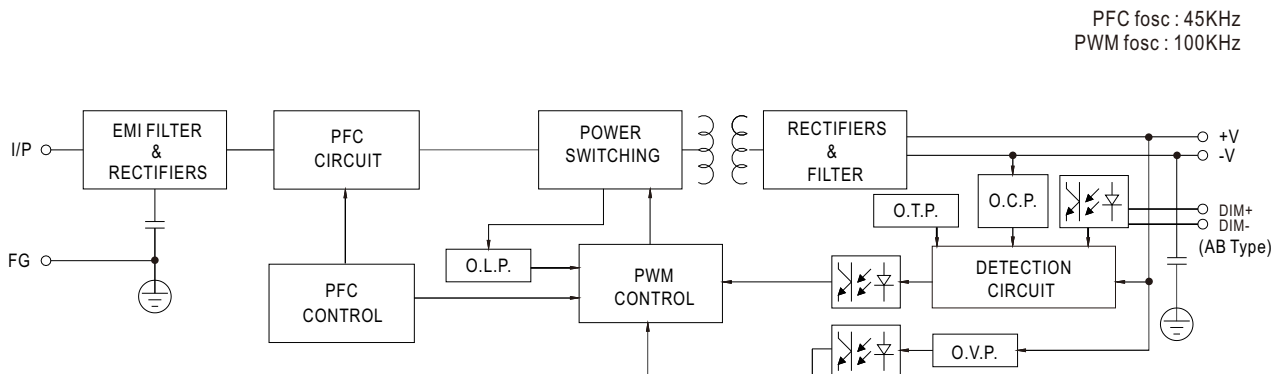


SPECIFICATION

MODEL		ELGC-300-L-□	ELGC-300-M-□	ELGC-300-H-□
OUTPUT	DEFAULT CURRENT	1400mA	2800mA	5600mA
	RATED POWER	(200 ~ 305VAC) 301.6W	301.6W	301.6W
		(100 ~ 180VAC) 256.36W	256.36W	256.36W
	CONSTANT CURRENT REGION	116 ~ 232V	58 ~ 116V	29 ~ 58V
	FULL POWER CURRENT RANGE	1300~2000mA	2600~4000mA	5200~8000mA
	OPEN CIRCUIT VOLTAGE (max.)	240V	120V	62V
	CURRENT ADJ. RANGE	(200 ~ 305VAC) 650~2000mA	1300~4000mA	2600~8000mA
		(100 ~ 180VAC) 650~1700mA	1300~3400mA	2600~6800mA
	CURRENT RIPPLE	5.0% max. @rated current		
INPUT	CURRENT TOLERANCE	±5%		
	SET UP TIME	500ms/230VAC, 500ms/115VAC		
	VOLTAGE RANGE	100 ~ 305VAC 142VDC ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" and "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% I _{peak}) at 230VAC; Per NEMA 410		
PROTECTION	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	Standby power consumption <0.5W for AB / DA-Type(Dimming OFF)		
	SHORT CIRCUIT	Constant current limiting, recovers automatically after fault condition is removed		
ENVIRONMENT	OVER VOLTAGE	241 ~ 275V	121 ~ 145V	61 ~ 78V
	OVER TEMPERATURE	T _{case} > 85°C ± 5°C, derate power automatically by 6%/°C max		
	WORKING TEMP.	T _{case} = -40 ~ +85°C (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)		
SAFETY & EMC	MAX. CASE TEMP.	T _{case} = +85°C		
	WORKING HUMIDITY	20 ~ 95% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 60°C)		
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes		
OTHERS	SAFETY STANDARDS	UL8750(type"HL"), CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13 independent, EN62384; EAC TP TC 004; GB19510.1, GB19510.14; IP67 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°C / 70% RH		
	EMC EMISSION	Compliance to EN55015, EN61000-3-2 Class C (@ load ≥ 50%); EN61000-3-3		
NOTE	EMC IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, EN61547, light industry level (surge immunity Line-Earth 6KV, Line-Line 4KV)		
	MTBF	565K hrs min. Telcordia SR-332(Bellcore) ; 166 K hrs min. MIL-HDBK-217F (25°C)		
	LIFETIME	50000 hrs min.		
	DIMENSION	246*77*39.5mm (L*W*H)		
PACKING		1.45Kg; 9pcs/14Kg/0.76CUFT		

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25°C 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 T_{case}, particularly t_c point (or T_{MP}, per DLC), is about 70°C 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 <http://www.meanwell.com>
7. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).

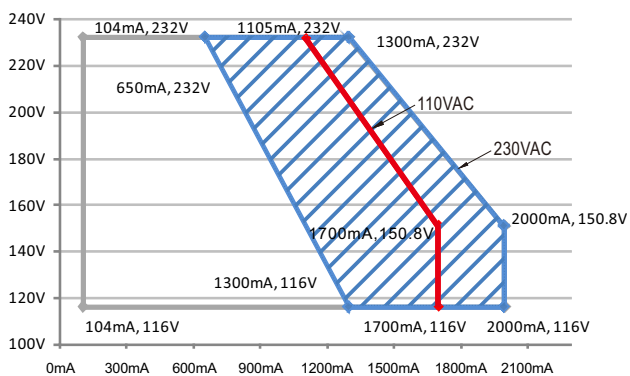
BLOCK DIAGRAM



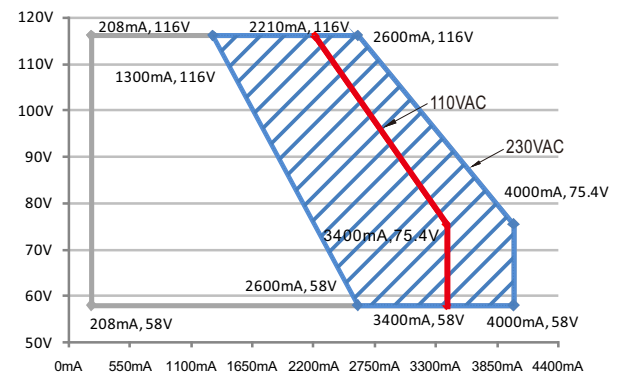
DRIVING METHODS OF LED MODULE

※ I-V Operating Area

◎ ELGC-300-L



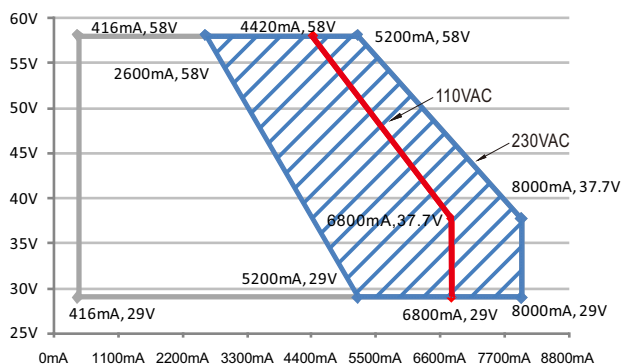
◎ ELGC-300-M



Recommend Performance Region Allow Operation Region

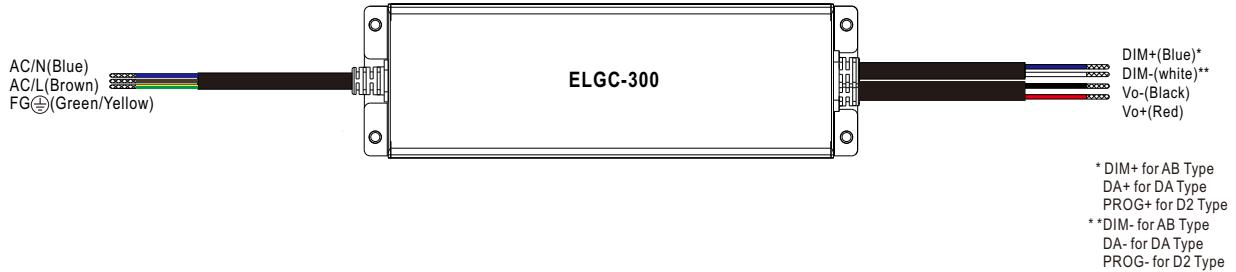
Recommend Performance Region Allow Operation Region

◎ ELGC-300-H



Recommend Performance Region Allow Operation Region

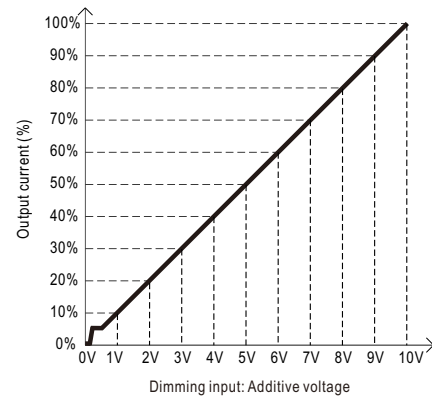
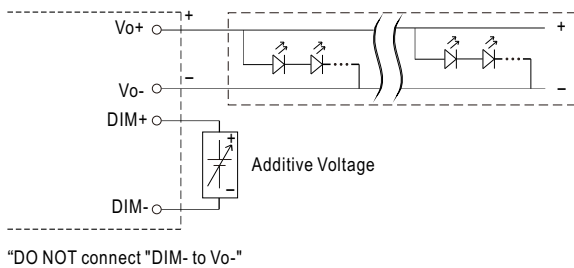
DIMMING OPERATION



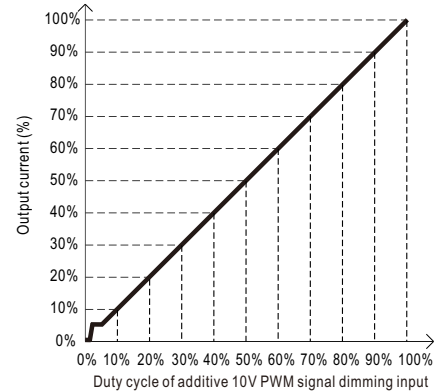
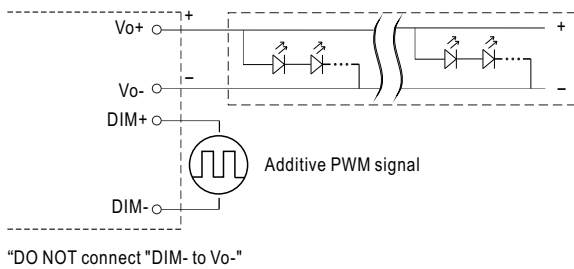
※ 3 in 1 dimming function (for AB-Type)

- 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 μ A (typ.)

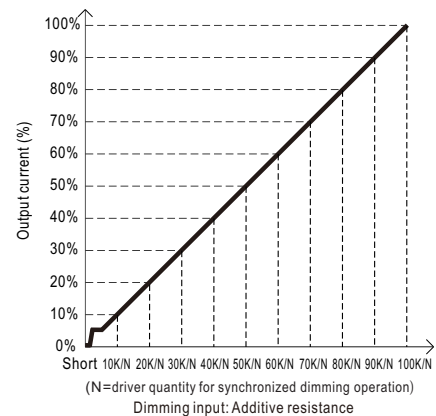
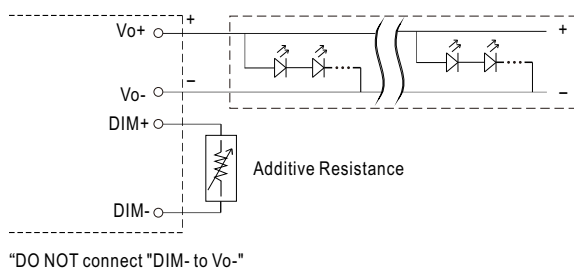
◎ Applying additive 0 ~ 10VDC



◎ 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 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.

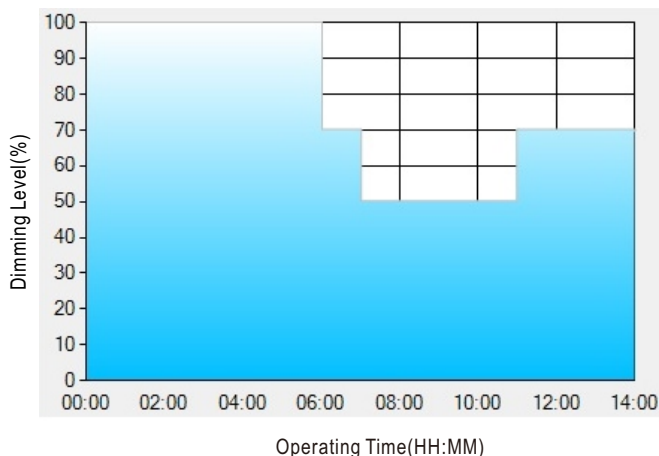
※ DALI Interface (primary side; for DA-Type)

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

※ Smart timer dimming function (for Dxx-Type by User definition)

MEAN WELL Smart timer dimming primarily provides the adaptive proportion dimming profile for the output constant current level to perform up to 14 consecutive hours. 3 dimming profiles hereunder are defined accounting for the most frequently seen applications. If other options may be needed, please contact MEAN WELL for details.

Ex : ☉ D01-Type: the profile recommended for residential lighting



Set up for D01-Type in Smart timer dimming software program:

	T1	T2	T3	T4
TIME**	06:00	07:00	11:00	---
LEVEL**	100%	70%	50%	70%

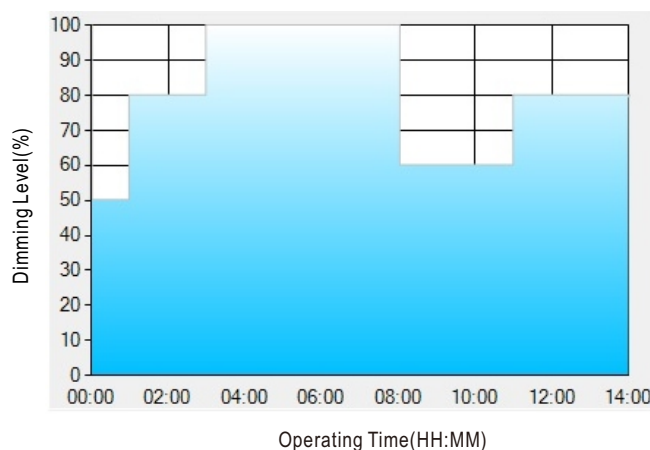
** : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a residential lighting application adopts D01-Type, when turning on the power supply at 6:00pm, for instance:

- [1] The power supply will switch to the constant current level at 100% starting from 6:00pm.
- [2] The power supply will switch to the constant current level at 70% in turn, starting from 0:00am, which is 06:00 after the power supply turns on.
- [3] The power supply will switch to the constant current level at 50% in turn, starting from 1:00am, which is 07:00 after the power supply turns on.
- [4] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on.

The constant current level remains till 8:00am, which is 14:00 after the power supply turns on.

Ex : ☉ D02-Type: the profile recommended for street lighting



Set up for D02-Type in Smart timer dimming software program:

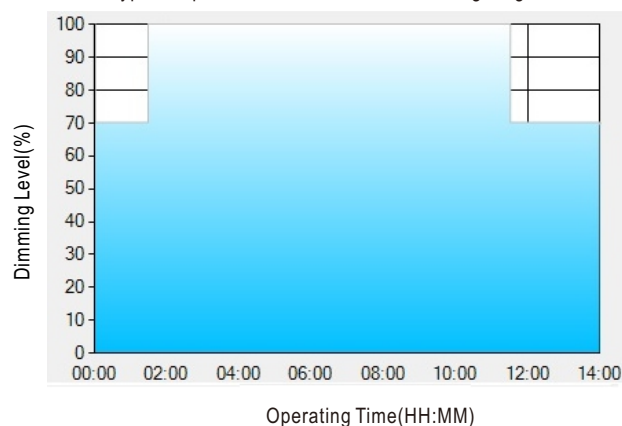
	T1	T2	T3	T4	T5
TIME**	01:00	03:00	8:00	11:00	---
LEVEL**	50%	80%	100%	60%	80%

** : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a street lighting application adopts D02-Type, when turning on the power supply at 5:00pm, for instance:

- [1] The power supply will switch to the constant current level at 50% starting from 5:00pm.
- [2] The power supply will switch to the constant current level at 80% in turn, starting from 6:00pm, which is 01:00 after the power supply turns on.
- [3] The power supply will switch to the constant current level at 100% in turn, starting from 8:00pm, which is 03:00 after the power supply turns on.
- [4] The power supply will switch to the constant current level at 60% in turn, starting from 1:00am, which is 08:00 after the power supply turns on.
- [5] The power supply will switch to the constant current level at 80% in turn, starting from 4:00am, which is 11:00 after the power supply turns on. The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.

Ex: ☉ D03-Type: the profile recommended for tunnel lighting



Set up for D03-Type in Smart timer dimming software program:

	T1	T2	T3
TIME**	01:30	11:00	---
LEVEL**	70%	100%	70%

** : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a tunnel lighting application adopts D03-Type, when turning on the power supply at 4:30pm, for instance:

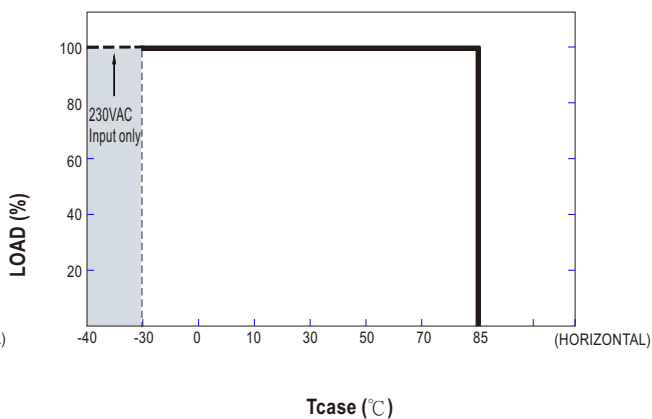
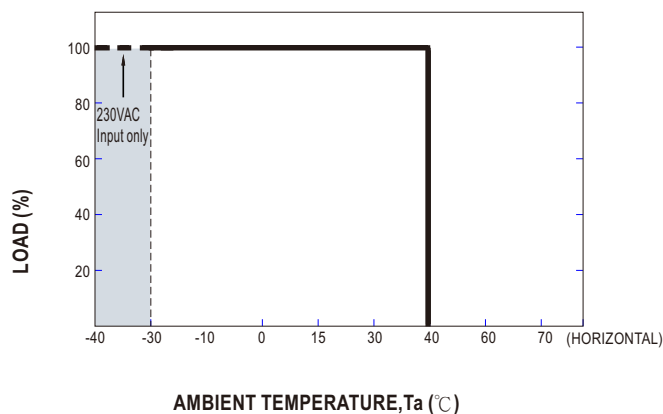
[1] The power supply will switch to the constant current level at 70% starting from 4:30pm.

[2] The power supply will switch to the constant current level at 100% in turn, starting from 6:00pm, which is 01:30 after the power supply turns on.

[3] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on.

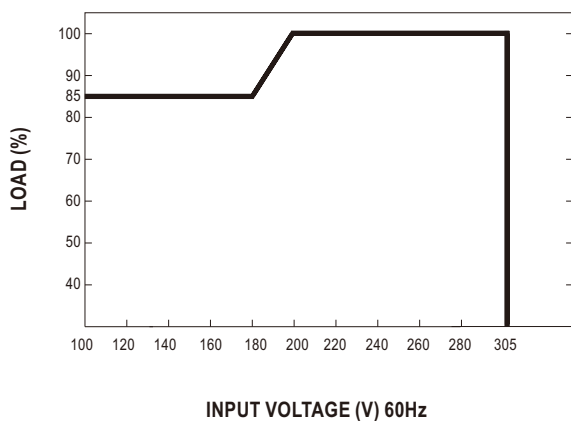
The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.

■ OUTPUT LOAD vs TEMPERATURE



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

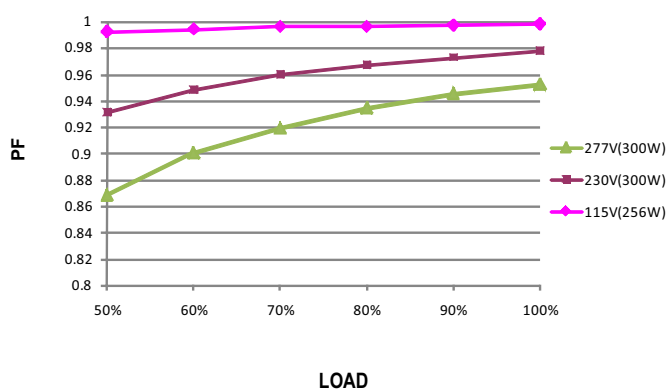
■ STATIC CHARACTERISTIC



■ POWER FACTOR (PF) CHARACTERISTIC

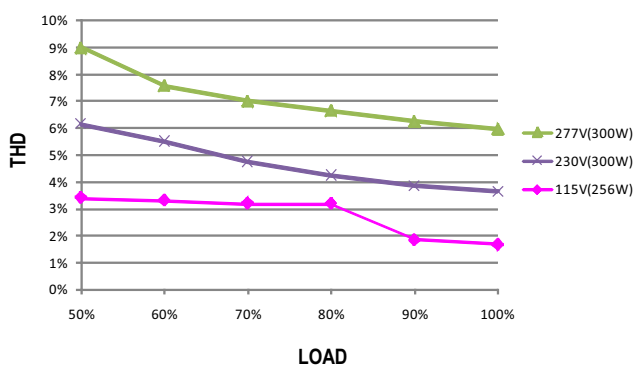
※ T_{case} at 75°C

Constant Current Mode



■ TOTAL HARMONIC DISTORTION (THD)

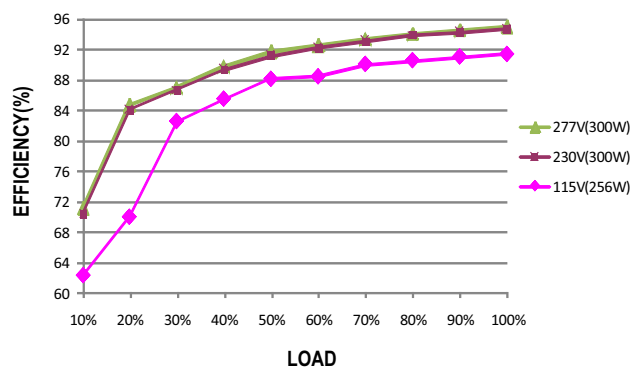
※ ELGC-300-L Model, T_{case} at 75°C



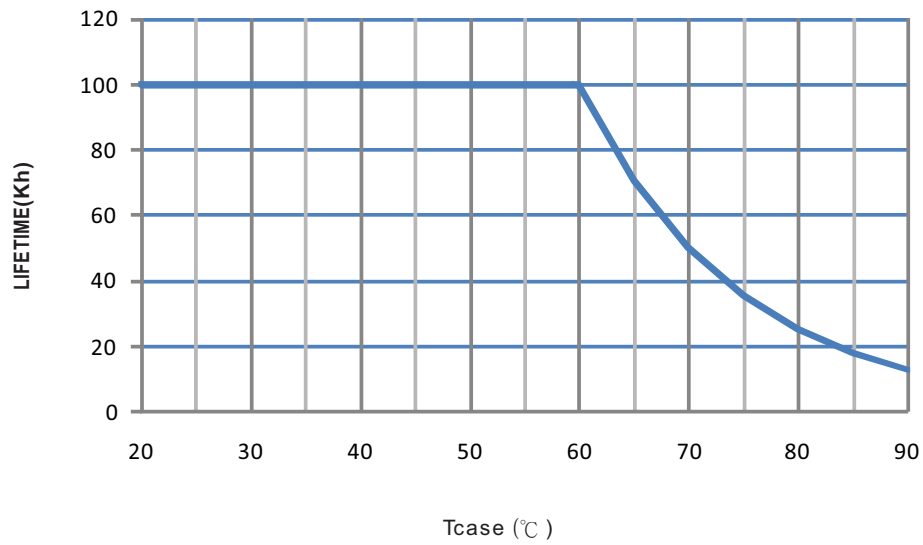
■ EFFICIENCY vs LOAD

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

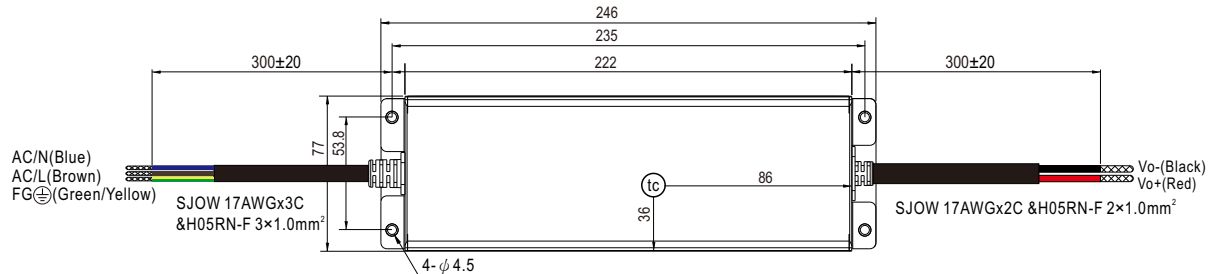


■ LIFE TIME

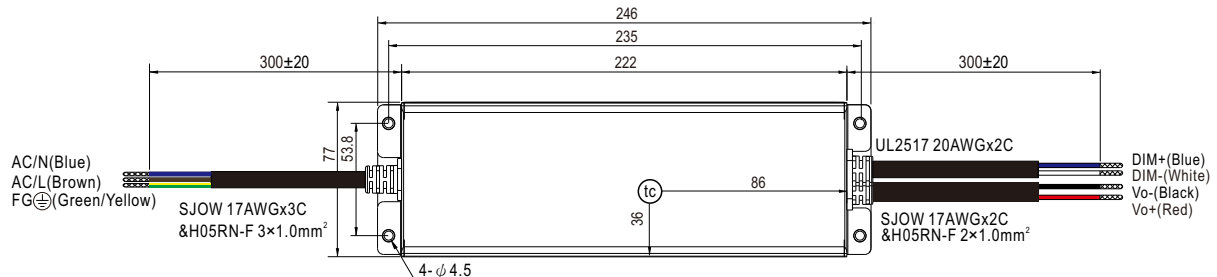


MECHANICAL SPECIFICATION

Case No.:266A Unit:mm

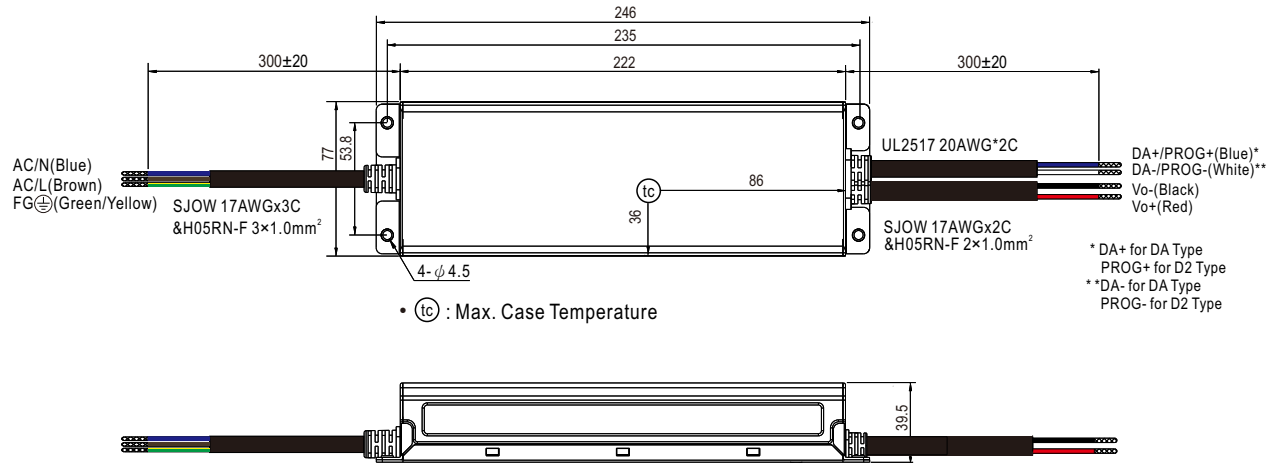
※ A-Type


• (tc) : Max. Case Temperature

※ AB-Type


• (tc) : Max. Case Temperature

※ DA/D2-Type



■ INSTALLATION MANUAL

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