ELG-200-C series

150~200W Constant Current Mode LED Driver

(for DA-Type only) Type HL

■ Features

Constant Current mode output
Metal housing design with functional Ground
Built-in active PFC function
No load / Standby power consumption <0.5W
IP67 / IP65 rating for indoor or outdoor installations
Function options: output adjustable via potentiometer;
3 in 1 dimming (dim-to-off); Smart timer dimming; DALI
Typical lifetime>50000 hours
5 years warranty

■ Applications

LED street lighting
LED harbor lighting
LED bay lighting
LED greenhouse lighting
LED flood lighting
Type HL for use in Class I, Division 2 hazardous (Classified) location.
Comply with class II application

■ Description

ELG-200-C series is a 200W LED AC/DC driver featuring the constant current mode and high voltage output. ELG-200-C operates from 100~305VAC and offers models with different rated current ranging between 700mA and 2100mA. Thanks tothe high efficiency up to93%, with the fanless design, the entire series is able to operate for -40 ℃~+85 ℃ 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. ELG-200-C is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

■ Model Encoding

ELG - 200 - C700 A - ☐

- ☐ Input wiring type: Blank:2-wire input for standard model; 3Y:3-wire input for standard model
- A: Function options
- C700: Rated output current (700/1050/1400/1750/2100mA)
- 200: Output wattage
- ELG: Series name

Type	IP Level	Function
Blank	IP67	Iofixed.
A	IP65	Io adjustable through built-in potentiometer.
B	IP67	3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance)
DA	IP67	DALI control technology.
Dx	IP67	Built-in Smart timer dimming function by user request.
D2	IP67	Built-in Smart timer dimming and programmable function.

150~200W Constant Current Mode LED Driver **ELG-200-C series**

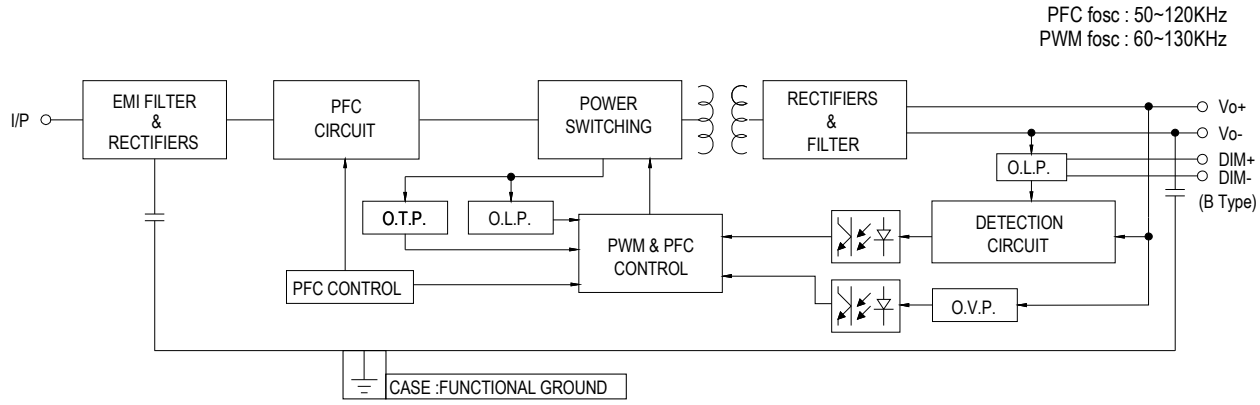
SPECIFICATION

MODEL		ELG-200-C700□	ELG-200-C1050□	ELG-200-C1400□	ELG-200-C1750□	ELG-200-C2100□
OUTPUT	RATED CURRENT	700mA	1050mA	1400mA	1750mA	2100mA
	RATED POWER	200VAC ~ 305VAC				
		200.2W	199.5W	198.8W	199.5W	201.6W
		100VAC ~ 180VAC				
		150.5W	150.15W	149.8W	150.5W	151.2W
	CONSTANT CURRENT REGION Note.2	142 ~ 286V	95 ~ 190V	71 ~ 142V	57 ~ 114V	48 ~ 96V
	OPEN CIRCUIT VOLTAGE (max.)	300V	200V	160V	120V	105V
	CURRENT ADJ. RANGE	Adjustable for A-Type only (via built-in potentiometer)				
		350 ~ 700mA	525 ~ 1050mA	700 ~ 1400mA	875 ~ 1750mA	1050 ~ 2100mA
	CURRENT RIPPLE	5.0% max. @rated current				
	CURRENT TOLERANCE	±5.0%				
	SET UP TIME Note.4	800ms/115VAC, 500ms/230VAC				
INPUT	VOLTAGE RANGE Note.3	100 ~ 305VAC 142 ~ 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@full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)				
	TOTAL HARMONIC DISTORTION	THD< 20%(@load ≧50%/115VC,230VAC; @load 75%≧277VAC) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)				
	EFFICIENCY (Typ.)	93%	93%	92%	92%	92%
	AC CURRENT (Typ.)	1.8A / 115VAC 1.0A / 230VAC 1.0A/277VAC				
	INRUSH CURRENT (Typ.)	COLD START 65A(twidth= 680μs measured at 50% Ipeak)/230VAC ; Per NEMA 410				
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	2 units (circuit breaker of type B) / 4 units (circuit breaker of type C) at 230VAC				
	LEAKAGE CURRENT	<0.75mA / 277VAC				
	NO LOAD / STANDBY POWER CONSUMPTION	No load power consumption <0.5W for Blank / A / Dx / D2-Type Standby power consumption <0.5W for B / DA-Type				
PROTECTION	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE	315 ~ 370V	205 ~ 250V	160 ~ 180V	125 ~ 150V	105 ~ 130V
		Shut down o/p voltage, re-power on to recover				
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover				
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				
	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 EN61347-1, EN61347-2-13 independent, EN62384; GB19510.14,GB19510.1; 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:2.0KVAC 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 EN55015,EN61000-3-2 Class C (@load ≧ 50%) ; EN61000-3-3; GB17625.1, GB17743				
	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)				
OTHERS	MTBF	958.9K hrs min. Telcordia SR-332 (Bellcore) 235Khrs min. MIL-HDBK-217F (25 ℃)				
	DIMENSION	244*71 *37.5 mm (L*W*H)				
	PACKING	1.22Kg; 12pcs /15.2kg / 0.72CUFT				

NOTE

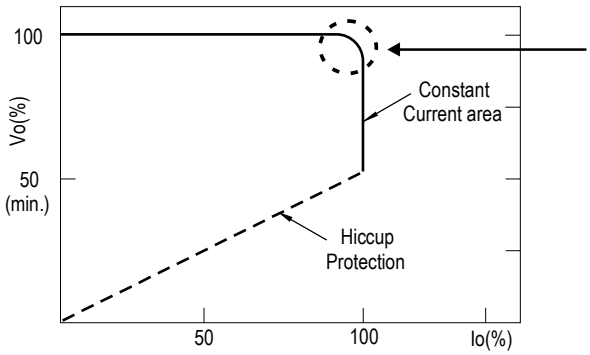
1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Please refer to"DRIVING METHODS OF LED MODULE".
3. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details
4. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.
5. 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.
6. This series meets the typical life expectancy of >50,000 hours of operation when Tcase, particularly tc point (or TMP, per DLC), is about 85℃ or less.
7. Please refer tothe warranty statement on MEAN WELL's website at http://www.meanwell.com

■ BLOCK DIAGRAM



■ DRIVING METHODS OF LED MODULE

※ This series works in constant current mode to directly drive the LEDs.



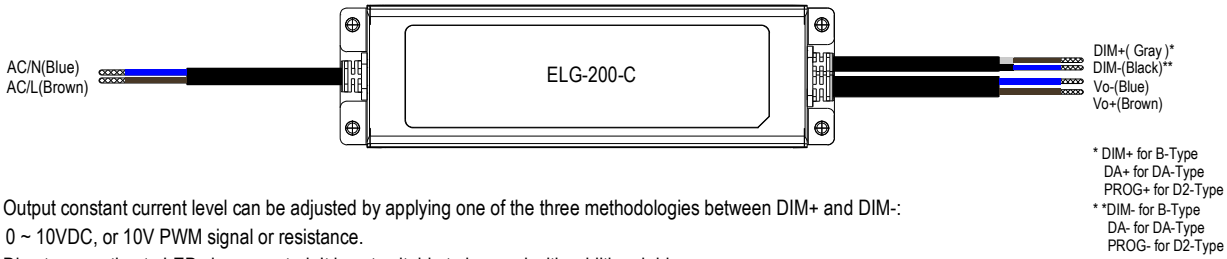
Typical output current normalized by rated current (%)

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

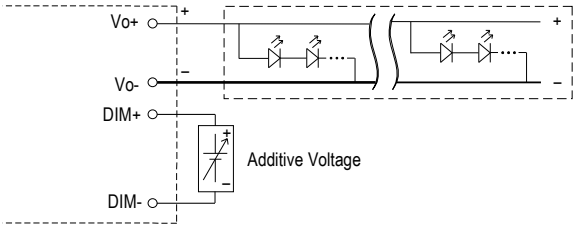
※ **3 in 1 dimming function (for B-Type)**



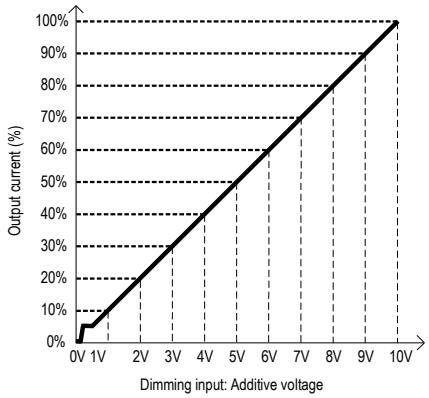
* DIM+ for B-Type
DA+ for DA-Type
PROG+ for D2-Type
* *DIM- for B-Type
DA- for DA-Type
PROG- for D2-Type

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 A (typ.)

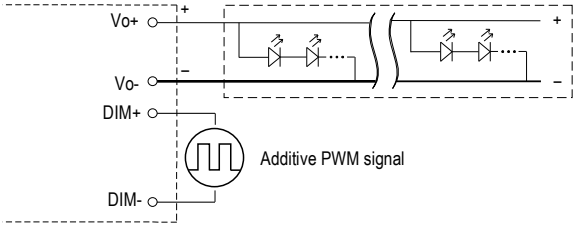
◎ Applying additive 0 ~ 10VDC



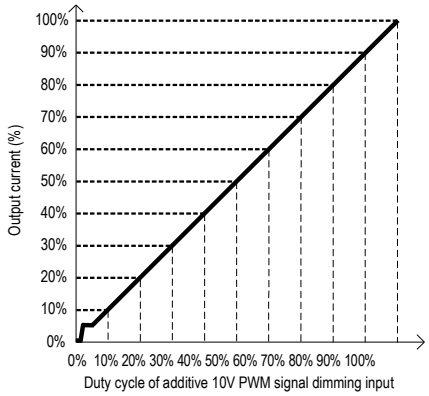
"DO NOT connect "DIM- to Vo-"



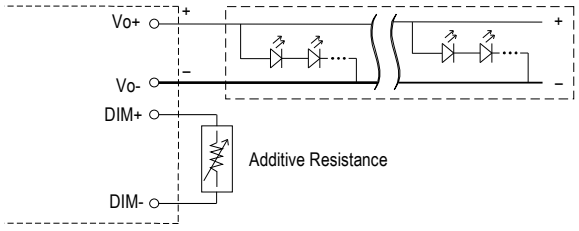
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



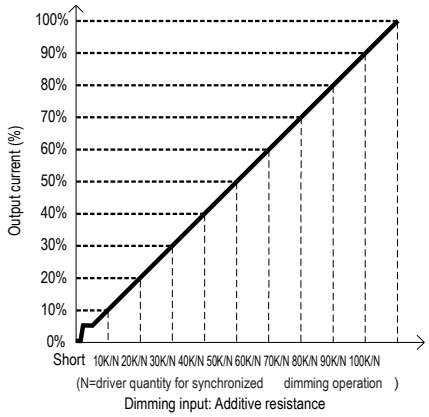
"DO NOT connect "DIM- to Vo-"



◎ 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%< 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.

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

Apply DALI signal between DA+ and DA- .

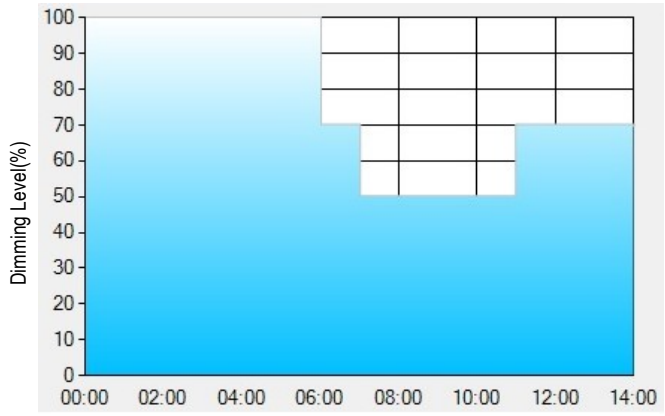
DALI protocol comprises 16 groups and 64 addresses.

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:

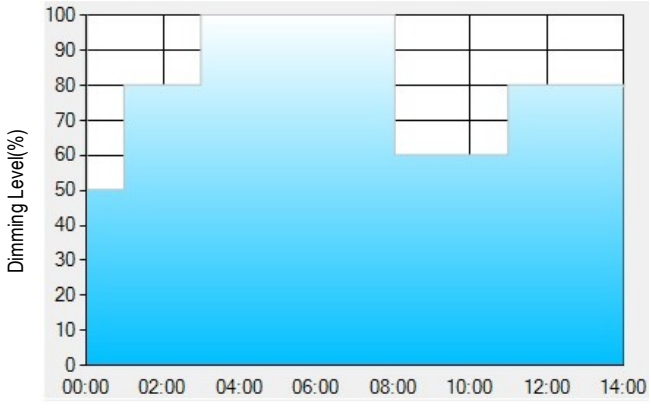
[1] The power supply will switch to the constant current level at 100% starting from 6:00pm.

[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.

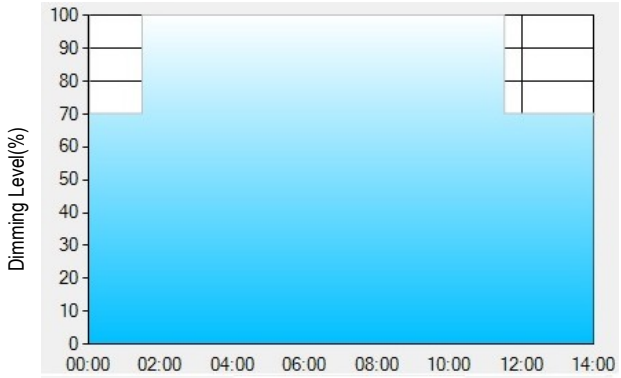
[2] The power supply will switch to the constant current level at 80% in turn, starting from 6:00pm, which is 01:00 after the power supply turns on.

[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

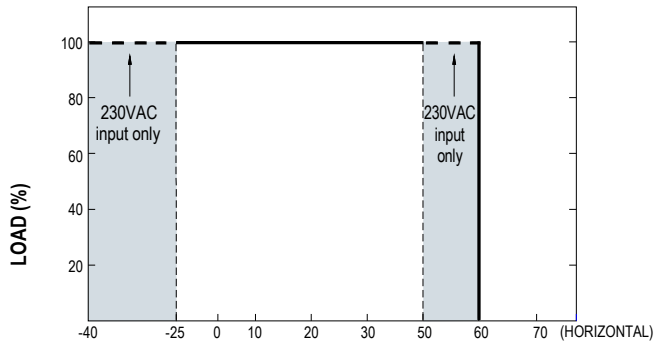


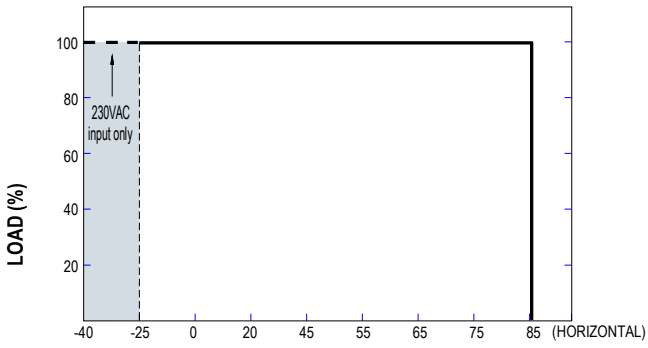
Set up for D03-Type in Smart timer dimming software program:

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

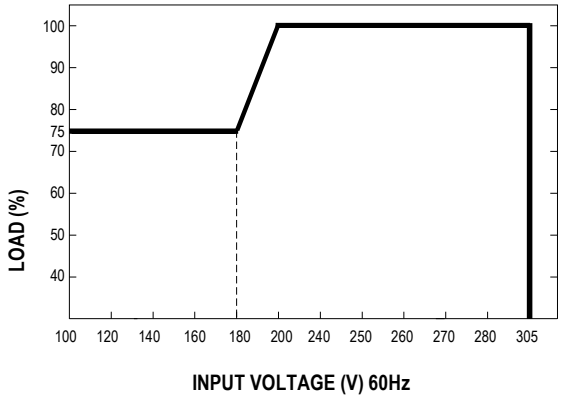
**: TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.
Example: If a tunnel lighting application adopts D03-Type, when turning on the power supply at 4:30pm, for instance:
[1] The power supply will switch to the constant current level at 70% starting from 4:30pm.
[2] The 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





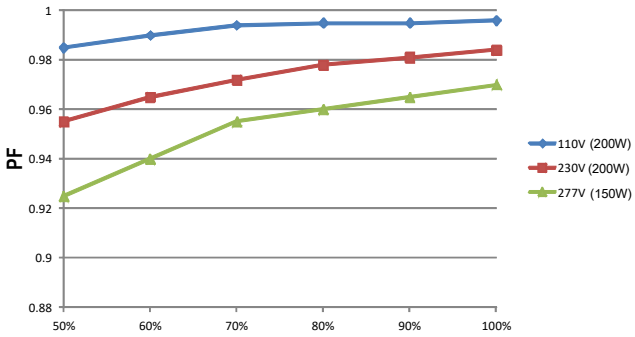
■ STATIC CHARACTERISTIC



※ De-rating is needed under low input voltage.

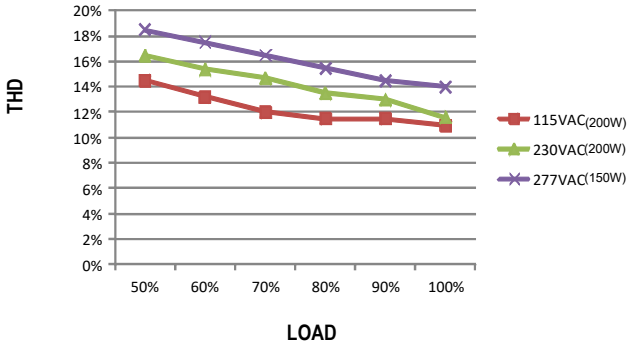
■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 75 ℃



■ TOTAL HARMONIC DISTORTION (THD)

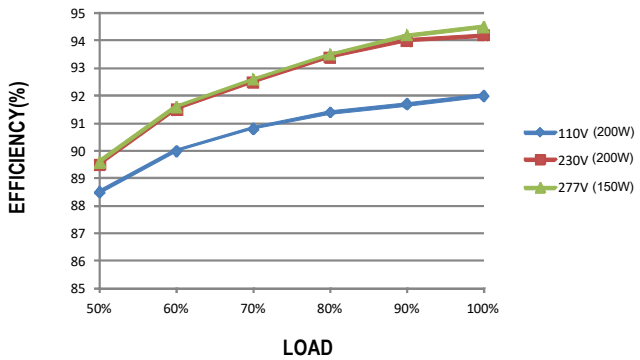
※ 700mA Model,Tcase at 75 ℃



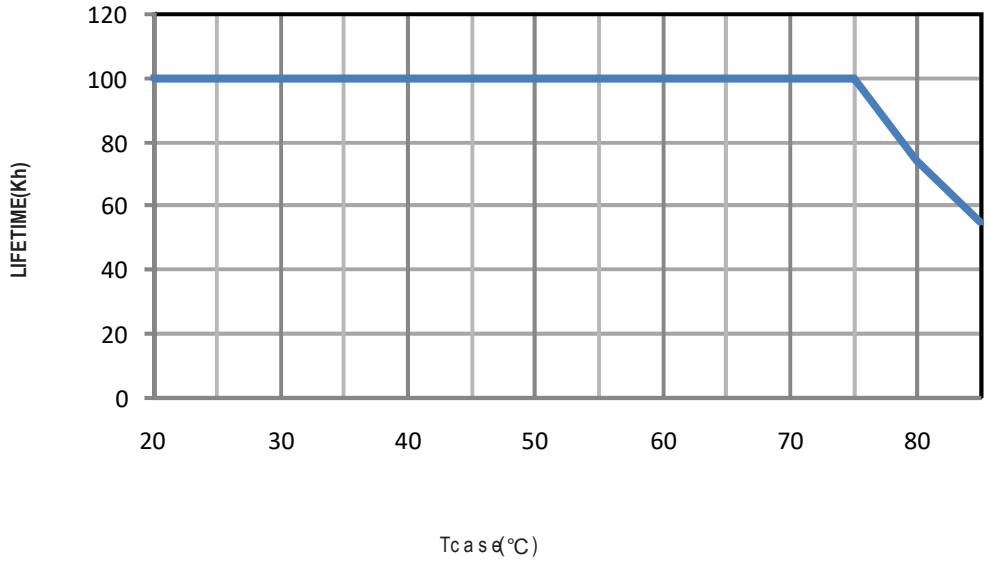
■ EFFICIENCY vs LOAD

ELG-200-C series possess superior working efficiency that up to 93% can be reached in field applications.

※ 700mA Model, Tcase at 75 ℃



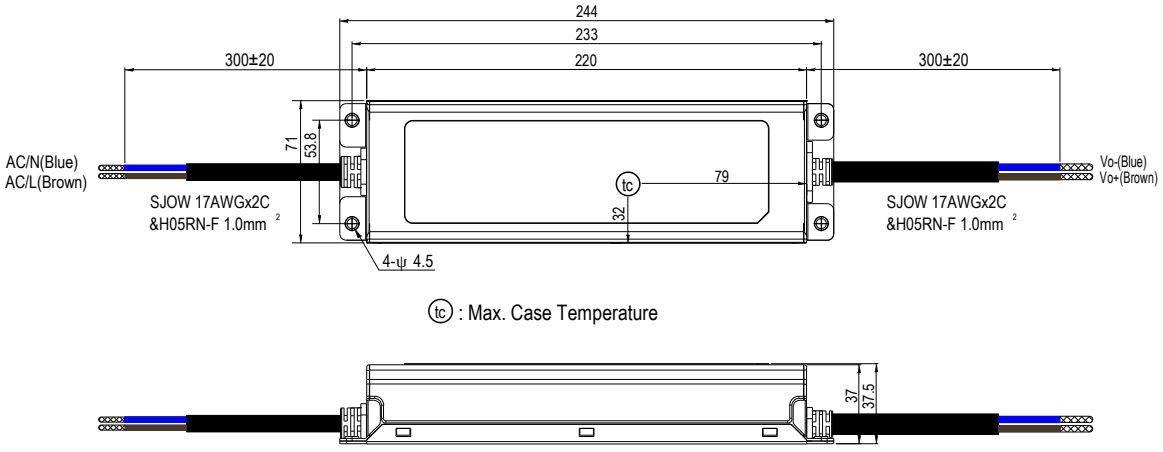
LIFE TIME



■ MECHANICAL SPECIFICATION

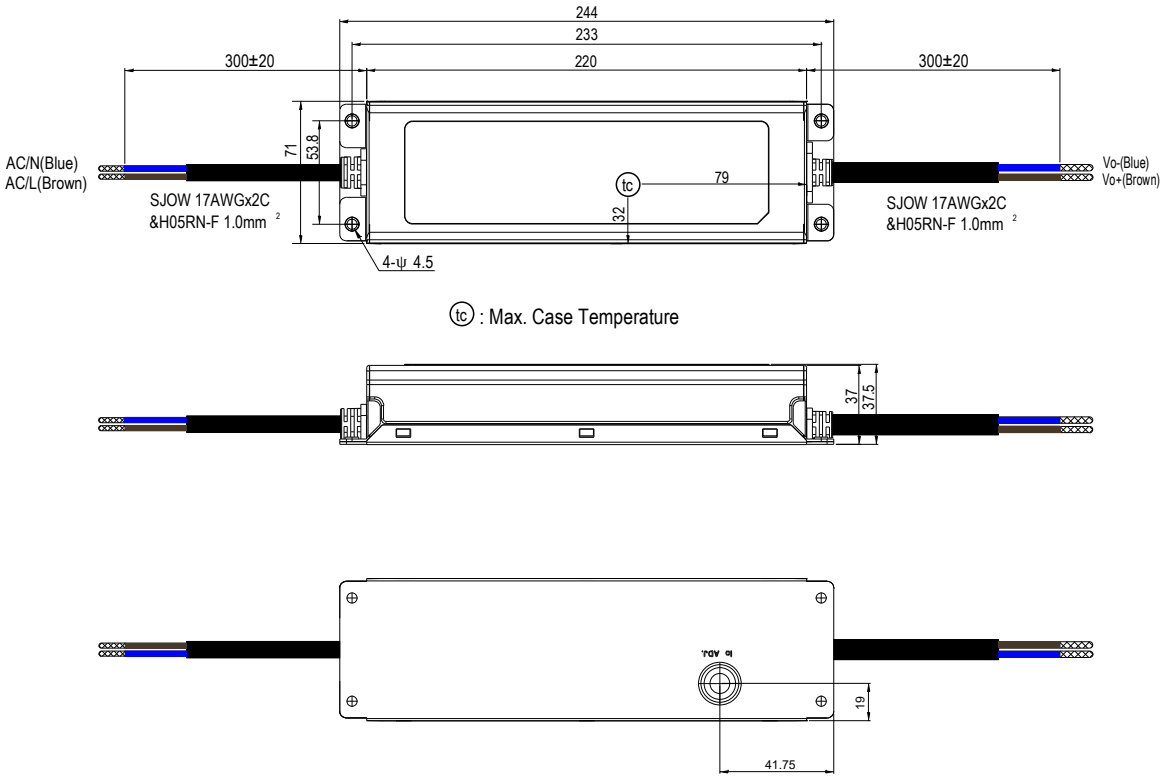
※ **Blank-Type**

CASE NO.: 262A Unit:mm



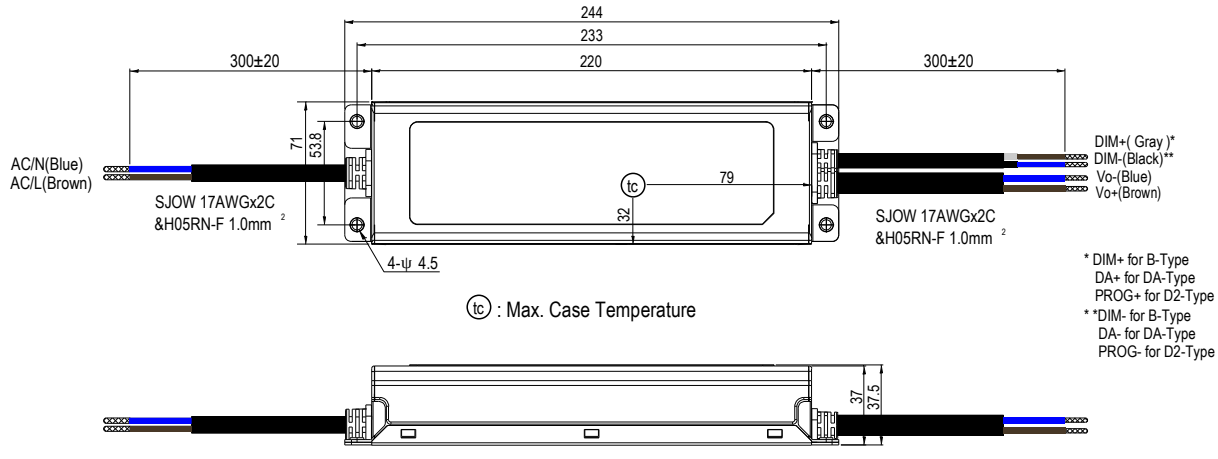
tc : Max. Case Temperature

※ **A-Type**



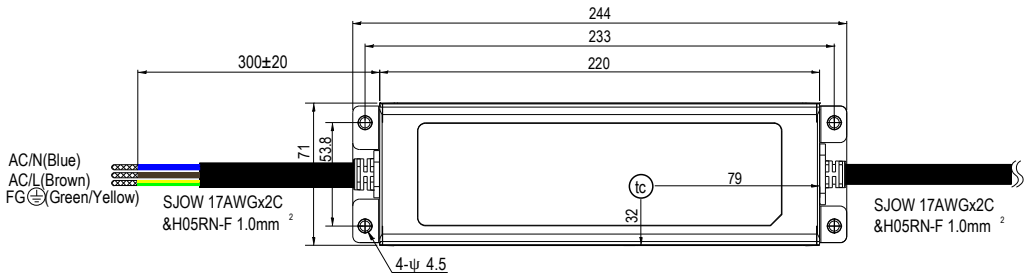
tc : Max. Case Temperature

※ **B/DA/D2-Type**



tc : Max. Case Temperature

※ **3Y Model (3-wire input)**



tc : Max. Case Temperature

- Note1: Please connect the case to FG for the complete EMC deliverance.
- Note2: Please contact MEAN WELL for input wiring option with FG.

■ Installation Manual

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