



User's Manual



IS 15885(Part 2/Sec13)
R-41027766
(for 700A, 1050A only)



(for DA-Type only)



(for ELG-100-C1050, C1400 only)



SELV

(for ELG-100-C1050, 1400 only)

IP65 IP67



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.

Description

ELG-100-C series is a 100W LED AC/DC driver featuring the constant current mode and high voltage output. ELG-100-C operates from 100~360VAC and offers models with different rated current ranging between 350mA and 1400mA. Thanks to the high efficiency up to 92%, with the fanless design, the entire series is able to operate for -40°C~+90°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. ELG-100-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 - 100 - C500 A -

Input wiring type { Blank:2-wire input for standard model
3Y:3-wire input for standard model
Function options
Rated output current (350/500/700/1050/1400mA)
Rated wattage
Series name

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

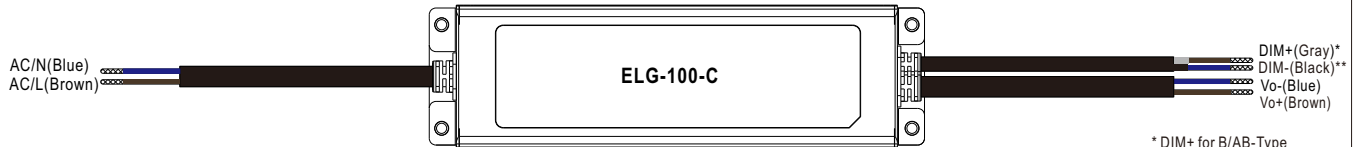
SPECIFICATION

MODEL		ELG-100-C350 □	ELG-100-C500 □	ELG-100-C700 □	ELG-100-C1050 □	ELG-100-C1400 □
OUTPUT	RATED CURRENT	350mA	500mA	700mA	1050mA	1400mA
	RATED POWER	200VAC ~ 305VAC				
		100.1W	100W	100.1W	99.75W	100.8W
		100VAC ~ 180VAC				
	CONSTANT CURRENT REGION Note.2	143 ~ 286V	100 ~ 200V	71 ~ 143V	48 ~ 95V	35 ~ 72V
		297V	210V	149V	105V	75V
	CURRENT ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)				
	CURRENT RIPPLE	5.0% max. @rated current				
	CURRENT TOLERANCE	±5.0%				
INPUT	SET UP TIME Note.4	1000ms/115VAC	500ms/230VAC			
	VOLTAGE RANGE Note.3	100 ~ 305VAC 142 ~ 431VDC continue, 320VAC for 24Hrs; 360VAC for 1Hr (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%/115VAC; @load ≥ 60%/230VAC; @load ≥ 75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION(THD)" section)				
	EFFICIENCY (Typ.)	92%	91%	91%	90%	90%
	AC CURRENT (Typ.)	1.1A / 115VAC 0.6A / 230VAC 0.5A/277VAC				
	INRUSH CURRENT(Typ.)	COLD START 40A(twidth=760μs measured at 50% Ipeak)/230VAC; Per NEMA 410				
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	3 units (circuit breaker of type B) / 6 units (circuit breaker of type C) at 230VAC				
PROTECTION	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 / AB / DA-Type				
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed				
ENVIRONMENT	OVER VOLTAGE	305 ~ 333V	222 ~ 242V	154 ~ 174V	110 ~ 130V	79 ~ 95V
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover				
	WORKING TEMP.	Tcase=-40 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)				
SAFETY & EMC	MAX. CASE TEMP.	Tcase=+90℃				
	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				
OTHERS	SAFETY STANDARDS	UL8750(type"HL"), CSA C22.2 No. 250.13-12;BS EN/EN/AS/NZS 61347-1, BS EN/EN/AS/NZS 61347-2-13 independent, BS EN/EN62384; EAC TP TC 004;BIS IS15885(for 700A,1050A only);GB19510.1, GB19510.14; IP65 or IP67; KC61347 - 1, KC61347 - 2-13 approved				
	DALI STANDARDS	Compliance to IEC62386-101,102,(207 by request) 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 BS EN/EN55015,BS EN/EN61000-3-2 Class C (@ load ≥ 60%) ; BS EN/EN61000-3-3; Gb17743 , GB17625.1; EAC TP TC 020; KC KN15 ,KN61547				
NOTE	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; KC KN15 ,KN61547				
	MTBF	1087.5K hrs min. Telcordia SR-332 (Bellcore) 300.6Khrs min. MIL-HDBK-217F (25℃)				
	DIMENSION	199*63*35.5 mm (L*W*H)				
PACKING		0.85kg; 16pcs/14.2kg/0.72CUFT				

- All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
- Please refer to "DRIVING METHODS OF LED MODULE". For DA-Type, Constant Current region is 60%~100% of maximum voltage under rated power delivery.
- De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.
- Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
- 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.
- This series meets the typical life expectancy of >50,000 hours of operation when Tcase, particularly (Tc) point (or TMP, per DLC), is about 80℃ or less.
- Please refer to the warranty statement on MEAN WELL's website at <http://www.meanwell.com>
- 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).
- 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
- D2 models need to be programmed in the state of loading.
- To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains.

※ Product Liability Disclaimer : For detailed information, please refer to <https://www.meanwell.com/serviceDisclaimer.aspx>

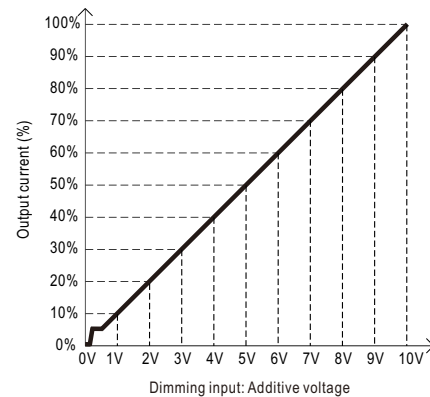
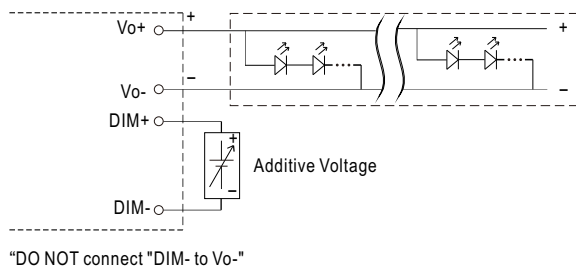
DIMMING OPERATION



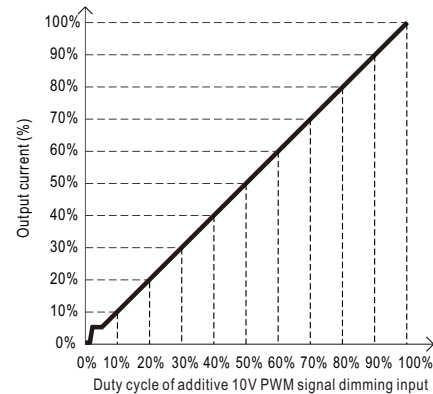
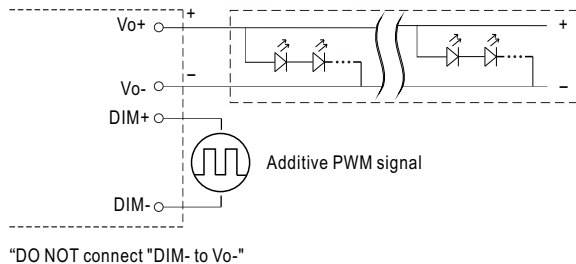
※ 3 in 1 dimming function (for B/AB-Type)

- 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.)

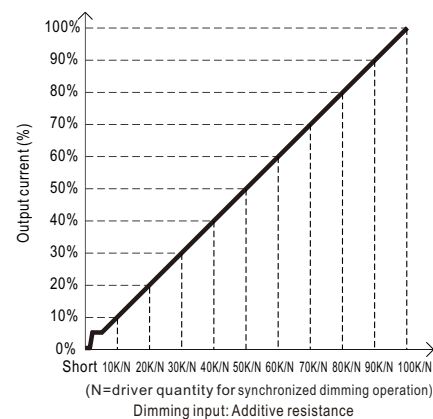
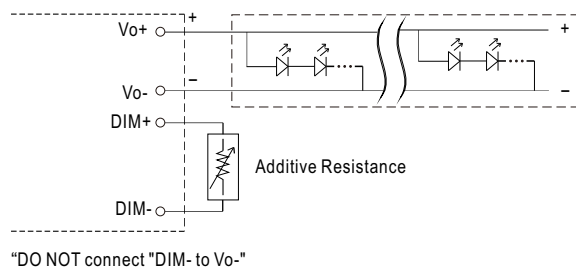
◎ Applying additive 0 ~ 10VDC



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

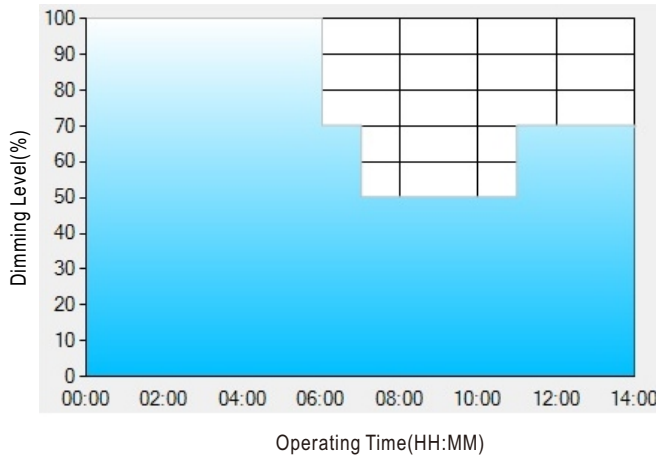
※ DALI Interface (primary side; for DA-Type)

- 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%

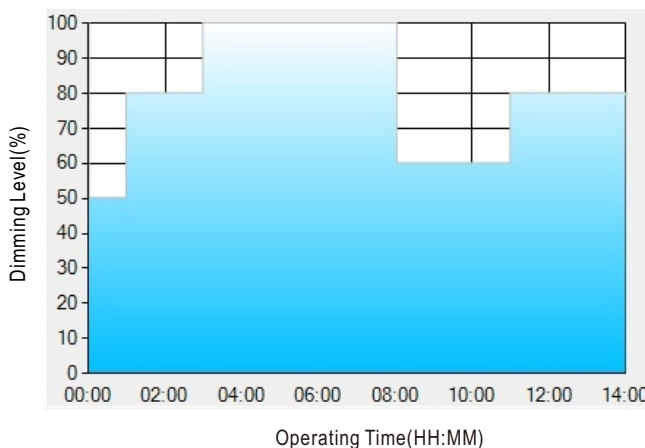
** : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

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:

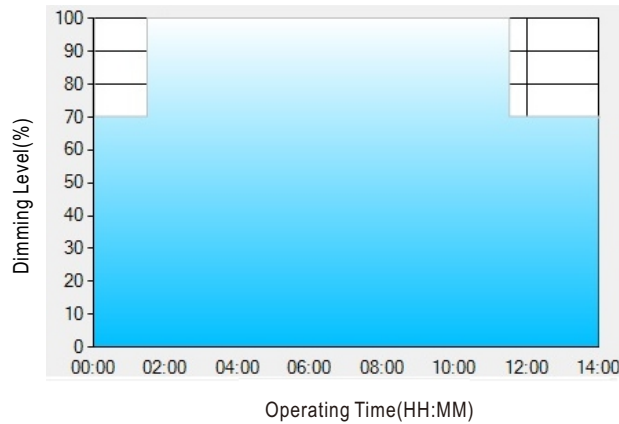
	T1	T2	T3	T4	T5
TIME**	01:00	03:00	8:00	11:00	---
LEVEL**	50%	80%	100%	60%	80%

** : 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:

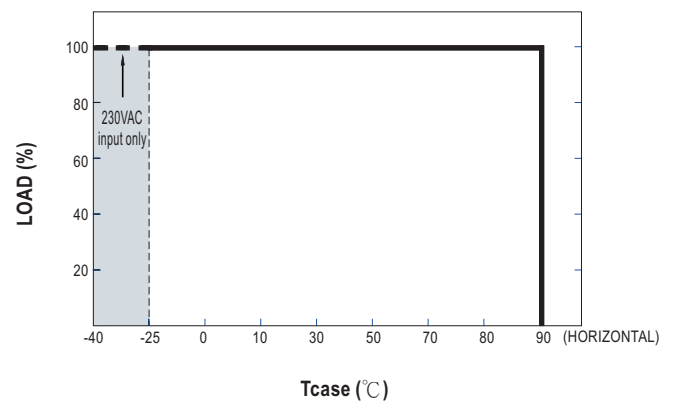
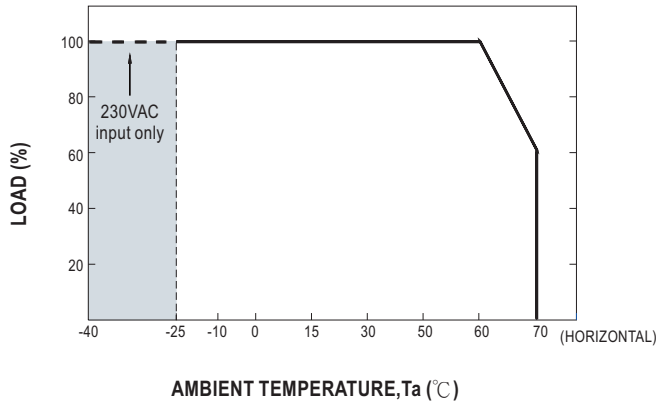
[1] The power supply will switch to the constant current level at 70% starting from 4:30pm.

[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.

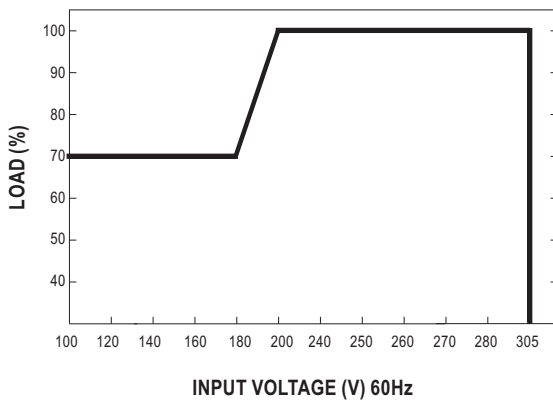
[3] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on.

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

■ OUTPUT LOAD vs TEMPERATURE(Note.7)



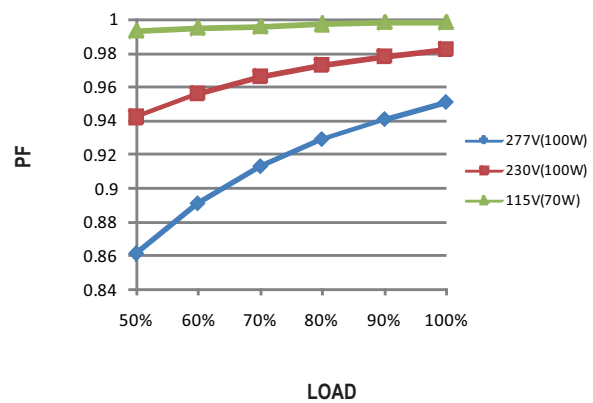
■ STATIC CHARACTERISTIC



※ De-rating is needed under low input voltage.

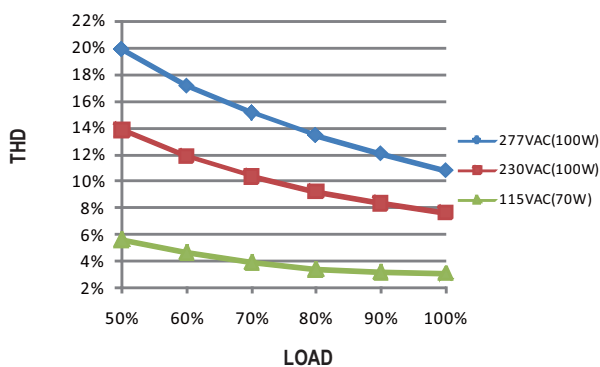
■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 80°C



■ TOTAL HARMONIC DISTORTION (THD)

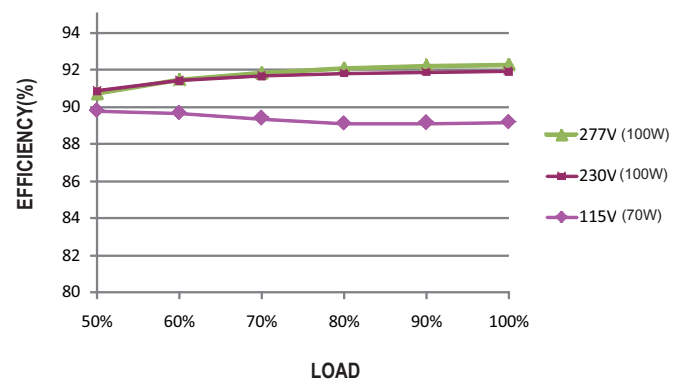
※ 350mA Model, Tcase at 80°C



■ EFFICIENCY vs LOAD

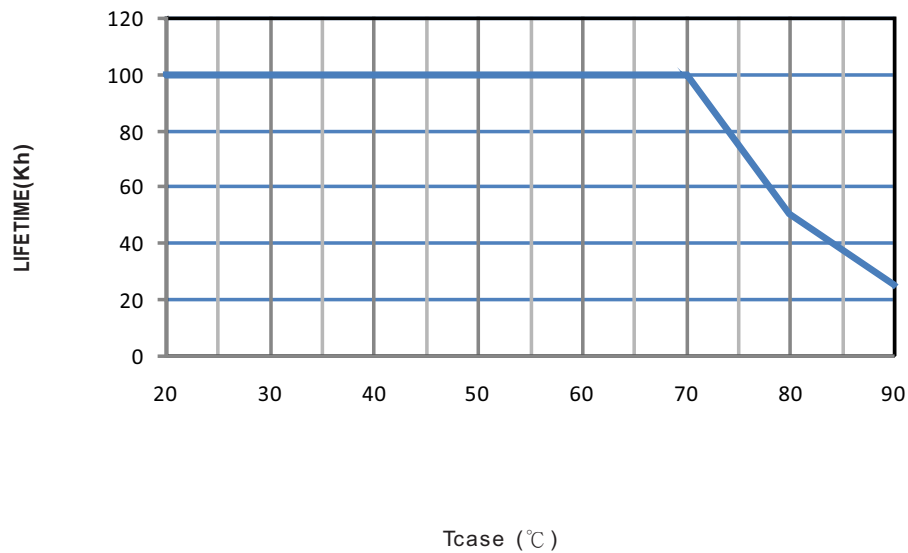
ELG-100-C series possess superior working efficiency that up to 92% can be reached in field applications.

※ 350mA Model, Tcase at 80°C





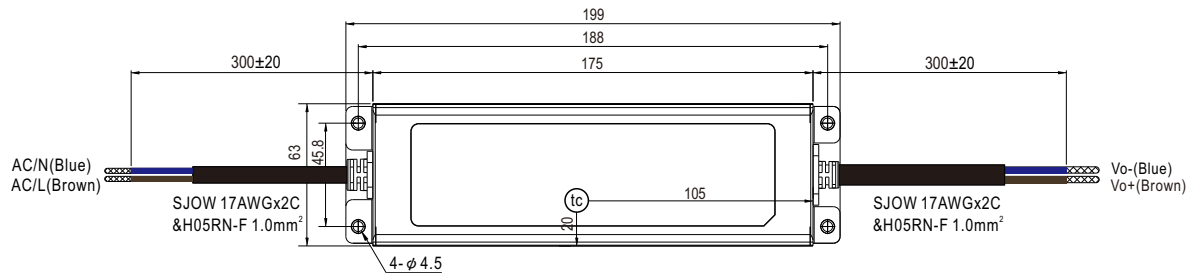
■ LIFE TIME



MECHANICAL SPECIFICATION

※ Blank-Type

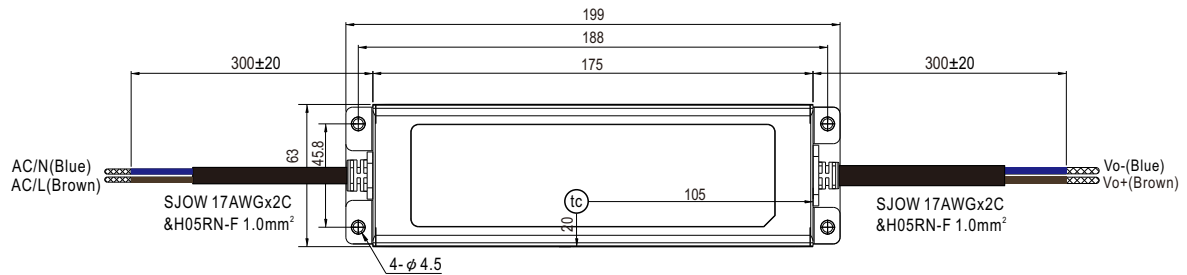
CASE NO.: 244A Unit:mm



• (tc) : Max. Case Temperature



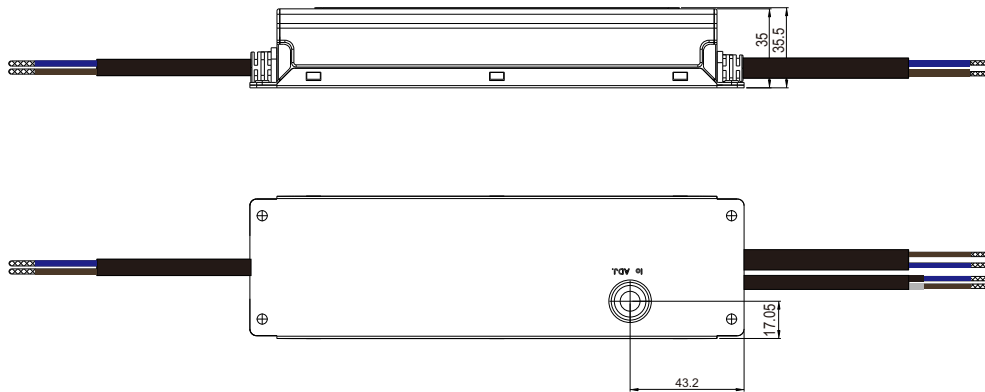
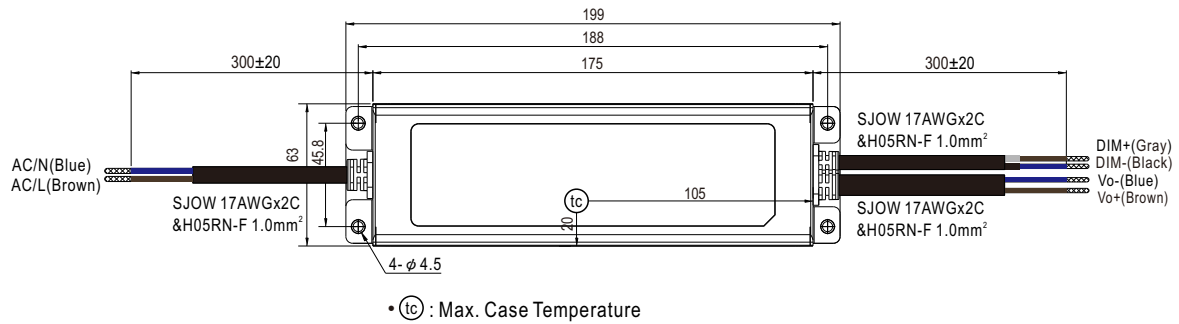
※ A-Type



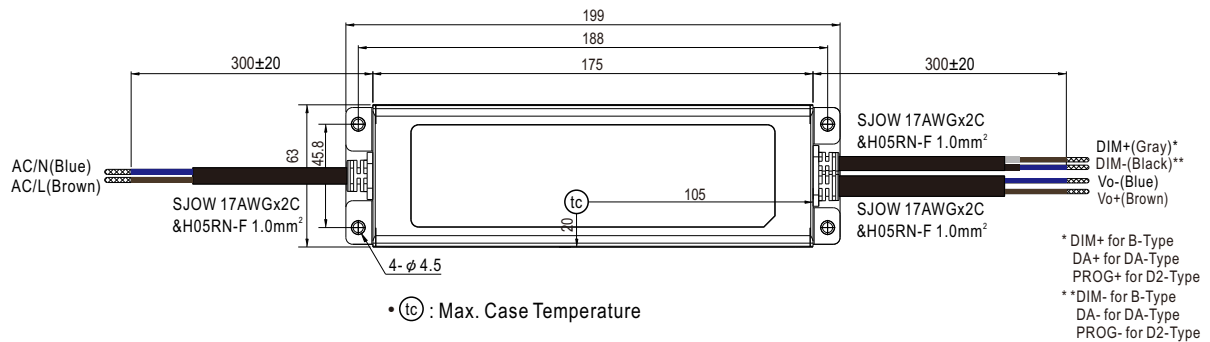
• (tc) : Max. Case Temperature



※ AB-Type

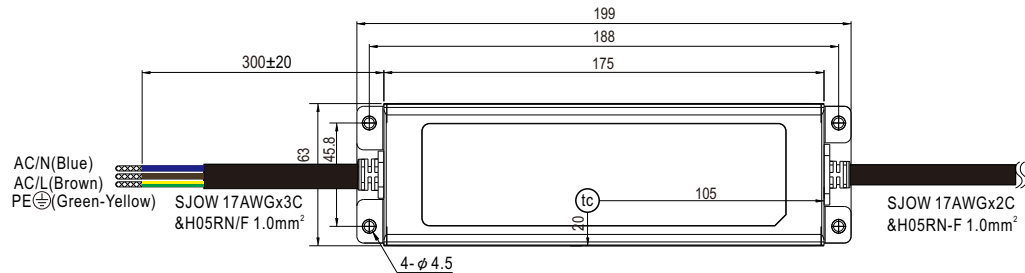


※ B/DA/D2-Type



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

※ 3Y Model (3-wire input)



• t_c : Max. Case Temperature

◎ Note1: Please connect the case to PE for the complete EMC deliverance and safety use.

◎ Note2: Please contact MEAN WELL for input wiring option with PE.

■ INSTALLATION MANUAL

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