



48~75W Constant Voltage + Constant Current LED Driver

ELG-75 series

User's Manual



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IS 15885(Part 2/Sec13)



R-41027766

(Please refer safety description)



(for DA-Type only)



SELV IP65 IP67



Features

- Constant Voltage + Constant Current mode output
- Metal housing design with functional Ground
- Built-in active PFC function
- Class 2 power unit
- 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 architectural lighting
- LED bay lighting
- LED floodlighting
- Type "HL" for use in Class I, Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

ELG-75 series is a 75W AC/DC LED driver featuring the dual mode constant voltage and constant current output. ELG-75 operates from 100~305VAC and offers models with different rated voltage ranging between 12V and 48V. Thanks to the high efficiency up to 90%, 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. ELG-75 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 - 75 - 24 A -

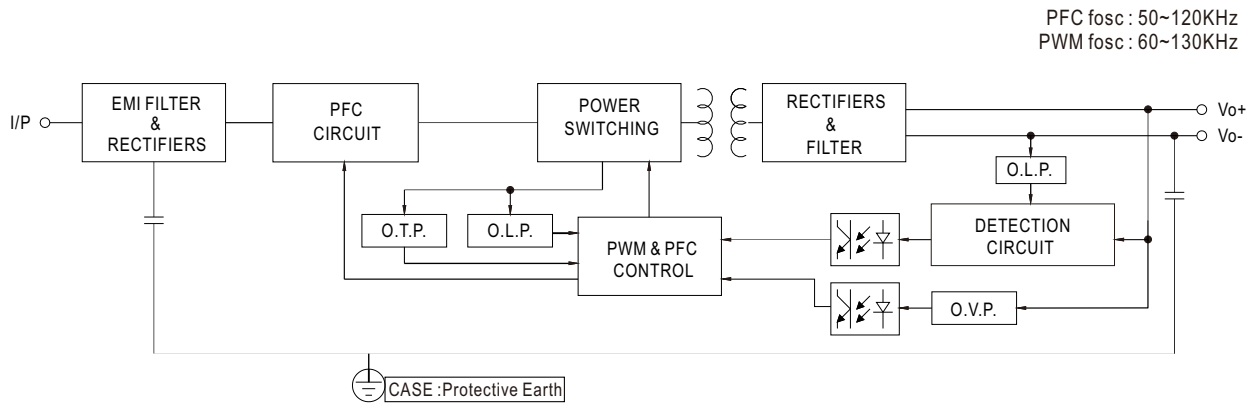
- Input wiring type { Blank:2-wire input for standard model
3Y:3-wire input for standard model
- Function mode option
- Rated output voltage(12/24/36/42/48V)
- Rated wattage
- Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed.	In Stock
A	IP65	Io and Vo 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 and Vo 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

SPECIFICATION

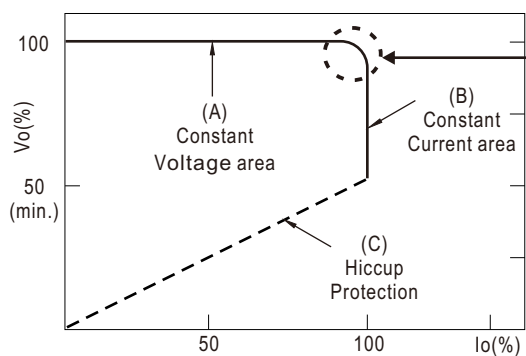
MODEL		ELG-75-12 □	ELG-75-24 □	ELG-75-36 □	ELG-75-42 □	ELG-75-48 □
OUTPUT	DC VOLTAGE	12V	24V	36V	42V	48V
	CONSTANT CURRENT REGION Note.2	6 ~ 12V	12 ~ 24V	18 ~ 36V	21 ~ 42V	24 ~ 48V
	RATED CURRENT	5A	3.15A	2.1A	1.8A	1.6A
	RATED POWER Note.5	200VAC ~ 305VAC				
		60W	75.6W	75.6W	75.6W	76.8W
		100VAC ~ 180VAC				
		48W	60W	60W	60W	60W
	RIPPLE & NOISE (max.) Note.3	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p
	VOLTAGE ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)				
		10.8 ~ 13.2V	21.6 ~ 26.4V	32.4 ~ 39.6V	37.8 ~ 46.2V	43.2 ~ 52.8V
	CURRENT ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)				
		2.5 ~ 5A	1.57 ~ 3.15A	1.05 ~ 2.1A	0.9 ~ 1.8A	0.8 ~ 1.6A
VOLTAGE TOLERANCE Note.4	±3.0%	±3.0%	±2.5%	±2.5%	±2.0%	
LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
LOAD REGULATION	±2.0%	±1.0%	±1.0%	±0.5%	±0.5%	
SETUP, RISE TIME Note.6	500ms, 100ms/115VAC, 230VAC					
HOLD UP TIME (Typ.)	10ms/ 230VAC 10ms/ 115VAC(at full load)					
INPUT	VOLTAGE RANGE Note.5	100 ~ 305VAC 142 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)				
	FREQUENCY RANGE	47 ~ 63Hz				
	POWER FACTOR	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.)	86%	88%	89%	90%	90%
	AC CURRENT	0.7A / 115VAC 0.45A / 230VAC 0.38A/277VAC				
	INRUSH CURRENT(Typ.)	COLD START 50A(twidth=350μs measured at 50% Ipeak) at 230VAC; Per NEMA 410				
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	5 units (circuit breaker of type B) / 8 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 -Type Standby power consumption <0.5W for B / AB / DA-Type				
PROTECTION	OVER CURRENT	95 ~ 108% Constant current limiting, recovers automatically after fault condition is removed				
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE	14 ~ 18V	28 ~ 34V	41 ~ 48V	47 ~ 54V	54 ~ 62V
	OVER TEMPERATURE	Shut down output voltage, re-power on to recover				
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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; IEC/BS EN/EN/AS/NZS 61347-1, IEC/BS EN/EN/AS/NZS 61347-2-13 independent, BS EN/EN62384;EAC TP TC 004;BIS IS15885(for 12A/12DA/12B/24A/24B/24DA/36A/36B/42A/42B/48A/48B only); IP65 or IP67; GB/T19510.1, GB/T19510.213; 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 ≥ 50%) ; BS EN/EN61000-3-3; GB/T 17743, GB17625.1; EAC TP TC 020; KC KN15,KN61547				
	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				
OTHERS	MTBF	3451.7K hrs min. Telcordia SR-332 (Bellcore) 331.3Khrs min. MIL-HDBK-217F (25℃)				
	DIMENSION	180*63*35.5mm (L*W*H)				
	PACKING	0.8Kq;16pcs/13.4Kq/0.67CUFT				

■ 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.

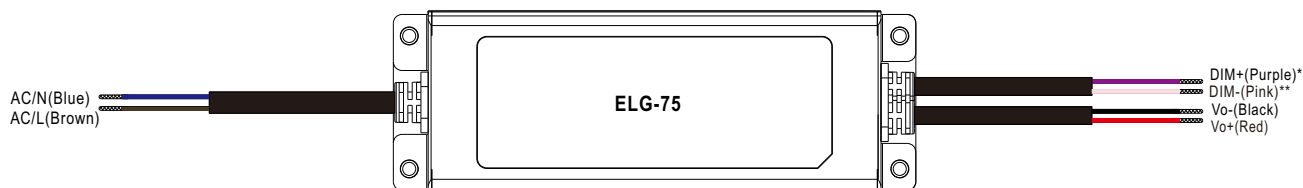


Typical output current normalized by rated current (%)

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.

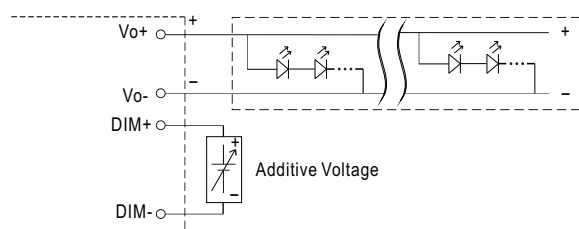
DIMMING OPERATION



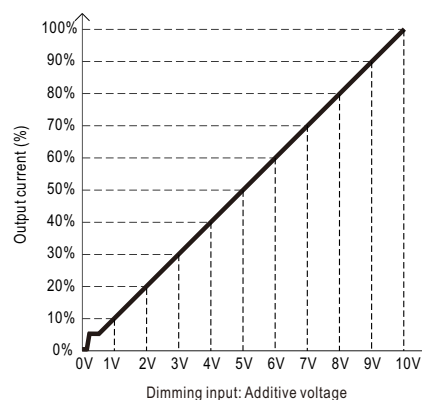
※ 3 in 1 dimming function (for B/AB-Type)

- 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.)

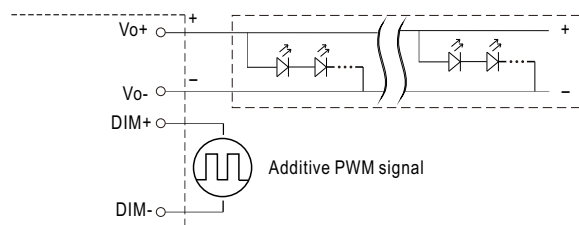
◎ Applying additive 0 ~ 10VDC



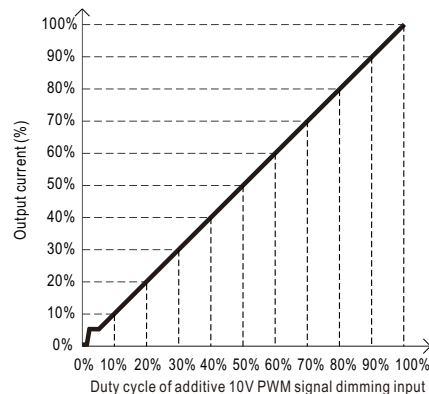
"DO NOT connect "DIM- to Vo-"



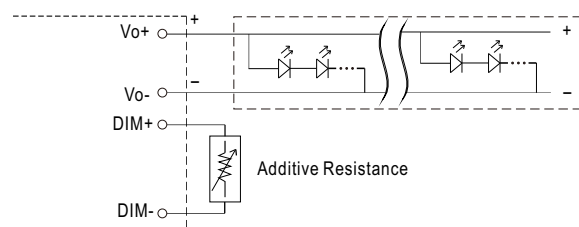
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



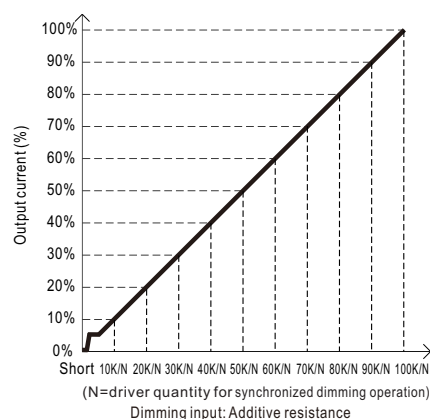
"DO NOT connect "DIM- to Vo-"



◎ Applying additive resistance:



"DO NOT connect "DIM- to Vo-"



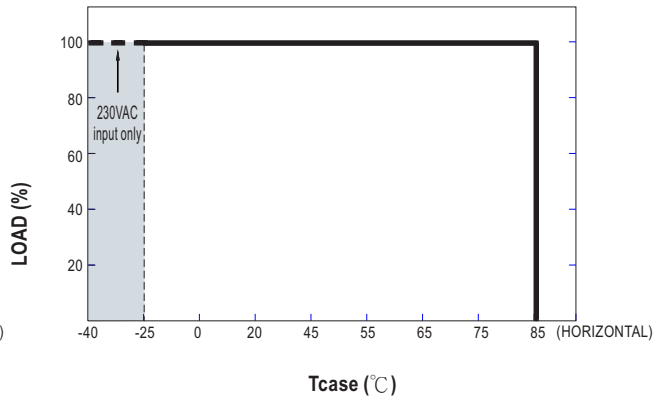
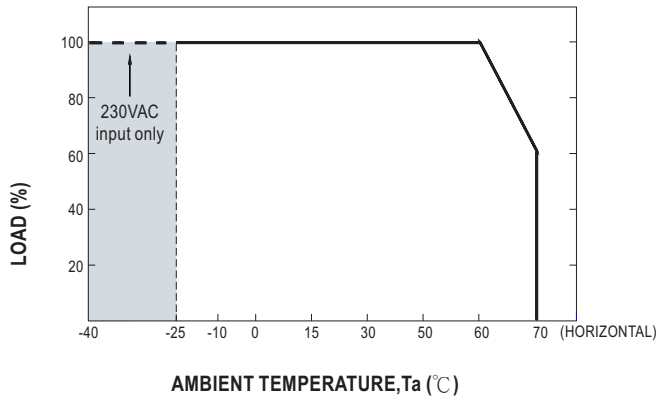
Note : 1. Min. dimming level is about 8% and the output current is not defined when $0\% < I_{out} < 8\%$.

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.

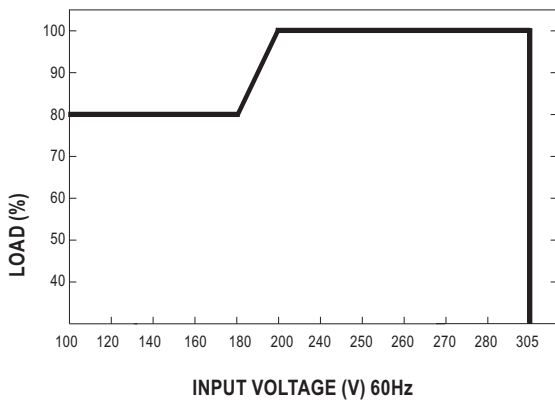
※ DALI Interface (primary side; for DA-Type)

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

■ OUTPUT LOAD vs TEMPERATURE(Note.9)



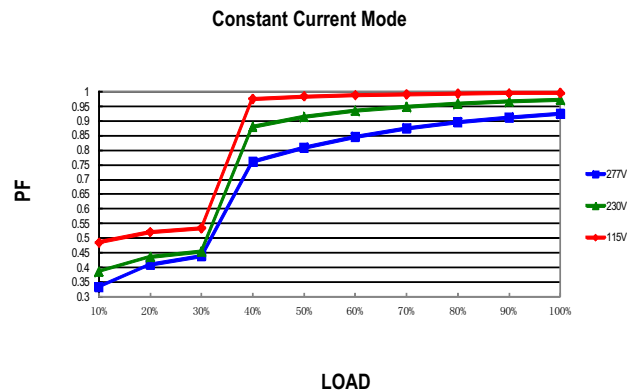
■ STATIC CHARACTERISTIC



※ De-rating is needed under low input voltage.

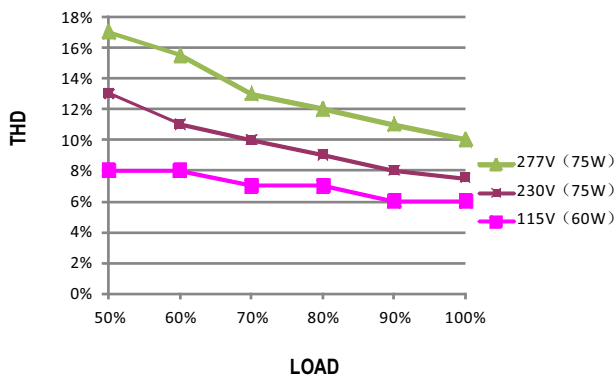
■ POWER FACTOR (PF) CHARACTERISTIC

※ Tcase at 75°C



■ TOTAL HARMONIC DISTORTION (THD)

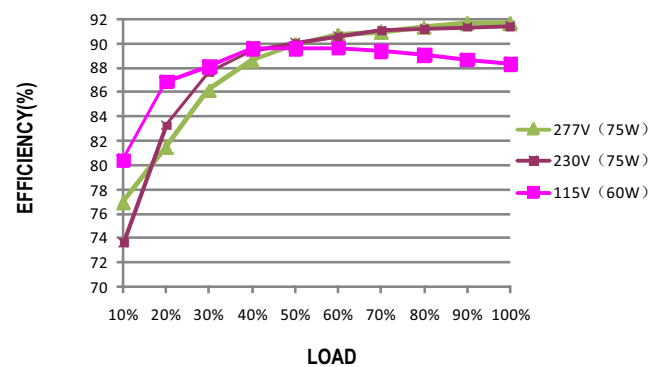
※ 48V Model, Tcase at 75°C



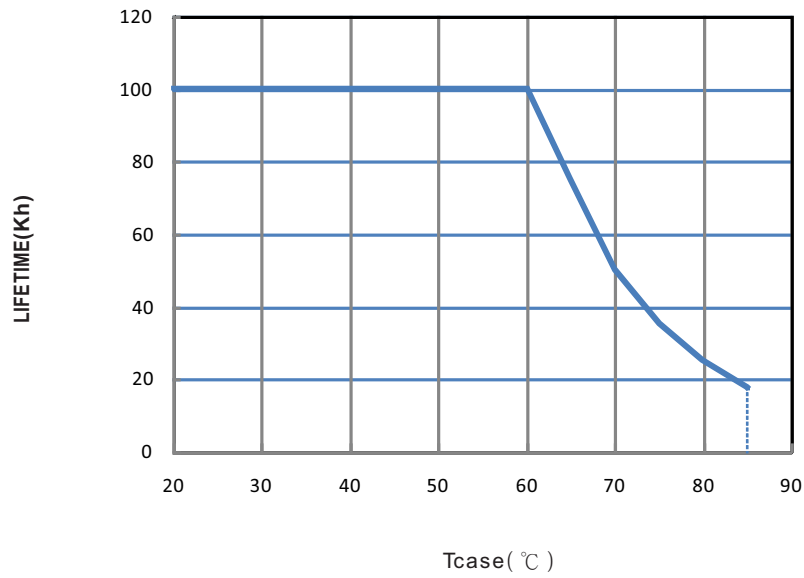
■ EFFICIENCY vs LOAD

ELG-75 series possess superior working efficiency that up to 90% can be reached in field applications.

※ 48V Model, Tcase at 75°C



■ LIFE TIME



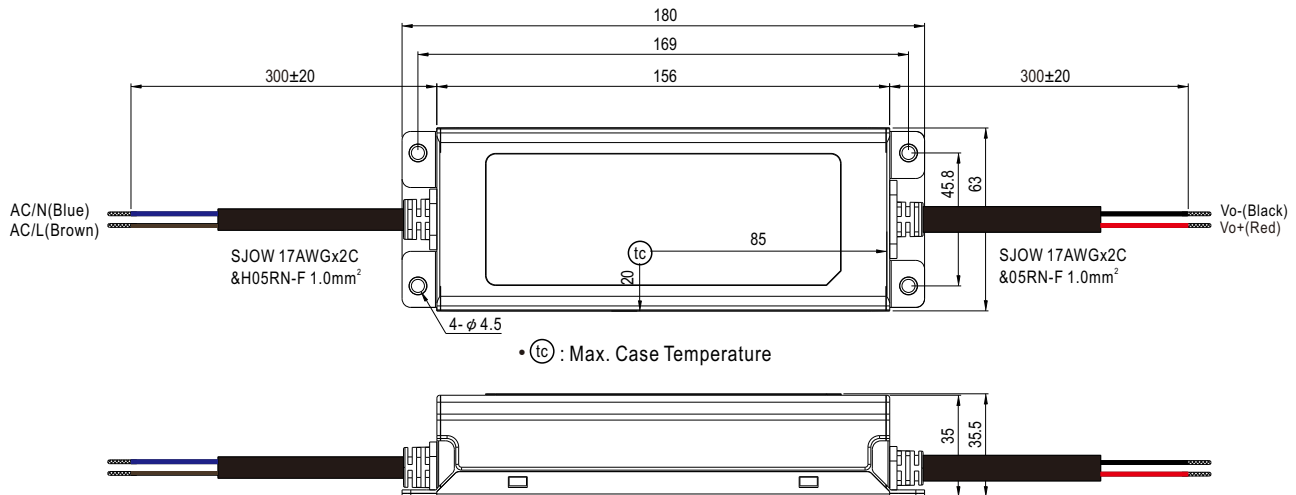
Mechanical Specification

※ Blank-Type

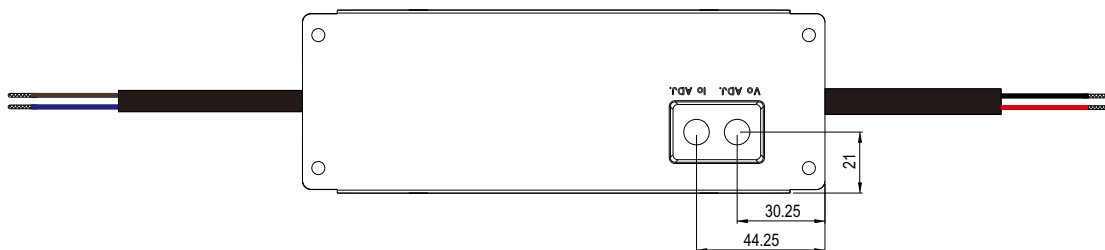
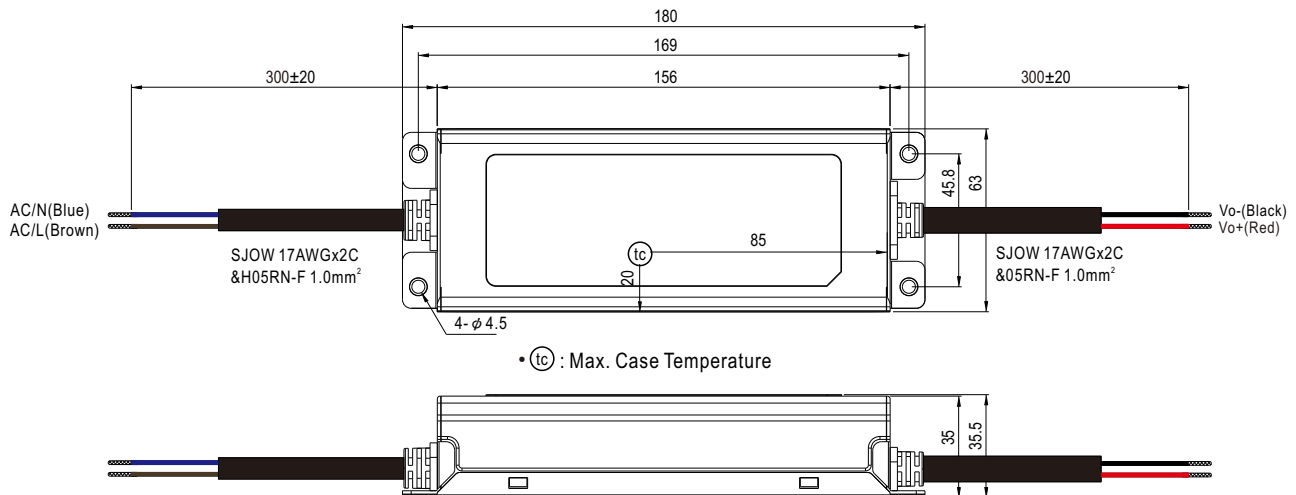
CASE NO.: 243A

Unit:mm

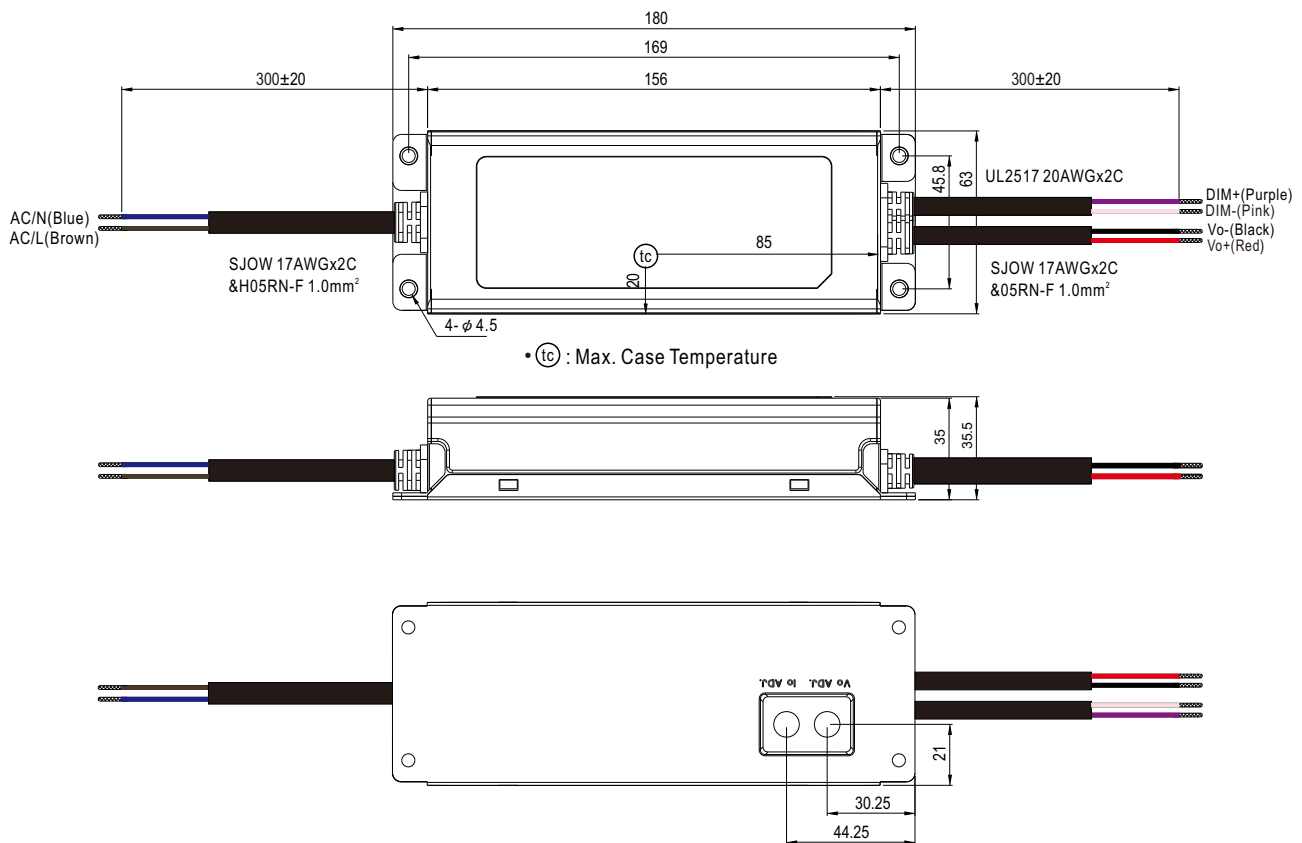
Tolerance:±1



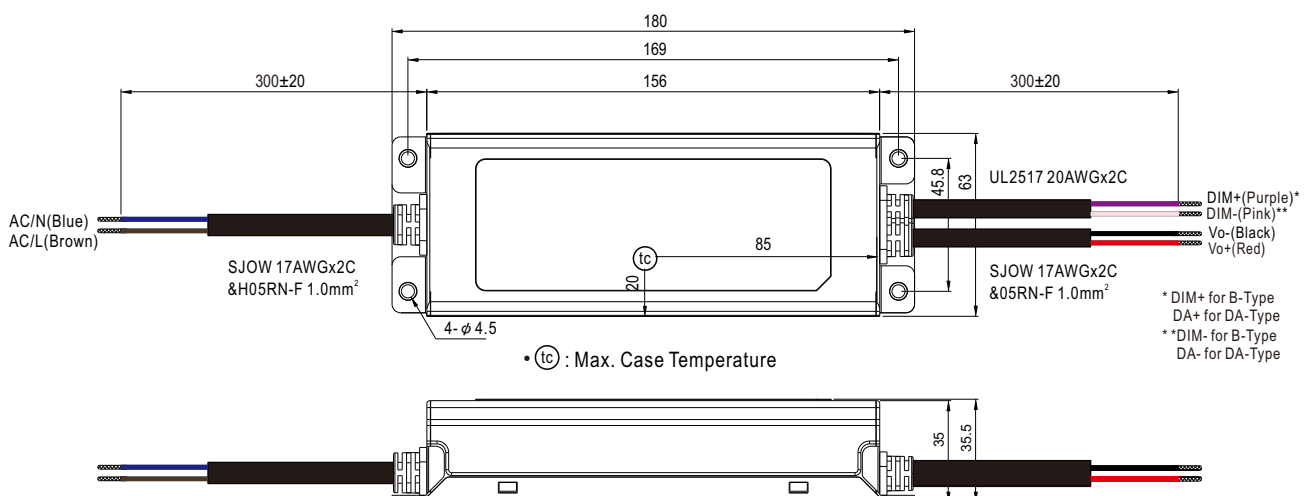
※ A-Type



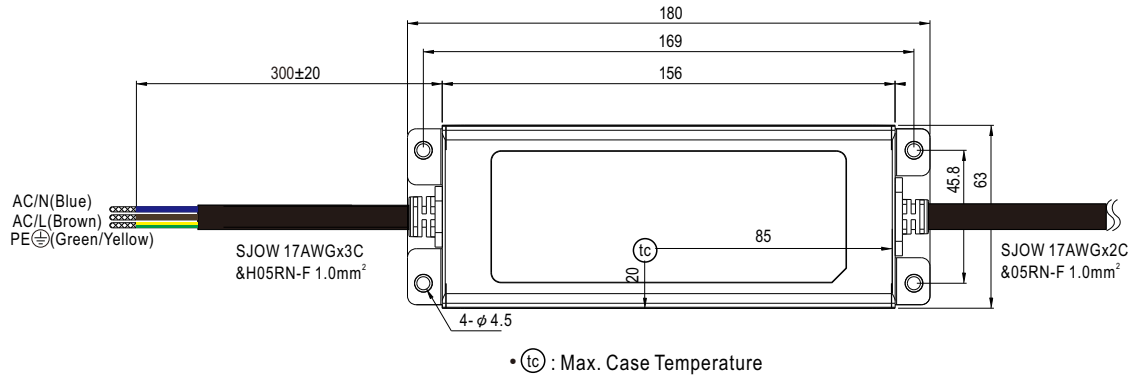
※ AB-Type



※ B/DA-Type



※ 3Y Model (3-wire input)



◎ 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.

■ Recommend Mounting Direction

