24 River Road
Bogota, NJ 07603
1.800.631.8375
www.outwater.com

150W Constant Power Mode LED Driver

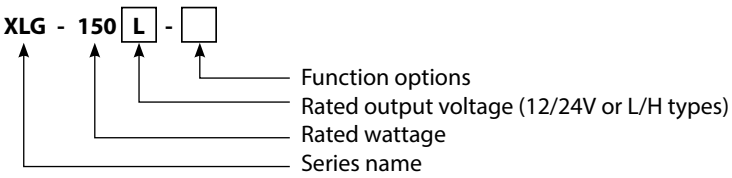
MODEL NO.: EMO-24V-6.25A-HW

FEATURES:
- Wide input range 100~305VAC (Class 1)
- Full power output at 70~100% constant power mode operation
- Metal case with IP67, suitable for outdoor application
- Surge protection with 6KV/4KV (10KV/6KV optional)
- 3 in1 dimming function (Dim to off and isolation design)
- Protection functions: OVP/SCP/OCP/OTP
- Compliance to EN60335-1 household application
- Lifetime >50,000 hrs. and 5 year warranty

APPLICATIONS:
- Skyscraper lighting
- Street lighting
- Floodlight lighting
- Stage lighting
- Horticulture lighting
- Bay lighting
- DMX power supply
- Type HL for use in Class 1, Division 2
- Household devices
- Retail and refigerated display

DESCRIPTION:
100W LED AC/DC driver featuring the constant power mode. Operates from 100~305VAC and offers models with different rated current ranging between 700mA abd 12500mA. Thanks to the high efficiency up to 93%, with the fanless design, the entire series is able to operate for 40ºC~+90ºC case temperature undes 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. Complies with the latest version of IE61347/GB19510.1 and UL8750 international safety regulations. The output and diming circuit are also completely in accordance with the new regulations with isolation to ensure the safety of both user and luminaire system during installation.

MODEL ENCODING:



TYPE	FUNCTION
Blank	Io and Vo fixed. (For harsh environment)
A	Io adjustable via built-in potentiometer
AB	Io adjustable via built-in potentiometer + 3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance

Note: 12V and 24V models without the AB type

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SPECIFICATIONS:

MODEL NO.		EMO-24V-6.25A-HW
OUTPUT	DC Voltage	24V
	Constant Current Region Note.2	16.8 ~ 24V
	Rated Current (Default)	6.25A
	Rated Power	150W
	Ripple & Noise (Max.) Note.3	240mVp-p
	Current Adj. Range	Adjustable for A-Type only (via the built-in potentiometer)
		3.2~6.25A
	Voltage Tolerance Note.4	±2.0%
	Line Regulation	±0.5%
	Load Regulation	±1%
	Setup, Rise Time Note.6	500ms, 100ms/230VAC, 1200ms, 100ms/115VAC
	Hold Up Time (Typ.)	10ms/ 230VAC 10ms/ 115VAC
INPUT	Voltage Range	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
	Total Harmonic Distortion	THD< 10%(@load≥50%/115VC,230VAC; @load≥75%/277VAC)
	Efficiency (Typ.)	93%
	AC Current	1.8A / 115VAC 1.0A / 230VAC 0.8A/277VAC
	Inrush Current (Typ.)	COLD START 50A(twidth=500μs measured at 50% Ipeak) at 230VAC; Per NEMA 410
	Max. No. of PSUs On 16A Circuit Breaker	4 units (circuit breaker of type B) /8 units (circuit breaker of type C) at 230VAC
	Leakage Current	<0.75mA / 277VAC
	No Load Power Consumption	No load power consumption <0.5W (for standard version)
PROTECTION	Over Current	95 ~ 108% Hiccup mode or Constant current limiting, recovers automatically after fault condition is removed.
	Short Circuit	Hiccup mode or Constant current limiting, recovers automatically after fault condition is removed.
	Over Voltage	27 ~ 34V
		Shut down output voltage, re-power on to recover.
	Input Over Voltage Note.7	320 ~ 390VAC (Shut down output voltage when the input voltage exceeds protection voltage, recovers automatically after fault condition is removed). Can survive input voltage stress of 440Vac for 48 hours.
	Over Temperature	Shut down output voltage, re-power on to recover.
ENVIRONMENT	Working Temp.	Tcase=-40 ~ +90°C (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)
	Max. Case Temp	Tcase=+90°C
	Working Humidity	20 ~ 95% RH non-condensing
	Storage Temp. Humidity	-40 ~ +80°C, 10 ~ 95% RH
	Temp. Coefficient	±0.06%/°C (0 ~ 60°C)
	Vibration	10 ~ 500Hz, 5G 12min./1 cycle, period for 72min. each along X, Y, Z axes

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SAFETY & EMC	Safety Standards Note.7	UL8750(type"HL"), UL879, CSA C22.2 No. 250.13-12; ENEC BS EN/EN61347-1, BS EN/EN61347-2-13 independent, BS EN/EN62384; GB19510.1,GB19510.14;EAC TP TC 004;J61347-1(H29), J61347-2-13(H29),KC61347-1,KC61347-2-13, IS15885(Part2/Sec13)(for XLG-150I type only);NOM-058-SCFI-2017(except for Blank type); 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 / 25ºC/ 70% RH		
	EMC Emission	**Parameter**	**Standard**	**Test Level/Note**
		Conducted	BS EN/EN55015(CISPR15), GB/T17743	-----
		Radiated	BS EN/EN55015(CISPR15), GB/T17743	-----
		Harmonic Current	BS EN/EN61000-3-2, GB/T17625.1	Class C @load≥50%
		Voltage Flicker	BS EN/EN61000-3-3	-----
	EMC Immunity	BS EN/EN61547		
		Parameter	**Standard**	**Test Level/Note**
		ESD	BS EN/EN61000-4-2	Level 3, 8KV air ; Level 2, 4KV contact
		Radiated	BS EN/EN61000-4-3	Level 3
		EFT/Burst	BS EN/EN61000-4-4	Level 3
		Surge	BS EN/EN61000-4-5	4KV/Line-Line 6KV/Line-Earth(6K/10K option)
		Conducted	BS EN/EN61000-4-6	Level 3
		Magnetic Field	BS EN/EN61000-4-8	Level 4
		Voltage Dips and Interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods
OTHERS	MTBF	2269.5K hrs min. Telcordia SR-332 (Bellcore); 213.3Khrs min. MIL-HDBK-217F (25ºC)		
	Dimension	180x63x35.5mm (LxWxH)		
	Packing	0.8Kg;16pcs /13.4Kg /0.69CUFT		
NOTES	1. All parameters NOT specially mentioned sre measured at 230VAC input, rated current and 25ºC of ambiant temperature. 2. Please refer to "DRIVING METHODS OF LED MODULE". 3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 uf & 47 uf parallel capacitor. 4. Tolerance: includes set up tolerance, line regulation and load regulation. 5. Derating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. 6. 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. 7. Input voltage only for XLG-150 I Series, and I Series without UL/CSA certificate. 8. 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. 9. The ambient temperature derating of 3.5ºC/1000m with fanless models and of 5ºC/1000m with fan models for operating altitude higher than 2000m (6500 ft). 10. This series meets the typical life expectancy of >50,000 hours of operation when Tcase, particularly tc point (or TMP, per DLC), is about 75ºC or less. 11. To fulfill requirements of the latest ErP regualtion for lighting fixtures, this LED driver can only be use behind a switch without being permanently connected to the mains.			

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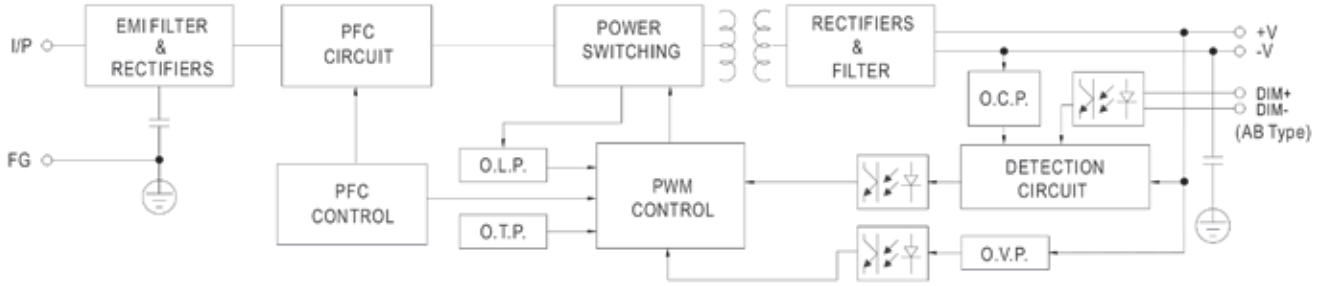
BLOCK DIAGRAM

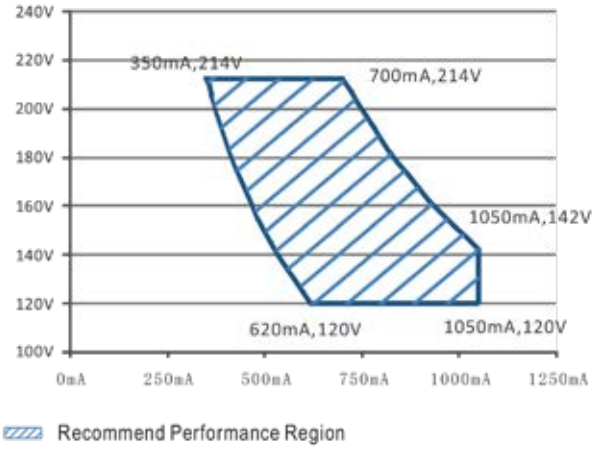
PFC fosc : 50~120KHz
PWM fosc : 60~130KHz



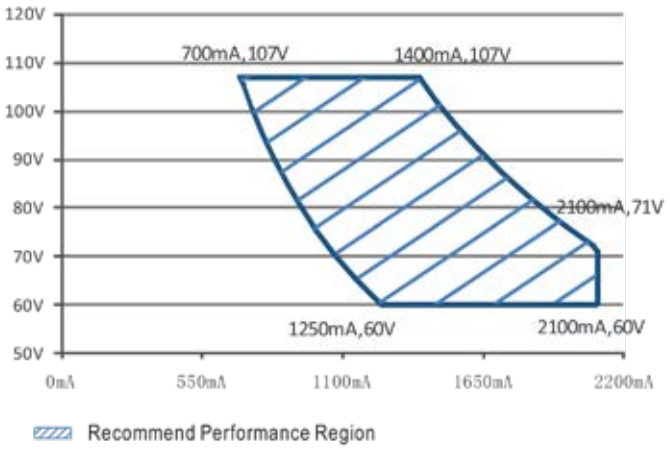
DRIVING METHODS OF LED MODULE

I V Operating Area

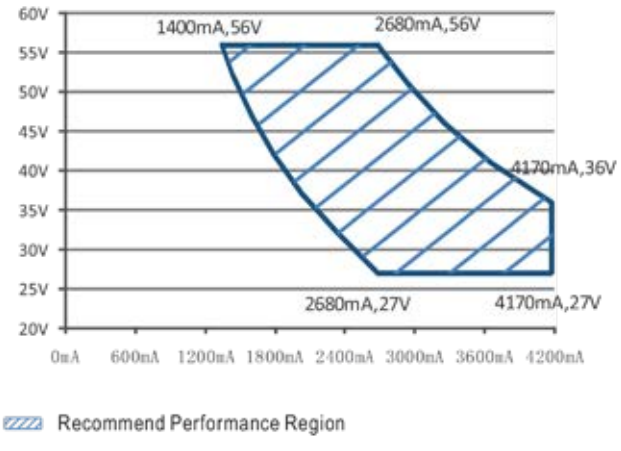
XLG-150-L



XLG-150-M

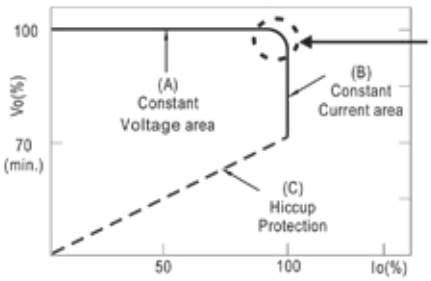


XLG-150-H



XLG-150-12, 24

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.



In the constant current depends on the configuration Should there be any at the output of the driver region, the highest voltage of the end systems. compatibility issues, please please contact MEAN WELL.

Typical output current normalized by rated current (%)

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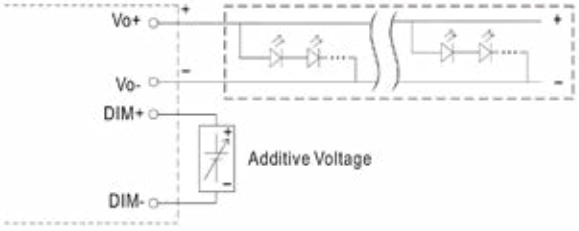
DIMMING OPERATION

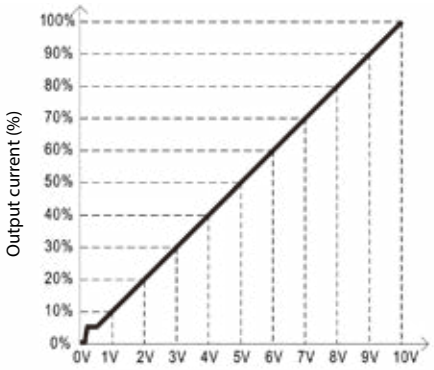
3 in 1 dimming function (for AB-Type)

- 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: 100μA (typ.)

Applying additive 0 ~ 10VDC:

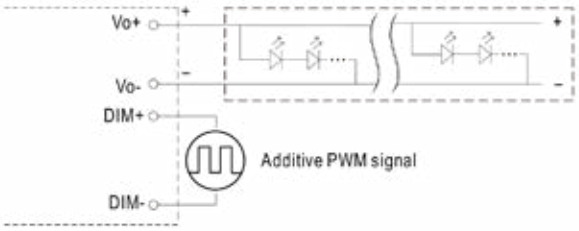


"DO NOT connect "DIM- to Vo-"

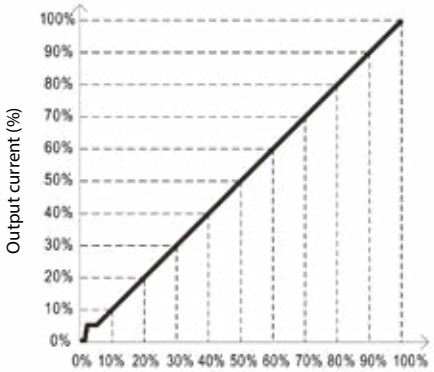


Dimming input: Additive voltage

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

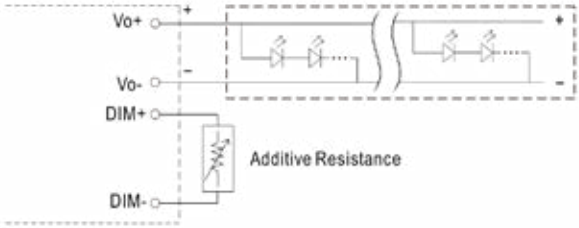


"DO NOT connect "DIM- to Vo-"

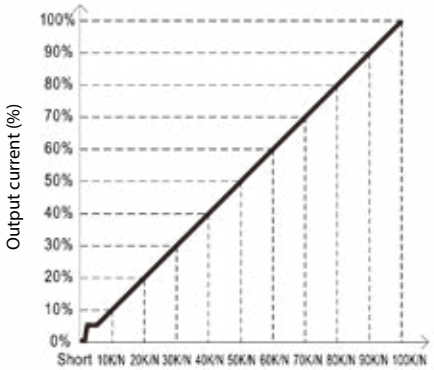


Duty cycle of additive 10V PWM signal dimming input

Applying additive resistance:



"DO NOT connect "DIM- to Vo-"



(N=driver quantity for synchronized dimming operation)
Dimming input: Additive resistance

Note: 1. Min. dimming level is about 8% and the output current is not defined when 0%< Iout<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

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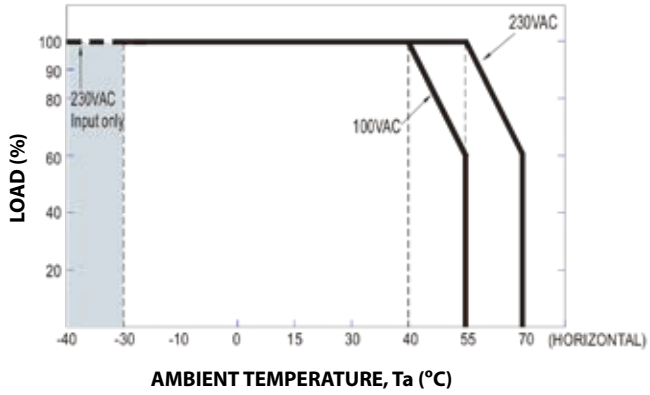
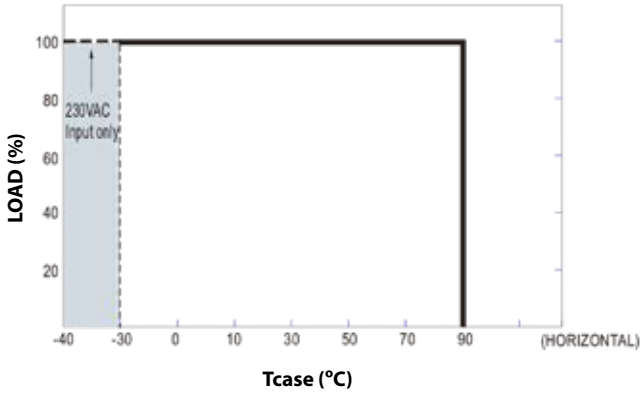
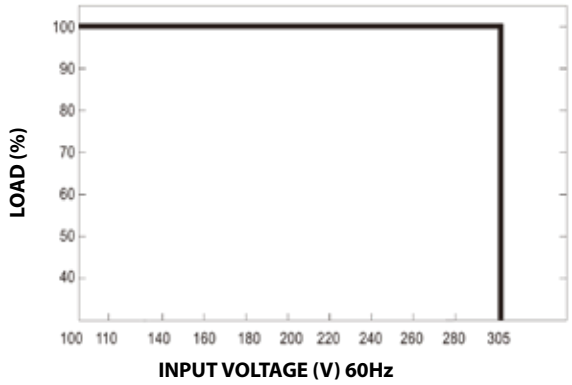
OUTPUT LOAD vs TEMPERATURE





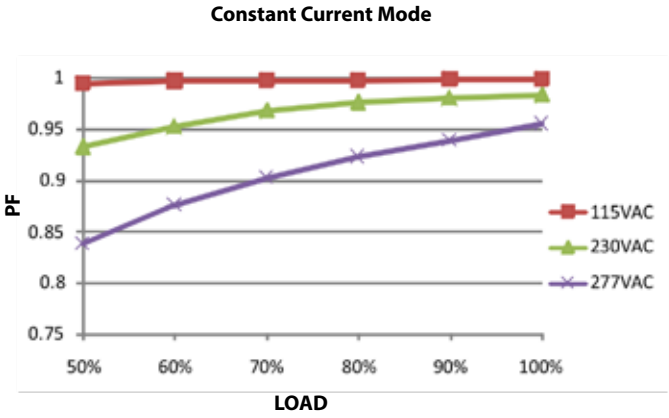
If XLG-150 operates in Constant Current mode with the rated current the maximum workable Ta is 60 (Typ. 230VAC) or 50 (Typ.100VAC) Below 110VAC@ -30 may retry to 2nd setup

STATIC CHARACTERISTIC



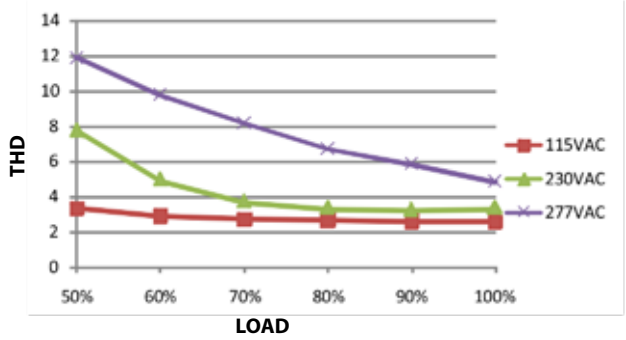
POWER FACTOR (PF) CHARACTERISTIC

Tcase at 75°C



TOTAL HARMONIC DISTORTION (THD)

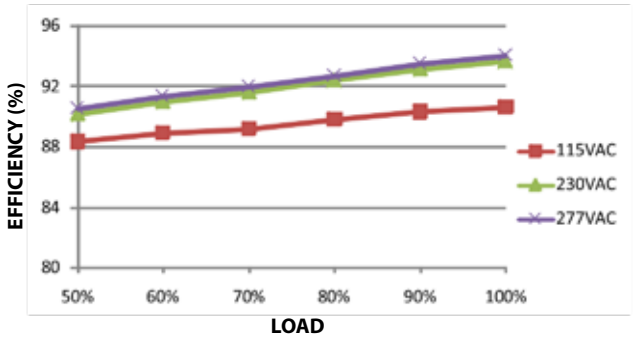
XLG-150-L Model, Tcase at 75°C



EFFICIENCY vs LOAD

XLG-150 series possess superior working efficiency that up to 92.5% can be reached in field applications.

XLG-150-L Model, Tcase at 75°C



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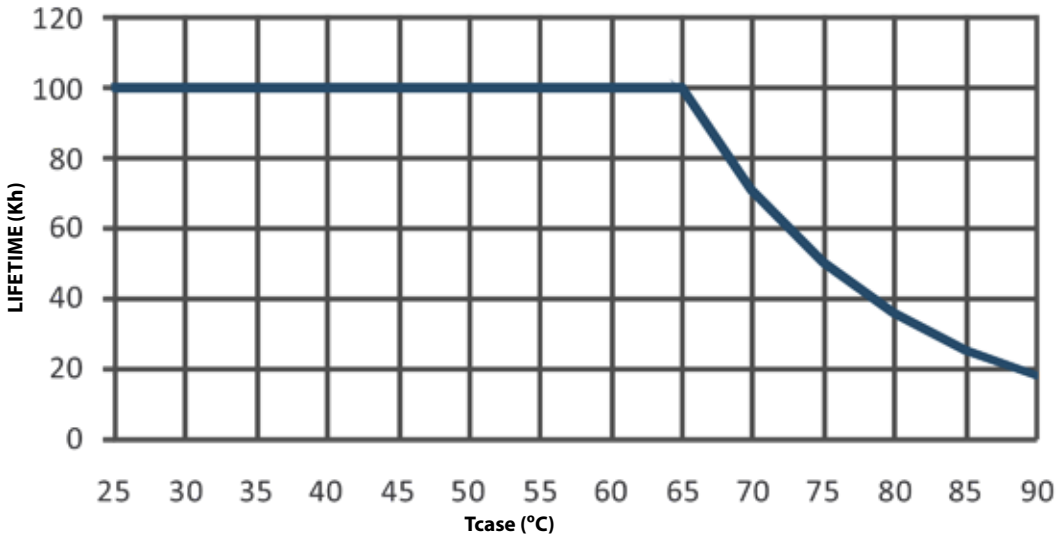
LIFETIME



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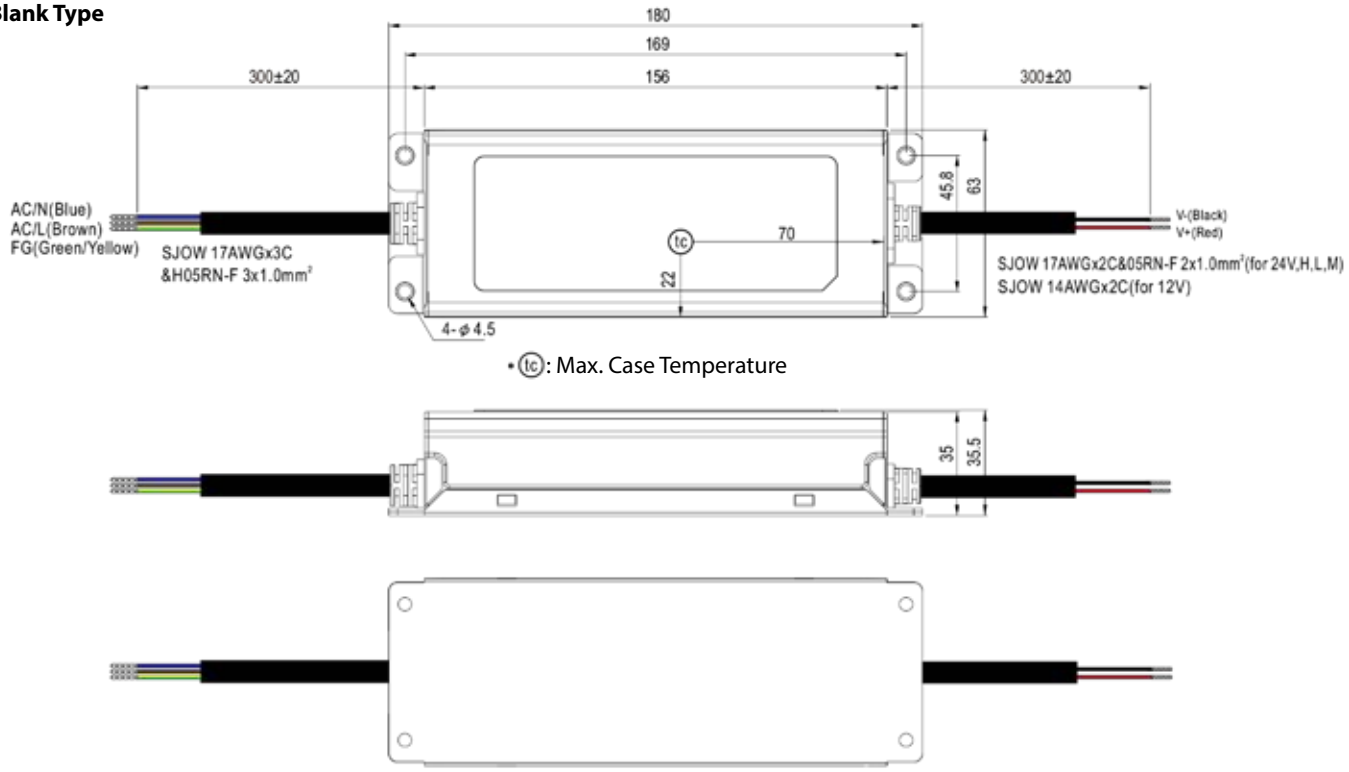
MECHANICAL SPECIFICATION

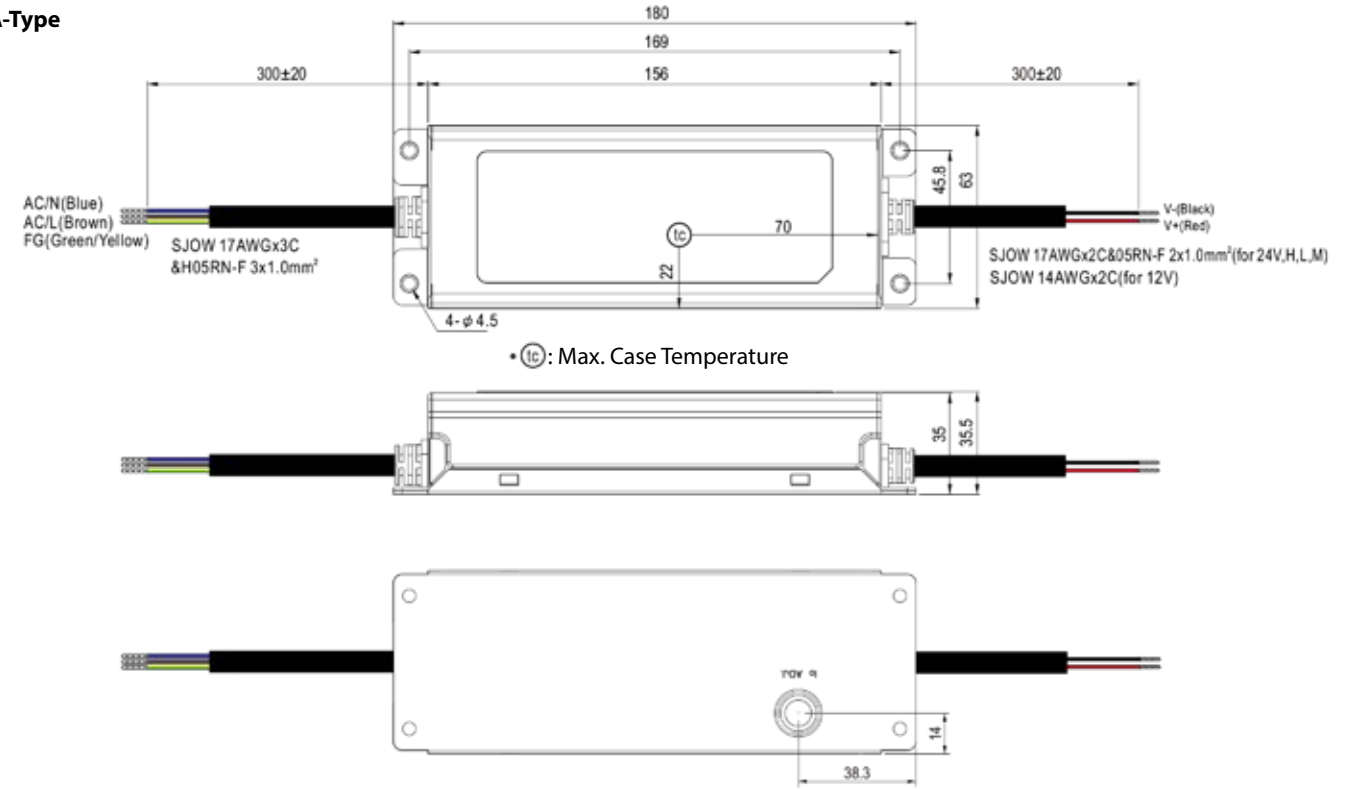
Case No.:275B Unit:mm

Blank Type



• tc: Max. Case Temperature

A-Type



• tc: Max. Case Temperature

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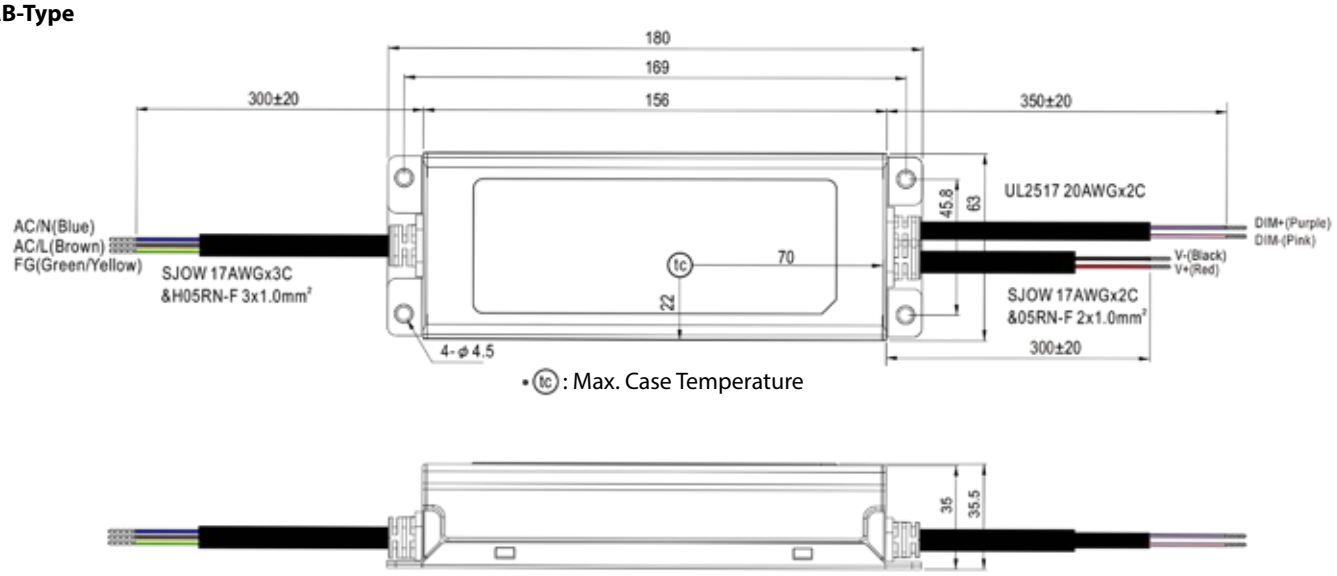
AB-Type



RECOMMENDED MOUNTING DIRECTION