Controlador LED de modo de potencia constante de 100 W XLG-100 series

User's Manual

Features

- Amplio rango de entrada 100~305VAC (Clase Ⅰ)
- Salida de potencia total al 70~100% Operación en modo de potencia constante
- Caja de metal con lP67, adecuada para aplicaciones en exteriores
- Unidad de potencia ・LVLE (tipo H), clase 2 (24 V)
- Protección contra sobretensiones con 6KV/4KV (10KV/6KV opcional)
- Función de atenuación 3 en 1 (Dim to off y diseño de aislamiento)
- La versión India (EESL) con protección contra sobrevoltaje de entrada puede sobrevivir a un estrés de voltaje de entrada de 440 Vac durante 48 horas
- Funciones de protección: OVP/SCP/OCP/OTP
- Tiempo de vida >50,000 hrs. y 5 años de garantía

Applications

- Iluminación de rascacielos
- Alumbrado público
- Iluminación de reflectores
- Iluminación de escenario
- Iluminación de pesca
- Iluminación de horticultura
- Iluminación de bahía
- Fuente de alimentación DMX
- Tipo HL para uso en clase Ⅰ, División 2

GTIN CODE

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

Description

La serie XLG-100 es un controlador LED CA/CC de 100 W que presenta el modo de potencia constante. El XLG-100 funciona con 100~305 V CA y ofrece modelos con diferentes corrientes nominales que oscilan entre 700 mA y 8000 mA. Gracias a la alta eficiencia de hasta el 92 %, con el diseño sin ventilador, toda la serie puede funcionar con una temperatura de caja de -40 ℃~+90 ℃ bajo convección de aire libre. El diseño de la carcasa de metal y el nivel de protección de ingreso lP67 permiten que esta serie se adapte a aplicaciones tanto en interiores como en exteriores. Además, la innovadora capacidad de adaptación al entorno permite que esta serie ilumine de forma fiable los LED para todo tipo de entornos de aplicación en casi cualquier lugar que pueda instalar luminarias LED en el mundo. La serie XLG-100 cumple con la última versión de las normas de seguridad internacionales lEC61347/GB7000.1-2015 y UL8750. El circuito de salida y regulación también está completamente de acuerdo con las nuevas regulaciones con aislamiento para garantizar la seguridad tanto del usuario como del sistema de luminarias durante la instalación.

Model Encoding

XLG - 100 [I] - [L] - [ ]

- [ ]: Opciones de función
- [L]: (Tensión nominal de salida (tipos 12/24 V o L/H
- [I]: I: para la versión India (a pedido con protección contra sobrevoltaje de entrada)
- [ ]: Para versión estándar
- 100: Potencia nominal
- XLG: Nombre de la serie

Type	Function	Note
Blank	Io and Vo fixed. (For harsh environment)	By request
A	Io adjustable via built-in potentiometer	In Stock
AB	Io adjustable via built-in potentiometer +3 in 1 dimming function (0~10Vdc, 10V PWM signal and resistance)	In Stock

Note: 1.12V and 24V models without the AB type
2.India version needs MOQ for production, please consult MEANWELL for detail

SPECIFICATION

MODEL		XLG-100□-12-□	XLG-100□-24-□
OUTPUT	DC VOLTAGE	12V	24V
	CONSTANT CURRENT REGION Note.2	8.4~ 12V	16.8~ 24V
	RATED CURRENT (Default)	8A	4A
	RATED POWER	96W	96W
	RIPPLE & NOISE (max.) Note.3	150mVp-p	240mVp-p
	CURRENT ADJ RANGE	Adjustable for A-Type only (via the built-in potentiometer)	
		4 ~ 8A	2~4A
	VOLTAGE TOLERANCE Note.4	±3.0%	±2.0%
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±2%	±1%
	SETUP, RISE TIME Note.6	500ms, 100ms/230VAC, 1200ms, 100ms/115VAC	
	HOLD UP TIME (Typ.)	12ms/ 230VAC 12ms/ 115VAC	
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	
	TOTAL HARMONIC DISTORTION	THD< 10%(@load≧50%/115VC,230VAC; @load≧75%/277VAC)	
	EFFICIENCY (Typ.)	92%	92%
	AC CURRENT	1.1A / 115VAC 0.5A / 230VAC 0.42A/277VAC	
	INRUSH CURRENT(Typ.)	COLD START 50A(twidth=300μs measured at 50% Ipeak) at 230VAC; Per NEMA 410	
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	8units (circuit breaker of type B) / 14 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	13.5 ~ 18V	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 @ tc 75℃ max	
	OVER TEMPERATURE	Shut down output voltage, re-power on to recover	
ENVIRONMENT	WORKING TEMP.	Tcase=-40 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)	
	MAX. CASE TEMP.	Tcase=+90℃	
	WORKING HUMIDITY	20 ~ 95% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +90℃, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)	
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes	
EMC SAFETY &	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-100I 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 / 25℃/ 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	2782.6K hrs min. Telcordia SR-332 (Bellcore) ; 276.4Khrs min. MIL-HDBK-217F (25℃)	
	DIMENSION	140*63*32mm (L*W*H)	
	PACKING	0.58Kg;24pcs /15Kg /0.85CUFT	

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. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
4. Tolerance : includes set up tolerance, line regulation and load regulation.
5. De-rating 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-100 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 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
10. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com
11. 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.
12. Products sourced from the Americas regions may not have the PSE/CCC/BIS/KC logo. Please contact your MEAN WELL sales for more information.
13. 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
14. To fulfill requirements of the latest ErP regulation for lighting fixture, this LED driver can only be used behind a switch without permanently connected to the mains.
15. If you need the NOM (Mexico) certificate, Please contact MEAN WELL sales representative for details.

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

SPECIFICATION

MODEL		XLG-100 □-L-□	XLG-100 □-H-□
OUTPUT	RATED CURRENT (Default)	700mA	2100mA
	RATED POWER	100W	100W
	CONSTANT CURRENT REGION	71 ~ 142V	27 ~ 56V
	FULL POWER CURRENT RANGE	700~1050mA	1750~2780mA
	OPEN CIRCUIT VOLTAGE (max.)	149V	60V
	CURRENT ADJ. RANGE	350~1050mA	875~2780mA
	CURRENT RIPPLE	3.0%(@rated current)	
	CURRENT TOLERANCE	±5%	
	SET UP TIME	500ms/230VAC, 1200ms/115VAC	
INPUT	VOLTAGE RANGE Note.5	100 ~ 305VAC 142VDC ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" ang " 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.)	92.5%	91%
	AC CURRENT (Typ.)	1.1A / 115VAC 0.5A / 230VAC 0.42A / 277VAC	
	INRUSH CURRENT(Typ.)	COLD START 50A(t_{width}=300μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410	
	MAX. NO. of PSUs on 16A CIRCUIT BREAKER	8 unit(circuit breaker of type B) / 14 units(circuit breaker of type C) at 230VAC	
	LEAKAGE CURRENT	<0.75mA / 277VAC	
	STANDBY POWER CONSUMPTION	Standby power consumption <0.5W for AB-Type(Dimming OFF)(for standard version)	
PROTECTION	OVER POWER	105 ~ 150% Hiccup mode, recovers automatically after fault condition is removed	
	SHORT CIRCUIT	Hiccup mode or Constant current limiting, recovers automatically after fault condition is removed	
	OVER VOLTAGE	160 ~ 220V	66 ~ 90V
		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 @ tc 75℃ max	
	OVER TEMPERATURE	Shut down output voltage, re-power on to recover	
ENVIRONMENT	WORKING TEMP.	Tcase=-40 ~ +90℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)	
	MAX. CASE TEMP.	Tcase=+90℃	
	WORKING HUMIDITY	20 ~ 95% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH non-condensing	
	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 Note.7	UL8750(type"HL"), 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-100I 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 / 25℃/ 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	2782.6K hrs min. Telcordia SR-332 (Bellcore) ; 276.4Khrs min. MIL-HDBK-217F (25℃)	
	DIMENSION	140*63*32mm (L*W*H)	
	PACKING	0.58Kg;24pcs /15Kg /0.85CUFT	

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. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
4. Tolerance : includes set up tolerance, line regulation and load regulation.
5. De-rating 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-100 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 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
10. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com
11. 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.
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14. To fulfill requirements of the latest ErP regulation for lighting fixture, this LED driver can only be used behind a switch without permanently connected to the mains.
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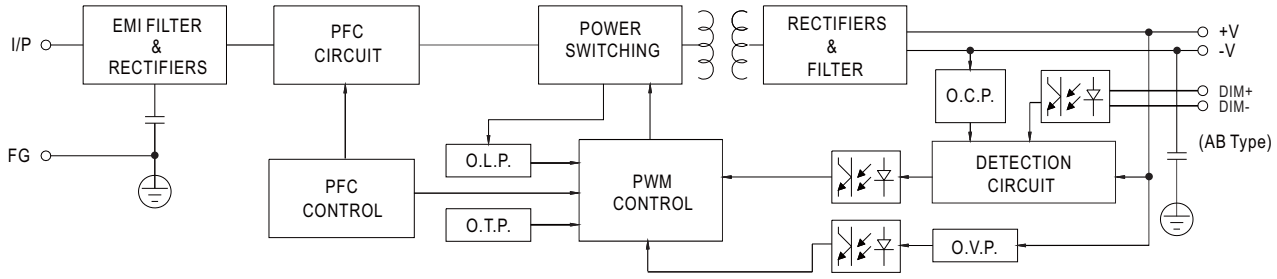
■ BLOCK DIAGRAM

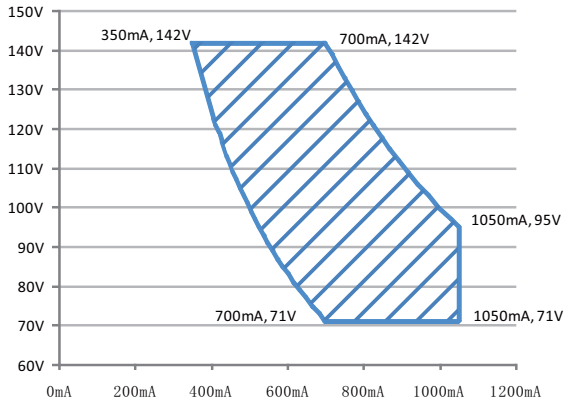
PFC fosc : 50~120KHz
PWM fosc : 60~130KHz



■ DRIVING METHODS OF LED MODULE

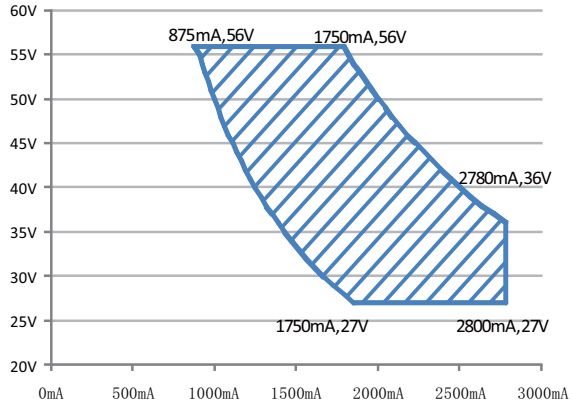
※ I-V Operating Area

◎ **XLG-100-L**



Recommend Performance Region

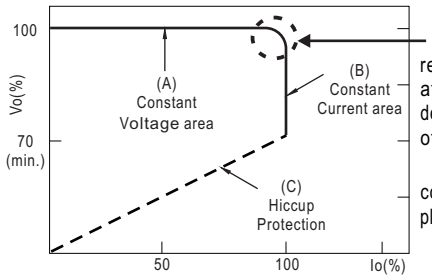
◎ **XLG-100-H**



Recommend Performance Region

◎ **XLG-100-12,24**

※ 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.

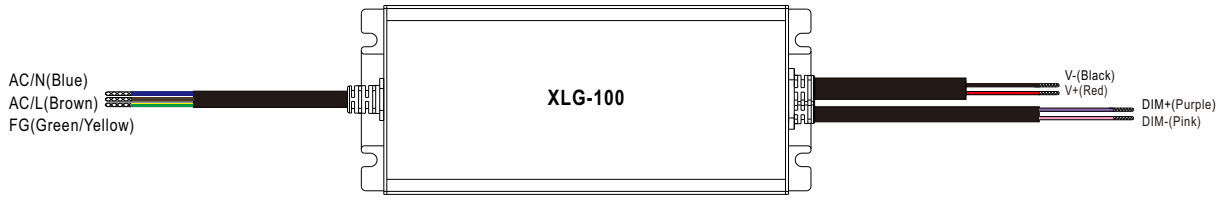


Typical output current normalized by rated current (%)

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 please contact MEAN WELL.

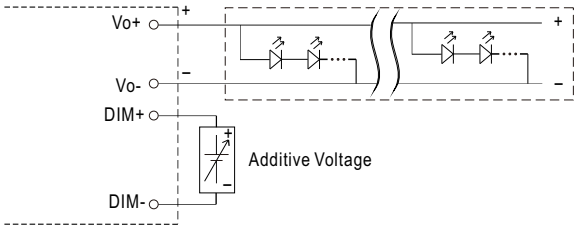
■ DIMMING OPERATION



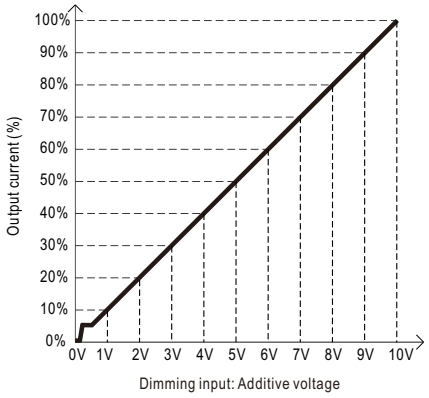
※ 3 in 1 dimming function (for AB-Type)

- 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 μA (typ.)

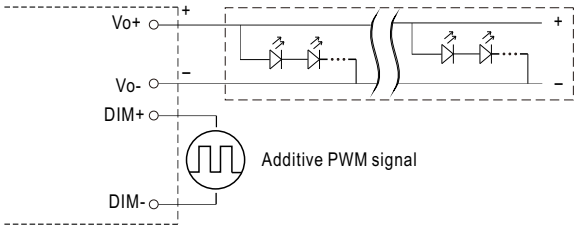
◎ Applying additive 0 ~ 10VDC



"DO NOT connect "DIM- to Vo-"



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



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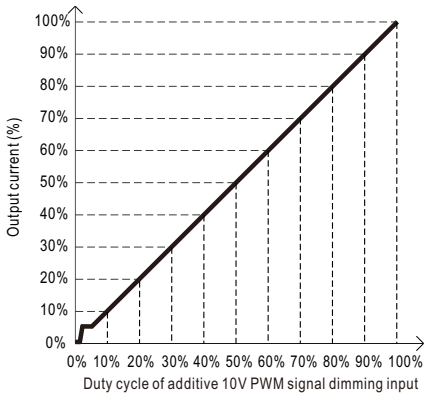
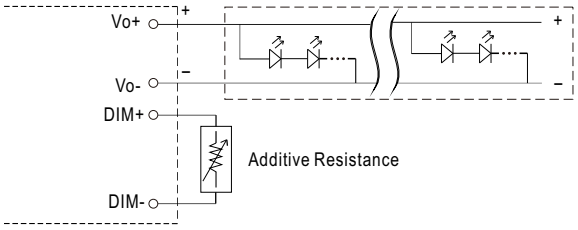
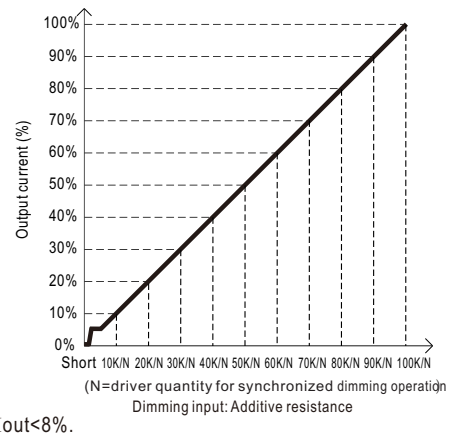


◎ Applying additive resistance:

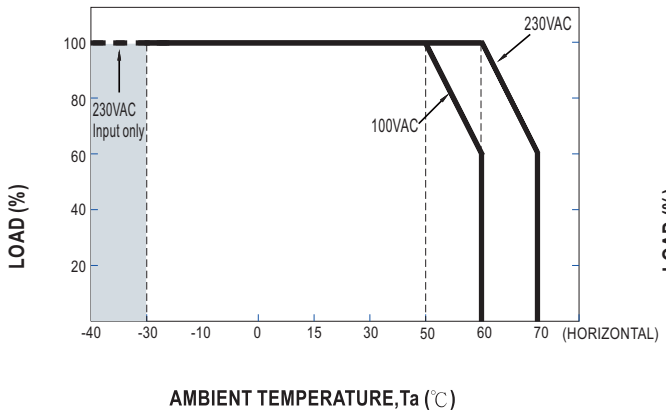


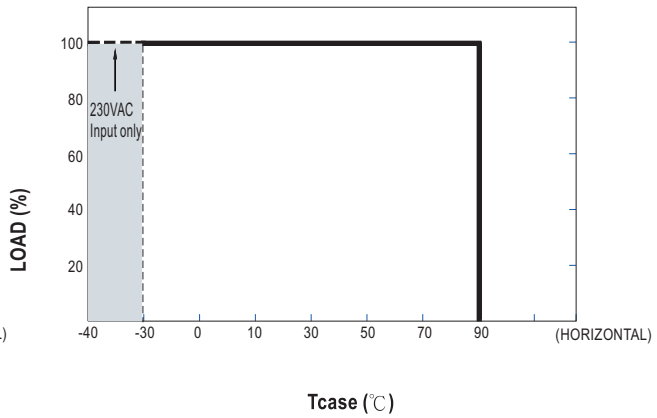
"DO NOT connect "DIM- to Vo-"



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

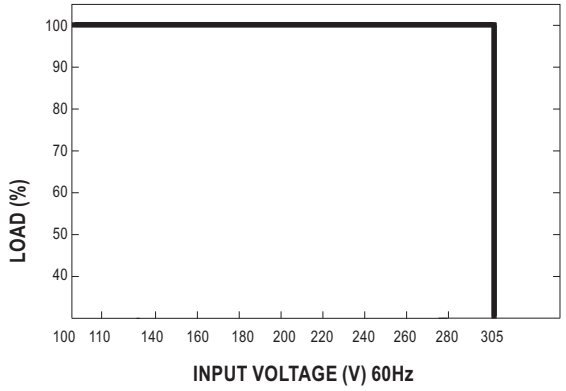
■ OUTPUT LOAD vs TEMPERATURE





If XLG-100 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

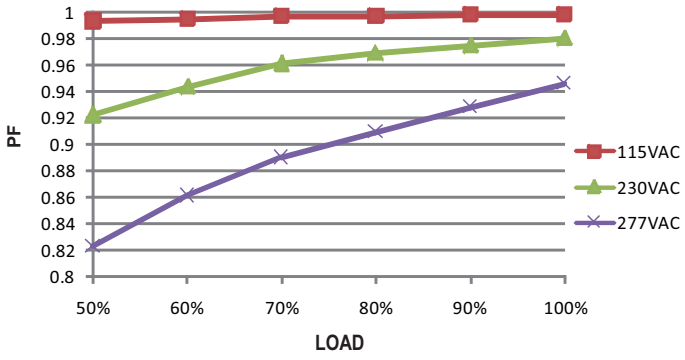
■ STATIC CHARACTERISTIC



■ POWER FACTOR (PF) CHARACTERISTIC

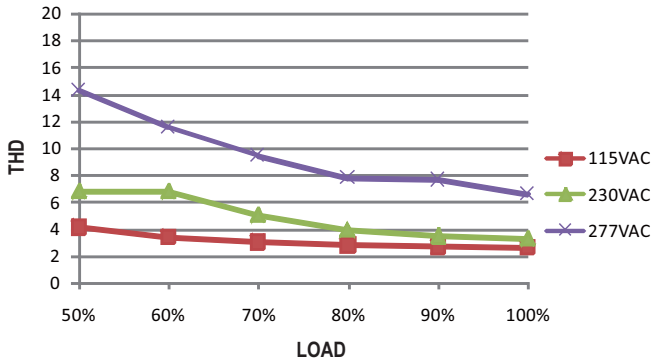
※ Tcase at 75℃

Constant Current Mode



■ TOTAL HARMONIC DISTORTION (THD)

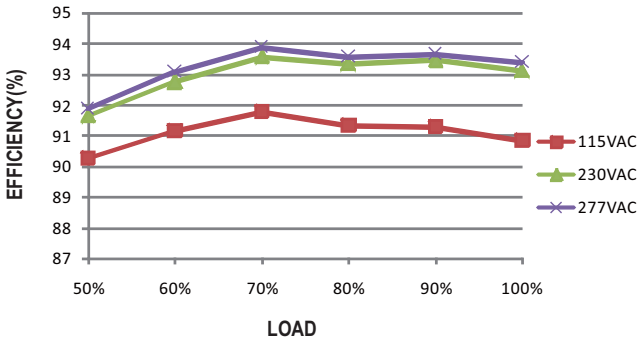
※ XLG-100-L Model, Tcase at 75℃



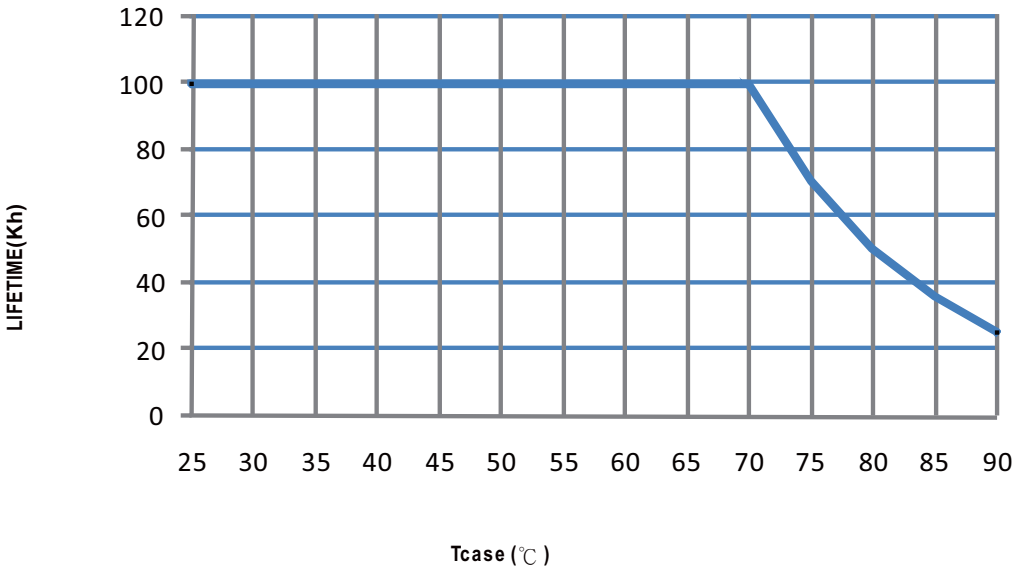
■ EFFICIENCY vs LOAD

XLG-100 series possess superior working efficiency that up to 92.5% can be reached in field applications.

※ XLG-100-L Model, Tcase at 75℃



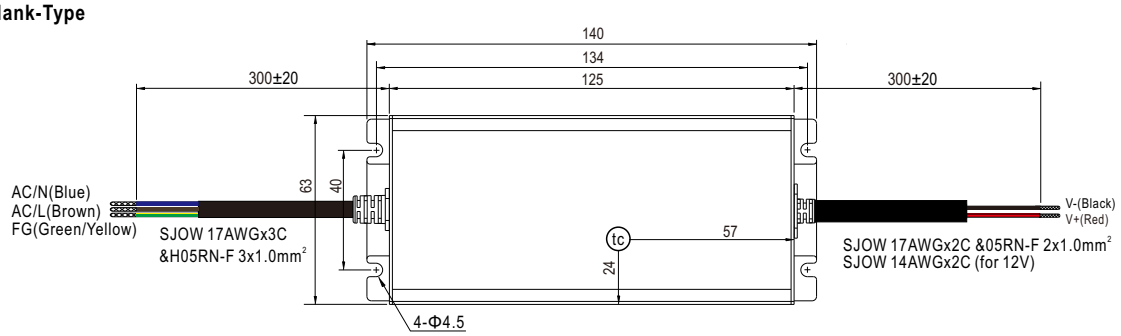
■ LIFE TIME


LIFETIME(Kh)
120
100
80
60
40
20
0
25 30 35 40 45 50 55 60 65 70 75 80 85 90
Tcase (℃)

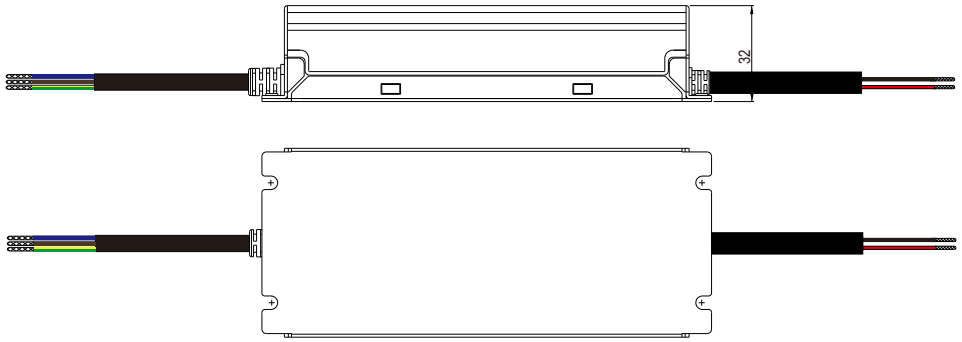
■ MECHANICAL SPECIFICATION

Case No.:275B Unit:mm

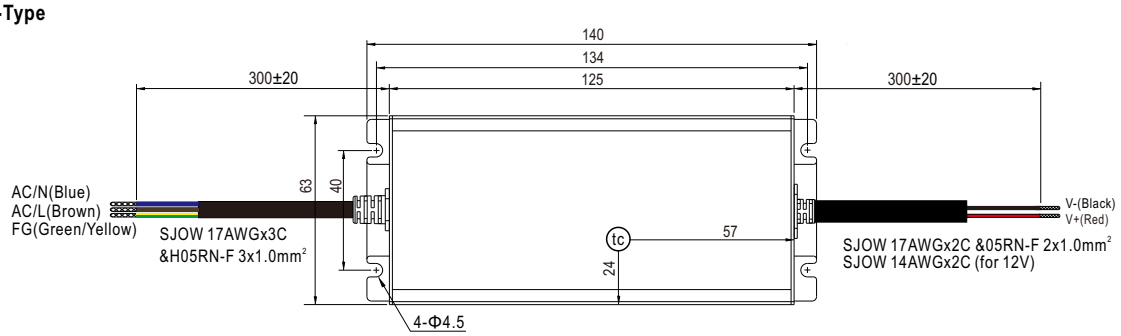
※ **Blank-Type**



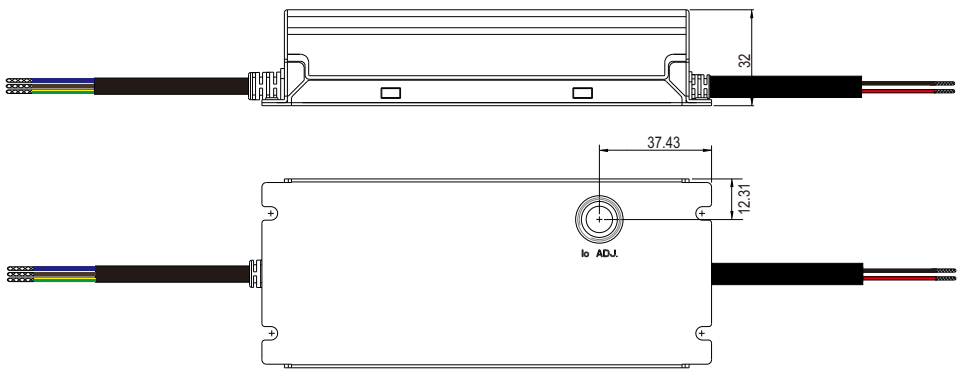
• ⓣc : Max. Case Temperature



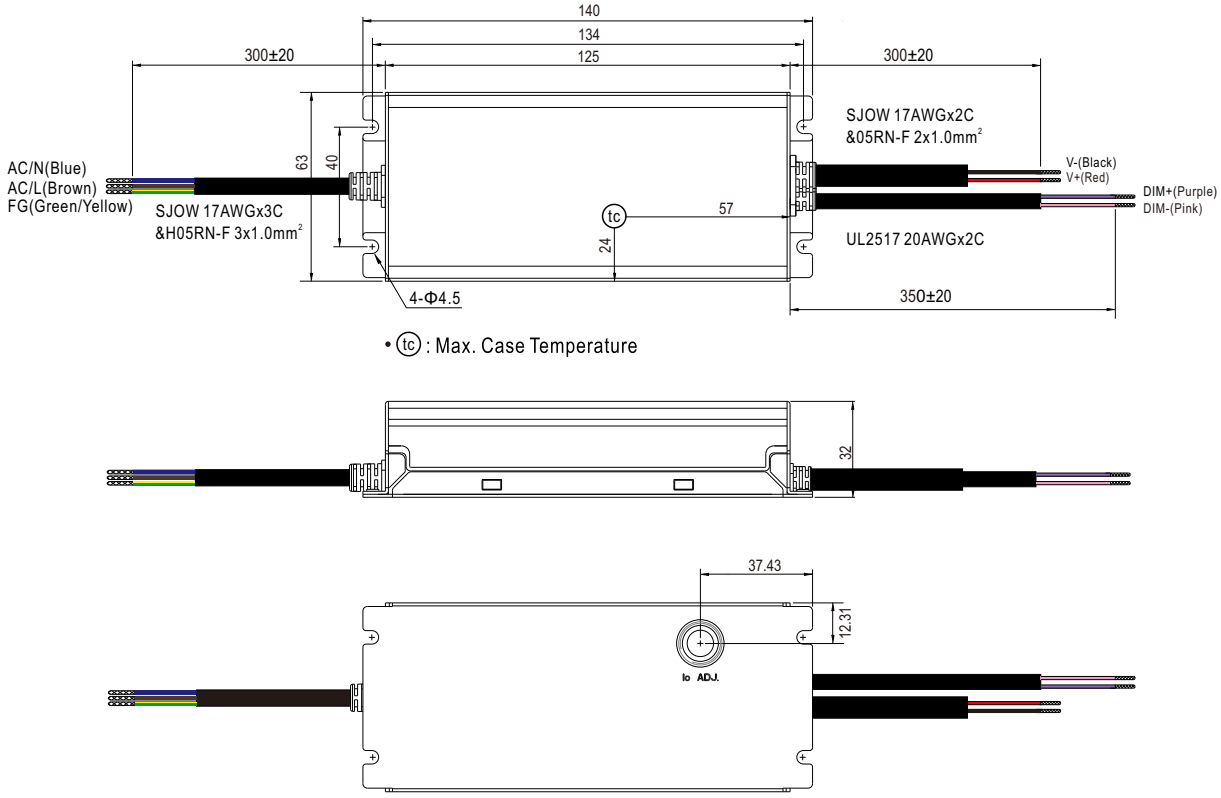
※ **A-Type**



• ⓣc : Max. Case Temperature



※ **AB-Type**



• tc : Max. Case Temperature

■ INSTALLATION MANUAL

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