21W Constant Current Mode LED Driver XLG-20 series

User's Manual



Note.8

SELV IP67 Type HL

Features

- Constant Current mode output
- Wide input range 90~305VAC (Class Ⅰ)
- Built-in active PFC function
- Class 2 power unit
- No load power consumption <0.5W
- IP67 rating for indoor or outdoor installations
- 3 in 1 dimming function (Isolation design)
- Life time>50,000 hours and 5 years warranty

Applications

- Street lighting
- Architectural lighting
- Low bay lighting
- Floodlight lighting
- Industrial Lighting
- Type “HL” for use in Class I, Division 2 hazardous (Classified) location.

GTIN CODE

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

Description

XLG-20 series is a AC/DC LED driver featuring the constant current mode output. XLG-20 operates from 90~305VAC. Thanks to the high efficiency up to 89%, The entire series is able to operate between -40℃~+80℃ wide case temperature range with air convection. The design of metal housing and IP67 ingress protection level allows this series to fit both indoor and outdoor applications.XLG-20 is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.XLG-20 series comply with the latest version of IEC61347/GB7000.1 -2015 and UL8750 international safety regulations. The output and dimming 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

XLG - 20 - □ - □

- Function mode option
- Rated output voltage(L/M/H types)
- Rated wattage
- Series name

Type	IP Level	Function	Note
Blank	IP67	Io fixed.	In Stock
B	IP67	Io fixed with 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock

SPECIFICATION

MODEL		XLG-20-L- ☐	XLG-20-M- ☐	XLG-20-H- ☐
OUTPUT	RATED CURRENT	350mA	500mA	700mA
	CONSTANT CURRENT REGION	32.4 ~ 54V	25.2 ~ 42V	18 ~ 30V
	RATED POWER	18.9W	21W	21W
	OPEN CIRCUIT VOLTAGE (max.)	60V	50V	40V
	CURRENT TOLERANCE	±8.0%		
	OUTPUT CURRENT RIPPLE Note.13	< 20%		
	SETUP, RISE TIME Note.2	500ms, 150ms/115VAC, 230VAC		
	LINE REGULATION	< ±3%		
INPUT	VOLTAGE RANGE Note.3	90 ~ 305VAC (Please refer to "STATIC CHARACTERISTIC" section)		
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR	PF≧0.97/115VAC, PF≧0.95/230VAC, PF≧0.91/277VAC@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.)	89%	88.5%	88%
	AC CURRENT	0.3A / 115VAC 0.2A / 230VAC 0.2A/277VAC		
	INRUSH CURRENT(Typ.)	COLD START 5A(twidth=350μs measured at 50% Ipeak) at 230VAC; Per NEMA 410		
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	42 units (circuit breaker of type B) / 42 units (circuit breaker of type C) at 230VAC		
	LEAKAGE CURRENT	<0.75mA / 277VAC		
	NO LOAD POWER CONSUMPTION	No load power consumption <0.5W		
PROTECTION	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed.		
ENVIRONMENT	WORKING TEMP.	Tcase=-40 ~ +80℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)		
	MAX. CASE TEMP.	Tcase=+80℃		
	WORKING HUMIDITY	20 ~ 95% RH non-condensing		
	STORAGE TEMP.	-40 ~ +80℃		
	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 AS/NZS IEC BS EN/EN61347-1, AS/NZS BS EN/EN61347-2-13 independent, BS EN/EN62384; IP67; GB19510.1, GB19510.14, EAC TP TC 004 approved		
	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	**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	2KV/Line-Line 4KV/Line-Earth
		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	5721.2K hrs min. Telcordia SR-332 (Bellcore) 747.1Khrs min. MIL-HDBK-217F (25℃)		
	DIMENSION	95*63*30mm (L*W*H)		
	PACKING	0.34Kg;24pcs/ 8.67Kg/0.81CUFT for blank-type 0.35Kg;24pcs/ 8.88Kg/0.\81CUFT for B-type		

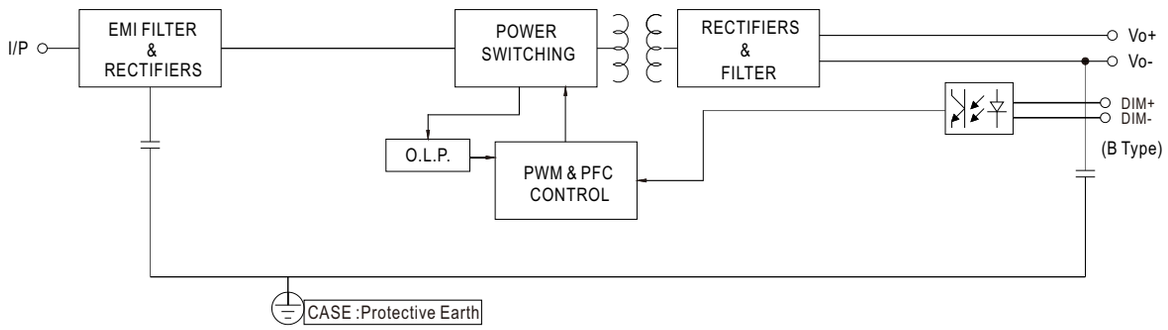
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. 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.
3. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details.
4. 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.
5. 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.
6. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com
7. 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).
8. Products sourced from the Americas regions may not have the CCC/PSE/BIS/KC logo. Please contact your MEAN WELL sales for more information.
9. 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
10. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
11. 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.
12. If you need the NOM (Mexico) certificate, Please contact MEAN WELL sales representative for details.
13. Output current ripple is meansured at 230VAC input, full load and 25℃ of ambient temperature.

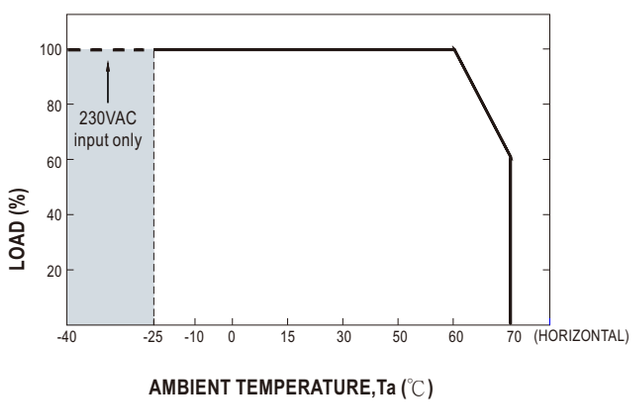
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

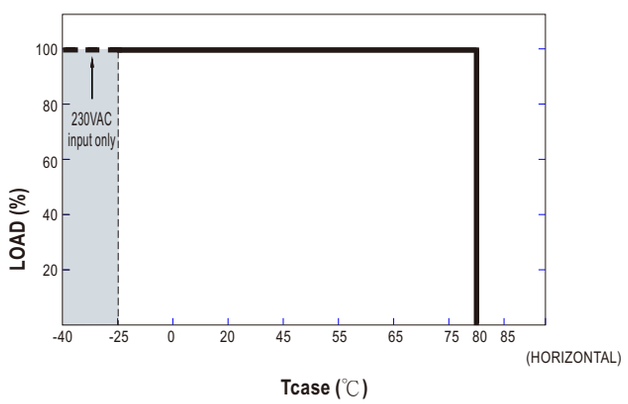
■ Block Diagram

PWM fosc : 60~130KHz

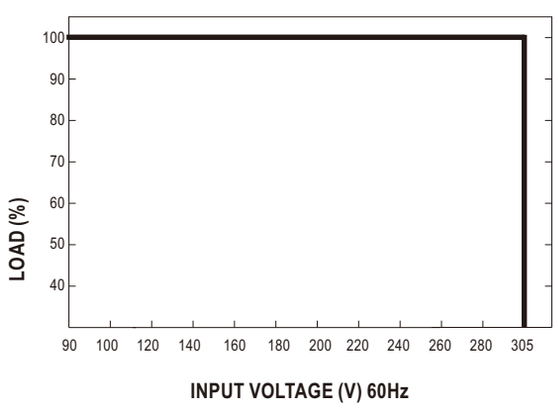


■ OUTPUT LOAD vs TEMPERATURE



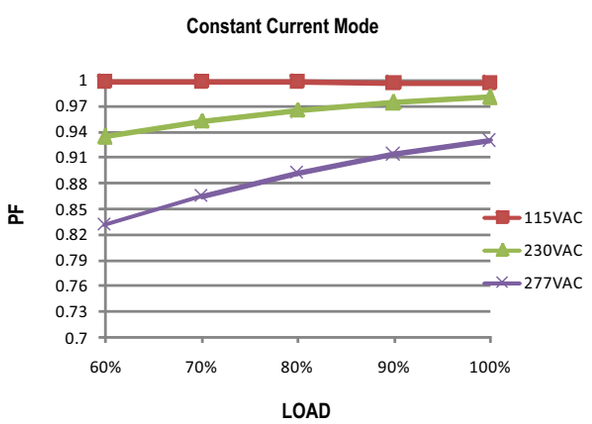


■ STATIC CHARACTERISTIC



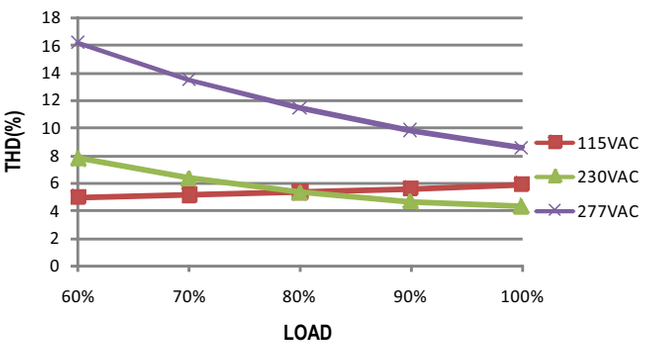
■ POWER FACTOR (PF) CHARACTERISTIC

※ L Model, Tcase at 75℃



■ TOTAL HARMONIC DISTORTION (THD)

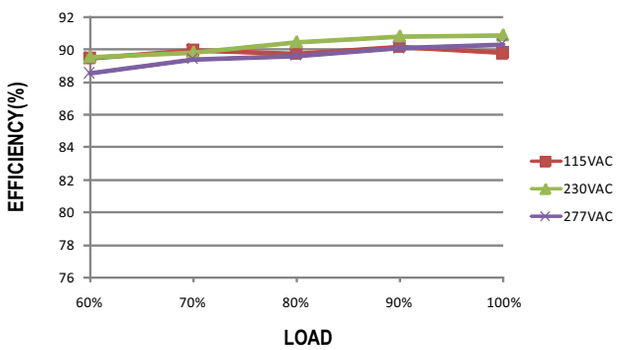
※ L Model, Tcase at 75℃



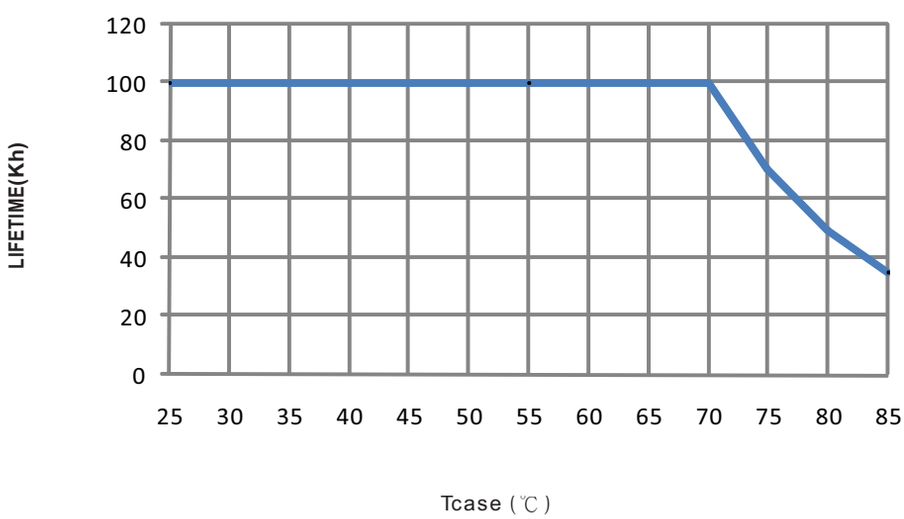
■ EFFICIENCY vs LOAD

XLG-20 series possess superior working efficiency that up to 89% can be reached in field applications.

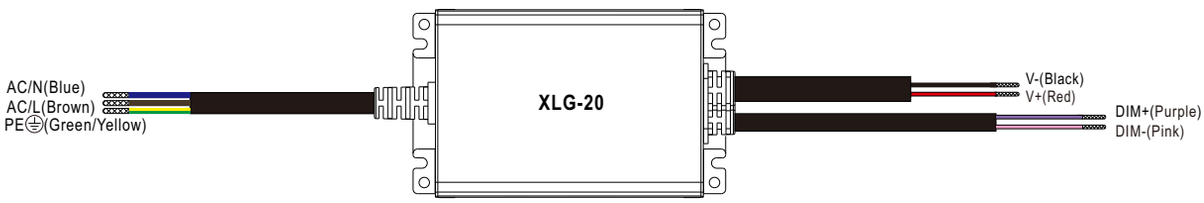
※ L Model, Tcase at 75℃



■ LIFE TIME



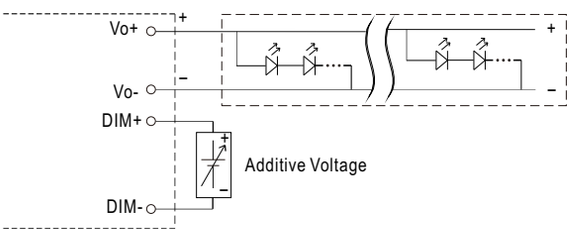
■ DIMMING OPERATION



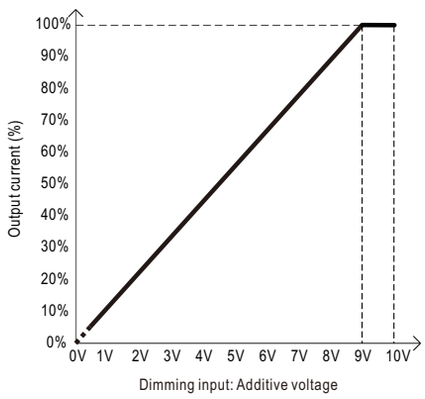
※ 3 in 1 dimming function (for B-Type)

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 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: 103μA (typ.)

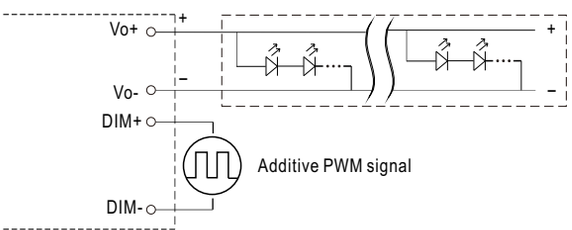
◎ Applying additive 1 ~ 10VDC



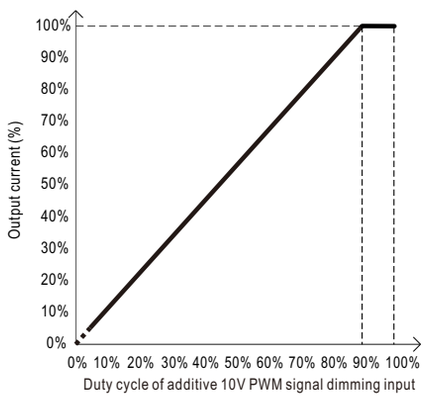
"DO NOT connect "DIM- to Vo-"



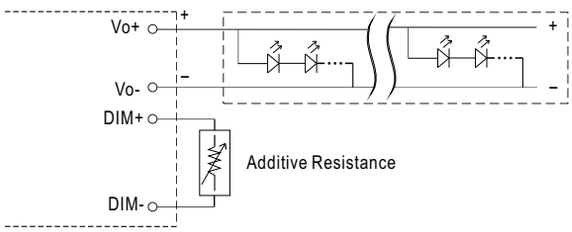
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



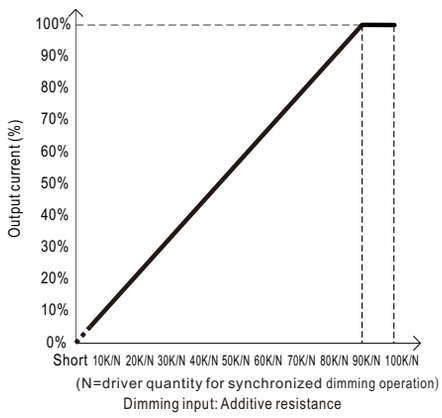
"DO NOT connect "DIM- to Vo-"



◎ Applying additive resistance:



"DO NOT connect "DIM- to Vo-"

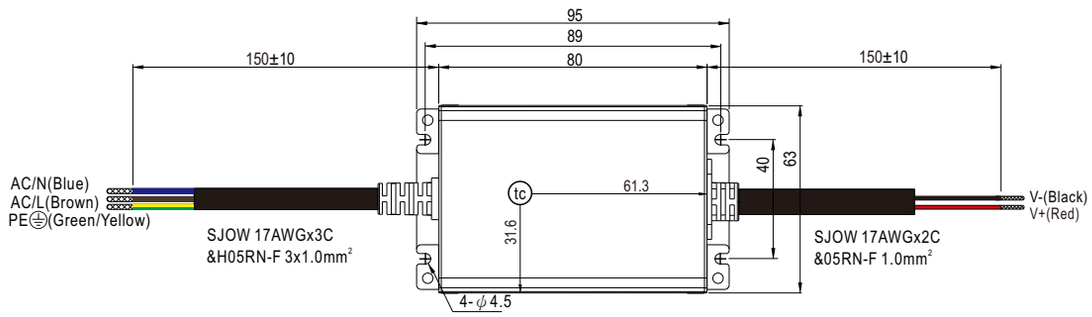


Note : 1. Min. dimming level is about 3% and the output current is not defined when 0%< Iout<3%.

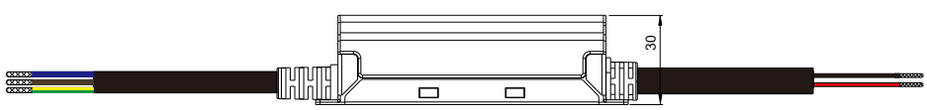
■ Mechanical Specification

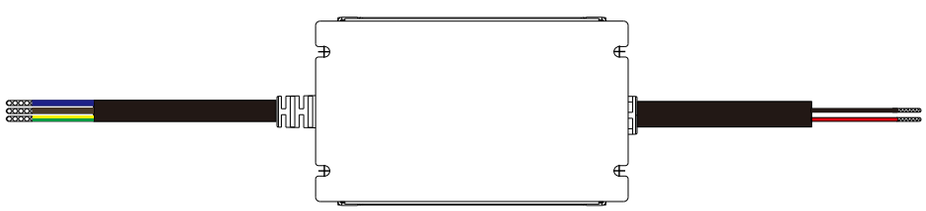
CASE NO.: 288A Unit:mm

※ **Blank-Type**

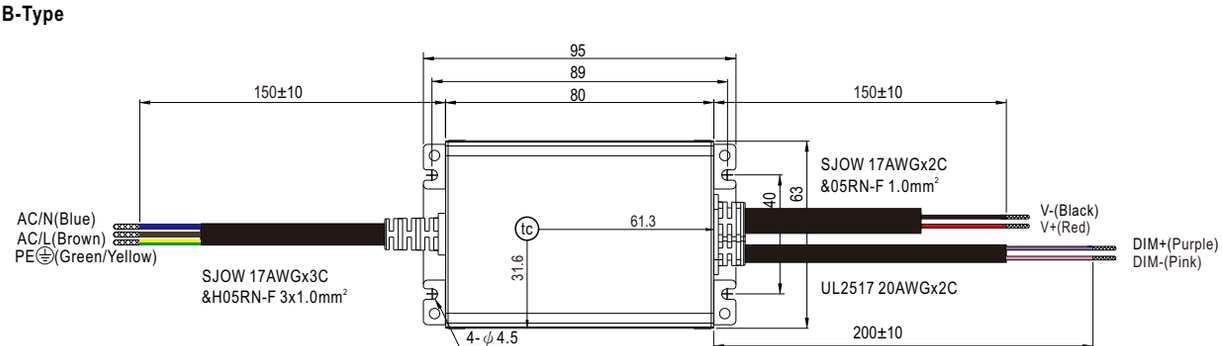


• tc : Max. Case Temperature

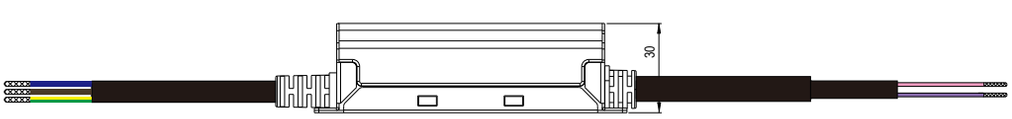


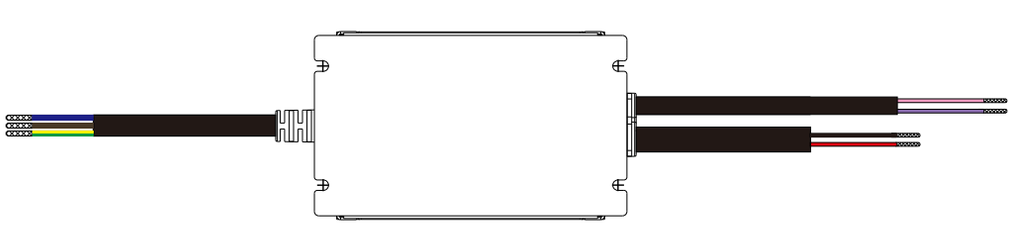


※ **B-Type**



• tc : Max. Case Temperature





■ Installation Manual

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