POWERLAND 320W Single Output Programmable LED Driver

Features

- Dimming port programming without driver power on
- CC/CV hybrid output
- High efficiency (Max 94%), active power factor correction
- Ultra low THD at light load
- Isolated 0~10V/ PWM/Rset dimming, Dim to off option
- 12V/200mA AUX Output
- UL recognized
- IP65

Description

320W LED Drivers offers digital programmable drivers with wide-range adjustable output current, together with 12V/200mA auxiliary output (optional) for smart lighting.
The output current of this series are programmable, and designed for 0-10V/PWM/Rset dimming applications.

Model Name Definition

320	GSL	24-36	CV	G	-	XX
Rated Output Power	Series name	Output voltage range	Constant current and constant voltage output	Options: Output with FG line		Options

Specifications

Part Number	Max. Output Power	Programmable Current Region@CC	Output Voltage Range	Programmable Voltage Region@CV	Efficiency @277VAC
320GSL24-36CVG	320W	5.33-13.33A	24-36 V	24-36 V	93%
320GSL36-48CVG	320W	3.56-8.89A	36-48 V	36-48 V	94%
320GSL42-54CVG	320W	3.05-7.62A	42-54 V	42-54 V	94%
320GSL54-80CVG	320W	2.37-5.93A	54-80V	54-80V	94%
320GSL80-140CVG	320W	1.60-4.00A	80-140 V	80-140 V	94%
320GSL140-233CVG	320W	0.91-2.29A	140-233 V	140-233 V	94%
320GSL233-375CVG	320W	0.55-1.37A	233-375V	233-375V	94%

Suffix “-XX” Function Optional Model Table

-XX	Input Interface	Output Interface	Dimming Interface
-CJJ3	Jnicon M19 3 pins male	Jnicon M19 3 pins female	Jnicon M16 3 pins female
-CLL3	LLT M19 3 pins male	LLT M19 3 pins female	LLT M16 3 pins female
-CQQ3	Chogori Middle 3 pins male	Chogori Middle 3 pins female	Chogori 500 3 pins female
-CJJW	Jnicon M19 3 pins male	Jnicon M19 3 pins male female	RJ12 6P6C *2
-CLLW	LLT M19 3 pins male	LLT M19 3 pins female	RJ12 6P6C *2

-CQQW	Chogori Middle 3 pins male	Chogori Middle 3 pins female	RJ12 6P6C *2
-C14LW	C14	LLT M19 3 pins female	RJ12 6P6C *2

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	90 Vac	-	305 Vac	
Input DC Voltage	127 Vdc	-	300 Vdc	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75mA	At 277Vac / 60Hz input , grounding effectively
Input AC Current	-	-	1.3A	Measured at full load and 277 Vac input.
	-	-	3.6A	Measured at full load and 120 Vac input.
Inrush Current	-	-	65A	At 220Vac input, 25°C cold start
PF	0.9	-	-	At 100-277Vac, full load
THD	-	-	20%	

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%Io set	-	5%Io set	At 25°C and full load condition
Total Output Current Ripple (pk-pk)	-	-	10%Io max	At 25°C and full load condition, 20 MHz BW
Startup Overshoot Current	-	-	20%Io max	At 25°C and full load condition
No Load Output Voltage	-	57	-	320GSL42-54CVG only
Line Regulation	-	-	±1%	Measured at full load
Load Regulation	-	-	±1%	
Turn-on Delay Time	-	0.8 s	1.5 s	Measured at 120Vac input.
Temperature Coefficient of Ioset	-0.03%/°C	-	0.03%/°C	Case temperature = 0°C ~Tc max
12V Auxiliary Output Voltage	11V	12 V	15 V	
12V Auxiliary Output Source Current	0 mA	-	200 mA	Return terminal is “Dim−“
OTP Tc(Note1)	85°C	90°C	100°C	Output current will drop to 50% lowest, or shut down.
SCP				Hiccup mode, Auto recover

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Standby power	-	-	2 W	Measured at 220Vac/50Hz; Dimming off
MTBF	-	234,000 Hours	-	Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK- 217F)
Lifetime	-	80,000 Hours	-	Measured at 220Vac input, 80%Load and 70°C case temperature; See lifetime vs. Tc curve for the details
Operating Case Temperature Tc(Note1)	-40°C	-	90°C	

Operating Ambient Temperature Ta	-40°C	-	50°C	At 220-277Vac input.
Storage Temperature	-40°C	-	+85°C	Humidity: 5%RH to 100%RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	11.02 × 3.00 × 1.62 280 × 76.1 × 41.2			
Net Weight	-	1.6kg	-	

Note1:There are three points could be maximum Tc point, depending on different Vac input and Vdc output.These three points(Tc,Tc1,Tc2) position are shown in below mechanical drawing.

Dimming Specifications

Parameter	Min.	Typ.	Max.	Notes
Absolute Maximum Voltage on the Vdim (+) Pin	-1 V	-	15 V	
Source Current on Vdim (+)Pin	90 uA	100 uA	110 uA	
Dimming Output Range	10%Io set	-	Io set	80%Io max ≤ Io set ≤ 100%Io max
	8%Io max	-	Io set	Io set ＜80%Io max
Recommended Dimming Input Range	0 V	-	10 V	Default 0-10V dimming mode.
Dim off Voltage	0.3 V	0.5 V	0.8V	
Dim on Voltage	0.5V	0.7 V	1 V	
Hysteresis	-	0.2 V	-	
PWM_in High Level	9.8 V	10V	10.2 V	PWM is disabled default, please inform us if need this function enable.
PWM_in Low Level	-0.3 V	-	0.6 V	
PWM_in Frequency Range	200 Hz	-	3 KHz	
PWM_in Duty Cycle	1%	-	100%	
PWM Dimming off	3%	5%	7%	
PWM Dimming on	5%	7%	9%	

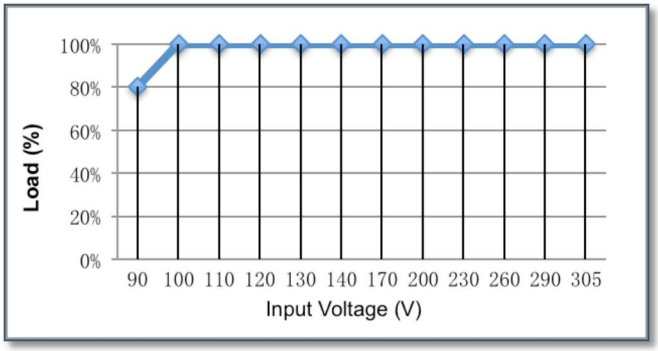
Safety &EMC Compliance

Safety Category	Standard
UL/CUL	UL8750,CAN/CSA-C22.2 No. 250.13-12
EMI Standards	**Notes**
FCC Part 15	ANSI C63.4:2009 Class B
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired Operation.
EMS Standards	**Notes**
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT: level 3, criteria A
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 4 kV, line to earth 6 kV
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test

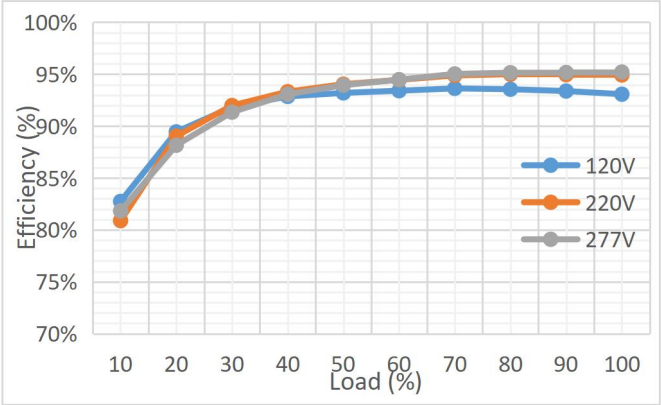
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment

Performance Curve

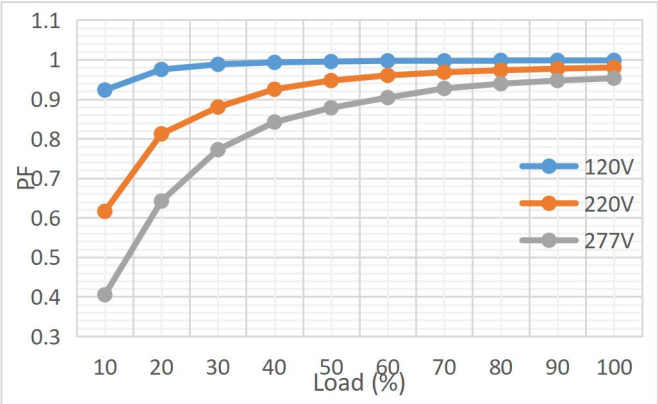
Static Characteristics



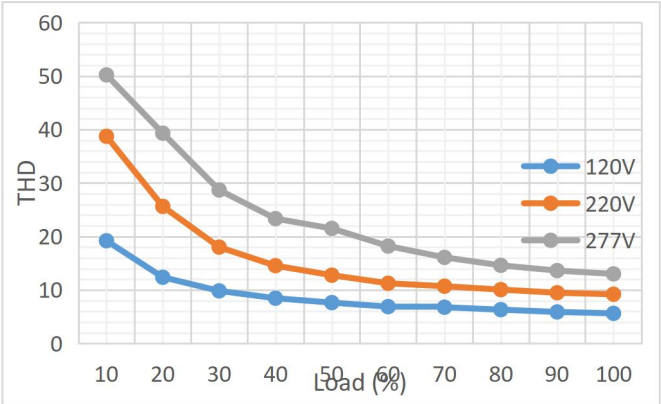
Efficiency vs Output(CC Mode)



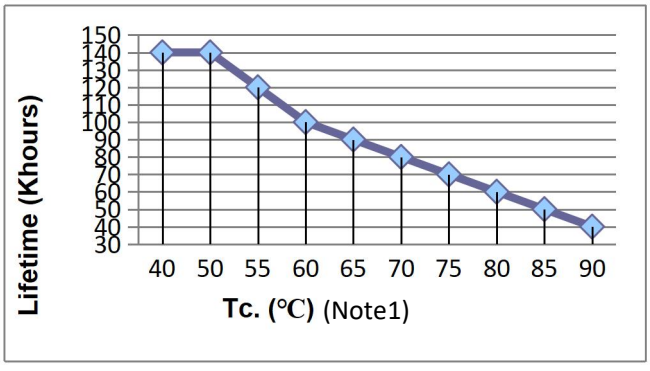
PF vs Output



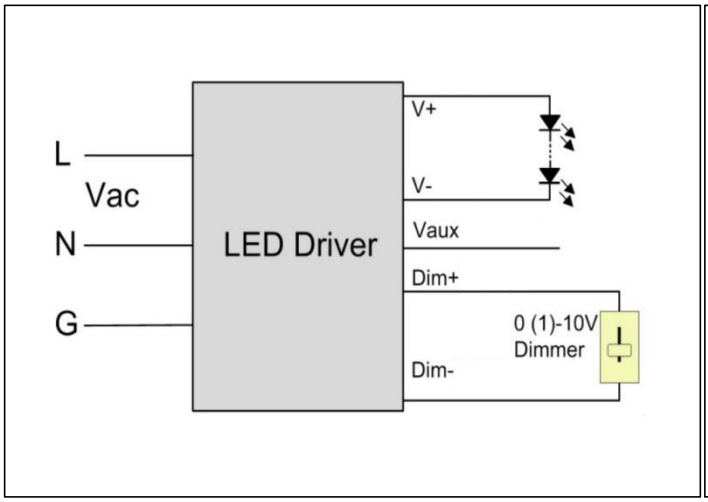
THD vs Output

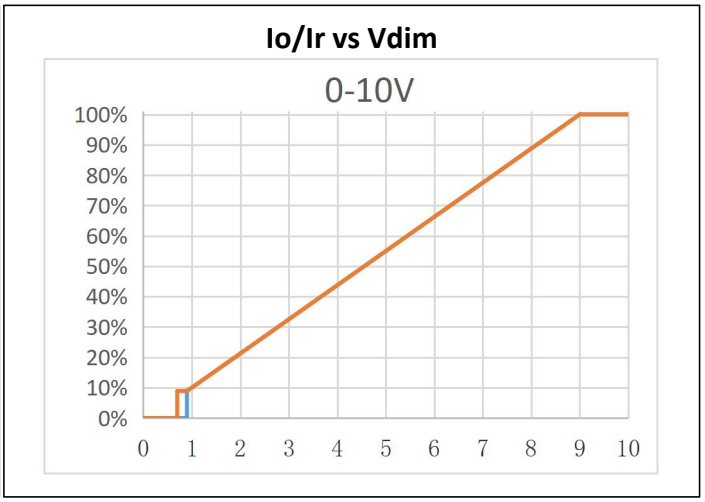


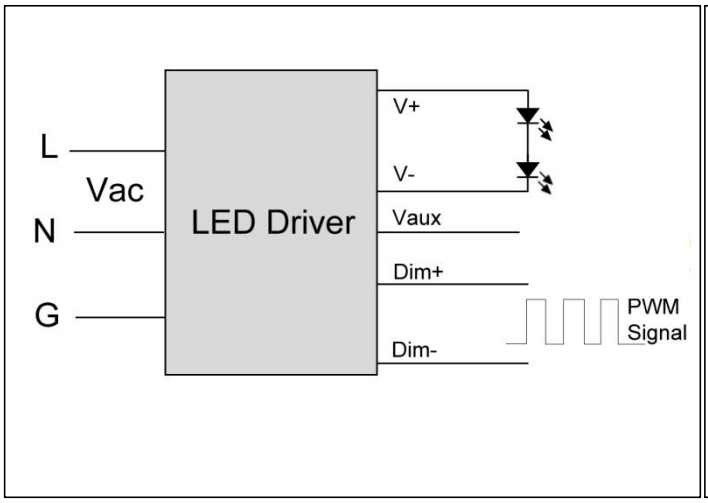
Lifetime vs Case Temp

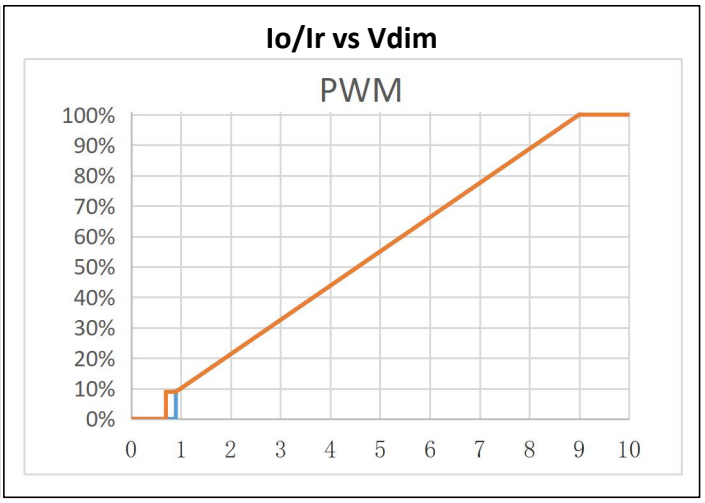


0-10V Analog Dimming &PWM Dimming



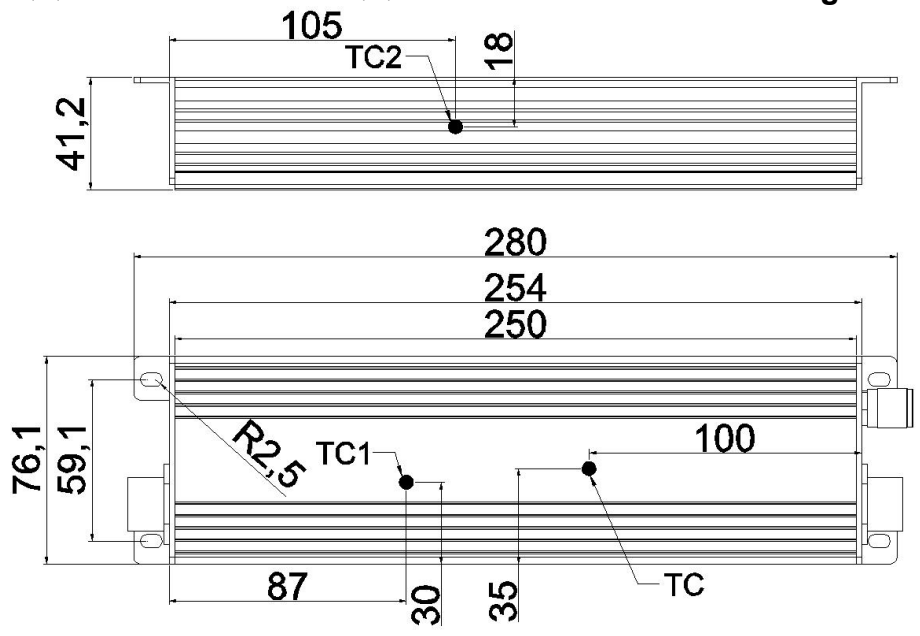




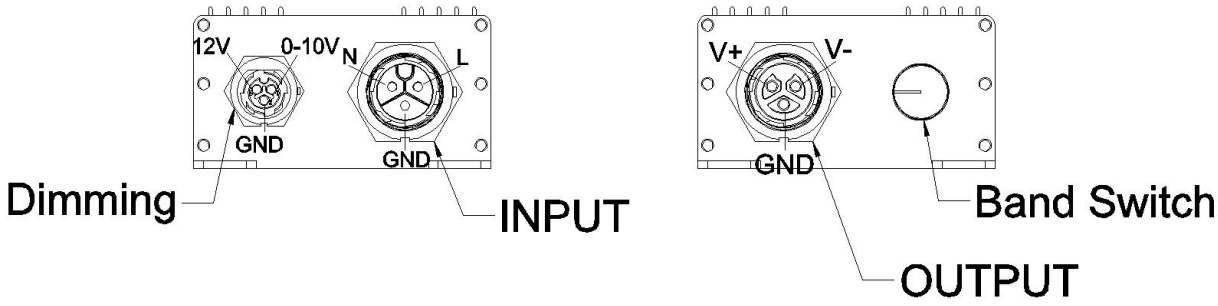


Mechanical Specification

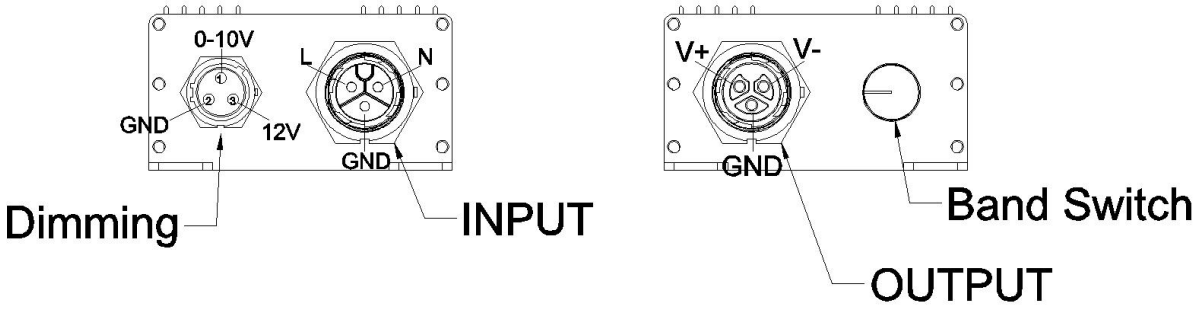
-CJJ3/-CLL3/-CQQ3/-CJJW/-CLLW/-CQQW Model Mechanical Drawing



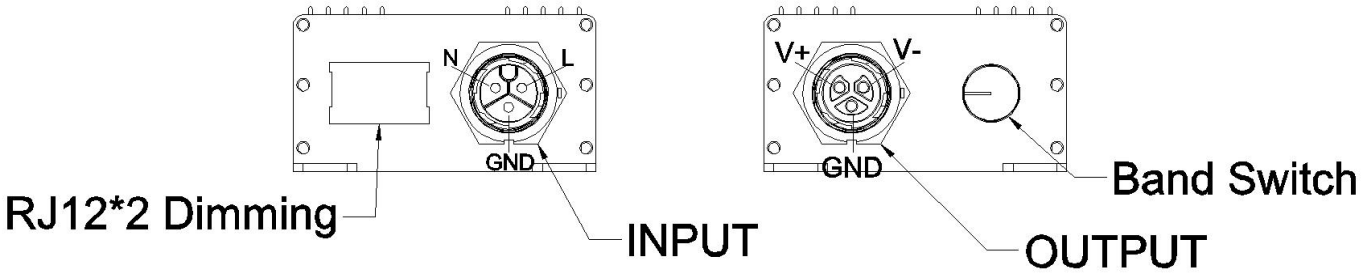
-CJJ3/-CLL3 End Cap



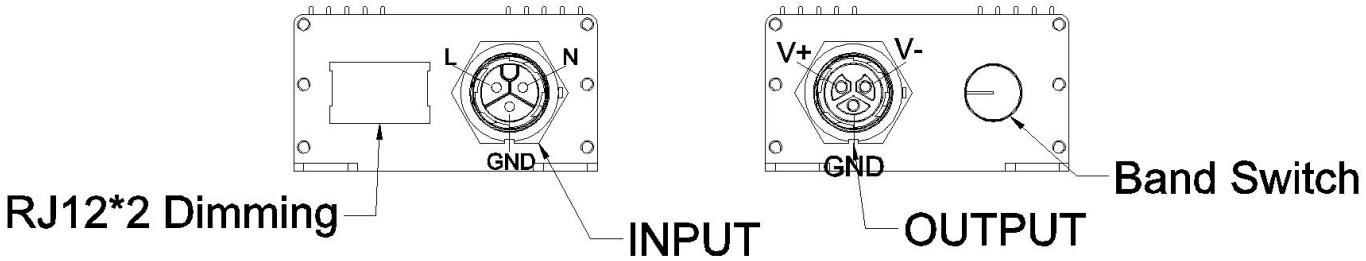
-CQQ3 End Cap



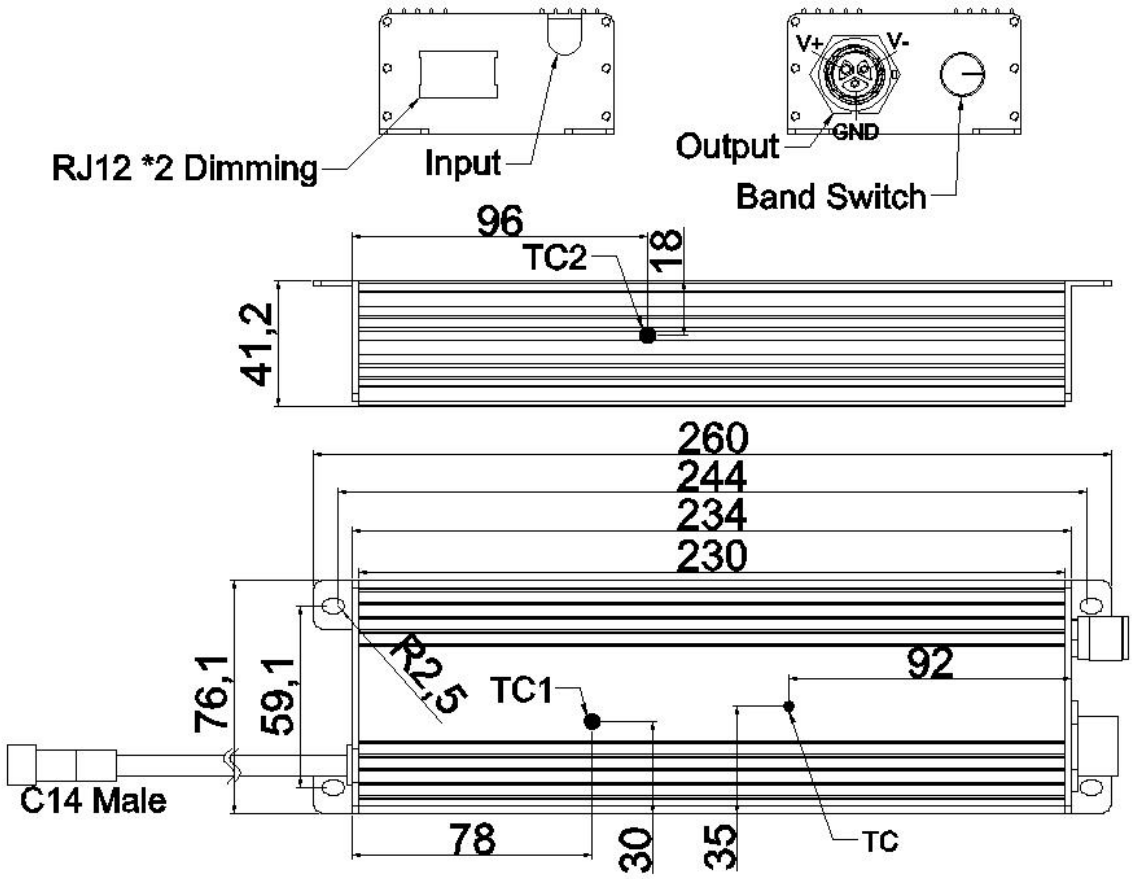
-CJJW/-CLLW End Cap



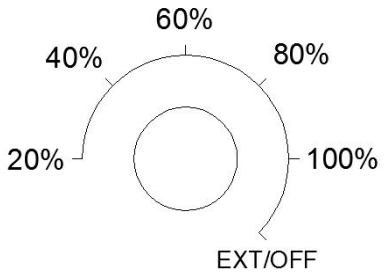
-CQQW End Cap



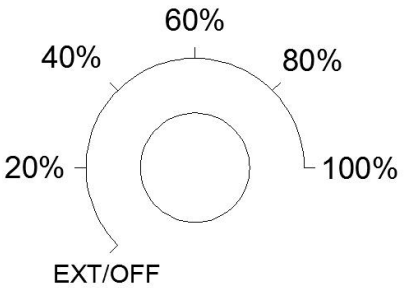
-C14LW Model Mechanical Drawing



-CJJ3/-CLL3/-CQQ3/-CJJW/-CLLW/-CQQW Model Knob Switch Screen Printing

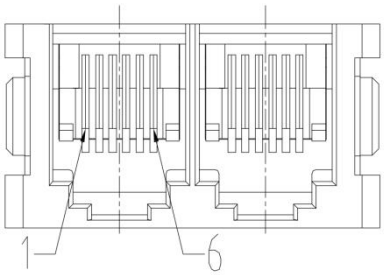


-C14LW Model Knob Switch Screen Printing



Band Switch Definition	
Tap Position	Definition
EXT/OFF	No output when dimming port not connect to the dimmer, Dimming enable when dimmer connected.
20%	20%±10% Output Current, 0-10V/PWM dimming disable
40%	40%±10% Output Current, 0-10V/PWM dimming disable
60%	60%±10% Output Current, 0-10V/PWM dimming disable
80%	80%±10% Output Current, 0-10V/PWM dimming disable
100%	100%±5% Output Current

RJ12 Interface



Pin	Definition
1，6	12V
2，5	0-10V
3，4	GND

Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2021.4.19	V1.0			
2021.10.20	V1.1	Update Performance Curve		
		Update Mechanical Drawing		
		Delete swing line structure model		
2022.10.6	V1.2	Update company logo		
		Update Performance Curve		
		Update Mechanical Specification		Add Tc1 ahd Tc2 point