Features

- Dimming port programming without driver power on
- CC/CV hybrid output
- High efficiency (Max 95%), active power factor correction
- Ultra low THD at light load
- Isolated 0~10V/ PWM dimming, Dim to off option
- 12V/200mA AUX Output
- UL recognized with Class P

Description

680W 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

680	GSL	56	CV	(G)	-	XX
Rated Output Power	Series name	Maximum output voltage	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
680GSL48CV(G)	680W	6.63-16.59A	25-48V	42-48 V	95%
680GSL56CV(G)	680W	5.67-14.17A	28-56V	48-56 V	95%
680GSL80CV(G)	680W	4.00-10.00A	38-80V	64-80 V	95%
680GSL140CV(G)	680W	2.29-5.71A	67-140V	112-140V	95%
680GSL180CV(G)	680W	1.78-4.44A	84-180V	140-180 V	95%
680GSL240CV(G)	680W	1.33-3.33A	115-240V	192-240 V	95%
680GSL300CV(G)	680W	1.07-2.67A	144-300V	240-300V	95%
680GSL375CV(G)	680W	0.85-2.13A	180-375V	300-375V	95%
680GSL460CV(G)	680W	0.7-1.74A	225-460V	375-460V	95%

Suffix “-XX” Function Optional Model Table

-XX	Input Interface	Output Interface	Dimming Interface
NC	UL 18# wire	UL 14# wire	UL 22# wire

-CL	LLT M19 3 pins male	LLT M19 3 pins female	LLT M16 3 pins female
-CQ	Chogori Middle 3 pins male	Chogori Middle 3 pins female	Chogori 500 3 pins female
-CLW	LLT M19 3 pins male	LLT M19 3 pins female	RJ12 6P6C *2
-CQW	Chogori Middle 3 pins male	Chogori Middle 3 pins female	RJ12 6P6C *2
-C14LW	C14	LLT M19 3 pins female	RJ12 6P6C *2
-C2L	LLT M25 3 pins male * 2	LLT M19 3 pins female	LLT M16 3 pins female
-C2Q	Chogori Large 3 pins male * 2	Chogori Middle 3 pins female	Chogori 500 3 pins female
-C2LW	LLT M25 3 pins male * 2	LLT M19 3 pins female	RJ12 6P6C *2
-C2QW	Chogori Large 3 pins male * 2	Chogori Middle 3 pins female	RJ12 6P6C *2

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 Vac	-	305 Vac	127~300 Vdc
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	1.0 mA	At 277Vac / 60Hz input , grounding effectively
Input AC Current	-	-	2.8A	Measured at full load and 270 Vac input.
Inrush Current	-	-	65A	At 220Vac input, 25℃ cold start,
PF	0.95	-	-	At 100-277Vac, 60%-100% Load (144-240W)
THD	-	-	20%	

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%Ioset	-	5%Ioset	At full load condition
Total Output Current Ripple (pk-pk)	-	10%Iomax	10%Iomax	At full load condition, 20 MHz BW
Startup Overshoot Current	-	-	10%Iomax	At full load condition
No Load Output Voltage		57		
Line Regulation	-	-	±1%	Measured at full load
Load Regulation	-	-	±1%	
Turn-on Delay Time	-	0.8 s	1.5 s	Measured at 120Vac and 220Vac 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	85°C	90°C	100°C	Output current will drop to 50%
SCP				Hiccup mode, Auto recover

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Standby power	-	-	1 W	Measured at 230Vac/50Hz; Dimming off
MTBF	-	234,000 Hours	-	Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK- 217F)

Lifetime	-	97,000 Hours	-	Measured at 220Vac input, 80%Load and 60°C case temperature; See lifetime vs. Tc curve for the details
Operating Case Temperature for Safety Tc_s	-40°C	-	90 C	
Operating Case Temperature for Warranty Tc_w	-40°C	-	50°C	
Storage Temperature	-40°C	-	+85°C	Humidity: 5%RH to 100%RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	13.75 × 4.18 × 2.32 349.2 × 106.2 × 59			
Net Weight	-	3.5kg	-	

Dimming Specifications

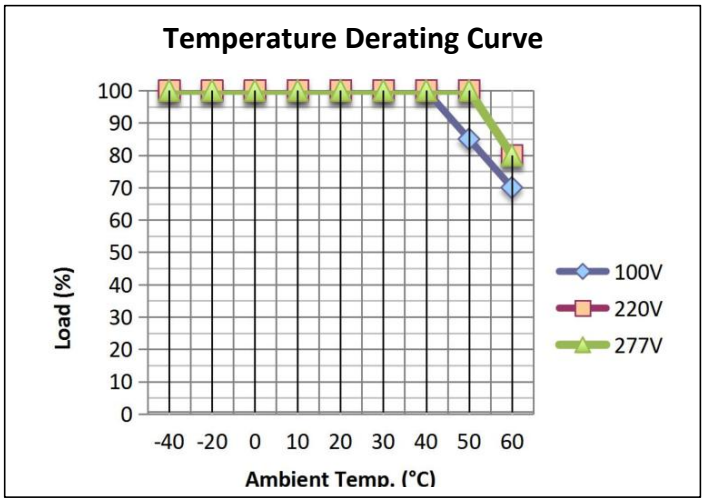
Parameter	Min.	Typ.	Max.	Notes
Absolute Maximum Voltage on the Vdim (+) Pin	-1 V	-	15 V	
Source Current on Vdim (+)Pin	90 uA	100 uA	110 uA	
Dimming Output Range	10%Ioset	-	Ioset	80%Iomax ≤ Ioset ≤ 100%Iomax
	8%Iomax	-	Ioset	Ioset ＜80%Iomax
Recommended Dimming Input Range	0 V	-	10 V	Default 0-10V dimming 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_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%	

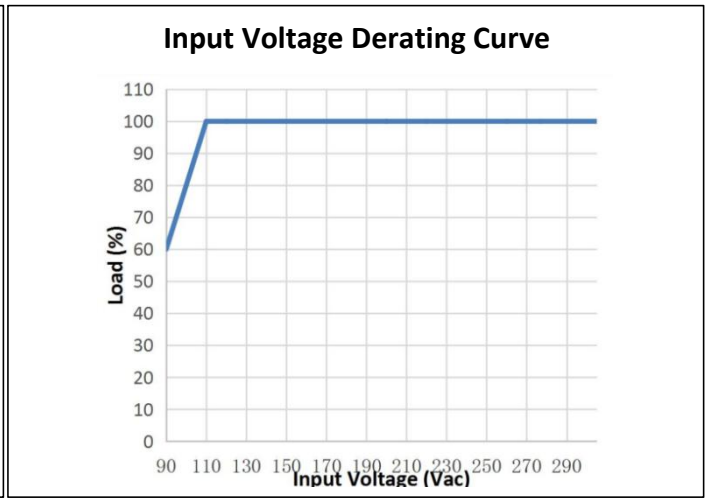
Safety &EMC Compliance

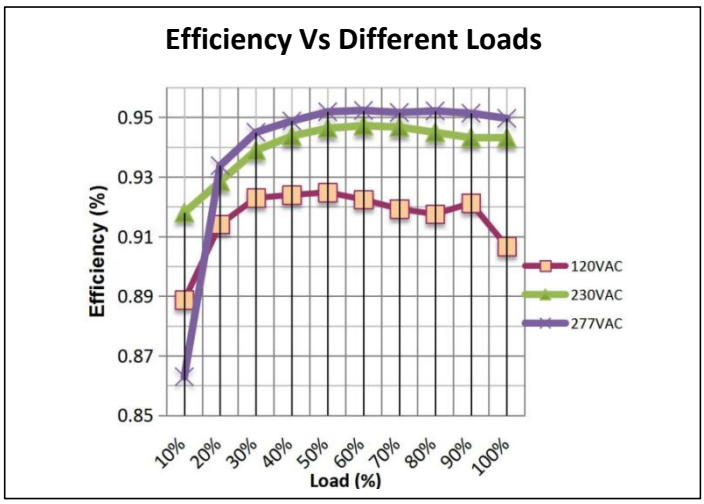
Safety Category	Standard
UL/CUL	UL8750,CAN/CSA-C22.2 No. 250.13-12
EMI Standards	**Notes**
FCC Part 15	ANSI C63.4:2009 Class B
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired Operation.

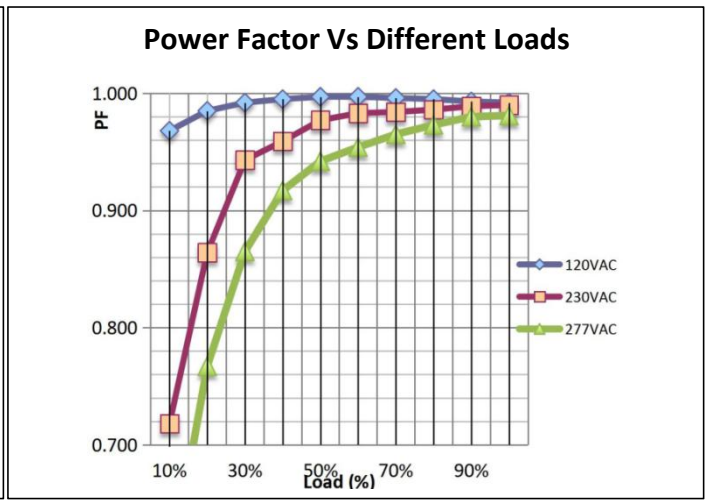
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT: level 3, criteria A
EN 61000-4-5	Surge Immunity Test: AC Power Line: 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

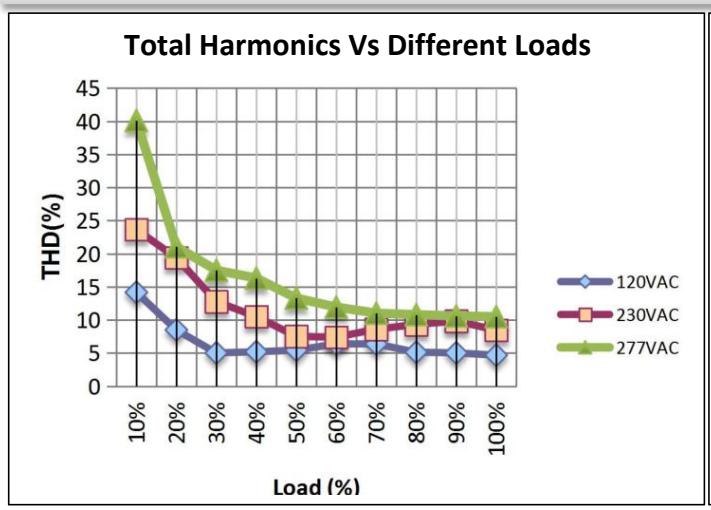
Performance Curve

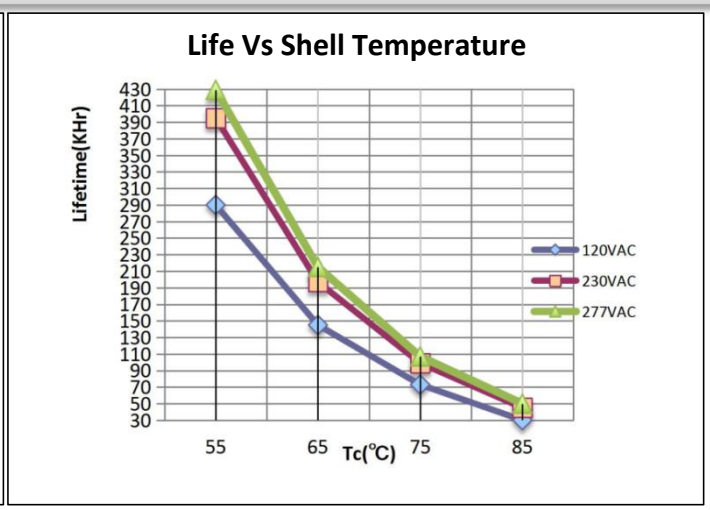




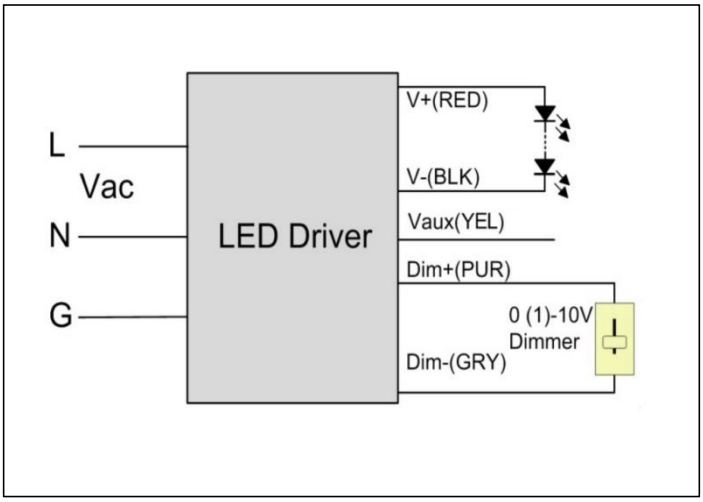


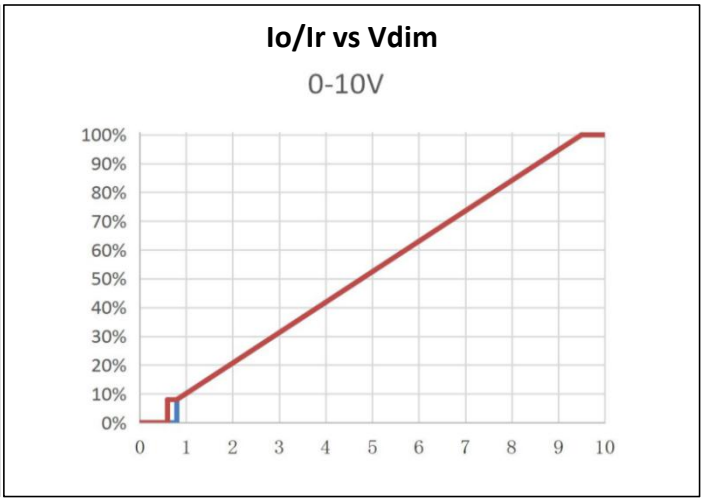


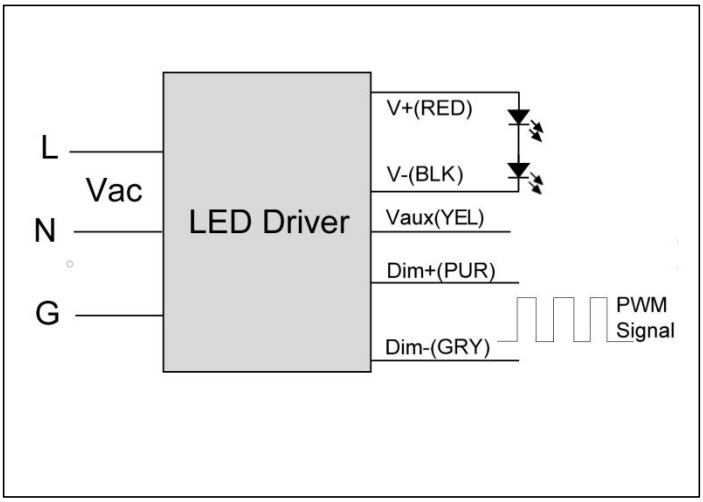


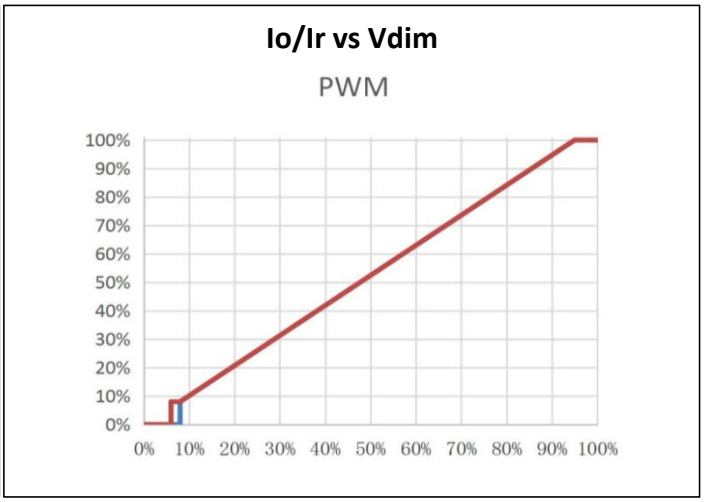


0-10V Analog Dimming &PWM Dimming

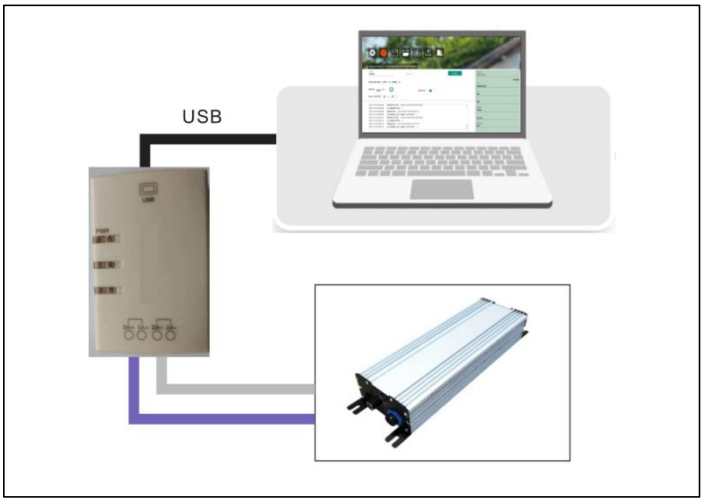






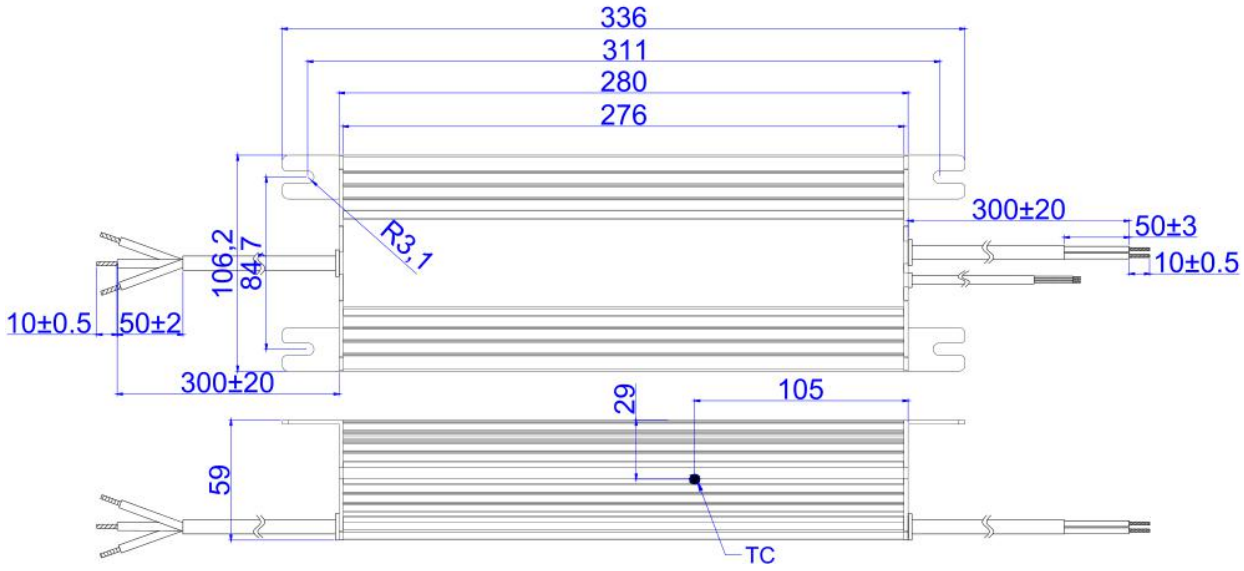


Programming wiring diagram

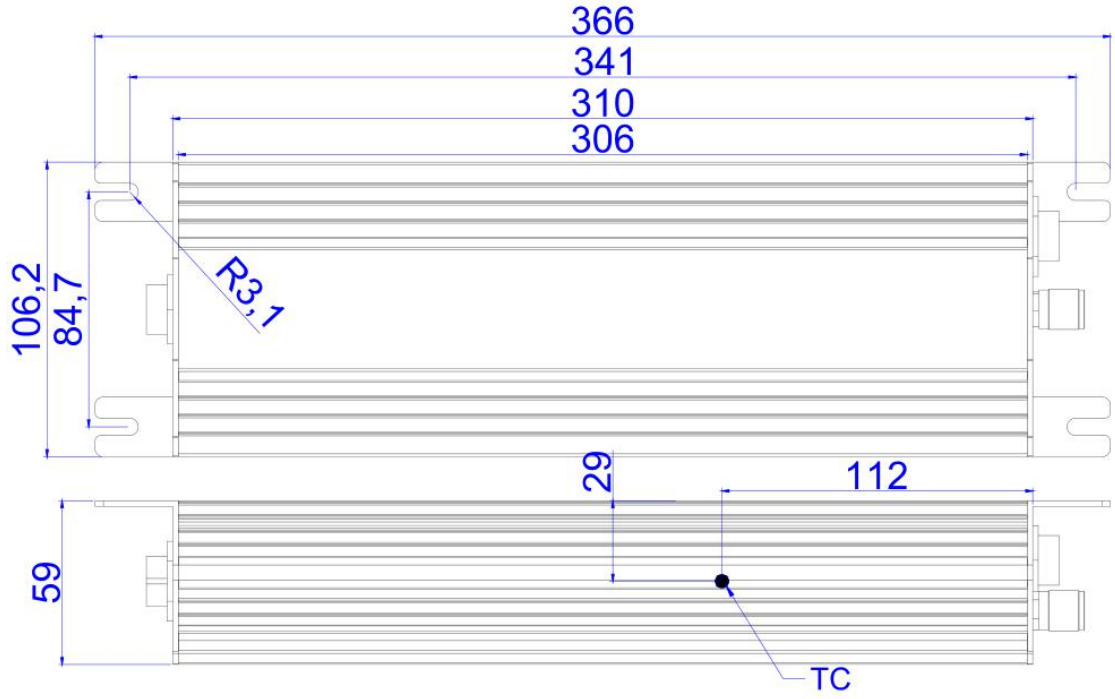


MECHANICAL SPECIFICATION

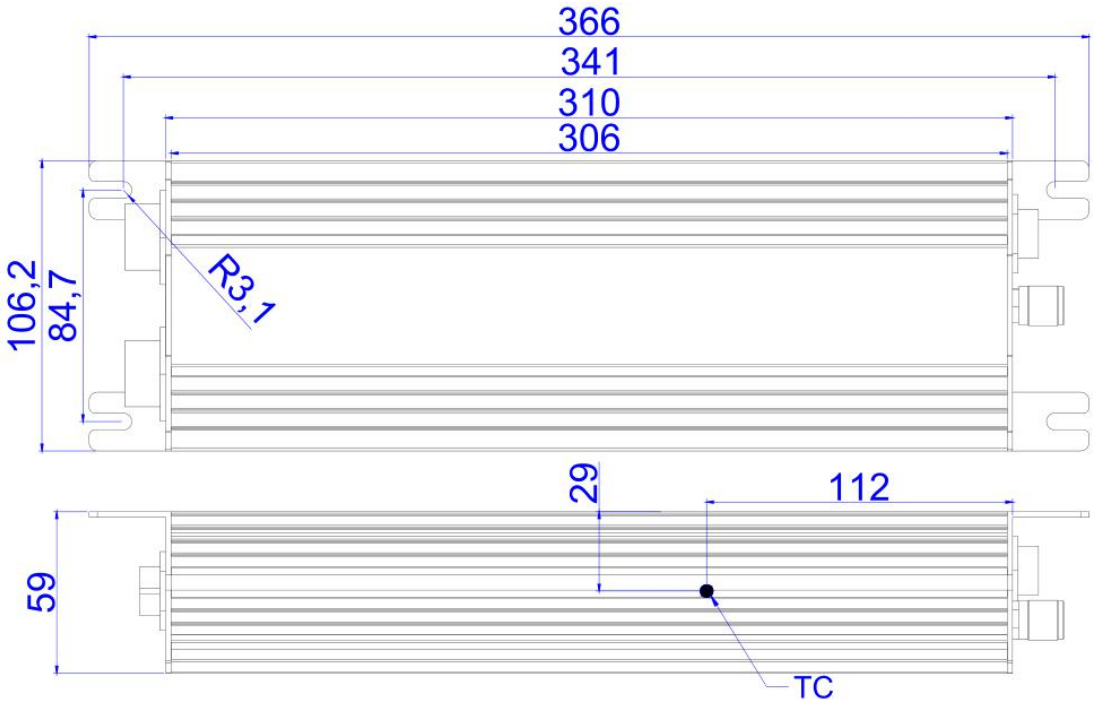
No Suffix Model Mechanical Drawing



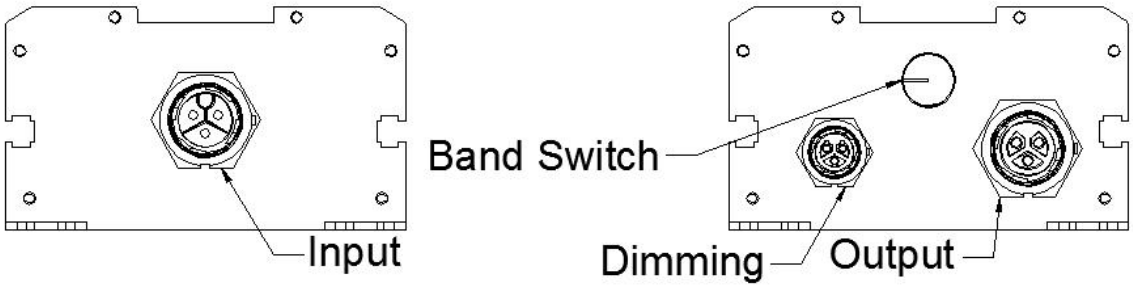
-CL/-CQ/-CLW/-CQW Model Mechanical Drawing



-C2L/-C2Q/-C2LW/-C2QW Model Mechanical Drawing



-CL/-CQ End Cap



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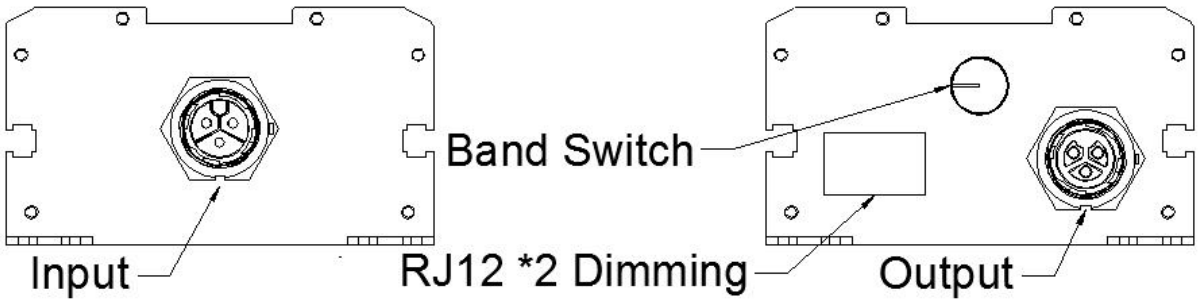
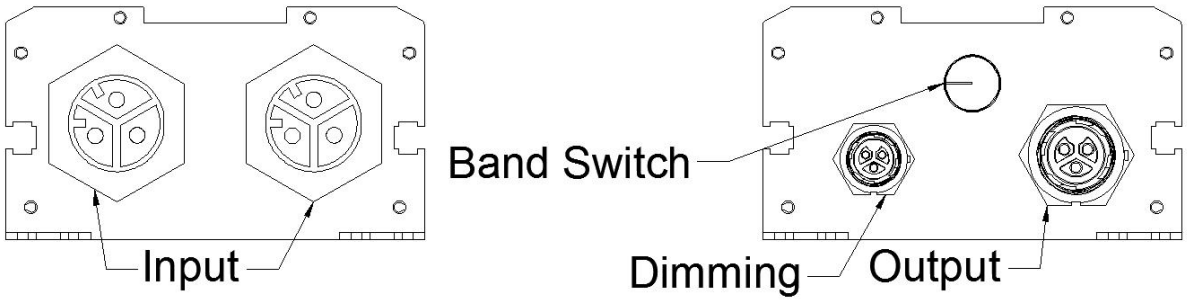
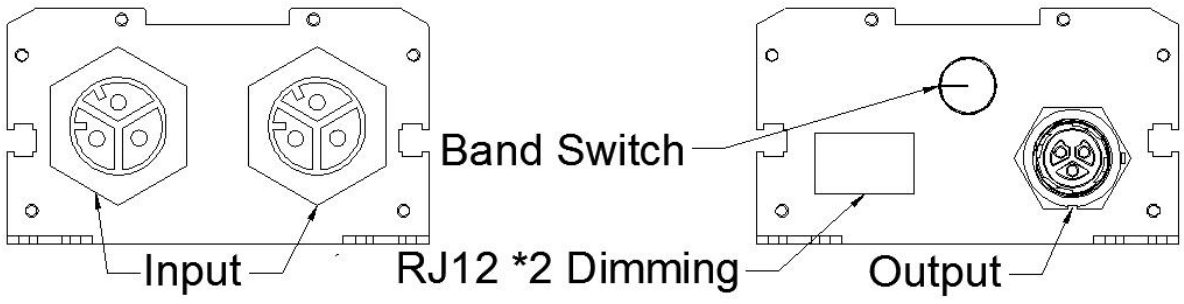


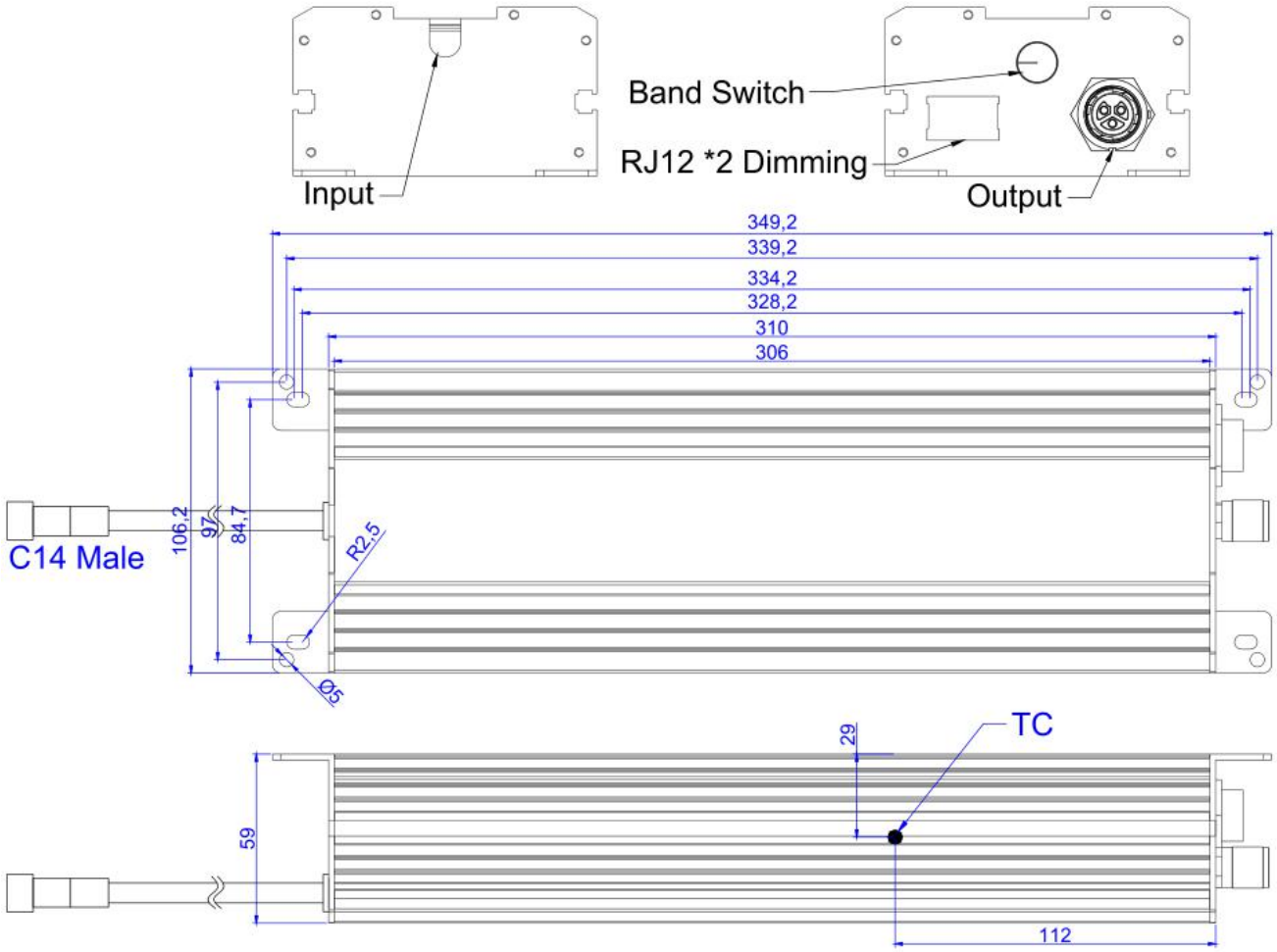
-C2L/-C2Q End Cap



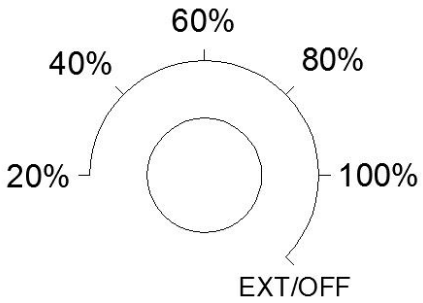
-C2LW/-C2QW End Cap



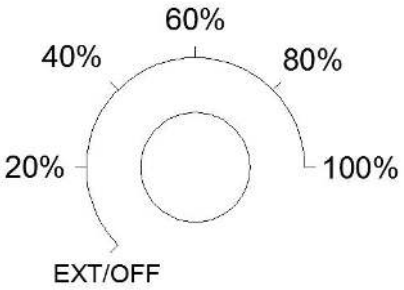
-C14LW Model Mechanical Drawing



-CL/-CQ/-CLW/-CQW/-C2L/-C2Q/-C2LW/-C2QW Model Knob Switch Screen Printing

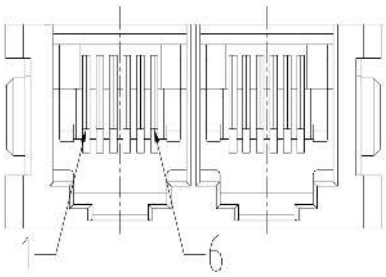


-C14LW Model Knob Switch Screen Printing



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
2020.12.22	V1.0			
2021.1.8	V1.1	Add programming wiring diagram		
2021.2.3	V1.2	Add -C2L/-C2Q/-C2LW/-C2QW Model		
		Add RJ12 Interface definition		
		Update mechanical specification		