

Specification for Approval

Product Name: 105W Outdoor Off-line Programmable Driver

Product Model: XCP-105M062
XCP-105V062

Rev. H.2

Sample Date: _____

CUSTOMER AUTHORIZED SIGNATURE		
Tested By	Checked By	Approved By
(Company seal)Return one copy to MOSO with approved signature and company seal.		

XiLi Songbai Road 1061, Nanshan
Address: District, Shenzhen City, Guangdong Province, P.R.China Post Code: 518108

TEL: 0755-27657000 FAX: 0755-27657908

E-mail: info@mosopower.com Web site: <http://www.mosopower.com>

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REVISION HISTORY

Prepared By	Checked By	Approved By



深圳茂硕电子科技有限公司
SHEN ZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD

Rev..	Description of Change		Changed Date	Notes
	Before	After		
A.2	Original Release—		2020-11-25	
B.2		ECL202104007	2021-06-04	Longfu Zhu
D.2		ECL202108084	2021-08-25	Jian Zhou
E.2		ECL2021	2021-11-29	Longfu Zhu
F.2		ECL202108084	2022-02-19	Longfu Zhu
G.2		ECL202211010	2022-11-03	jian Zhou

Specification subject to change without notice



Product Features:

- Universal input voltage / Full range: 90~305Vac;
- Constant power design, output current programming adjustable;
- (M types) off-line programmable, (V types) output current adjustable by built-in potentiometer;
- 3-in-1 dimmable: 1~10Vdc, PWM, Timer dimming;
- (M types) Constant lumen output;
- Output and Dimming Signal Isolating;
- Surge protection: 6KV line-line;
- Protections: SCP, OVP, OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty.

Application:

- Suitable for LED roadway lighting, plant lighting, industrial lighting, landscape lighting, etc.

DESCRIPTION

The XCP-105W series is a 105W outdoor off-line programmable LED driver that operates in constant current with high PF value and universal input voltage range of 90~305Vac. Monitored off-line by dimming cable connected with an USB kit programming device, the fully programmed drivers offer all dimming, constant lumen output options and a wide range of output current in a single driver, providing maximum flexibility with customized operating settings and intelligent control options for lighting manufacturers, as one driver can be programmed for many different luminaire designs. XCP provides built-in timer dimming schedules that further increase the energy savings and CO₂ reductions achieved with LED lighting. It also helps customers to improve logistics and inventory management. The compact metal case and high efficiency enables the driver to operate with high reliability and extend product life. Overall protection is provided against lightening surge, output over voltage, short circuit, and over temperature, to ensure low failure rate.

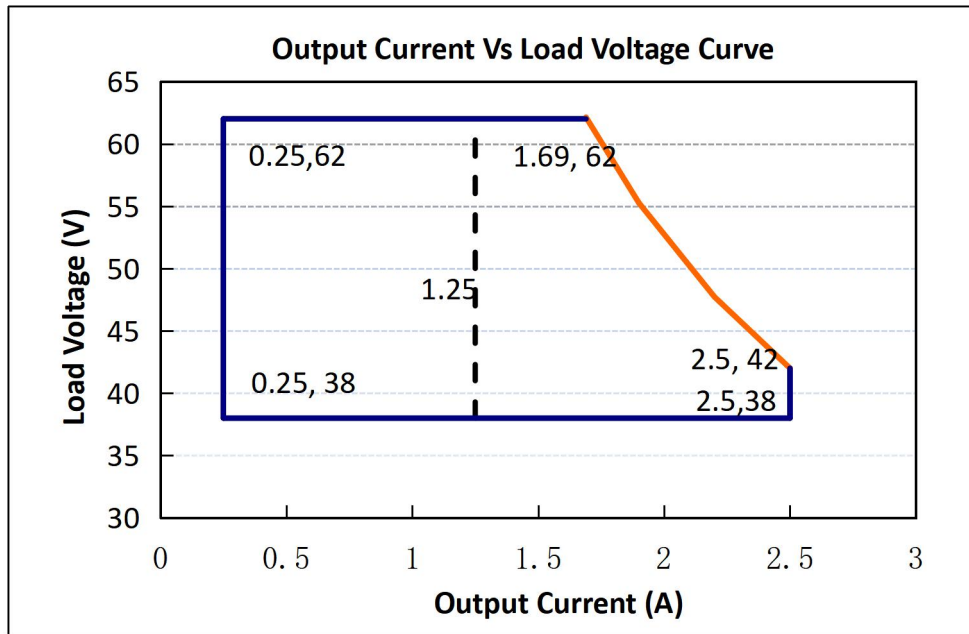
MODELS

Model Number [1]	Max Output Power (W)	Output Voltage Range (Vdc)	Full Power Output Voltage Range (Vdc)	Full Power Current Adjustable Range (A) [2]	Default Output Current Setting(A)	Typical Efficiency [3]	PF
XCP-105Y062	105	38-62	42-62	1.69-2.50	2.10	91%	0.97

Notes:

- [1]. Y can be M or V. Y=M means dimmable and off-line programmable, The adjustable lout range: 10%-100% I_{max};
Y=V means non-dimmable and output current adjusted by built-in potentiometer.
- [2]. Output current adjustable range with constant power at max output power;
- [3]. All specifications are measured at 25°C ambient temperature, input voltage 230Vac, and the typical value tested by full load, if no specific note.

OPERATING AREA



Notes: The drivers are not allowed to work in over-load condition, otherwise warranty will expire. Y=V is suitable for the right area of the dotted line; Y=M is suitable for the solid line contain area.

INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes			
Input Voltage	90Vac	100-277Vac	305Vac				
Input Frequency	47Hz	50/60	63Hz				
Leakage Current	-	-	0.50mA	277Vac/60Hz			
Input AC Current	-	-	1.5A	100-277Vac & full load			
Inrush Current	-	-	75A	230Vac & full load			
Standby Power Consumption			2W	230Vac/50Hz			
Power Factor	0.97	0.99	-	120Vac, 50-60Hz, full load			
	0.95	0.97		230Vac, 50-60Hz, full load			
	0.93			277Vac, 50-60Hz, full load			
THD	-	5%	10%	100-240Vac, 50-60Hz, 70%-100% load			
			15%	230Vac, 50-60Hz, 70%-100% load			
	-	-	15%	277Vac, 50-60Hz, 70%-100% load			
Max. NO. of PSUs on CIRCUIT BREAKER	B10	3	B16	4	B25	7	230Vac
	C10	5	C16	7	C25	11	

OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%Iset	-	5%Iset	
Output Current Setting Range (A) XCP-105Y062	1.25	-	2.50	The 'M type' adjustable lout range: 10%-100% I _{max} .
Output Current Setting Range with Constant Power XCP-105Y062	1.69	-	2.50	
Total Output Current Ripple(pk-pk)	-	5%	10%	20MHz BW, full load& LED load, the ripple would be tiny different under different LED load.
Startup Overshoot Current	-	-	10%	100~277Vac &100% Load, load is LED
No Load Output Voltage(V) XCP-105Y062	-	-	70	
Line Regulation	-1%	-	1%	25°C±10°C ambient temperature, input voltage changes from 100Vac to277Vac.
Load Regulation	-3%	-	3%	25°C±10°C ambient temperature, Input Voltage 230Vac, load changes from 60% to 100%.
Turn-on Delay Time	-	1S	2S	120Vac,100% load
	-	-	0.5S	230Vac,100% load

GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Efficiency @120Vac XCP-105Y062 IO=1.69 IO=2.50	88% 88%	90% 90%		Measured at full load and 25°C ambient temperature
Efficiency @230Vac XCP-105Y062 IO=1.69 IO=2.50	89% 89%	91% 91%	-	Measured at full load and 25°C ambient temperature
Efficiency @277Vac XCP-105Y062 IO=1.69 IO=2.50	89% 89%	91% 91%		Measured at full load and 25°C ambient temperature
Dielectric Strength	Input-Output	-	3750Vac	Max 5mA/60S
	Input- Case	-	3750Vac	
	Output- Case	-	1600Vac	
Grounding Resistance	-	-	0.1Ω	25A/60S, under 25°C±10°C ambient temperature
Insulation Resistance	10MΩ	-	-	Input-Output, Input-Case, Output-Case, 500Vdc/60S/25°C/70%RH
MTBF	-	200000Hrs	-	25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)
Lifetime	-	100000Hrs	-	230Vac&100% load, 75°C case

				temperature, refer to lifetime curve for details
Ambient Temperature	-40°C		+60°C	Reference derating curve
Operating Case Temperature for Safety Tc_s	-40°C	-	+90°C	
Operating Case Temperature for Warranty Tc_s	-40°C	-	+75°C	5 years warranty case temperature Humidity: 10% to 95% RH
Storage Temperature	-40°C	-	+85°C	Humidity: 5% to 100% RH
Dimensions (L*W*H)mm	L153.6*W68*H37			
Net Weight	700±100g/PCS			
Package	L488mm*W298mm*H200mm; 15PCS/Ctn, Gross Weight:12.2Kg			

DIMMING

Parameter	Min.	Typ.	Max.	Notes	
1~10V Absolute Maximum Voltage on the Vdim (+) Pin	-	10V	-		
1~10V Source Current on Vdim(+)Pin	-	200uA	400uA		
Dimming Output Range	XCP-105M062	10%Imax	-	100%Imax	Imax=2.50A
	XCP-105M062	0.25A	-	2.50A	
Recommended Dimming Range for 1-10V	1V	-	10V	Default 1-10V/ PWM Dimming(0-10V,0-9V,0-5V,0-3.3V Positive and Reverse Logic can be customized as request)	
PWM_in High Level	9.7V	-	10.3V		
PWM_in Low Level	0V	-	0.3V		
PWM_in Frequency Range	300Hz	-	2KHz		
PWM_in Duty Cycle	1%	-	99%		

SAFETY STANDARDS

Safety Category	Country / Territory	Standards	Approved
CCC	China	GB19510.1, GB19510.14	
CE	Europe	EN61347-1, EN61347-2-13	√
		EN62493	√
ENEC		EN62384	√
CB	CB Countries	IEC61347-1, IEC61347-2-13	√
BIS	India	IS 15885(PART 2/SEC 13)	
UL	USA	UL 8750	
CUL	Canada	CSA C22.2 No.250.13	
KC	South Korea	K61347-1, K61347-2-13	
PSE	Japan	J61347-1, J61347-2-13	
SAA	Australia	AS/NZS IEC 61347.2.13	
		AS/NZS 61347.1	
EAC	Russia	ГОСТ Р МЭК 61347-1-2011 ГОСТ IEC 61347-2-13-2013 ГОСТ IEC 62493-2014 СТБ EH 55015-2006 ГОСТ IEC 61547-2013 ГОСТ 30804.3.2-2013 (IEC	

		61000-3-2:2009) ГОСТ 30804.3.3-2013 (IEC 61000-3-3:2008)	
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Insulation

Insulation	Input/Mains	Dimming	LED Output	Case
Input/Mains	/	Double	Double	Double
Dimming	Double	/	Basic	Basic
LED Output	Double	Basic	/	Basic
Case	Double	Basic	Basic	/

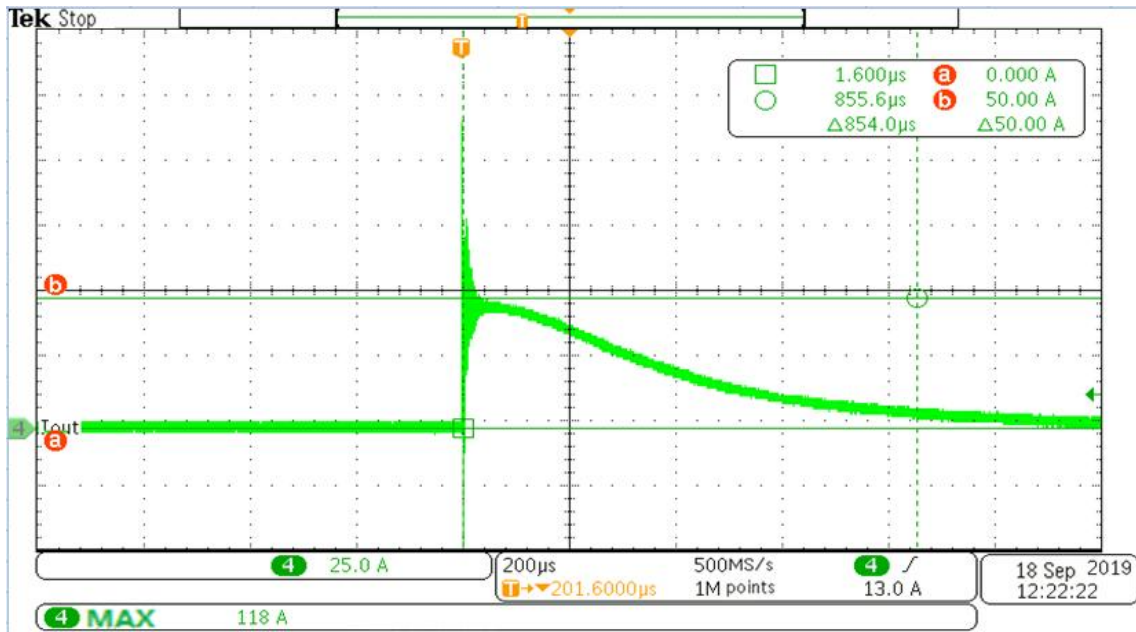
EMC COMPLIANCE

EMC Category	Country / Territory	Standards	Approved
CCC	China	GB/T 17743, GB 17625.1	
CE	Europe	EN 55015	√
		EN 61000-3-2, EN 61000-3-3	√
		EN61000-4-2,3,4,5,6,11	√
		EN 61547	√
KC	South Korea	K61547	
		K00015	
PSE	Japan	J55015	
FCC	USA	FCC part 15	

NOTE:

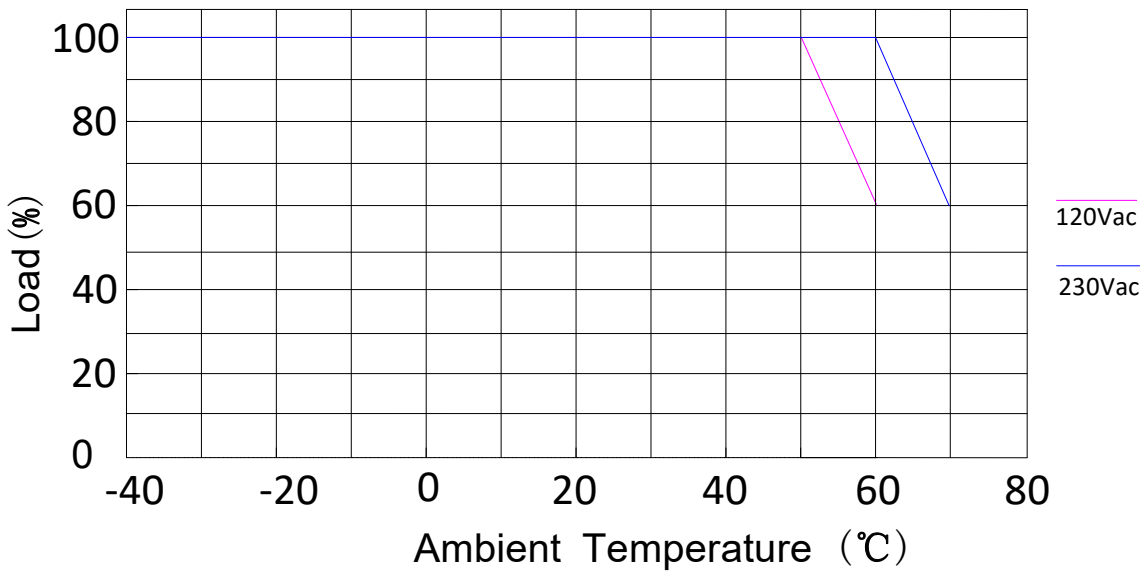
This LED driver meets the EMI specifications above, but as a component of a luminaire, the end customer need to identify the EMI performance of a luminaire including the LED driver, other devices connected to the driver, and on the luminaire itself.

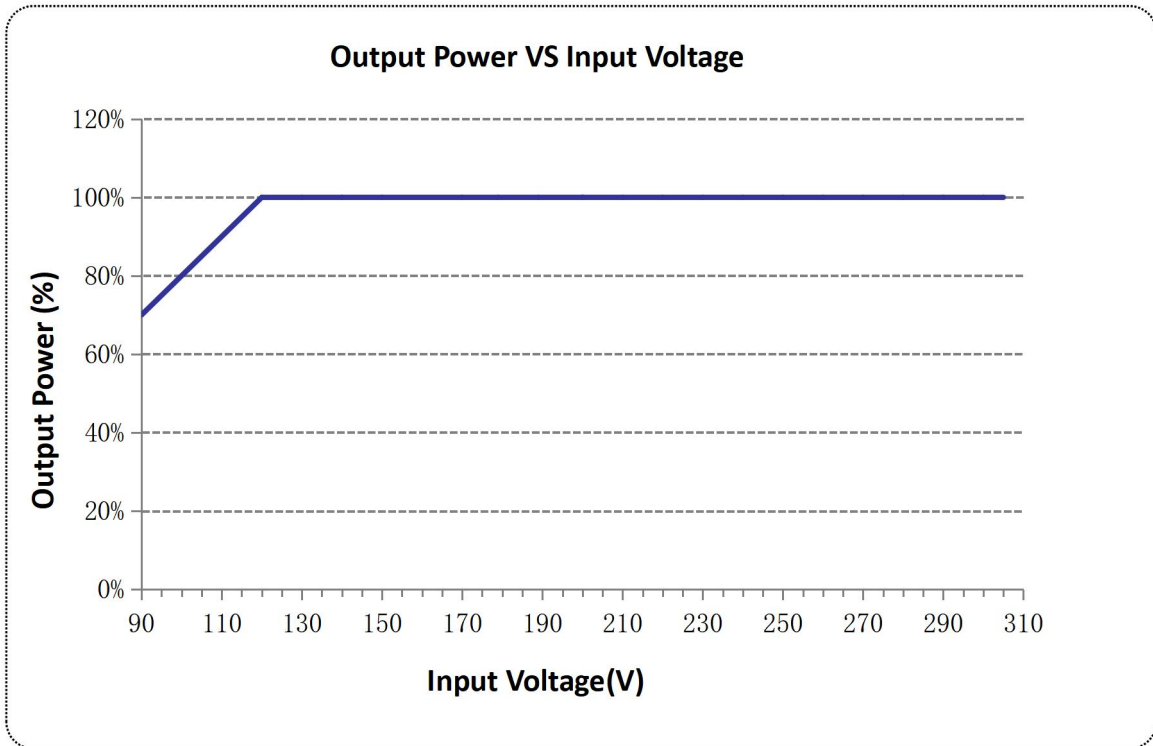
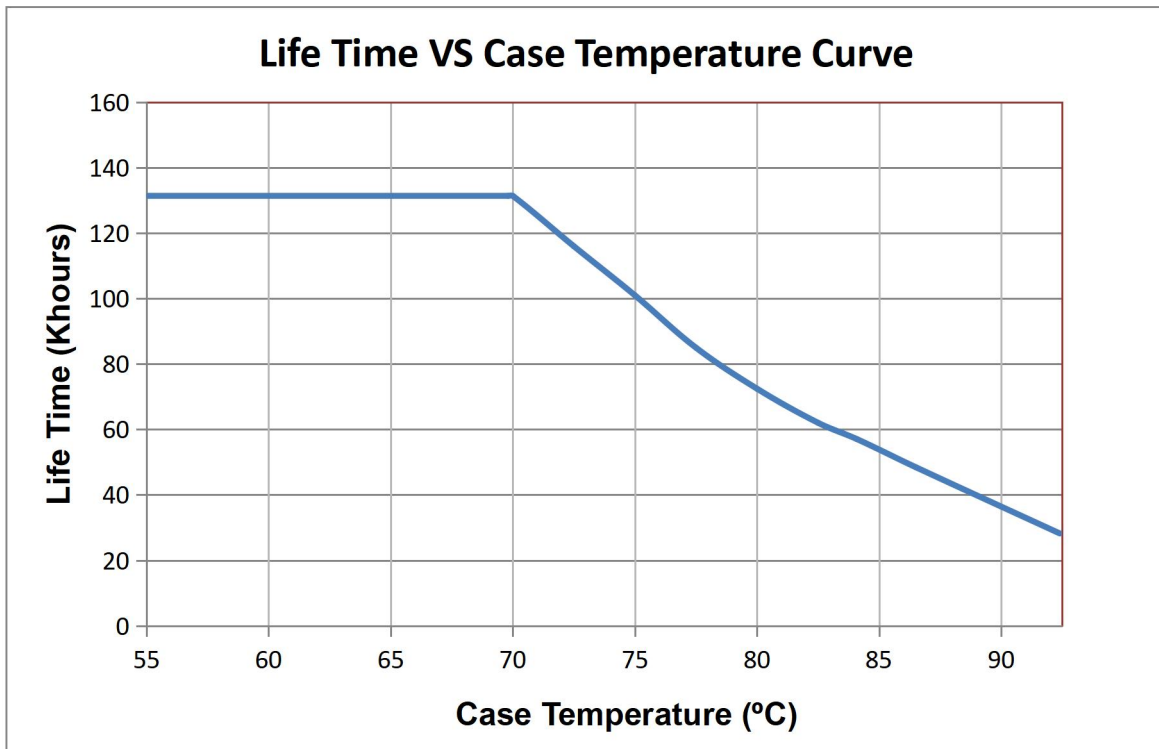
INRUSH CURRENT WAVEFORM



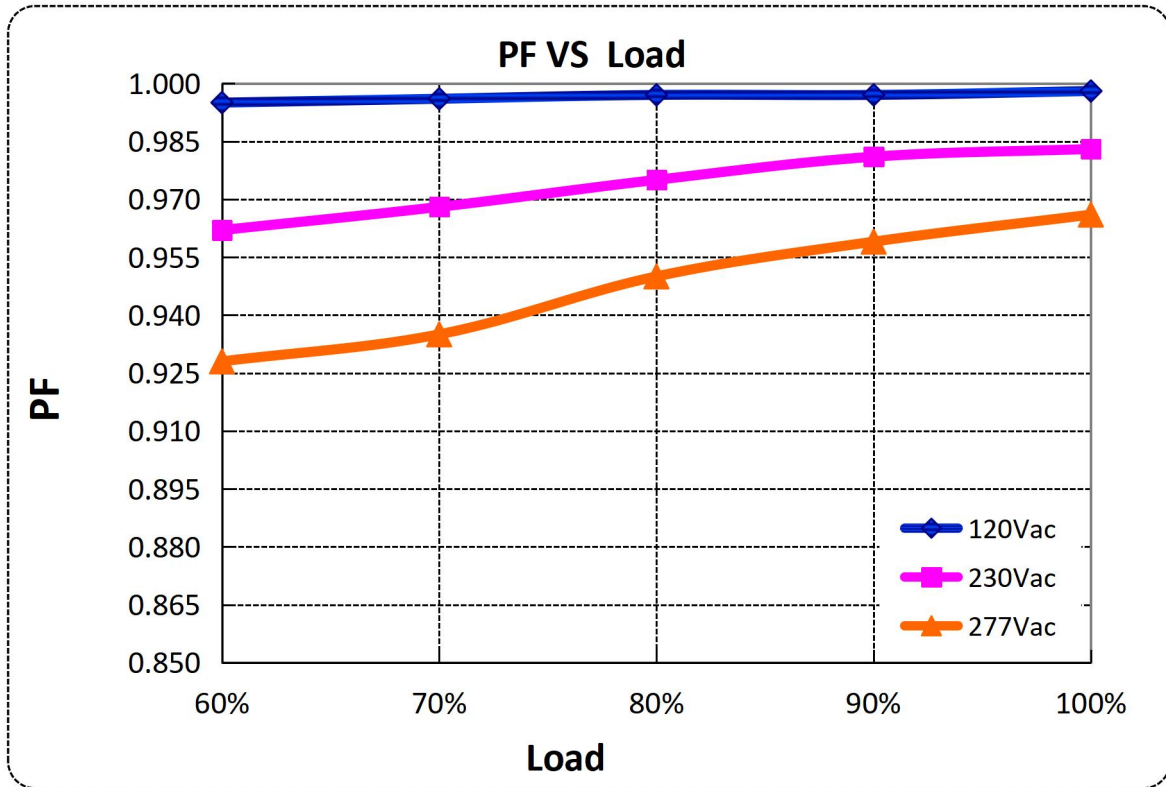
DERATING CURVE

Derating Curve

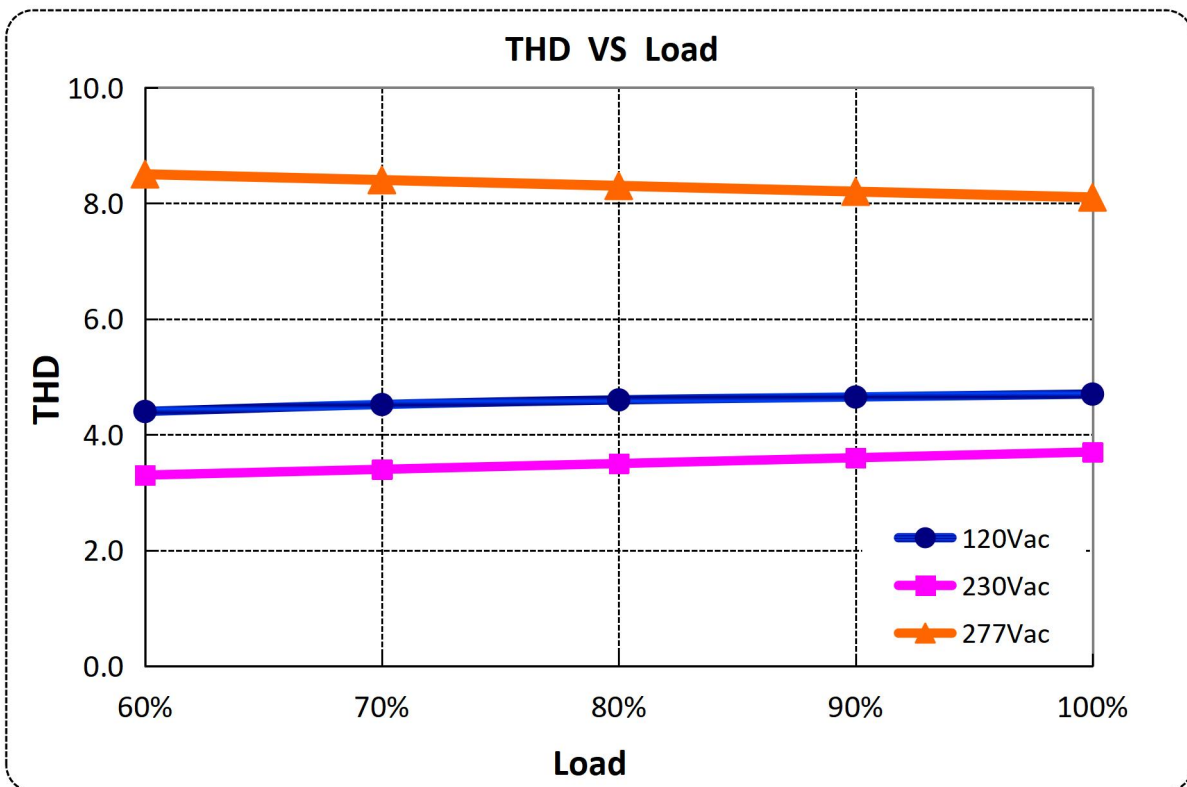


OUTPUT POWER VS INPUT VOLTAGE**LIFETIME VS CASE TEMPERATURE**

POWER FACTOR VS LOAD

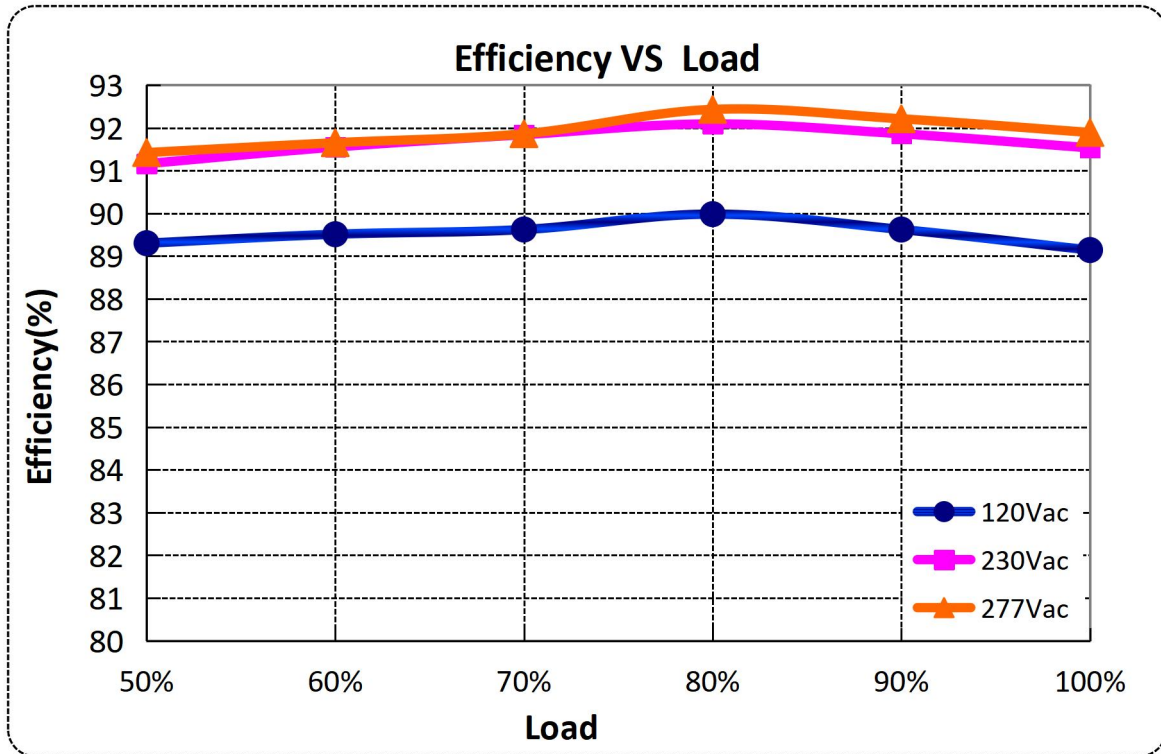


TOTAL HARMONIC DISTORTION

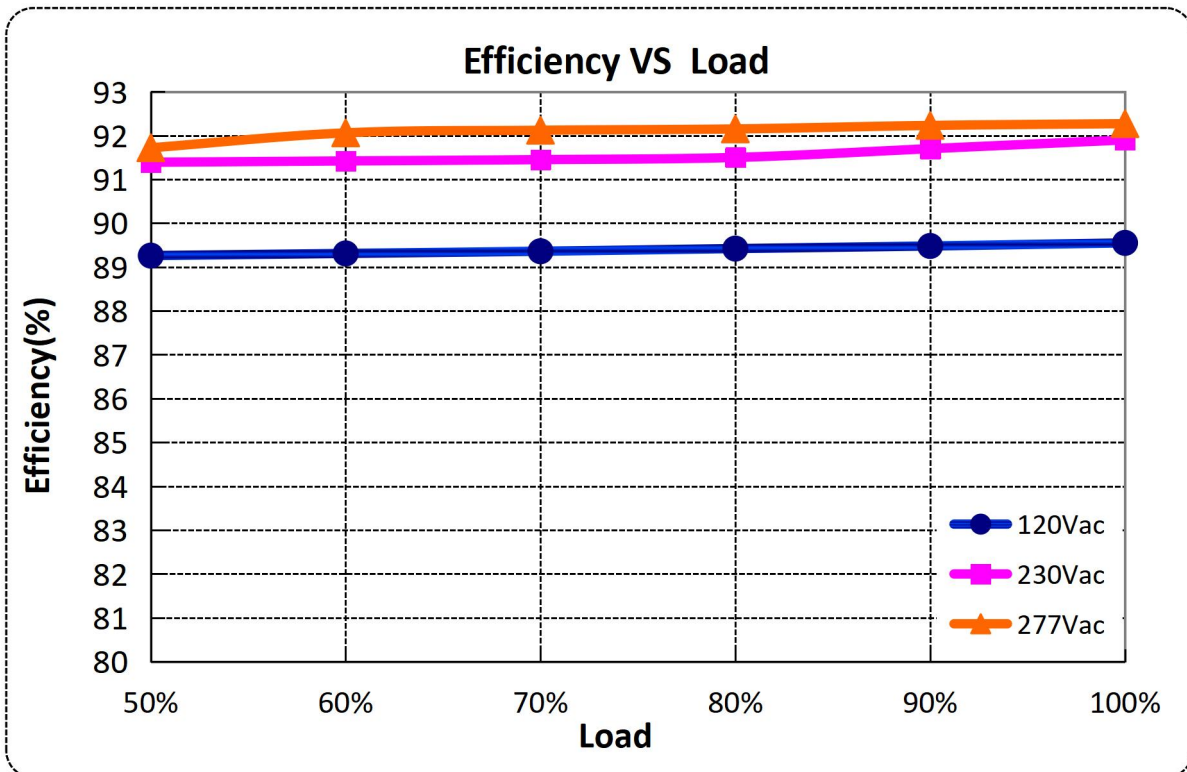


EFFICIENCY VS LOAD

XCP-105Y062 (Io=1.69A)



XCP-105Y062 (IO=2.50A)

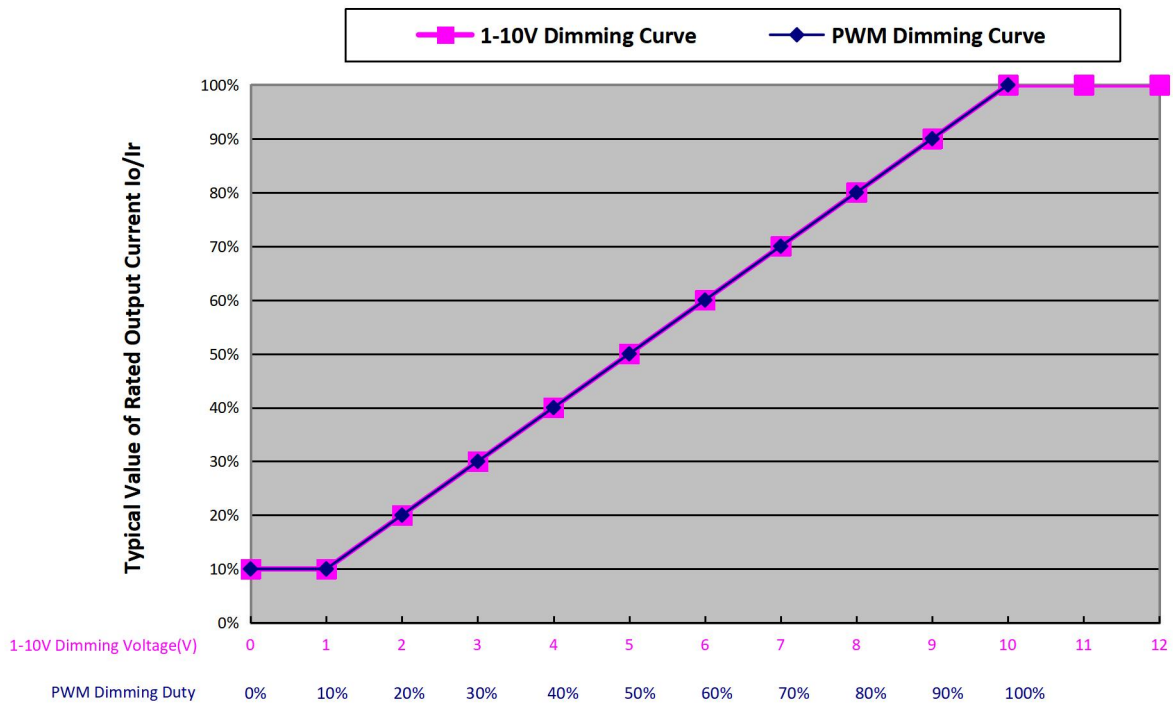


PROTECTIONS

Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed. The max derating could be met Max Temperature 85°C and Max Humidity 85%.
Short Circuit Protection	Constant current mode and auto recovery. No damage will occur when any output is short-circuited. The output shall return to normal when the fault condition is removed.
Over Voltage Protection	Run into protection mode when output voltage exceeds limit, and return to normal when the fault is eliminated and restart the power supply.

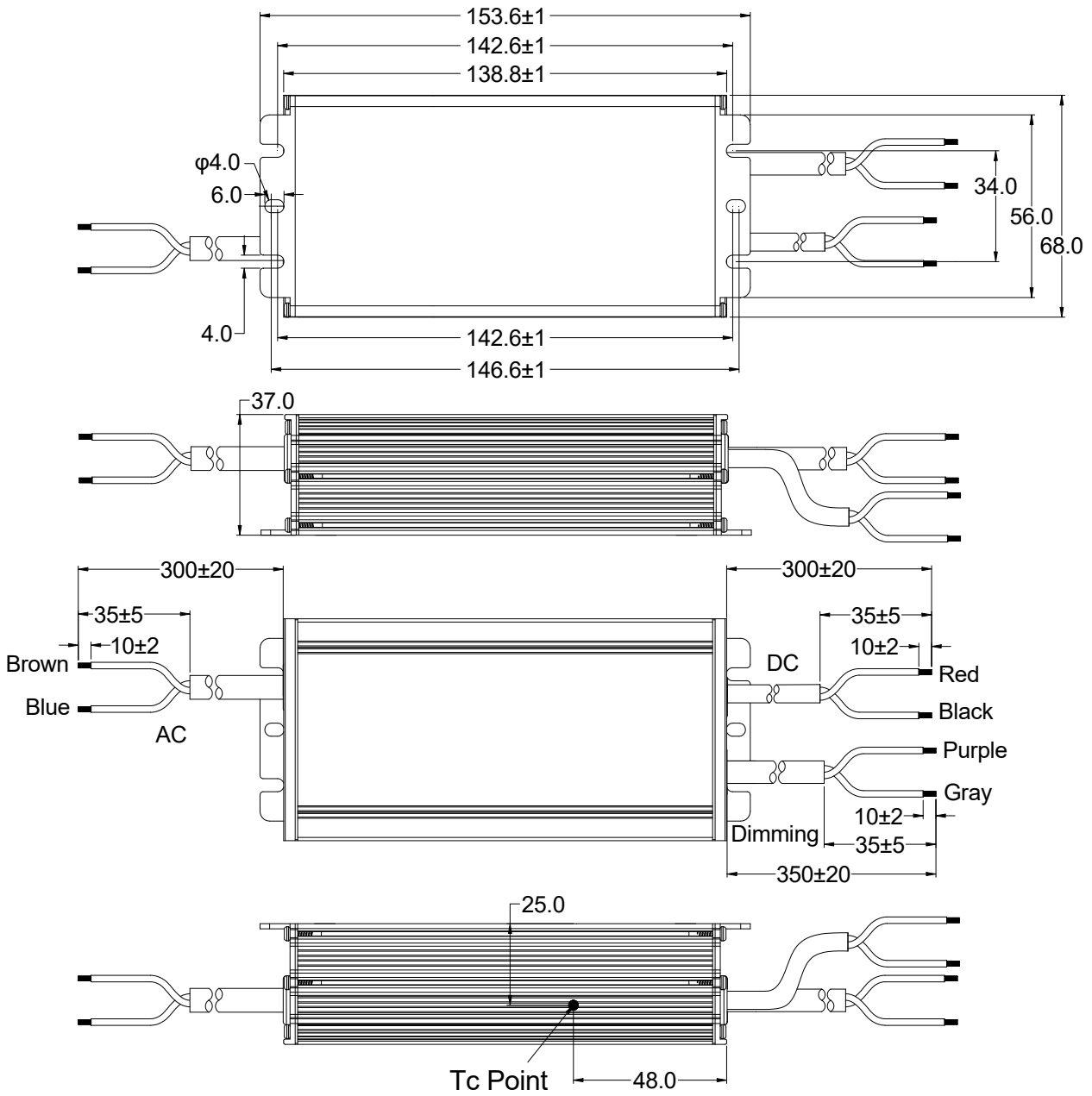
1-10V/PWM DIMMING

1-10V/PWM Dimming Curve

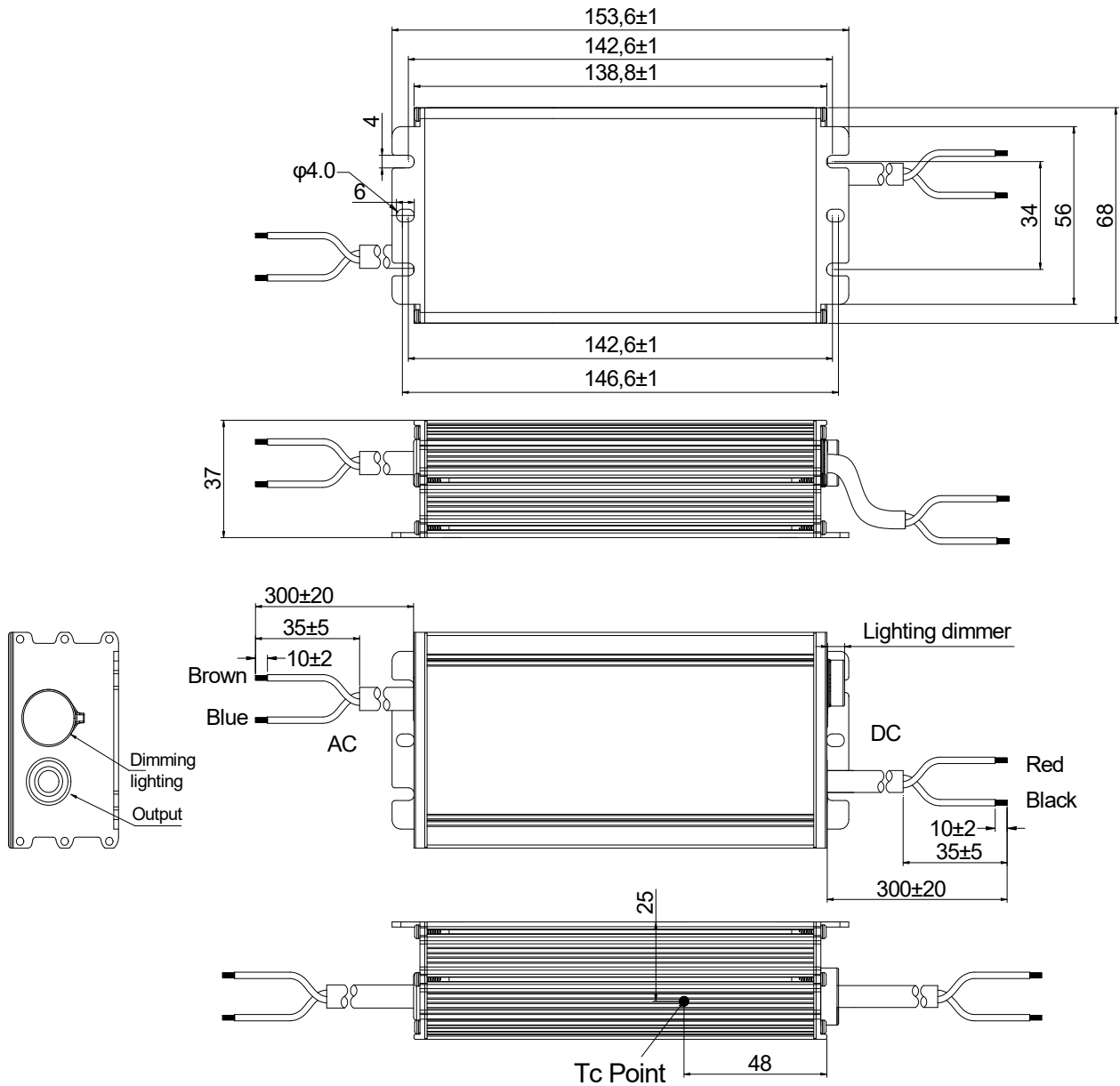


MECHANICAL OUTLINE

XCP-105M062 types



XCP-105V062 types



Wire	Specification	Note
Input	CCC+VDE H05RN-F *2C L=300±20mm	CCC/CE
Output	SJOW 18AWG *2C L=300±20mm	UL
Dimming	UL 2733 22AWG *2C L=350±20mm	Y=M

LABEL

XCP-105M062

45.50 mm

129.00 mm

INPUT

L BROWN

N BLUE

MOSO[®] XCP-105M062
LED DRIVER

INPUT	100-277V~ 50/60Hz, 1.5A Max.PF:0.95
OUTPUT	38-62V= 0.25-2.50A Max: 70V=
	Max.Power:105W
t _c : 90°C	t _a : 50°C Input:100-200V~ t _a : 60°C Input:200-277V~

MADE IN CHINA SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD
For LED module only No.1061, Songbai Road, Xili Town, Nanshan District,
Shenzhen, CHINA


OUTPUT

RED Vo +

BLACK Vo -

PURPLE DIM +

GRAY DIM -



XCP-105V062

45.50 mm

129.00 mm

INPUT

L BROWN

N BLUE

MOSO[®] XCP-105V062
LED DRIVER

INPUT	100-277V~ 50/60Hz, 1.5A Max.PF:0.95
OUTPUT	38-62V= 1.25-2.50A Max: 70V=
	Max.Power:105W
t _c : 90°C	t _a : 50°C Input:100-200V~ t _a : 60°C Input:200-277V~

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Shenzhen, CHINA

OUTPUT

I_o ADJ ⊕

RED Vo +

BLACK Vo -

