

## Specification for Approval

Product Name: 160W High Bay driver

Product Model: MTP-160M068-OF   
MTP-160V068-OF

Optional Accessories: Holder   
Ring

Rev. D.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.		

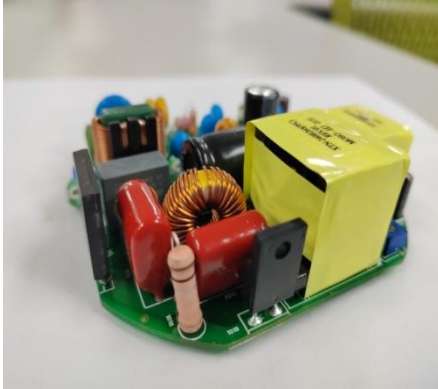
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Prepared By	Checked By	Approved By



**PRODUCT FEATURES**

- Universal input voltage: 90~305Vac;
- Constant power design;
- (M types) Offline programming through dimming wire,  
(V types) Setting current with a built-in variable resistor;
- 2-in-1 dimming mode: 0-10Vdc, PWM dimming;  
Dim-to-off;
- Surge protection: 4KV line-line, 6KV line-earth;
- Multiple protection: SCP, Output OVP, Input UVP, OTP;
- IP65 design for indoor and outdoor applications;
- 5 years warranty.

**APPLICATION**

- Suitable for industrial lighting.

**DESCRIPTION**

MTP-160W series is specially designed for industrial lighting applications. It is constant power LED driver that operates from 90-305Vac with 0-10V and PWM dimming function. The output parameters are configurable by internal potentiometer or dimming wire within a wide range of DC Load. This round integrated structure enables it to have a better heat dissipation cooler, significantly improving reliability and extending product life. To ensure trouble free operation, protection is provided against input surge, output over voltage, short circuit, and over temperature.

**MODELS**

Model Number	Max Output Power (W)	Output Voltage Range (Vdc)	Output Current Adjustable Range (A)	Full Power Current Adjustable Range (A) [2]	Default Output Setting	Typical Efficiency [2]	Power Factor	
							120Vac	230Vac
MTP-160X068-OF	160	40~68	1.70~2.85	2.35~2.85A	40~56V/2.33A	89%	0.99	0.97

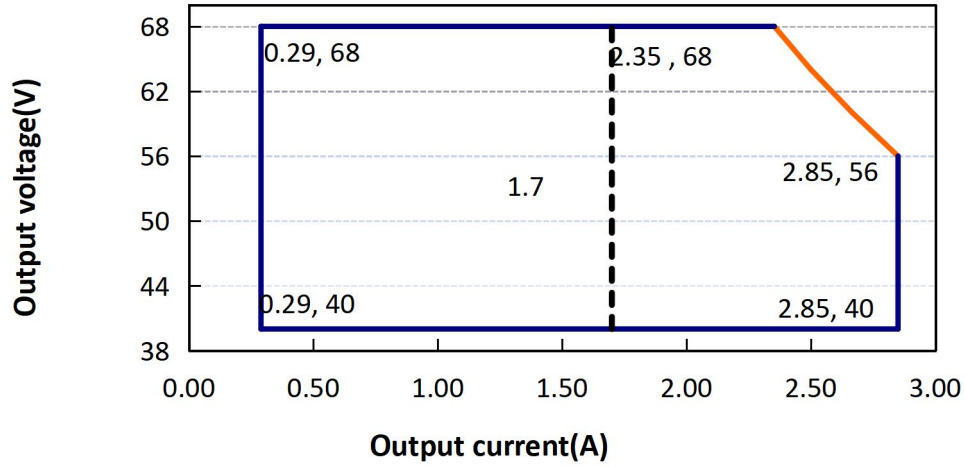
**Notes:**

1. X=M, programming through dimming wire; X=V, output current adjustable through potentiometer;
2. All parameters not specially mentioned are measured at 230Vac input, full load and 25°C of ambient temperature.

**OPERATING AREA I-V**

### MTP-160X068-OF

#### Output Voltage vs. Output Current



**Note:** X=V is suitable for the dotted line on the right side area; X=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	-	-	0.75mA	277Vac/60Hz
Input AC Current	-	-	2.2Amax	100-277Vac & full load
Inrush Current(A)	-	-	75A	230Vac & full load
Power Factor	0.95	0.97	-	230Vac & full load
THD	-	7%	10%	120~230Vac, 80%~100% load
	-	-	20%	277Vac, 70%~100% load

#### OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
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Output Current Tolerance	-5%	-	5%	
Output Current Setting Range (A) MTP-160X068-OF	1.70	-	2.85	(M types) Output Current Setting Range: 10%-100%I <sub>max</sub>
Output Current Setting Range with Constant Power(A) MTP-160X068-OF	2.35	-	2.85	
Total Output Current Ripple (pk-pk)	-	5%	10%	20MHz BW, load is LED, ripple is different with difference LED load.
Startup Overshoot Current	-	-	10%	120~277Vac & 100% Load, load is LED
No Load Output Voltage(V) MTP-160X068-OF	-	-	80	
Line Regulation	-	-	1%	25°C±10°C ambient temperature, input voltage changes from 115Vac to 277Vac.
Load Regulation	-	-	3%	25°C±10°C ambient temperature, 230Vac input, load changes from 60% to 100%.
Turn-on Delay Time	-	-	3S	120Vac, 100% load
	-	0.5S	1S	230Vac, 100% load

### GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Efficiency@120Vac MTP-160X068-OF I <sub>o</sub> =2.35 I <sub>o</sub> =2.85	85% 85%	87% 87%	-	Measured at full load and 25°C ambient temperature, full load.
Efficiency@230Vac MTP-160X068-OF I <sub>o</sub> =2.35 I <sub>o</sub> =2.85	87% 87%	89% 89%	-	Measured at full load and 25°C ambient temperature, full load.
Efficiency@277Vac MTP-160X068-OF I <sub>o</sub> =2.35 I <sub>o</sub> =2.85	88% 88%	90% 90%	-	Measured at full load and 25°C ambient temperature, full load.
MTBF	-	200000Hrs	-	230Vac, 80% load (MIL-HDBK-217F)
Operating Case Temperature for Warranty T <sub>c_w</sub>	-40°C	-	+70°C	3 years warranty Humidity: 10% to 50% RH
Storage Temperature	-40°C	-	+85°C	Humidity: 5% to 50% RH

### DIMMING

Parameter	Min.	Typ.	Max.	Notes
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0~10V Absolute Maximum Voltage on the Vdim (+) Pin		-	10V	-	
0~10V Source Current on Vdim(+)Pin		-	1mA	2mA	
Dimming Output Range	MTP-160M068-OF	10% I <sub>max</sub>	-	100% I <sub>max</sub>	I <sub>max</sub> =2.85A
	MTP-160M068-OF	0.29A	-	2.85A	
Recommended Dimming Range for 0-10V		0V	-	10V	Default 0-10V/PWM dimming Dim-to-off
PWM_in High Level		9.7V	-	10.3V	
PWM_in Low Level		0V	-	0.3V	
PWM_in Frequency Range		200Hz		2KHz	
PWM_in Duty Cycle		10%	-	100%	

### SAFTY STANDARDS

Safety Category	Country / Territory	Standards	Whether have Certification
CCC	China	GB19510.1, GB19510.14	✓
CE	Europe	EN61347-1, EN61347-2-13	✓
		EN62493	
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, K62384	
PSE	Japan	J61347-1, J61347-2-13	
SAA	Australia	AS/NZS IEC 61347.2.13	✓
		AS/NZS 61347.1	✓

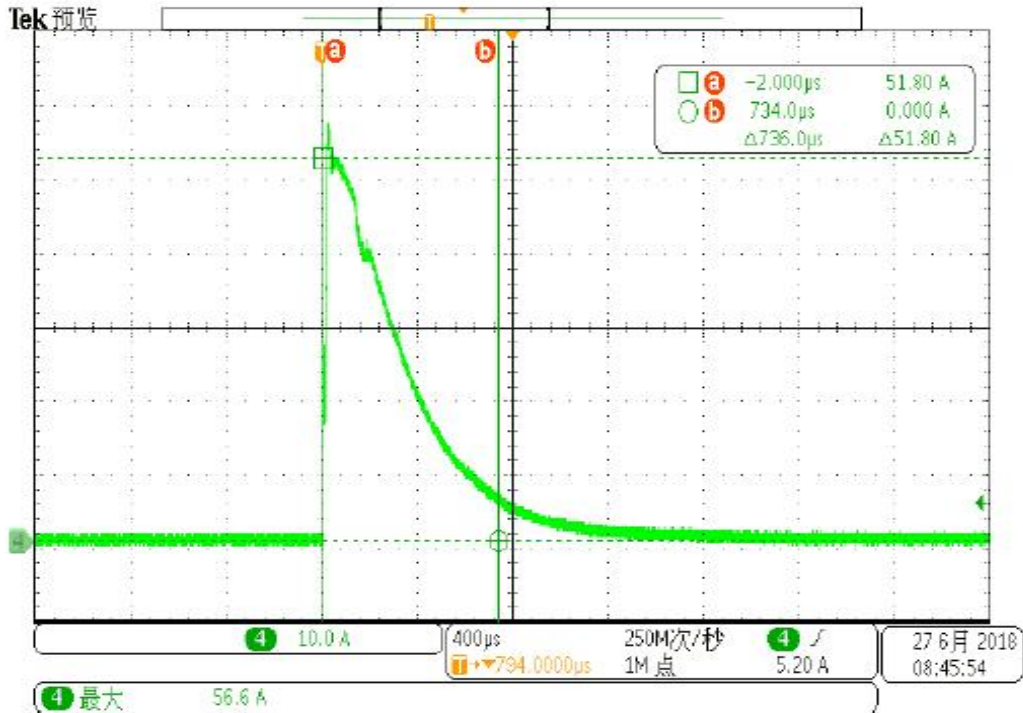
### EMC COMPLIANCE

EMC Category	Country / Territory	Standards	Whether have Certification
CCC	China	GB/T 17743, GB 17625.1	✓
CE	Europe	EN 55015	✓
		EN 61000-3-2, EN 61000-3-3	✓
		EN61000-4-2,3,4,5,6,8,11	✓
		EN 61547	✓
KC	South Korea	K61547	
		K00015	
PSE	Japan	J55015	
FCC	USA	FCC part 15	

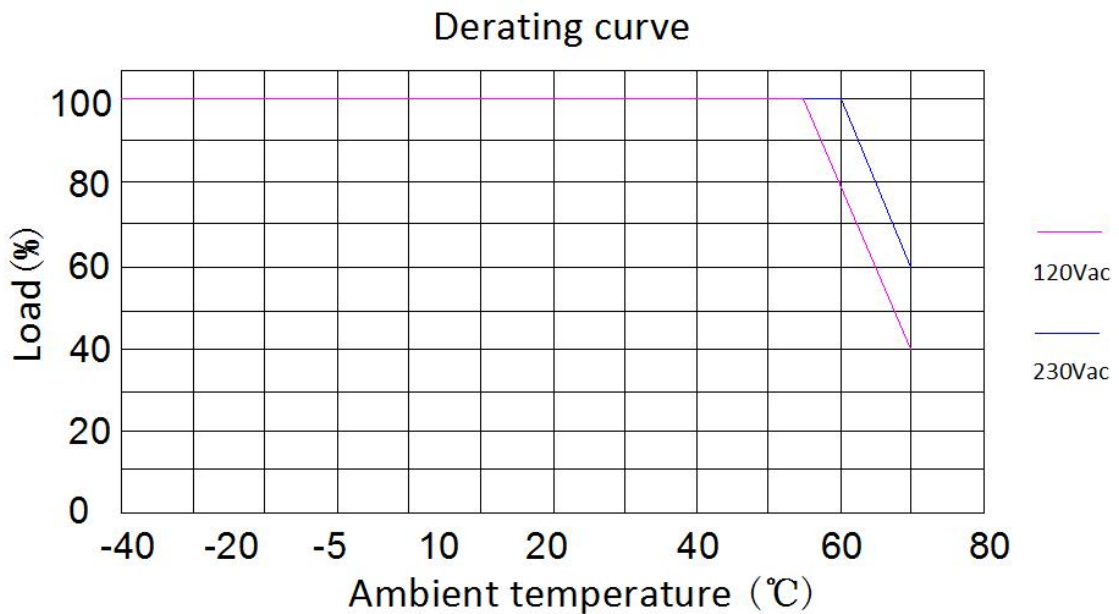
### NOTE:

This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

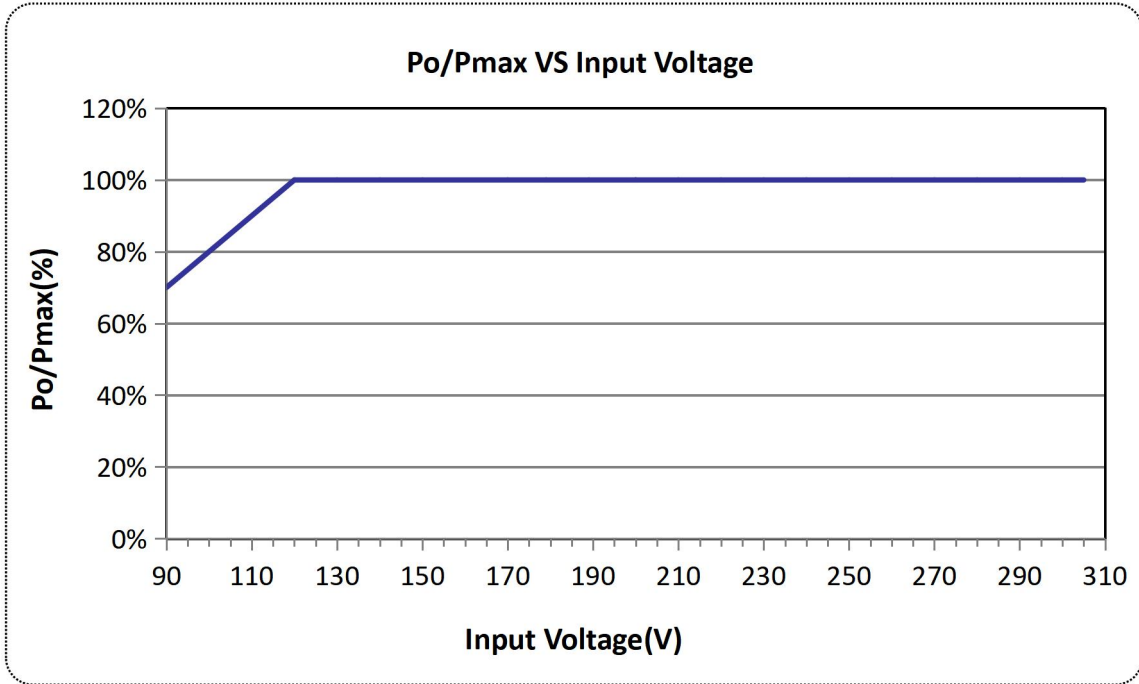
### INRUSH CURRENT WAVEFORM



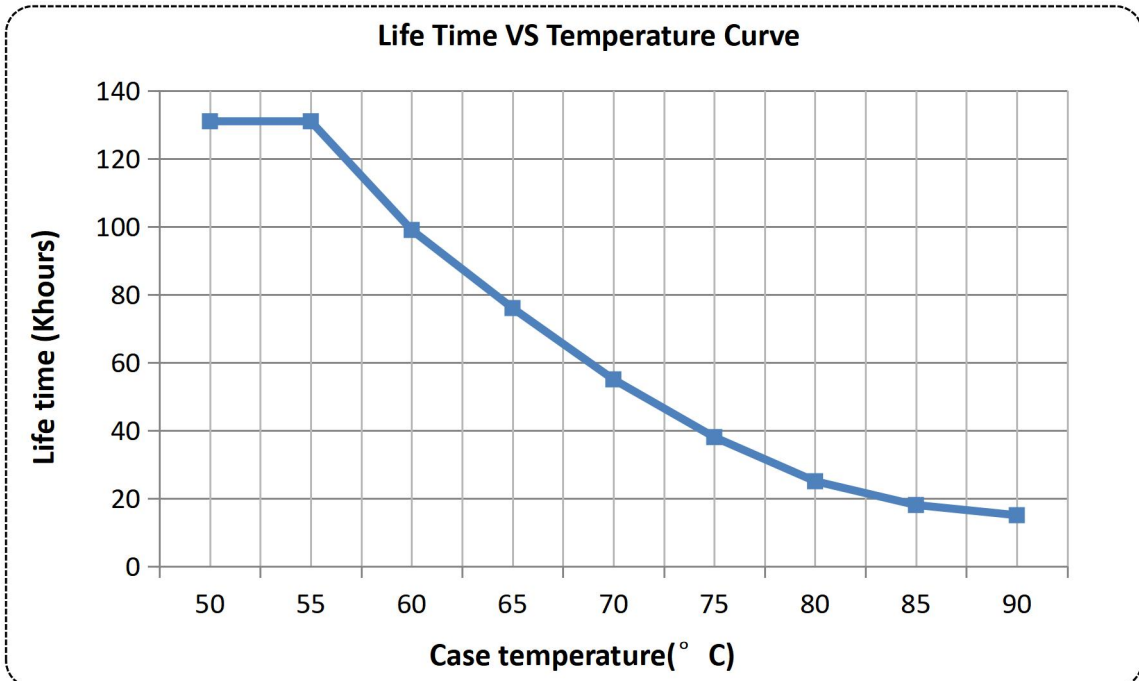
### DERATING CURVE



### OUTPUT POWER VS INPUT VOLTAGE



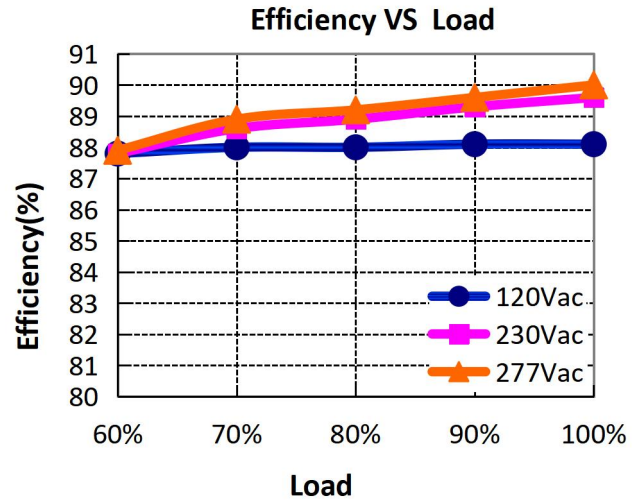
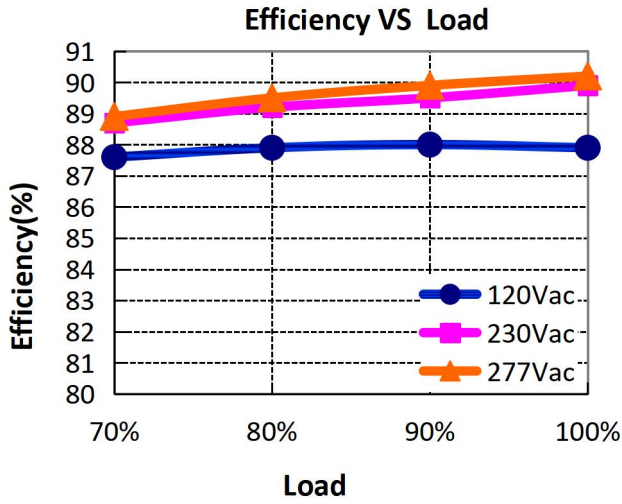
### LIFETIME VS CASE TEMPERATURE



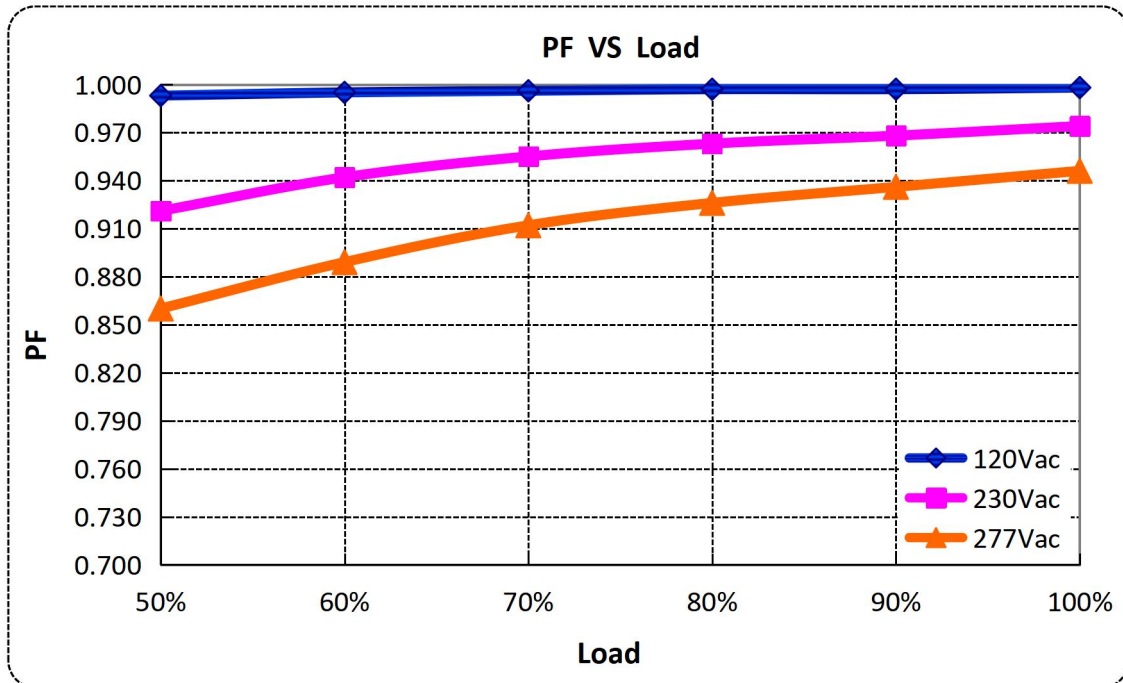
### EFFICIENCY VS LOAD

### MTP-160X068-OF(Io=2.85A)

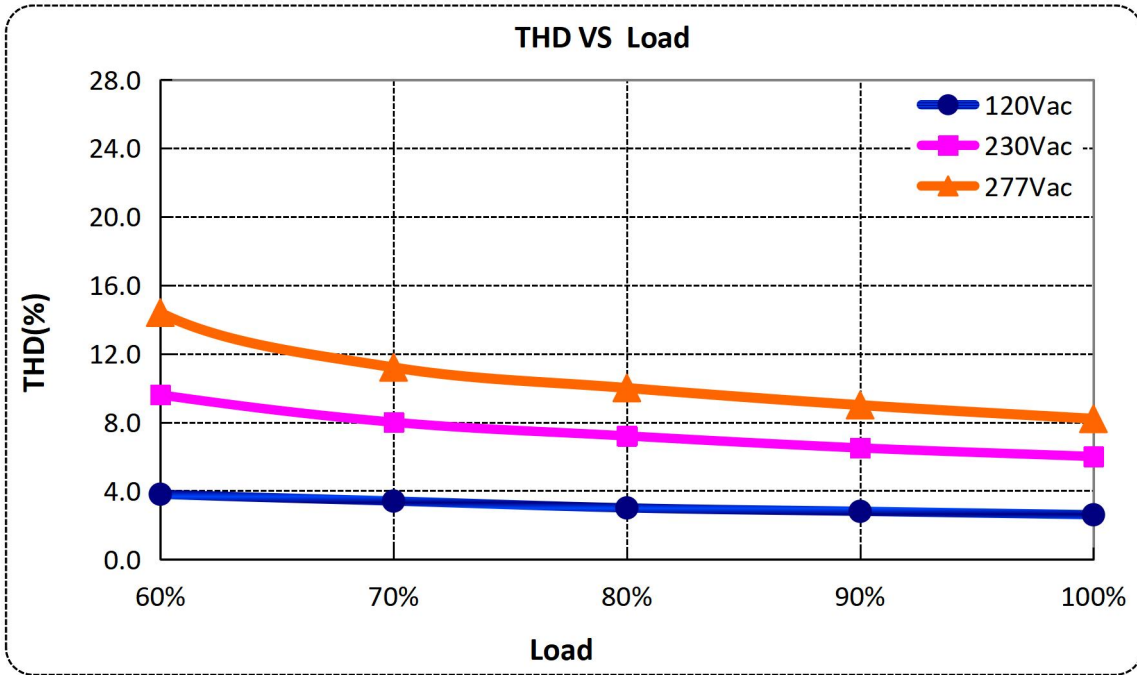
### MTP-160X068-OF(Io=2.35A)



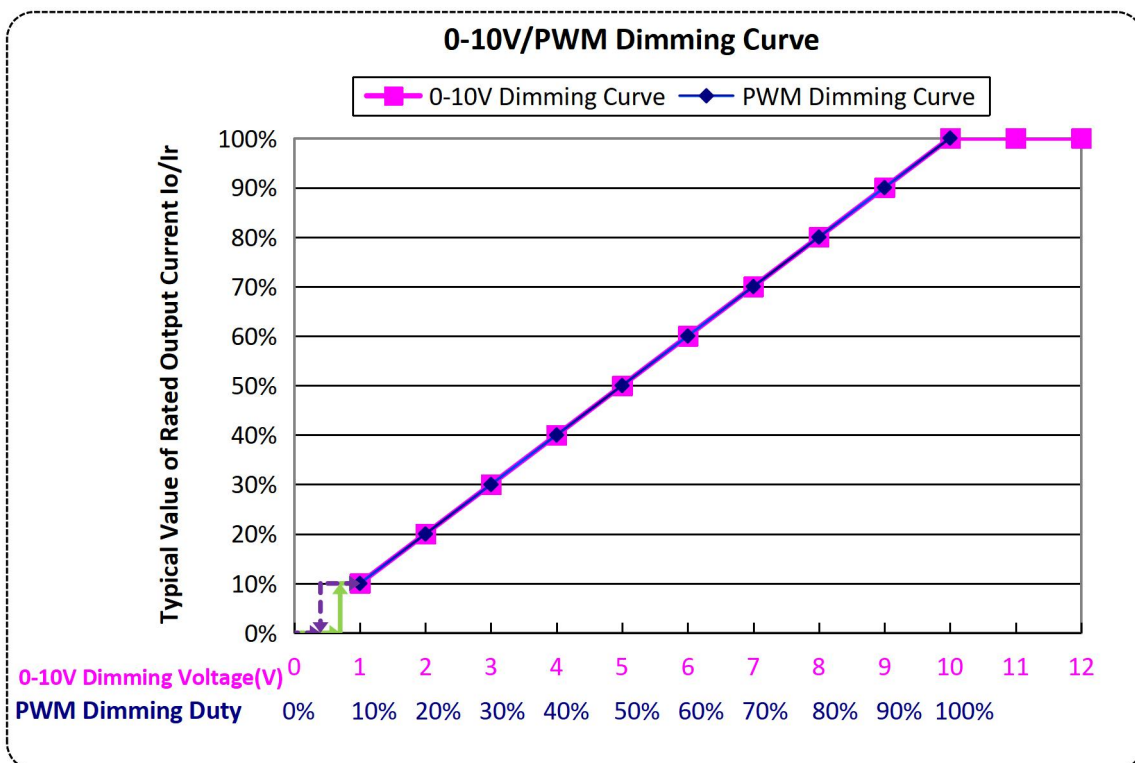
### POWER FACTOR VS LOAD



### TOTAL HARMONIC DISTORTION



### 0-10V/PWM DIMMING CURVE



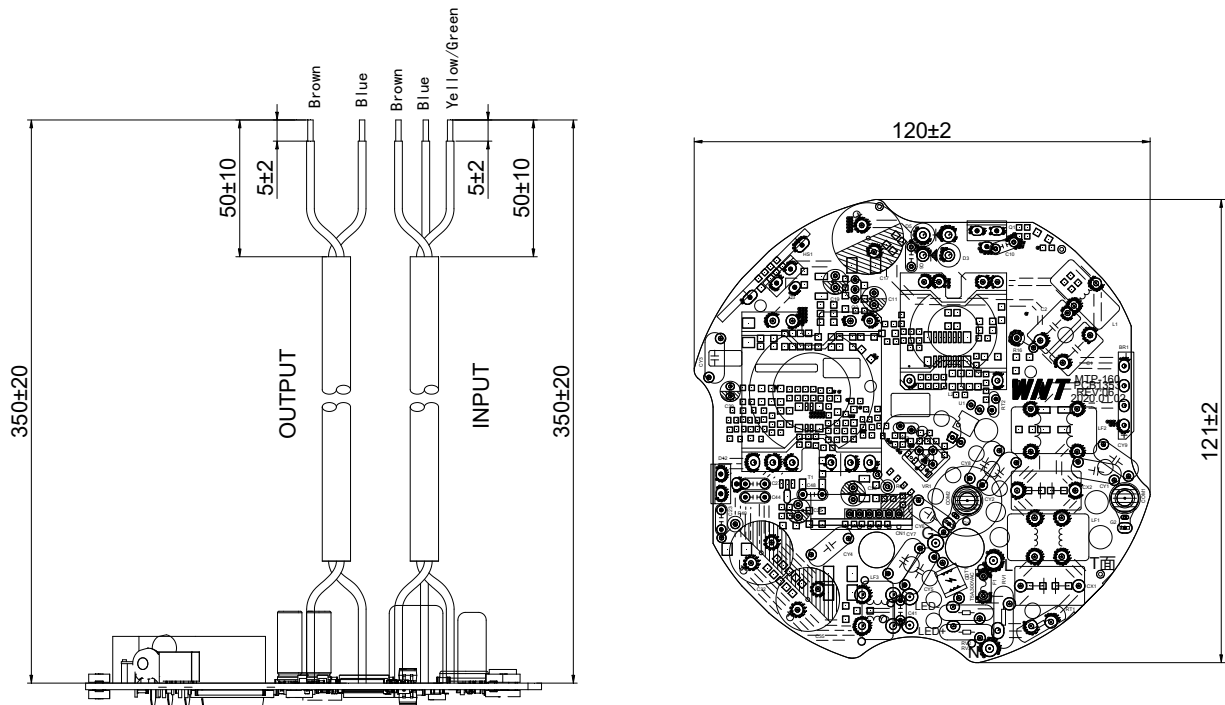
**Note:** Dim to off model is realized by decreasing the output voltage, the power supply still has residual voltage when dim to off, so the start up voltage of the lamp should be higher than residual voltage.

### PROTECTIONS

Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed..
Short Circuit Protection	Hiccup 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 model when output voltage exceeds limit, and return to normal when the fault.

**Note:** The driver is without housing, customers shall install it inside a shell with glue filled and protect it well.

### MECHANICAL OUTLINE



Wire	Specification	Note
Input	CCC+VDE H05RN-F 3x1.0mm <sup>2</sup> OD=7.0mm L=350±20mm	3C/CE
Output	CCC+VDE H05RN-F 2x1.0mm <sup>2</sup> OD=7.0mm L=350±20mm	3C/CE

For carton label(100\*60mm)

生产工单号/Production Order No.	MOSO Production No.: <b>9110005495</b> 	Q'ty: <b>24 PCS</b> 	根据实际情况填写 /According to the actual situation
MOSO料号/MOSO Part No.	MOSO Part No.: <b>1021600435</b>	N.W.: <input type="text"/> KG	↑
MOSO 型号/Model 订单号/Purchase order No	Model: <b>MTP-160V068-OF Open Frame</b>	G.W.: <input type="text"/> KG	
已设置出厂电流/Default Output Current Setting(A)	Initial Current: <b>4.15A/5.2/WTG</b>	Date Code: <b>2024-08-21</b>	装箱日期/Packing Date
	CTN No.: <b>91100054950001</b> 		MOSO Logo,装箱信息/MOSO Logo&Packing Information

↓

箱号, 包装组按实际箱号打印/Carton No.  
According to the actual situation

Product name printed on carton label 3230200146 should be: product model+OPEN FRAME



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Optional Accessories: Holder   
Ring   
Rev. D.2

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