

Description

The X7P series is outdoor LED driver that operates in constant current with high PF value and full power input voltage range 90~264Vac, build-in potentiometer can easily set the output current ,It also helps clients to improve the management of logistics and stock. The compact metal case and high efficiency enable the driver to operate with high reliability; it provides extreme durability with an IP68 rating and extending product lifetime. Overall protection is provided against lightning surge, output over voltage, short circuit and over temperature to ensure low failure rate.



Product Features

- Input voltage range: 90~264Vac;
- Rated input voltage: 100Vac,200Vac,220~240Vac
- Constant power design, output current adjustable through build-in potentiometer;
- Surge protection: 4KV line-line, 15KV line/line-earth;
- Protections: LVP / SCP /OVP /OTP;
- IP68 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty;

Application

Roadway lighting
Industrial lighting
Landscape Lighting

Models

Model Number	Input Voltage Range (Vac)	Max Output Power (W)	Output Voltage Range (Vdc)	Full Power Output Current Range (A)	Default Current(A)	Eff. (Typ.)	PF(Typ.)	THD(Typ.)
X7P-040V056	90-264	40	32-56	0.72-0.80	0.80	87%	0.95	5%

Notes:

[1]. V means non-dimmable, Adjustable output current with potentiometer.

[2]. All specifications are measured at 25°C ambient temperature, input voltage 200Vac, and the typical value tested at full load, if no specific note.

Input Specifications

Parameter	Min	Typ.	Max	Notes
Input Voltage Range	90Vac	100Vac~240Vac	264Vac	
Full Power Work Range	100Vac	200Vac	240Vac	Refer to Output Power vs. Input Voltage Curve.
Input Frequency AC	47Hz	50/60Hz	63Hz	
Max Input Current	-	-	0.55A	100Vac & 100% load.
Max Input Power	-	-	50W	100Vac & 100% load.
Leakage Current	-	-	0.70mA	IEC 60598-1; 240Vac/60Hz.
Inrush Current	-	-	45A	240Vac, 100% load.
Power Factor (PF)	0.96	0.98	-	100Vac, 50-60Hz, 70%-100% load.
Power Factor (PF)	0.93	0.95	-	200Vac, 50-60Hz, 70%-100% load.
Power Factor (PF)	0.91	0.93	-	240Vac, 50-60Hz, 70%-100% load.
Total Harmonic Distortion (THD)	-	5%	8%	100-240Vac, 50-60Hz, 70%-100% load.
MCB(B16)	-	20	-	240Vac; 100% load.

Output Specifications

Parameter	Min	Typ.	Max	Notes
Output Voltage Range	32Vdc	-	56Vdc	
No-Load Output Voltage	-	-	70Vdc	
Output Current Setting Range	0.40A	-	0.80A	Adjustable output current with potentiometer
Current Accuracy	-5%	-	+5%	
Total Output Current Ripple (pk-pk)	-	80%	100%	20MHz BW full load & LED load the LED load ripple is slightly different for different LEDs.
Startup Overshoot Current	-	-	10%	100-240Vac full load condition, LED load.
Line Regulation	-3%	-	+3%	25°C±10°C ambient temperature, input changes from 100Vac to 240Vac.
Load Regulation	-3%	-	+3%	Load varies from 70% to 100% with 200Vac Input at 25°C±10°C ambient temperature.
Turn-on Delay Time	-	-	1.0s	100~240Vac, 25°C±10°C ambient temperature.

General Specifications

Parameter	Min	Typ.	Max	Notes
Efficiency@100Vac Io=0.72A	85.0%	86.0%	-	100% load, 25°C ambient temperature
Efficiency@100Vac Io=0.80A	85.0%	86.0%	-	100% load, 25°C ambient temperature
Efficiency@200Vac Io=0.72A	86.0%	87.0%	-	100% load, 25°C ambient temperature
Efficiency@200Vac Io=0.80A	86.0%	87.0%	-	100% load, 25°C ambient temperature
Efficiency@240Vac Io=0.72A	87.0%	88.0%	-	100% load, 25°C ambient temperature
Efficiency@240Vac Io=0.80A	87.0%	88.0%	-	100% load, 25°C ambient temperature
Mean Time Between Failure	-	300Khours	-	25°C±10°C ambient temperature, 200Vac, 80% load condition (MIL-HDBK-217/SR-332).
Lifetime	-	50Khours	-	200Vac & 100% load, Tc 75°C, refer to lifetime vs. case temperature curve.
Operating Temperature Ta	-40°C	-	+55°C	100-240Vac, refer to Output Power vs. Ambient Temperature curve.
Operating Tc for Safety Tc_s	-40°C	-	+90°C	
Operating Tc for Warranty Tc_w	-40°C	-	+75°C	5-year warranty shell temperature, humidity: 10% to 95% RH.
Storage Temperature Ta	-40°C	-	+85°C	Humidity: 5% to 100% RH.
Altitude	-60m	-	4000m	
Input Over voltage Protection	300Vac	305Vac	320Vac	25°C ambient temperature, Turn off the output when the input voltage exceeds protection voltage.
Recovery Voltage	280Vac	290Vac	300Vac	25°C ambient temperature, Auto recovery, the driver will restart when the input voltage falls below recovery voltage.
Over Temperature Protection Tc	-	90°C	-	Tolerance±5°C, decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection	-	-	-	Hiccup mode. The output shall return to normal when the fault condition is removed.
Dimensions (L*W*H)	140.4*55.4*33.5mm			
Net Weight	480±50g/PCS			
Package(L*W*H)	466*282*172mm; 16PCS/Ctn, Gross Weight:9.56Kg			For reference only

Safety Specification

Parameter	Min	Typ.	Max	Notes
Dielectric Strength (Input-Output)	-	3000Vac	-	60s, Current not exceeding 5mA.
Dielectric Strength (Input-Ground)	-	1500Vac	-	60s, Current not exceeding 5mA.
Dielectric Strength (Output-Ground)	-	500Vac	-	60s, Current not exceeding 5mA.
Grounding Resistance	-	-	0.1Ω	25°C±10°C Ambient Temperature, pass 25A Current, 60s.
Insulation Resistance	10MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60s/25°C.

Safety Compliance

Safety Category	Standards	Approved	Notes
CCC	GB19510.1,GB19510.14		
CE	EN61347-1, EN61347-2-13, EN62493		
ENEC	EN61347-1, EN61347-2-13, EN62384		
CB	IEC61347-1, IEC61347-2-13		
BIS	IS 15885(PART 2/SEC 13)		
UL	UL 8750		
CUL	CSA C22.2 No.250.13		
KC	K61347-1, K61347-2-13		
PSE	J61347-1, J61347-2-13	√	
SAA	AS/NZS IEC 61347.2.13		
SAA	AS/NZS 61347.1		

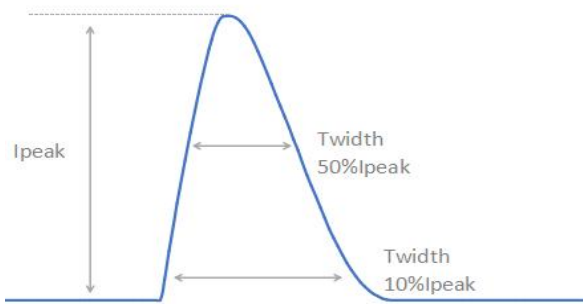
EMC Compliance

EMC Category	Standards	Approved	Notes
CCC	GB/T 17743, GB 17625.1		
CE	EN 55015		
CE	EN 61000-3-2, EN 61000-3-3		
CE	EN61000-4-2,3,4,5,6,11		
CE	EN 61547		
KC	K61547		
KC	K00015		
PSE	J55015	√	
FCC	FCC part 15		
Surge Shock Immunity	ANSI/C82.77-5-2017		
Ringing Wave			

RoHS

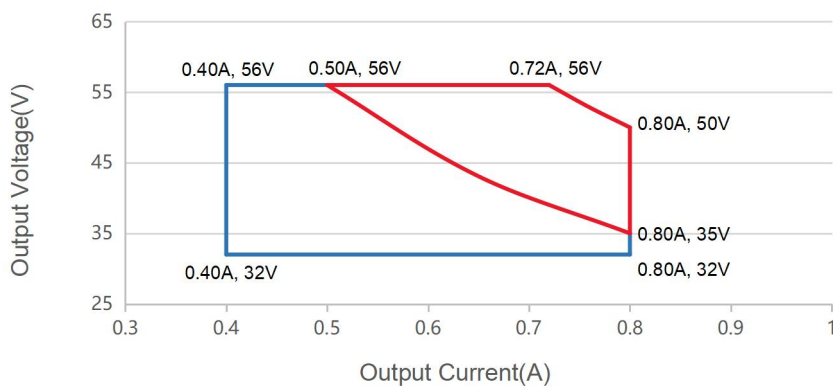
Our products comply with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Inrush Current



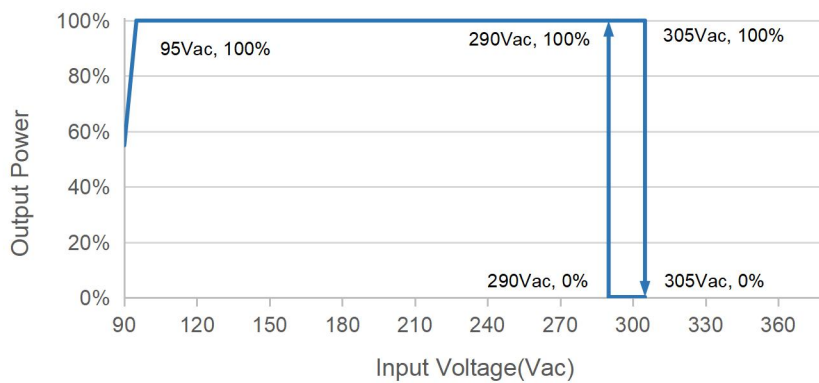
V_{in}	I_{peak}	$T_{@10\% \text{ of } I_{peak}}$	$T_{@50\% \text{ of } I_{peak}}$
100Vac	16.0A	220 μ s	144 μ s
200Vac	30.0A	200 μ s	134 μ s
240Vac	36.0A	186 μ s	114 μ s

Output Voltage vs. Output Current

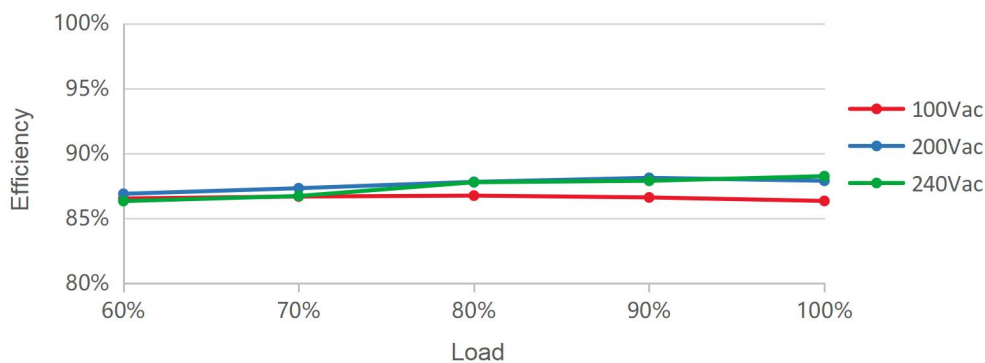


Red curve: good performance area.

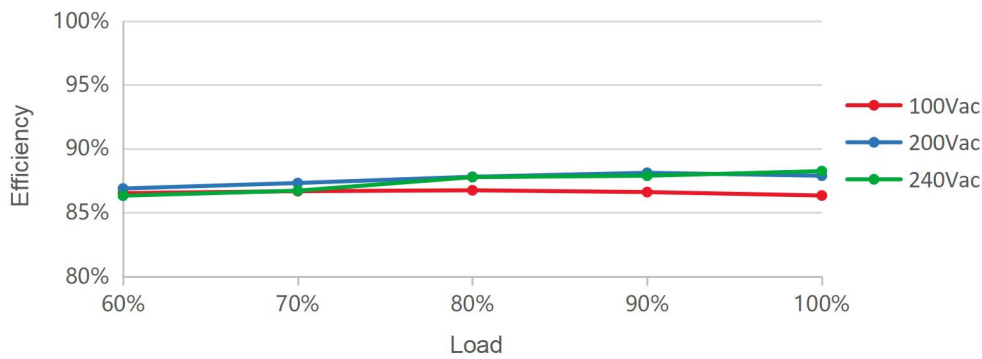
Output Power vs. Input Voltage



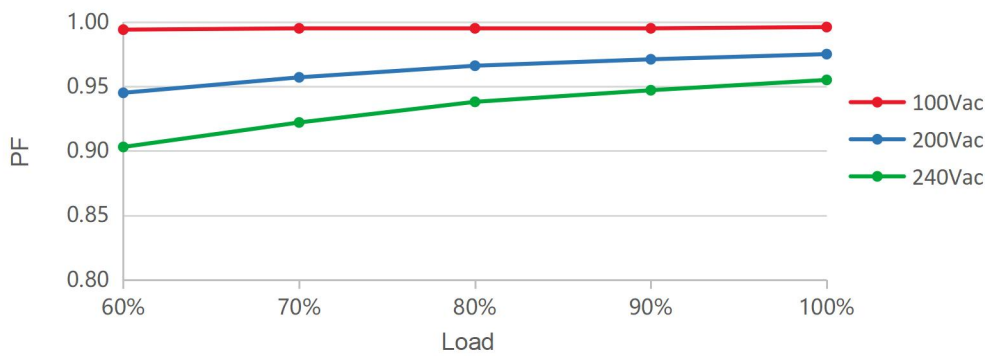
Efficiency vs. Load ($I_o=0.72A$)



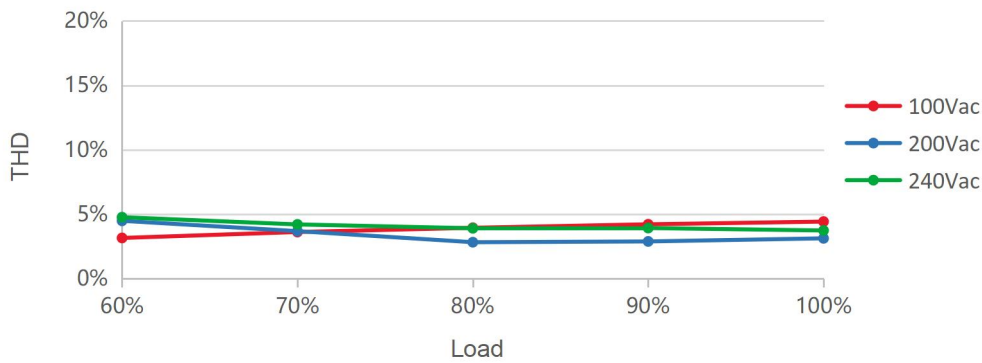
Efficiency vs. Load (Io=0.80A)



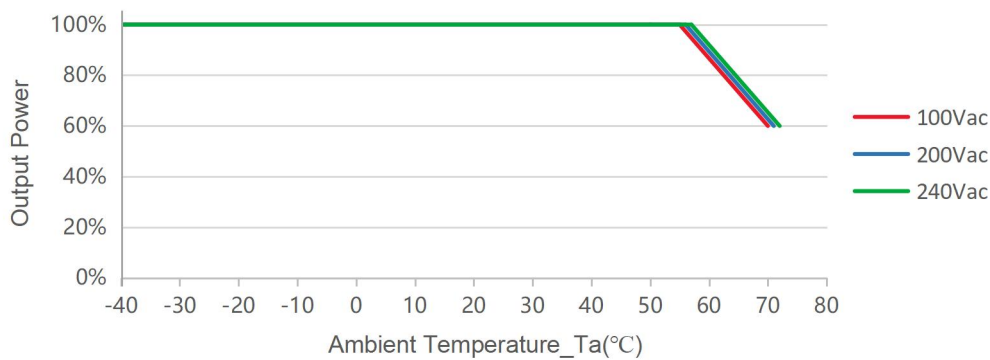
PF vs. Load



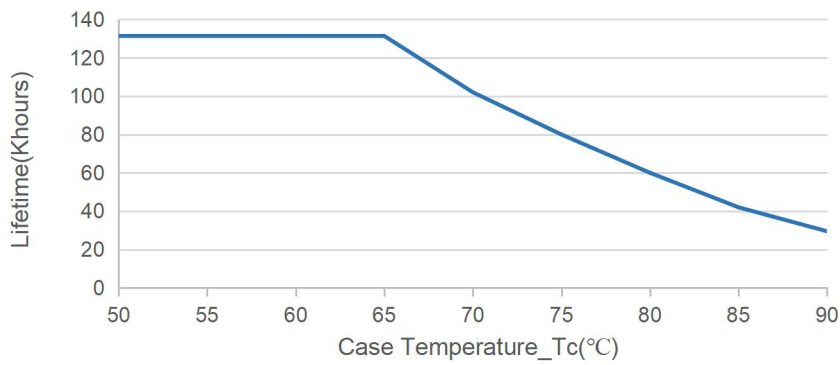
THD vs. Load



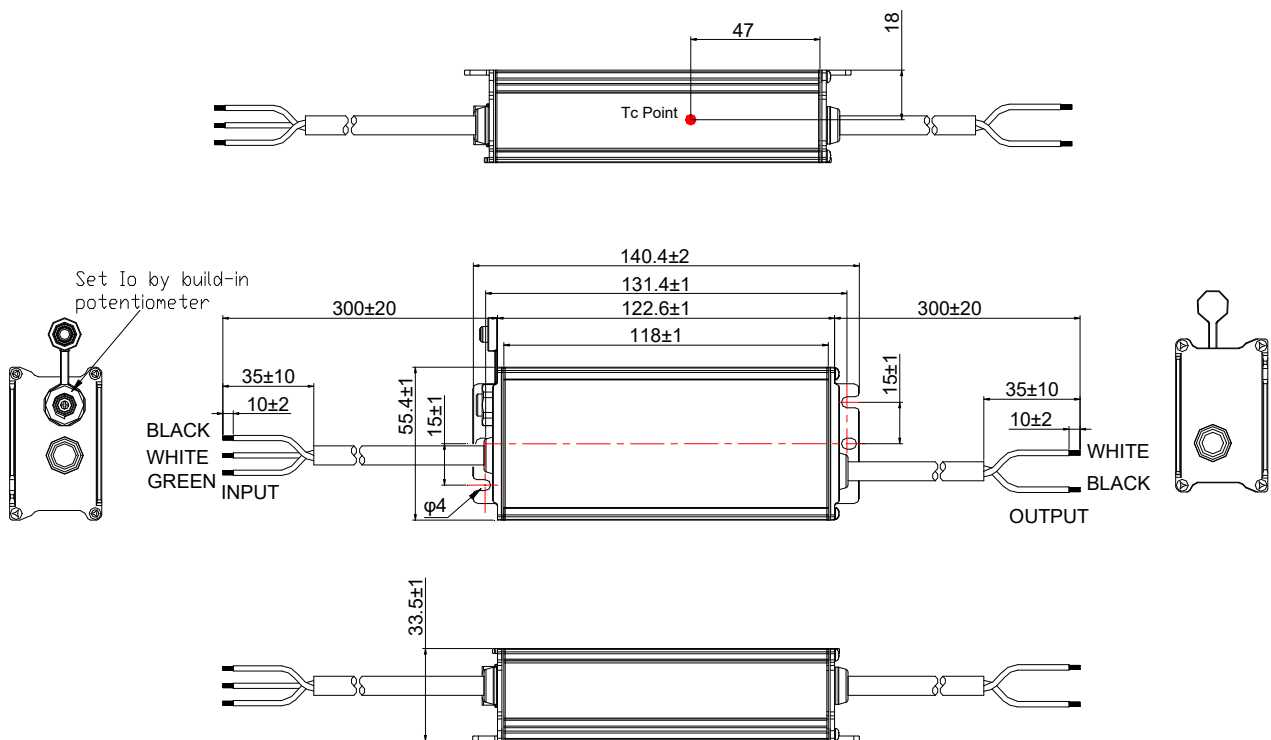
Output Power vs. Ambient Temperature



Lifetime vs. Case Temperature



Mechanical Outline



Specification

Input	PSE 3x1.25mm ² external diameter:8.0 L=300±20mm	PSE
Output	PSE 2x1.25mm ² external diameter:7.8 L=300±20mm	PSE

Label

入力 MOSO [®] X7P-040V056 Constant current type LED DRIVER Integrated SPD		LED出力						
⊕ Io ADJ L BLACK 黒色線 G GREEN 緑色線 ⊥ N WHITE 白色線	<table border="1"> <tr> <td>入力</td> <td>100-240V~ 50/60Hz, 0.55A Max. PF: 0.95, 50W</td> </tr> <tr> <td>出力</td> <td>32-56V⁼⁼ 0.4-0.8A Uout Max: 70V⁼⁼ Max.Power: 40W</td> </tr> <tr> <td>tc: 90°C</td> <td>ta: 55°C</td> </tr> </table>	入力	100-240V~ 50/60Hz, 0.55A Max. PF: 0.95, 50W	出力	32-56V ⁼⁼ 0.4-0.8A Uout Max: 70V ⁼⁼ Max.Power: 40W	tc: 90°C	ta: 55°C	SELV IP68 1.5M WHITE 白色線 Vo + BLACK 黒色線 Vo -
入力	100-240V~ 50/60Hz, 0.55A Max. PF: 0.95, 50W							
出力	32-56V ⁼⁼ 0.4-0.8A Uout Max: 70V ⁼⁼ Max.Power: 40W							
tc: 90°C	ta: 55°C							
MADE IN CHINA LEDモジュール専用		110 RoHS TUV PSE XXX 株式会社						

Notes: (XXX 株式会社) Subject to change.

Version

A.2	First release	2023-09-22
B.3	ECL202401024	2024-02-21

Specification for Approval

Product Name: 40W LED Driver

Product Model: X7P-040V056

Rev: B.3

Address: XiLiSongbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China

Tel: 0755-27657000

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E-mail: info@mosopower.com

Web Site: <http://www.mosopower.com>

Prepared By	Checked By	Approved By

Specification for Approval

Product Name: 40W LED Driver

Product Model: X7P-040V056

Rev: B.3

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

Address:XiLiSongbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China

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Prepared By	Checked By	Approved By