Description

The P7-700W series is 700W outdoor offline programmable LED driver that operates in constant current with high PF value and universal input voltage range 90~305Vac. Offline Monitored by dimming cable connected with an USB kit programming device, the fully programmed drivers offer all dimming, dim-to-off, constant lumen output options and a wide range of output current in a single driver, which deliver maximum flexibility with customized operating settings and intelligent control options for lighting manufacturers, as one driver can be programmed for many different luminaire designs. P7 provides built-in timer dimming schedules further increasing the energy savings and CO2 reductions achieved with LED lighting. 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, extending product lifetime. Overall protection is provided against lightning surge, output over voltage, short circuit, and over temperature, to ensure low failure rate.

E332689
Type HL

Product Features

- Universal input voltage: 90~305Vac;
- Isolate constant power design;
- 3-in-1 dimmable: 0~10Vdc / PWM / Res. / Timer dimming , Dim to off;
- Off-line programmable with configurable operating windows;
- Constant lumen output ;
- Auxiliary power supply: 12V/200mA;
- High surge protection: 6KV line-line, 10KV line-earth;
- Protections: SCP / OVP / OTP /OPP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty;

Application

Suitable for horticulture lighting, high power lighting, etc.

Models

Model Number	Input Voltage Range (Vac)	MAX Output Power (W)	Output Voltage Range (Vdc)	Full Power Output Voltage Range (Vdc)	Default Current(A)	Eff. (Typ.)	PF(Typ.)	THD(Typ.)
P7-700M056A12	90-305	700	30~56	48~56	12.5	96%	0.97	5%

Notes:

[1]. Output current adjustable range with constant power at max output power.

[2]. All specifications are measured at 25℃ ambient temperature, input voltage 230Vac, and the typical value tested by full load, if no specific note.

Model and version options are available.

	AC Input		DC output			dimming (0-10V,PWM,Res.)			
	cable	M19-3PIN	cable	M19-3PIN&M19-2PIN		cable	RJ25+Knob	M12-3PIN	
M+A12	√		√			√			
M+A12+RJ	√		√				√		
M+A12+PG		√		√	√			√	

Input Specifications

Parameter	Min	Typ.	Max	Notes
Input Voltage Range	90Vac	120~277Vac	305Vac	
Input Frequency AC	47Hz	50/60Hz	63Hz	
Max Input Current	-	-	6.5A	120Vac＆100% load
Max Input Power	-	-	780W	120Vac＆100% load
Leakage Current	-	-	0.70mA	IEC 60598-1；240Vac/60Hz
			0.75 MIU	UL 8750; 277Vac/60Hz
Inrush Current	-	-	35A	230Vac,100% load
P standby			0.5W	230Vac/50Hz；dim-to-off
Power Factor (PF)	0.97	0.99		120Vac，50-60Hz，70%-100% load
	0.95	0.97		230Vac，50-60Hz，70%-100% load
	0.90	0.94		277Vac，50-60Hz，70%-100% load
Total Harmonic Distortion (THD)		5%	10%	230Vac，50-60Hz，70%-100% load
			20%	100-277Vac，50-60Hz，70%-100% load
MCB(B16)	-	3	-	230Vac；100%load

Output Specifications

Parameter	Min	Typ	Max	Notes
Output Voltage Range	30Vdc	-	56Vdc	
Open Circuit Voltage	-	-	60Vdc	
Output Current Range	1.46	-	14.6	Adjustable Output Current with programmer
Full Power Current Range	12.5A	-	14.6A	
Current Accuracy	-5%	-	+5%	
Total Output Current Ripple (pk- pk)	-	±5%	±10%	20MHz BW full load＆LED load the LED load ripple is slightly different for different leds
Startup Overshoot Current	-		10%	120-277Vacfull load condition，LED load
Line Regulation	-1%	-	+1%	25℃±10℃ambient temperature, input changes from 120Vac to 277Vac
Load Regulation	-3%	-	+3%	Load varies from 70% to 100% with 230Vac Input at 25℃±10℃ ambient temperature
Turn-on Delay Time	-	-	1.0s	220-277Vac,100% load
Turn-on Delay Time	-	-	1.5s	120Vac,100% load
AUX. Power output voltage (V)	11.04	12	12.96	
AUX. Power output current(mA)	0		200	

General Specifications

parameter	Min	Typ	Max	Notes
Effciency @120Vac (Io=12.5A) @230Vac (Io= 12.5A) @277Vac (Io= 12.5A)	 91.5% 93.5% 94%	 93% 95% 95.5%	-	25℃, full load,
Mean Time Between Failure	-	200Khours	-	25℃, 80% load (MIL-HDBK-217F)
Lifetime	-	100Khours	-	230Vac&80% load, 70℃ case temperature, refer to lifetime curve for details
Operating Temperature Ta	-40℃	-	+45℃	100-200Vac Output Power vs. Ambient Temperature curve
Operating Temperature Ta	-40℃	-	+50℃	200-277Vac Output Power vs. Ambient Temperature curve
Operating Tc for Safety Tc_s	-40℃	-	+90℃	
Operating Tc for Warranty Tc_w	-40℃	-	+75℃	5-year warranty shell temperature,humidity:10% to 95% RH
Storage Temperature Ta	-40℃	-	+85℃	Humidity:5% to 100% RH
Altitude	-50m	-	4000m	
Input Under voltage Protection	65Vac	75Vac	85Vac	Turn off the output or hiccup when the input voltage falls below protection voltage.
Over Temperature Protection Tc	90	100℃	110	Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection	-	-	-	The output shall return to normal when the fault condition is removed.
Dimensions (L*W*H)	355*89*41.5mm			
Net Weight	2550±100 g/PCS			
Package	500*388*150 mm;5PCS/ctn, Gross Weight:15Kg			

Dimming

Parameter	Min	Typ	Max	Notes
Absolute Maximum Voltage	-	10V	15V	On the Vdim (+) Pin
Source Current on Vdim (+)Pin	90uA	100uA	120uA	
Dimming Range	10% I_{set}	-	100% I_{set}	I_{set} is set to the full power range, I_{set}=12.5A-14.6A
Suggest Dimming Input 0-10V	0V	-	10V	
Turn-on Voltage	0.8V	1.0V	1.1V	
Turn-off Voltage	0.6V	0.8V	0.9V	
PWM in High Level	9.7V	-	10.5V	
PWM in Low Level	0V	-	0.3V	
PWM in Frequency Range	300Hz	-	2KHz	
PWM in Duty Cycle	1%	-	99%	
Turn-on Duty Cycle	8%	10%	11%	
Turn-Off Duty Cycle	6%	8%	9%	
Timer dimming	-	-	-	winter and summer time
Res. dimming	0	-	100KOhm	
Output lumen compensation	-	-	-	Constant lumen output function

Safety Specification

Dielectric Strength（Input-Output）	-	3750Vac	-	60s，Current not exceeding 5mA
Dielectric Strength（Input-Ground）	-	1600Vac	-	60s，Current not exceeding 5mA
Dielectric Strength（Output-Ground）	-	1600Vac	-	60s，Current not exceeding 5mA
Dielectric Strength（Input-Dimming）	-	3750Vac	-	60s，Current not exceeding 5mA
Dielectric Strength（Dimming-Ground）	-	500Vac	-	60s，Current not exceeding 5mA
Grounding Resistance	-	-	0.1Ω	25℃±10℃ Ambient Temperature, pass 25A Current, 60s.
Insulation Resistance	10MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60S/25℃

Safety Compliance

Safety Category	Standards	Approved	Notes
CCC	GB/T 19510.213, GB/T 19510.1		
CE	EN61347-1, EN61347-2-13	√	
CE	EN62493	√	
ENEC	EN62384		
CB	EN62384		
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		

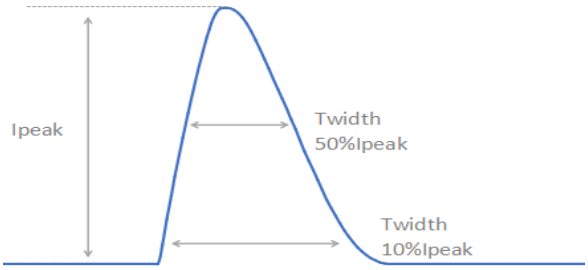
EMC Compliance

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	√	120Vac/277Vac: Class A;
Surge Shock Immunity	ANSI/C82.77-5-2017		
Ringing Wave			

RoHS

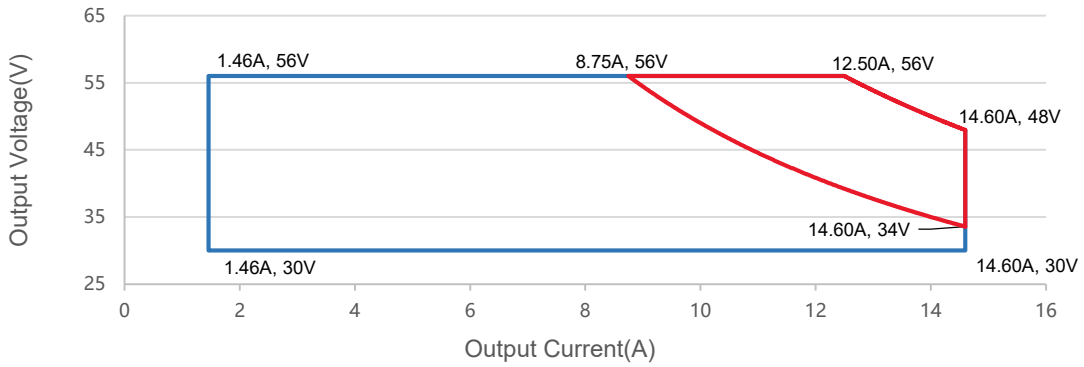
Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

Inrush Current



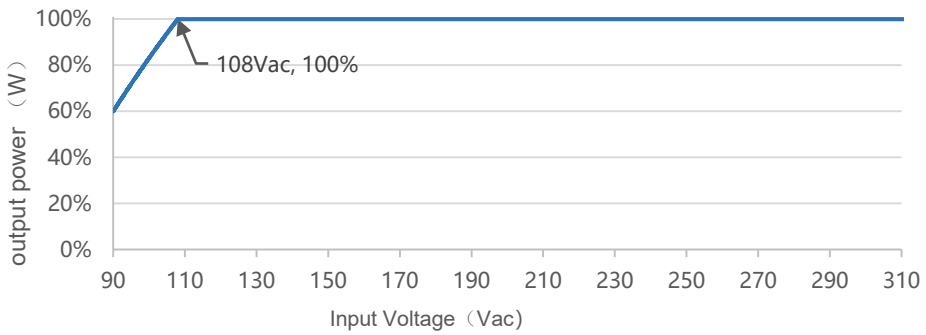
Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
120Vac	8.2A	3.448ms	1.98ms
230Vac	16A	3.56ms	1.98ms
277Vac	23.8	3.62ms	1.70ms

Output Voltage vs. Output Current

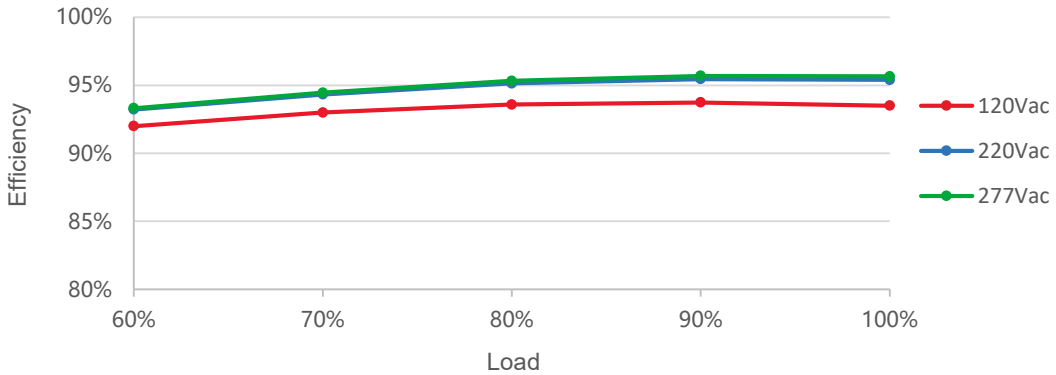


Red curve: good performance area

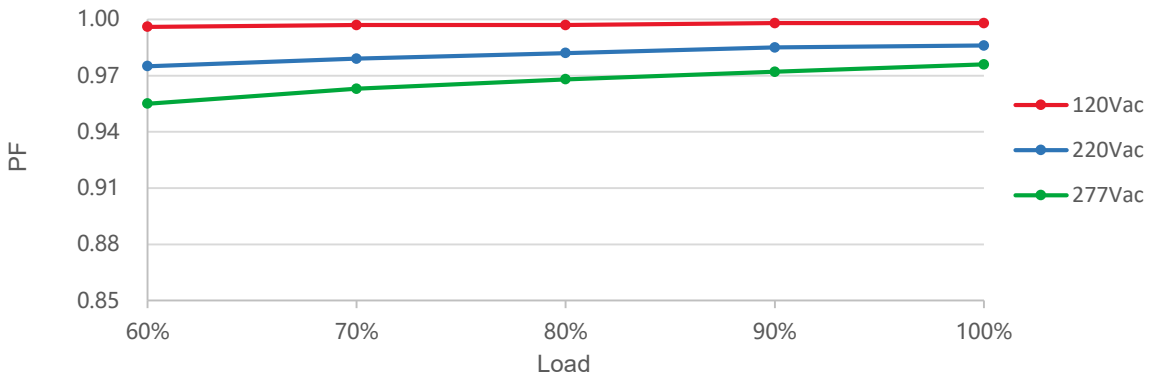
Output Power vs. Input Voltage



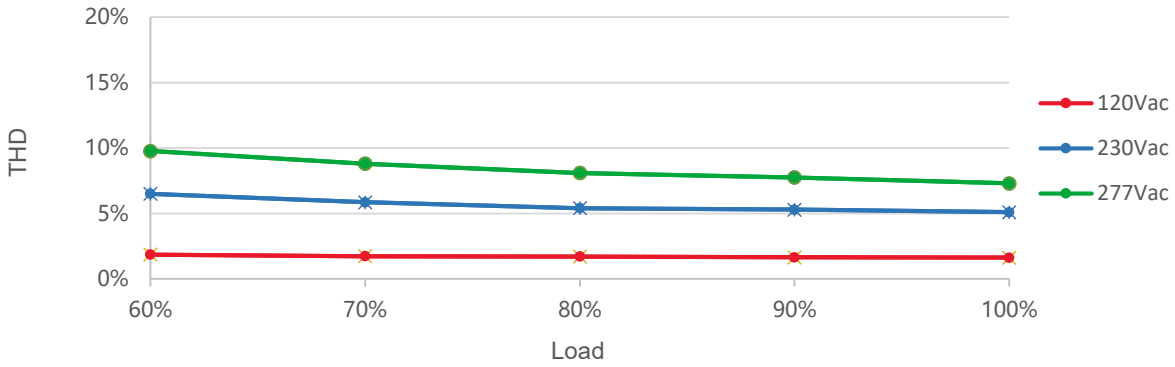
Efficient vs. Load



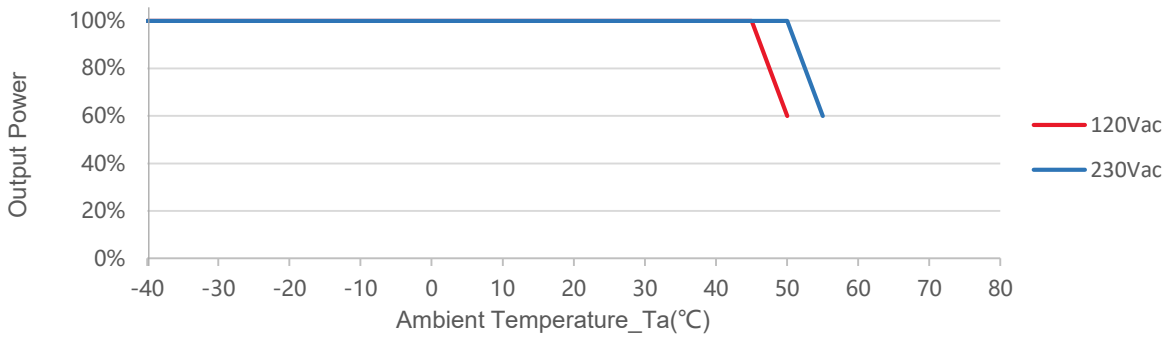
PF vs. Load



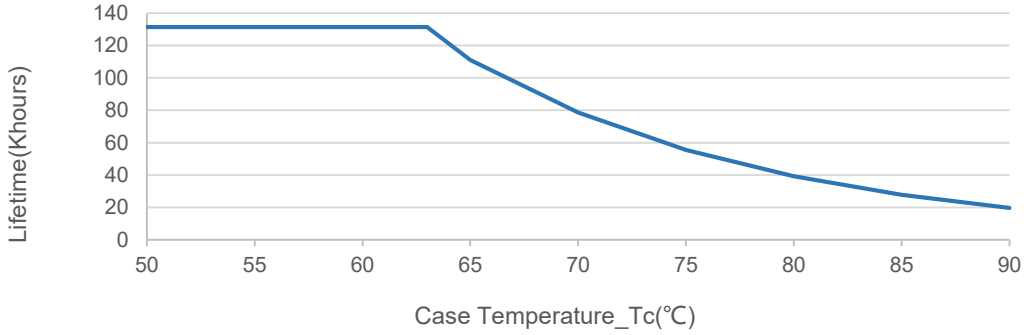
THD vs. Load



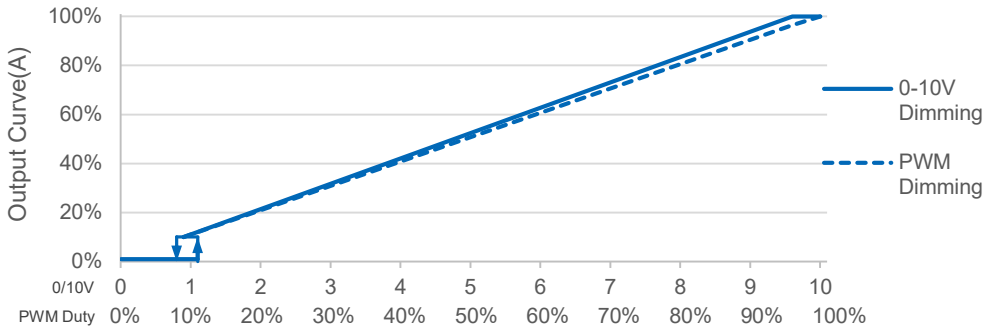
Output Power vs. Ambient Temperature



Lifetime vs. Case Temperature



0-10V/PWM Dimming



Off-line Programming

User-friendly connection of programming without necessary to power on device(suitable for X6, X6S, X6I,X6E Series).

Programming mode I

Visual Intelligent Programming

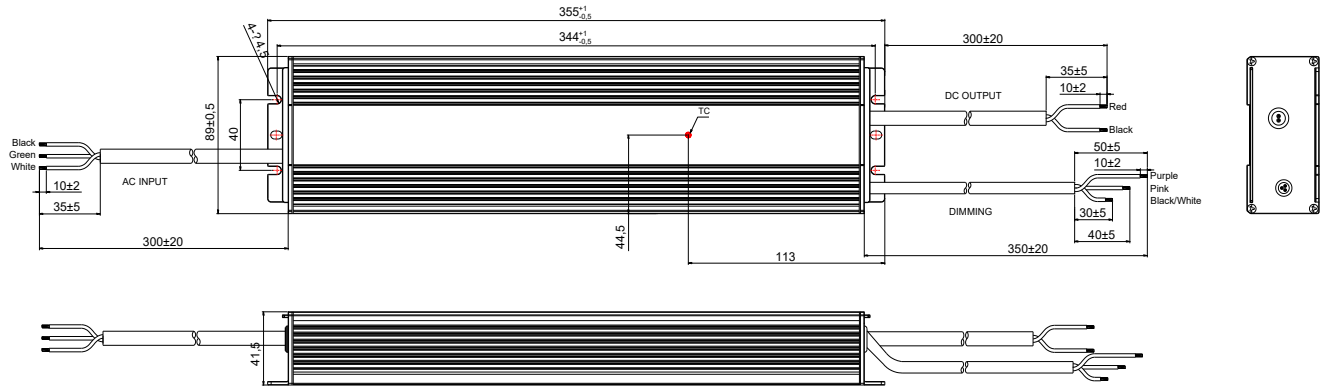
1. Set the output parameters through the control signal line 0-3.3V/0-5V/0-9V/0-10V optional.
2. Timer dimming. Set the timer control function, support up to 7 segments;
3. Set output CLO;
4. Read the recorded system parameters; Record the working time working temperature, and software version information of the LED driver.
5. Configure the driving parameters. After setting is completed, then click the configured parameters to complete programming.
6. Download it to the offline programmer.

Programming mode 2

Instructions of one touch programmer:

1. Open the software interface and download the program to the offline programmer;
2. Connect the dimming wire with the programmer, press the programmer button, the programmer will give you asubtle reminder “(Beep) ” to tell you the installation completed.

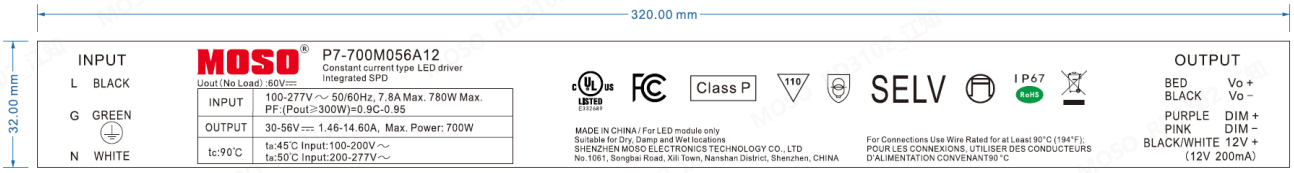
Mechanical Outline



Specification

Input	UL SJTW 18AWG;L=300±20mm	UL
Output	UL SJTW 14AWG;L=300±20mm	UL
Dimming	UL21996 22AWG;L=350±20mm	UL

Label



Version

A.2	First release	2026-07-28

Specification for Approval

Product Name: 700W Off-line Programmable Driver

Product Model: P7-700M056A12

Rev: A.2

Address:XiLiSongbai Road 1061, Nanshan District, Shenzhen City, Guangdong, China
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Web Site:http://www.mosopower.com

Prepared By	Checked By	Approved By

Specification for Approval

Product Name: 700W Off-line Programmable Driver

Product Model: P7-700M056A12

Rev: A.2

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