Description

The X6H-1000W series is outdoor offline programmable LED driver that operates in constant current with high PF value and universal input voltage range 220~480Vac. Offline monitored by dimming cable connected with a 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,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 and extend product lifetime. Overall protection is provided against lightning surge, output over-voltage, short circuit, and over-temperature to ensure low failure rate.

Product Features

- Universal input voltage / Full range: 220~480Vac/198~528Vac;
- Constant power design, adjustable output current with programmer;
- 3-in-1 dimmable: 0~10Vdc / PWM/ Timer dimming. Dim-to-off;
- Auxiliary output: 12V 250mA;
- Standby Power Consumption:<0.5W;
- Output and Dimming Signal Isolating;
- Surge protection: 6KV line-line, 10KV line-earth;
- Protections: Input UVP; output SCP/OVP/OTP
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty;

Application

Area and flood lighting
High-bay lighting
Sport lighting
Horticulture lighting
Aquaculture lighting

Models

Model Number	Input Voltage Range (typ.)	Max Output Power(W)	Output Voltage Range(Vdc)	Full Power Output Current Range(A)	Default Current(A)	Eff. (Typ.)	PF(Typ.)	THD(Typ.)
X6H-1K0M305A12	198-528(Vac) 310~500(Vdc)	1000	153-305	3.28~4.36	3.75	95%	0.98	10%

Notes:

[1]. M means 0-10V/PWM dimming.

[2]. A12 means Auxiliary source.

[3]. All specifications are measured at 25℃ ambient temperature, input voltage 400Vac, and the typical value tested by full load, if no specific note.

Input Specifications

Parameter	Min	Typ.	Max	Notes
Input Voltage typ.	220Vac	230Vac/277Vac/347 Vac/400Vac/480Vac	480Vac	Refer to Output Power vs. Input Voltage curve
Input AC Voltage Range	198Vac	-	528Vac	
Input DC Voltage Range	310Vdc	-	500Vdc	
Input Frequency AC	47Hz	50/60Hz	63Hz	
Max Input Current@X6H-1000W	-	-	6.0A	198Vac＆100% load
Max Input Power@X6H-1000W	-	-	1160W	198Vac＆100% load
Leakage Current	-	-	0.70mA	IEC 60598-1;240Vac/400Vac/50Hz
Leakage Current	-	-	0.75MIU	UL 8750;277Vac/347Vac/400Vac/480Vac/60Hz
Inrush Current	-	-	40A	480Vac，100% load
Standby Power Consumption	-	-	0.5W	230Vac，dimming off and auxiliary source without load
Power Factor (PF)	0.93	0.95	-	220-400Vac,50-60Hz,70%-100% load
Power Factor (PF)	0.90	-	-	480Vac,50Hz,70%-100% load
Total Harmonic Distortion (THD)	-	5%	10%	220-277Vac，50-60Hz，70%-100% load
Total Harmonic Distortion (THD)	-	10%	15%	347-480Vac，50-60Hz，70%-100% load
MCB(B16)	-	-	-	

Output Specifications

Parameter	Min	Typ.	Max	Notes
Output Voltage Range	153Vdc	-	305Vdc	The full power cannot be lower than 229Vdc
NO-Load Output Voltage	-	-	330Vdc	
Output Current Range	10%Iset	-	100%Iset	Adjustable output current with programmer
Full Power Current Range	3.28A	-	4.36A	
Current Accuracy	-5%I_{set}	-	+5%I_{set}	
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%	220~480Vacfull load condition，LED load
Auxiliary source output voltage	10.8Vdc	12Vdc	13.2Vdc	220~480Vac & Auxiliary source with full load.
Auxiliary source output current	-	-	250mA	
Line Regulation	-2%	-	+2%	25℃±10℃ambient temperature,input changes from 220Vac to 480Vac
Load Regulation	-3%	-	+3%	Load varies from 60% to 100% with 230Vac&480Vac input at 25℃±10℃ambient temperature
Turn-on Delay Time	-	-	1.0s	230Vac, 100%load
Turn-on Delay Time	-	-	1.0s	480Vac, 100%load

General Specifications

parameter	Min	Typ.	Max	Notes
Efficiency@230Vac	92.0%	94.0%	-	100% load, auxiliary source without load,
Efficiency@277Vac	92.0%	94.5%	-	100% load, auxiliary source without load,
Efficiency@347Vac	93.0%	95.0%	-	100% load, auxiliary source without load,
Efficiency@400Vac	93.0%	95.0%	-	100% load, auxiliary source without load,
Efficiency@480Vac	93.0%	95.0%	-	100% load, auxiliary source without load,
Mean Time Between Failure	-	200Khours	-	25℃±10℃Cambient temperature，230Vac，80% load condition (MIL-HDBK-217/SR-332)
Lifetime	-	50Khours	-	230Vac＆100% load，Tc 75℃，refer to Lifetime vs. Case Temperature
Operating Temperature Ta	-40℃	-	+45℃	198~240Vac, refer to Output Power vs. Ambient Temperature
Operating Temperature Ta	-40℃	-	+50℃	277~480Vac, refer to Output Power vs. Ambient Temperature
Operating Tc for Safety Tc_s	-40℃	-	+90℃	
Operating Tc for Warranty Tc_w	-40℃	-	+75℃	5-year warranty case temperature,humidity:10% to 95% RH
Storage Temperature Ta	-40℃	-	+85℃	Humidity:5% to 100% RH
Altitude	-60m	-	4000m	
Input Under Voltage Protection	150vac	170vac	190vac	Turn off the output or hiccup when the input voltage falls below protection voltage. When the input voltage exceeds the recovery voltage, the driver will restart automatically.
Over Temperature Protection Tc	-	95℃	-	Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection	-	-	-	Constant current mode. The output shall return to normal when the fault condition is removed.
Dimensions (L*W*H)	341*148*50mm			
Net Weight	4780±50g/PCS			
Package(L*W*H)	492x292x200mm; 3PCS/ctn; Gross Weight: 17.05Kg			

Dimming

Parameter	Min	Typ.	Max	Notes
Absolute Maximum Voltage	-20V	10V	20V	On the Vdim (+) Pin
Source Current on Vdim (+)Pin	90uA -	200uA	400uA	
Dimming Range	10% I_{max}	-	100% I_{max}	
Suggest Dimming Input 0-10V	0V	-	10V	
Turn-on Voltage	0.7V	-	1.3V	
Turn-off Voltage	0.4V	-	0.8V	
PWM_in High Level	9.7V	-	10.3V	
PWM_in Low Level	0V	-	0.3V	
PWM_in Frequency Range	500Hz	-	2KHz	
PWM_in Duty Cycle	1%	-	99%	
Turn-on Duty Cycle	7%	10%	13%	
Turn-Off Duty Cycle	4%	6%	8%	
Timer dimming	-	-	-	winter and summer time
Output lumen compensation	-	-	-	Constant lumen output function

Safety Specification

Parameter	CCC	CE	UL	Notes
Dielectric Strength（Input-Output)	3750Vac	3750Vac	1960Vac	60s，Current not exceeding 5mA
Dielectric Strength（Input-Ground)	1875Vac	1800Vac	1960Vac	60s，Current not exceeding 5mA
Dielectric Strength（Output-Ground)	1700Vac	1700Vac	1700Vac	60s，Current not exceeding 5mA
Dielectric Strength（Input-Dimming)	3750Vac	3750Vac	1960Vac	60s，Current not exceeding 5mA
Dielectric Strength (Dimming-Ground)	500Vac	500Vac	500Vac	60s，Current not exceeding 5mA
Grounding Resistance	0.1Ω(Max)			25℃±10℃ Ambient Temperature, pass 30A Current, 120s.
Insulation Resistance	10MΩ(Min)			Input-Output, Input-PE, Output-PE, 500Vac/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		

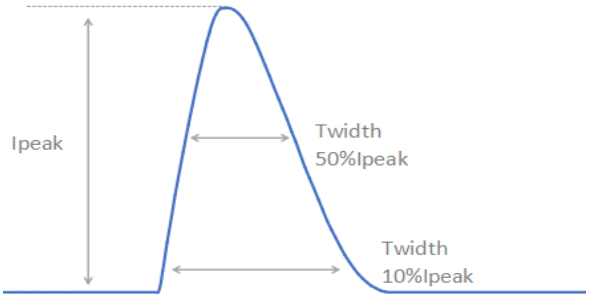
EMC Compliance

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	√	
Surge Shock Immunity	ANSI/C82.77-5-2017		
Ringing Wave			

RoHS

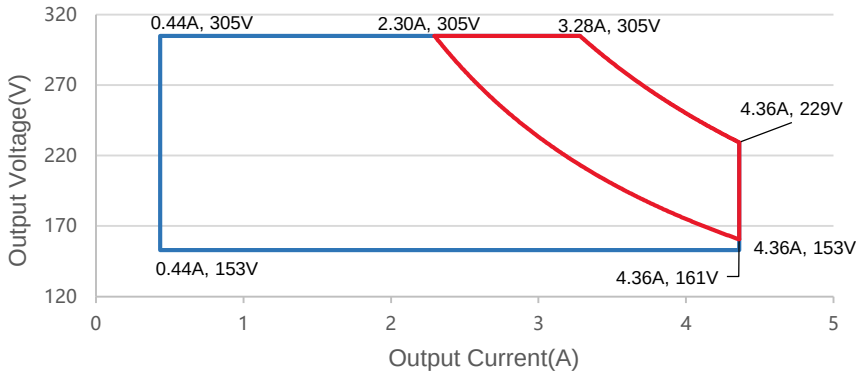
Our products comply with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Inrush Current Curve



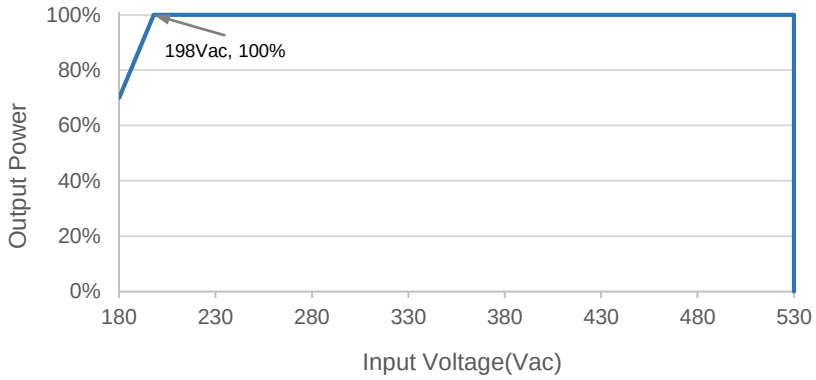
Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
220Vac	12.8A	6.6ms	2.3ms
277Vac	18.0A	6.2ms	2.0ms
347Vac	25.1A	6.5ms	2.1ms
400Vac	25.1A	6.5ms	2.1ms
480Vac	30.4A	6.7ms	2.3ms

Output Voltage vs. Output Current

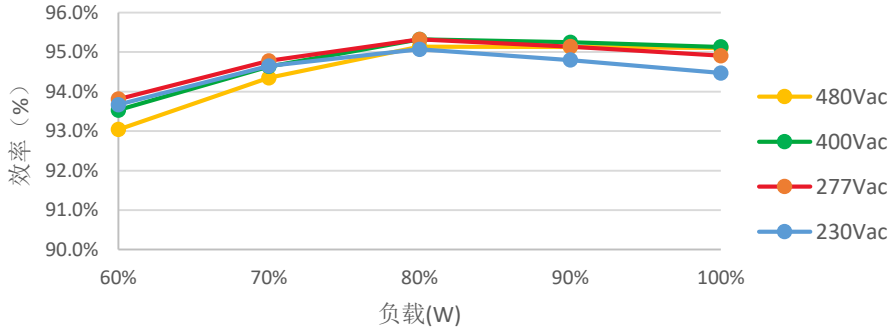


Red curve: good performance area

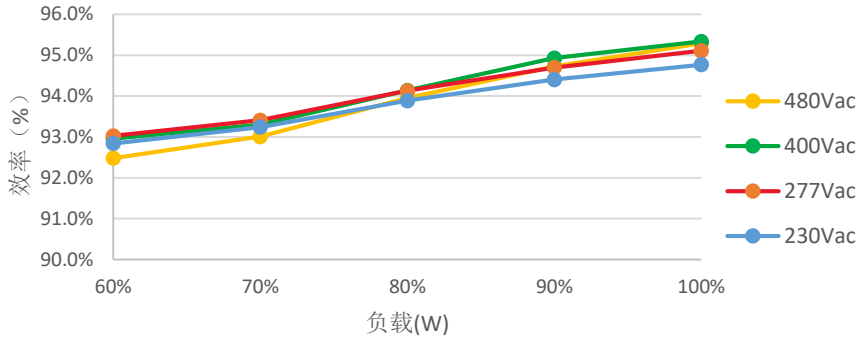
Output Power vs. Input Voltage



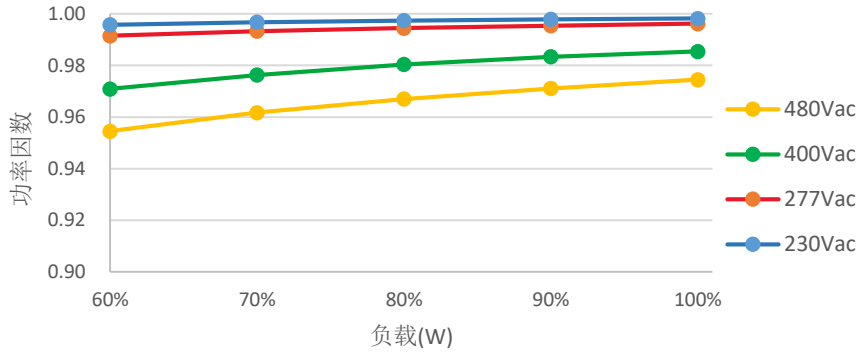
Efficiency vs. Load (Io=3.28A)



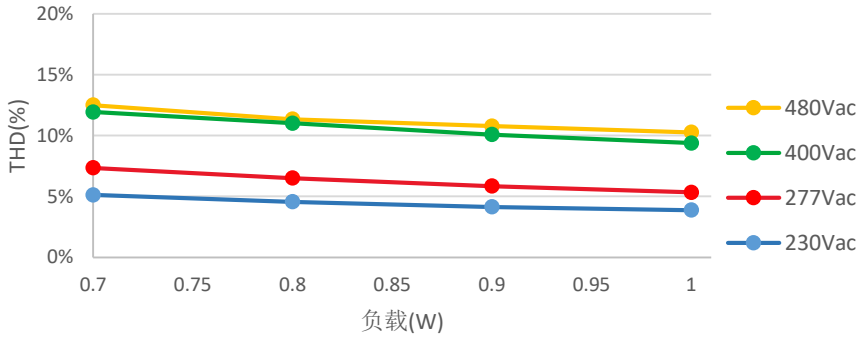
Efficiency vs. Load (Io=4.36A)



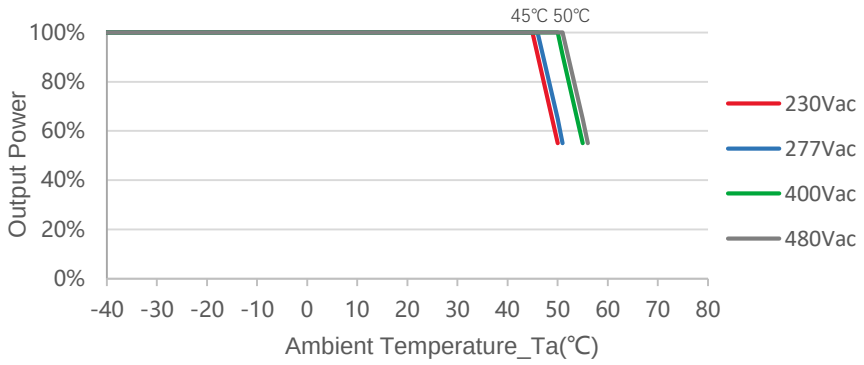
PF vs. Load



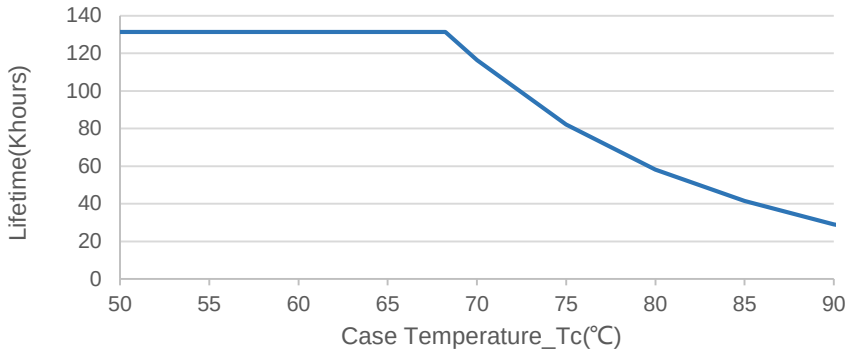
THD vs. Load



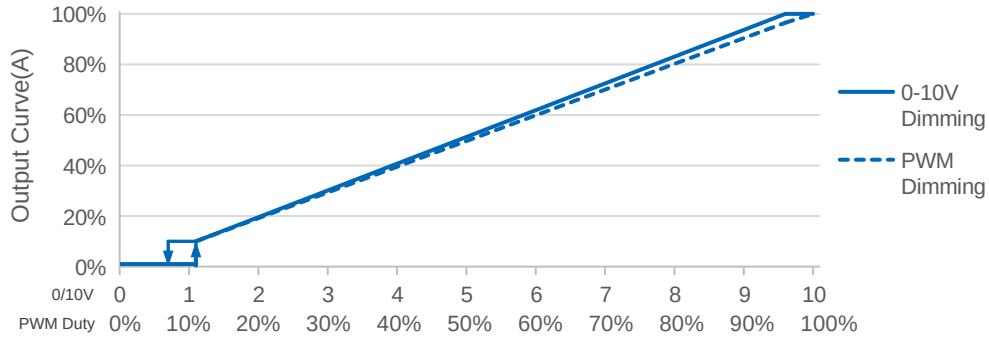
Output Power vs. Ambient Temperature



Lifetime vs. Case Temperature



0-10V/PWM Dimming



Note: Afterglow may appear after switching off dimming due to the difference of lamp panel. Thus, lighting fixture grounding test is Suggested.

Programmer Adjustable Driver

User-friendly connection of programming without necessary to power on device(suitable for X6, X6S, X6I, X6E, G5 Series).

Programming mode I

Visual Intelligent Programming

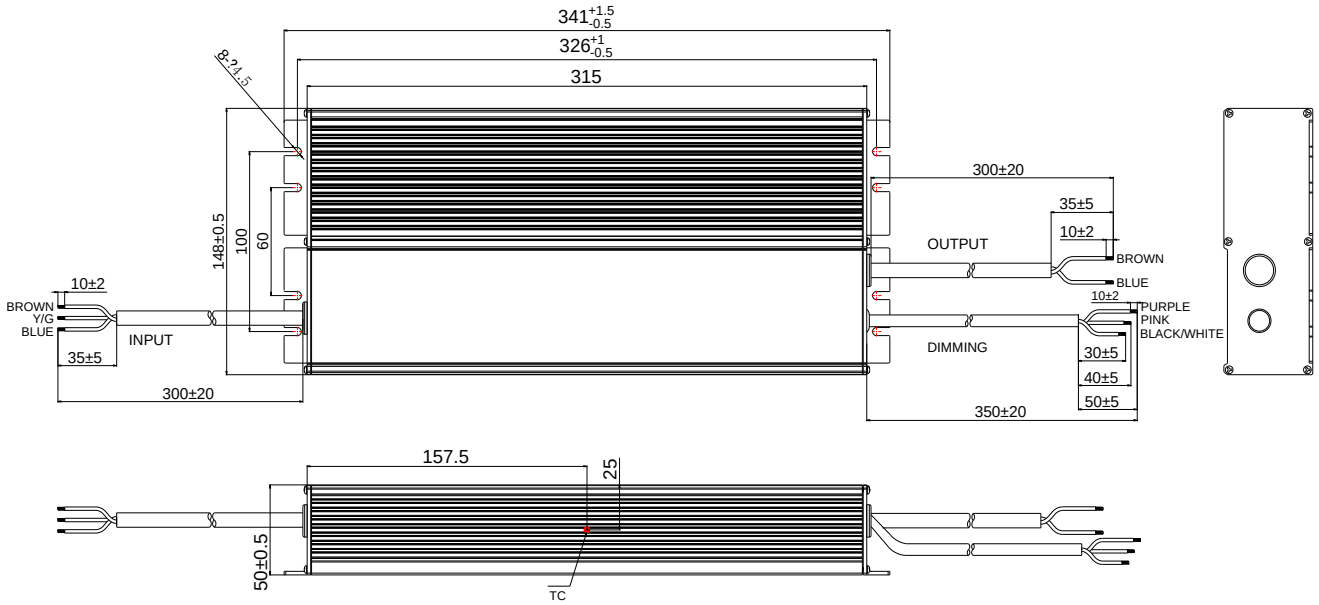
1. Set the output parameters through the control signal line 0-3.3V/0-5V/0-9V/0-10V optional.
2. Timer dimming. Set the timer control function, support up to 7segments;
3. Set output CLO;
4. Read the recorded system parameters; Record the working time working temperature, and software version information 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 a subtle reminder “(Beep) ” to tell you the installation completed.

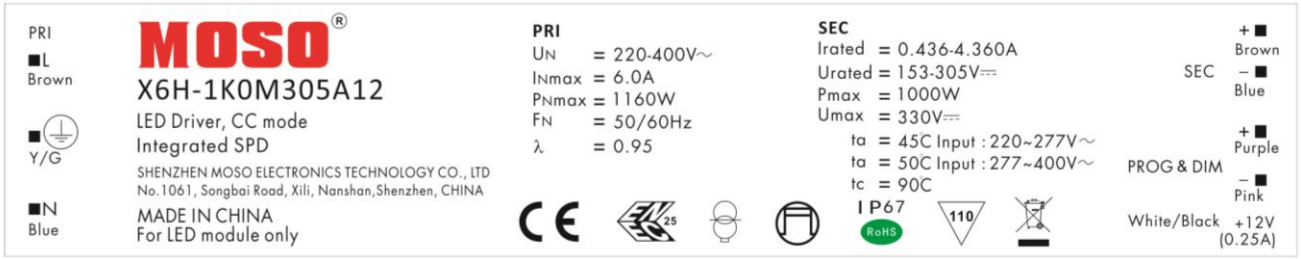
Mechanical Outline



Connections

Input	SOW 17AWG 3x1.0mm² L=300±20mm	CCC/CE/UL
Output	SOW 17AWG 2x1.0mm² L=300±20mm	CCC/CE/UL
Dimming	UL21996 22AWG *3C L=350±20mm	Dim+/Dim-, 12V+

Label



Version

A.1	First release	2025-06-11
B.2	ECL202506028	2025-06-25

Specification for Approval

Product Name：1000W LED Driver

Product Model：X6H-1K0M305A12

Rev：B.2

Address: XiLi Songbai Road 1061, Nanshan District, Shenzhen City, Guangdong Province, P.R.China
Post Code: 518108
TEL: 400-889-0018
FAX: 0755-27657908
E-mail: info@mosopower.com
Web site: http://www.mosopower.com

Prepared By	Checked By	Approved By

Specification for Approval

Product Name：1000W LED Driver

Product Model：X6H-1K0M305A12

Rev：B.2

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

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