

Description

The X6E DALI-2 series is outdoor programmable LED driver that operates in constant current with high PF value and full power input voltage range 176~305Vac model, the X6E DALI-2 series also provide multiple isolated dimming controls,output current adjustable via NFC.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 IP67 rating and extends 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: 90~305Vac;
- Full power work range: 176~305Vac;
- Isolate constant power design;
- DALI-2&Timer dimming;
- Dim-to-off with Standby Power < 0.5 W;
- Adjustable output current with NFC;
- Programmable Constant Lumen Output (CLO);
- Output and Dimming Signal Isolating;
- High surge protection: 6KV line-line, 10KV line-earth;
- Protections: SCP / OVP / OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty;

Application

Road 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.)
X6E-100D143	220-240	100	72~143	0.70~1.05	0.70	90%	0.96	10%

NOTES:

[1]. D means DALI-2 dimming.

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

Input Specifications

Parameter	Min	Typ.	Max	Notes
Input Voltage Range	90Vac	220~240Vac	305Vac	
Full Power Work Range	176Vac	220~240Vac	305Vac	Refer to Output Power vs. Input Voltage curve
Input Frequency AC	47Hz	50/60Hz	63Hz	
Max Input Current	-	-	0.7A	220-240Vac& 100% load
Max Input Power	-	-	120W	220-240Vac& 100% load
Leakage Current	-	-	0.70mA	IEC 60598-1;240Vac/60Hz
Inrush Current	-	-	75A	230Vac, 100% load
Standby power	-	-	0.5W	230Vac
Power Factor (PF)	0.93	0.97	-	220-240Vac, 50-60Hz, 70%-100% load
Total Harmonic Distortion (THD)	-	10%	12%	220-240Vac, 50-60Hz, 70%-100% load
MCB(B16)	-	7	-	230Vac;100%load

Output Specifications

Parameter	Min	Typ.	Max	Notes
Output Voltage Range	72Vdc	-	143Vdc	The full power cannot be lower than 96Vdc
Open Circuit Voltage	-	-	180Vdc	
Output Current Range	0.105A	-	1.05A	Adjustable Output Current with programmer
Full Power Current Range	0.70A	-	1.05A	
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%	220-240Vacfull load condition, LED load
Line Regulation	-3%	-	+3%	25°C±10°Cambient temperature, input changes from 200Vac to 264Vac
Load Regulation	-3%	-	+3%	Load varies from 70% to 100% with 230Vac Input at 25°C±10°Cambient temperature
Turn-on Delay Time	-	-	1.0s	230Vac,100% load

General Specifications

Parameter	Min	Typ.	Max	Notes
Efficiency@230Vac Io=0.70A	86.5%	88.0%	-	100% load, 25°C ambient temperature
Efficiency@230Vac Io=1.05A	86.0%	88.5%	-	100% load, 25°C ambient temperature
Mean Time Between Failure	-	200Khours	-	25°C±10°C ambient temperature, 230Vac, 80% load condition(MIL-HDBK-217/SR-332)
Lifetime	-	50Khours	-	230Vac & 100% load, Tc 75°C, refer to lifetime vs. case temperature curve
Operating Temperature Ta	-40°C	-	+55°C	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 Under voltage Protection	55Vac	70Vac	80Vac	Turn off the output or hiccup when the input voltage falls below protection voltage.
Over Temperature Protection Tc	-	90°C	-	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.
Over Voltage Protection	-	-	-	Run into protection model when output voltage exceeds limit, and return to normal when the fault
Dimensions (L*W*H)	149.4*72*37mm			
Net Weight	660±50g/PCS			
Package (L*W*H)	575*375*205mm; 24PCS/Ctn, Gross Weight: 15.8Kg			

Dimming

Parameter	Min	Typ.	Max	Notes
DALI-2 (High Voltage Level)	9.5V	16V	22.5V	
DALI-2 (Lower Voltage Level)	-6.5V	0V	6.5V	
DALI-2 (Dimming Output Range)	10% I _{max}	-	100% I _{max}	I _{max} =1.05A
DALI-2 (Sink Current)	0mA	-	2.0mA	
Timer dimming	-	-	-	winter and summer time
Output lumen compensation	-	-	-	Constant lumen output function

Safety Specification

Parameter	Min	Typ.	Max	Notes
Dielectric Strength (Input-Output)	-	3750Vac	-	60s, Current not exceeding 5mA
Dielectric Strength (Input-Ground)	-	1480Vac	-	60s, Current not exceeding 5mA
Dielectric Strength (Output-Ground)	-	1360Vac	-	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°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		

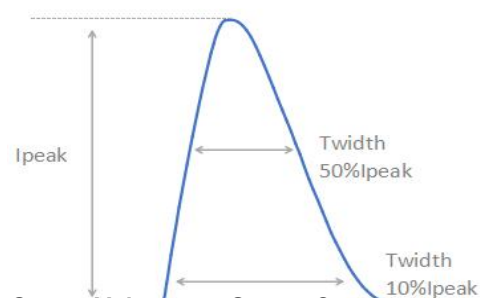
EMC Compliance

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

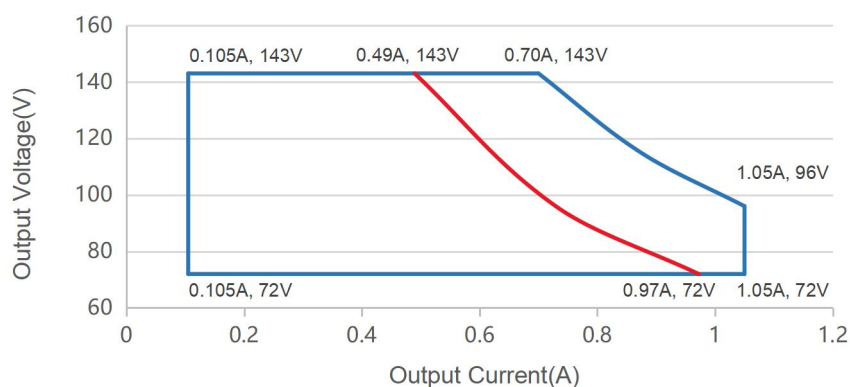
Our products comply with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Inrush Current



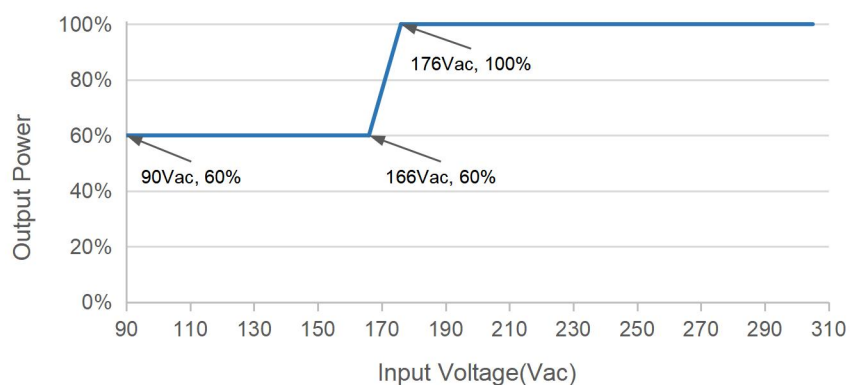
V_{in}	I_{peak}	$T(@10\% \text{ of } I_{peak})$	$T(@50\% \text{ of } I_{peak})$
230Vac	54.6A	432 μ s	164 μ s

Output Voltage vs. Output Current

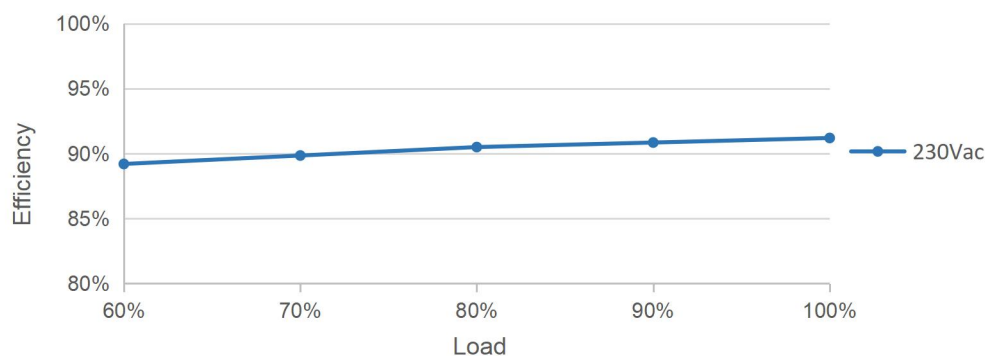


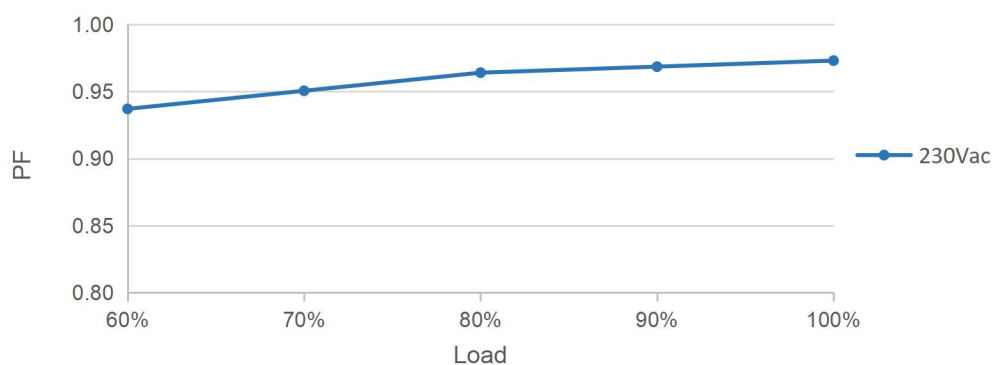
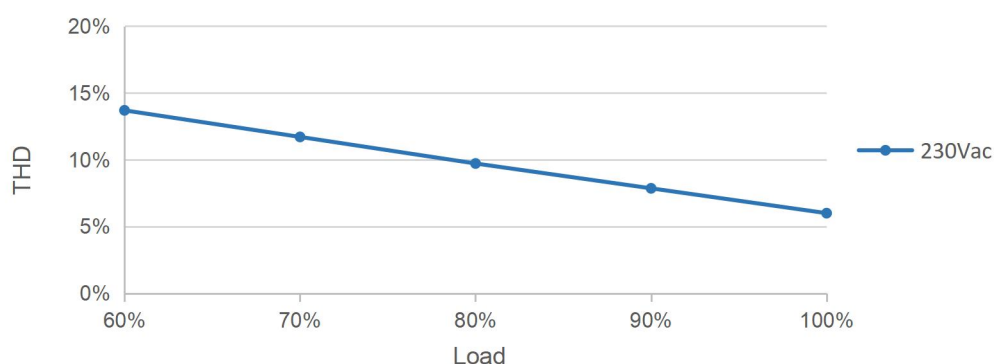
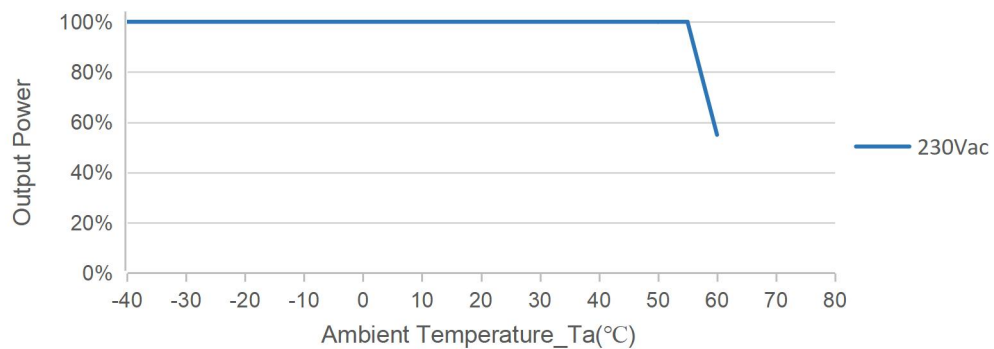
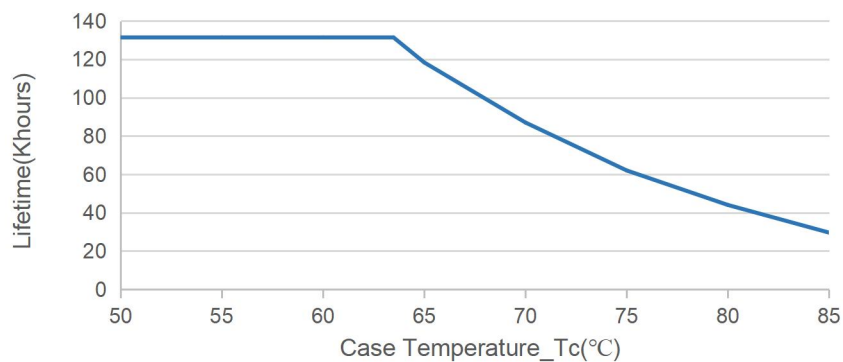
Red curve: good performance area

Output Power vs. Input Voltage

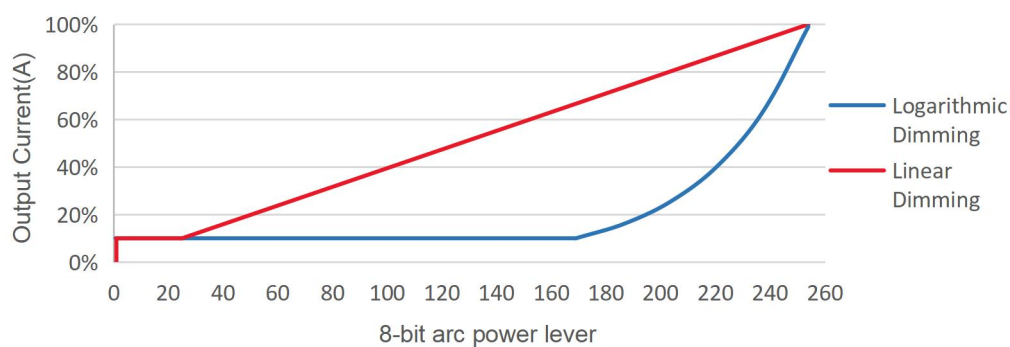


Efficiency vs. Load



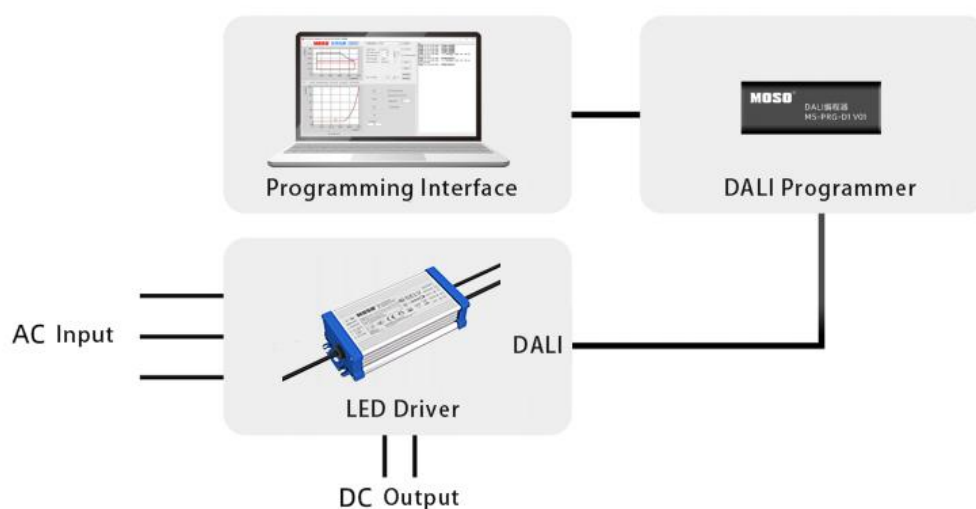
PF vs. Load**THD vs. Load****Output Power vs. Ambient Temperature****Lifetime vs. Case Temperature**

DALI-2 Dimming



Programming Link (DALI-2)

Programming mode 1



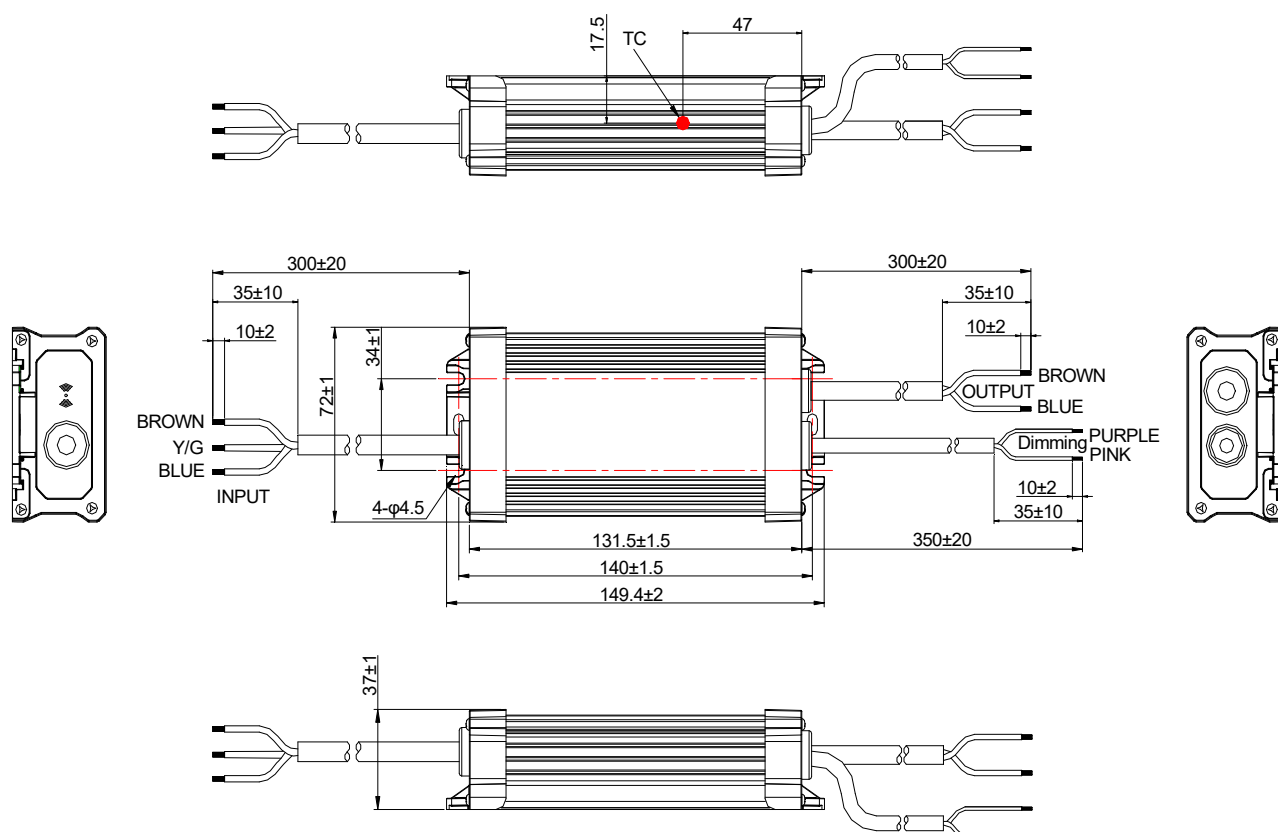
Programming mode 2



Notes:

1. The driver does not need to be powered on during the programming process.
2. Please refer to MS-PRG-D1 or MS-PRG-N1 (Programmer) datasheet for details.
3. Applicable to FEIG programmer: ISC PRH101 and CPR30-USB

Mechanical Outline



Specification

Input	CCC+VDE H05RN-F 3*1.0 mm ² L=300±20mm	CCC/CE
Output	CCC+VDE H05RN-F 2*1.0 mm ² L=300±20mm	CCC/CE
Dimming	UL 2733 2*22AWGL=350±20mm	UL

Label



Note:

Nameplate is laser engraved.

Version

A.1	First release	2023-03-07

Specification for Approval

Product Name: 100W LED Driver

Product Model: X6E-100D143

Rev: A.1

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

Tel: 0755-27657000

FAX: 755-27657908

E-mail: info@mosopower.com

Website: <http://www.mosopower.com>

Prepared By	Checked By	Approved By

Specification for Approval

Product Name: 100W LED Driver

Product Model: X6E-100D143

Rev: A.1

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