

# Specification for Approval

Product Name: 18W DALI-2 LED Driver

Product Model: X6-018D048

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

Tel: 0755-27657000

FAX: 755-27657908

E-mail:info@mosopower.com

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

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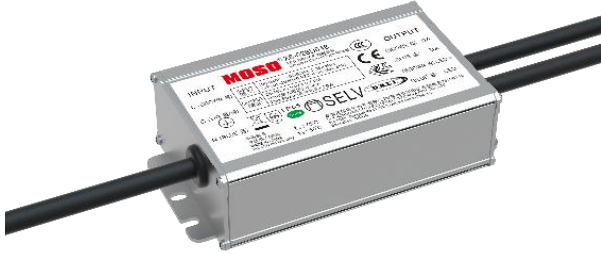
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### Product Features:

- Input voltage range: 90~264Vac;
- Constant current design;
- Isolated dimming: DALI-2 dimming;
- $Pf > 0.94$ ;  $THD < 10\%$ ;
- Flicker free; Total Output Current Ripple 5%;
- Standby power:  $< 0.5W @ 230Vac$ ;
- Surge protection: 4KV line-line; 4KV line-earth;
- Class I;
- Protections: Output OVP, SCP, OTP;
- IP65 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty.

### Application:

- Suitable for LED Commercial lighting, Station lighting, Industrial lighting etc.

### DESCRIPTION

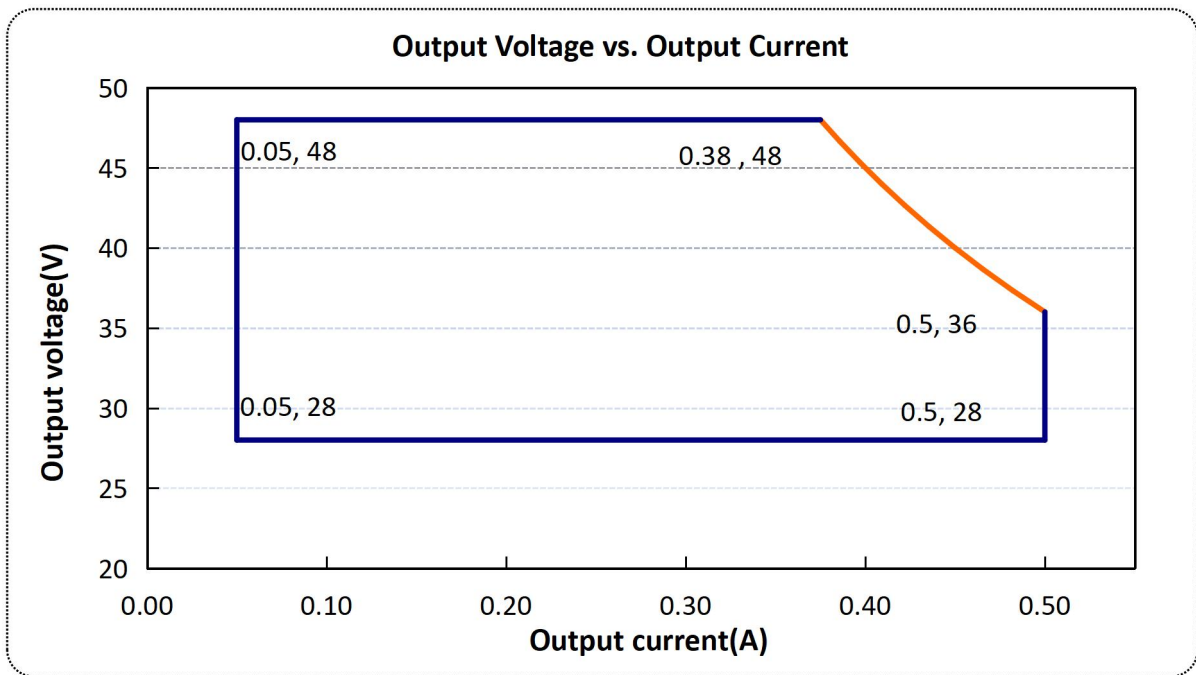
The X6-18W is a constant current, DALI-2 Dimming LED driver that operates from 90-264Vac input with excellent power factor and low THD. The high efficiency of these drivers and compact enable them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against output over voltage, over temperature and short circuit.

### MODELS

Model Number	Input voltage range(Vac)	Max Output Power(W)	Output Voltage Range (Vdc)	Output Current (A)	Typical Efficiency	Typical THD	Typical PF
X6-018D048	90-264	18	28-48	0.05-0.5	86%	10%	0.94

**Remark:** All parameters not specially mentioned are measured at 230Vac input, full load and 25°C of ambient temperature.

### OPERATING AREA I-V



### INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90Vac	230Vac	264Vac	
Input Frequency	47Hz	50/60	63Hz	
Leakage Current	-	-	0.7mA	240Vac/60Hz
Input AC Current	-	-	0.22A	120-240Vac & full load
Inrush Current	-	-	0.02A <sup>2</sup> S	230Vac input, Ta25°C (cold start)
Standby Power			0.5W	230Vac, Dim-to-off
Power Factor	0.97	0.99	-	120Vac, 50-60Hz, full load
Power Factor	0.92	0.94		230Vac, 50-60Hz, full load
THD	-	10%	20%	120-240Vac, 50-60Hz, 80%-100% load

**OUTPUT SPECIFICATIONS**

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Range	28V		48V	
No Load Output Voltage(V)	-	-	65V	
Output Current Range	0.05A	-	0.5A	Adjustable with DALI programmer
Output Current Tolerance	-8%	-	+8%	
Total Output Current Ripple(pk-pk)	-	5%	10%	20MHz BW, full load& LED load,
Startup Overshoot Current	-	-	10%	120~240Vac &100% Load, load is LED
Line Regulation	-3%	-	+3%	25°C±10°C ambient temperature, input voltage changes from 100Vac to264Vac.
Load Regulation	-5%	-	+5%	25°C±10°C ambient temperature, 230Vac, load changes from 60% to 100%.
Turn-on Delay Time	-	1S	3s	120Vac,100% load
Turn-on Delay Time	-	1S	2s	230Vac,100% load

**GENERAL SPECIFICATIONS**

Parameter	Min.	Typ.	Max.	Notes
Efficiency @120Vac	85%	87%	-	Measured at full load and 25°C ambient temperature
Efficiency @230Vac	85%	86%	-	
Dielectric Strength Input-Output	-	3750Vac	-	Max 5mA/60S
Dielectric Strength Input-PE	-	1875Vac	-	Max 5mA/60S
Dielectric Strength Output -PE	-	1600Vac	-	Max 5mA/60S
<b>Dielectric Strength Input-Dimming</b>	<b>-</b>	<b>3750Vac</b>	<b>-</b>	<b>Max 5mA/60S</b>
Insulation Resistance	10MΩ	-	-	Input-Output,500Vdc/60S/25°C/70%RH
MTBF	-	200000Hrs	-	25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)
Lifetime	-	50000Hrs	-	230Vac&100%load, 75°C Tc, refer to lifetime curve for details
Ambient Temperature Ta	-40°C	-	+50°C	
Operating Case Temperature for Safety Tc_s	-40°C	-	+75°C	
Operating Case Temperature for Warranty Tc_w	-40°C	-	+75°C	5 years warranty case temperature Humidity: 10% to 95% RH
Storage Temperature Ta	-40°C	-	+85°C	Humidity: 5% to 100% RH
Dimensions (L*W*H)mm	L121*W64*H33			
Net Weight	490±50g/PCS			
Package	L488mm*W298mm*H200mm; 15PCS/Ctn, Gross Weight: 9.0Kg			

**DALI-2 DIMMING**

Parameter	Min.	Typ.	Max.	Notes
High Voltage Level	9.5V	16V	22.5V	
Lower Voltage Level	-6.5V	0V	6.5V	
Dimming Output Range	5%Imax	-	100%Imax	Imax=0.5A
Sink Current	-	-	2.0mA	

**SAFTY STANDARDS**

Safety Category	Country / Territory	Standards	Approved
CCC	China	GB19510.1, GB19510.14	√
CE	Europe	EN61347-1, EN61347-2-13	√
CE	Europe	EN62493	√
ENEC	Europe	EN62384	√
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	
PSE	Japan	J61347-1, J61347-2-13	
SAA	Australia	AS/NZS IEC 61347.2.13	
SAA	Australia	AS/NZS 61347.1	

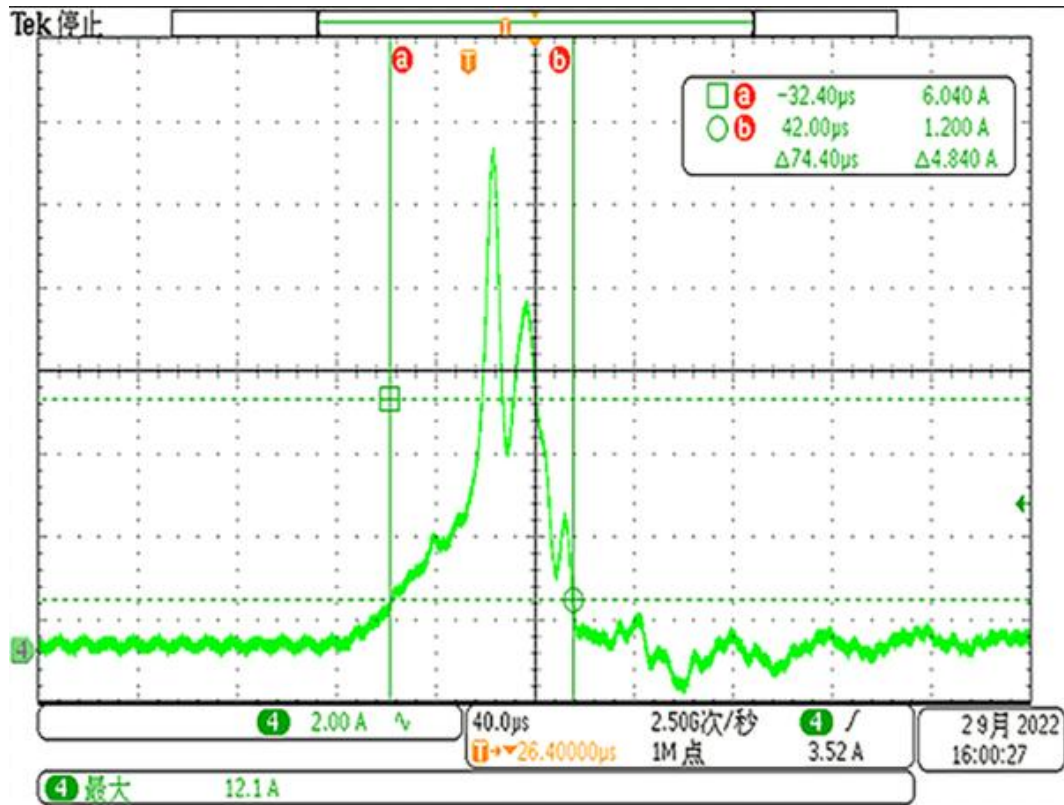
**EMC COMPLIANCE**

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

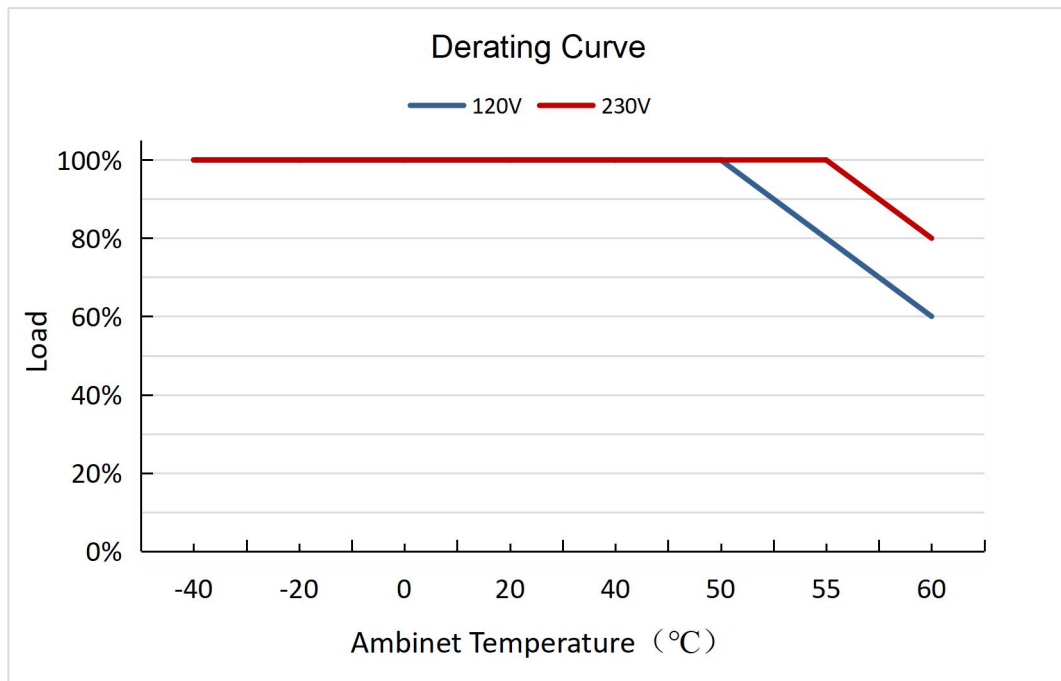
**NOTE:**

This LED driver meets the EMI specifications above, but as a component of a luminaire, end customer need to identify the EMI performance of a luminaire including LED driver, other devices connected to the driver and on the luminaire itself.

### INRUSH CURRENT WAVEFORM

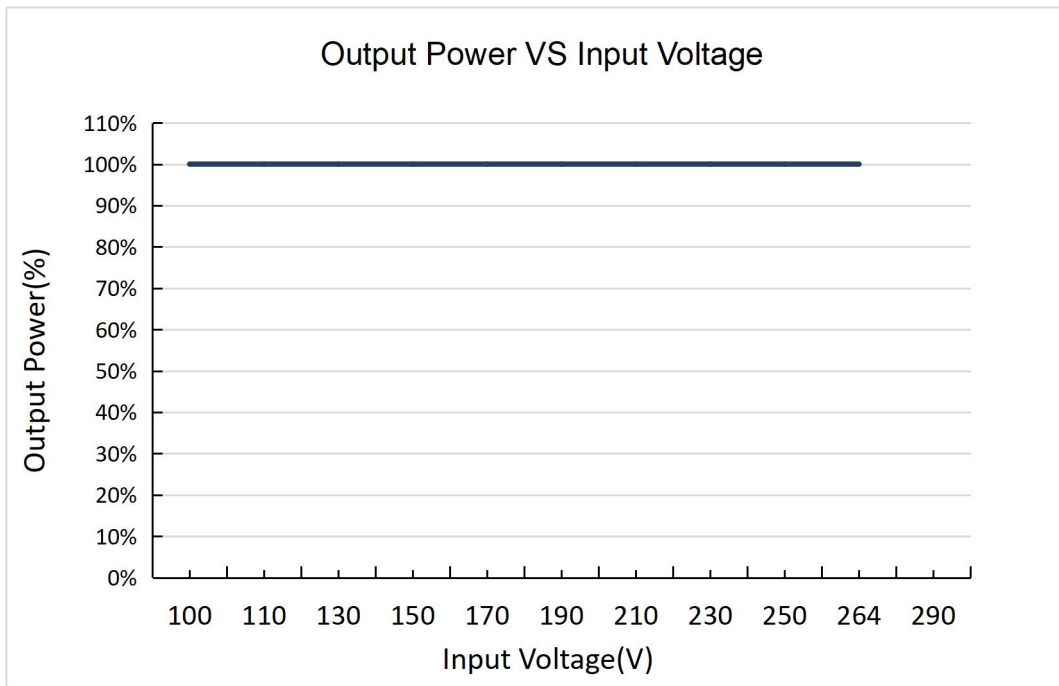


### DERATING CURVE

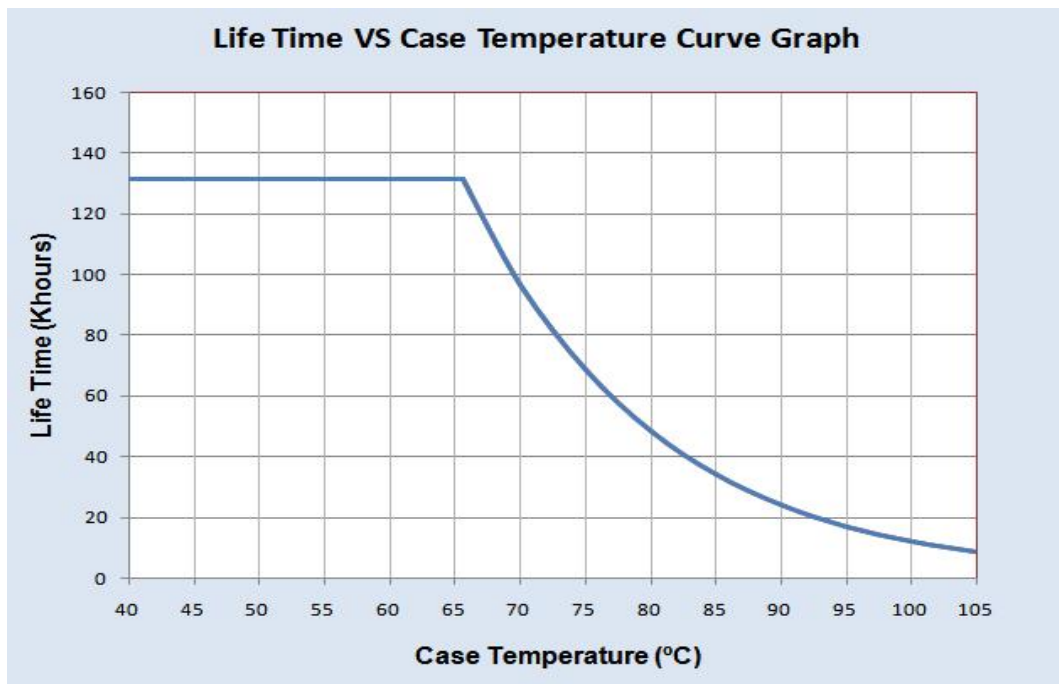




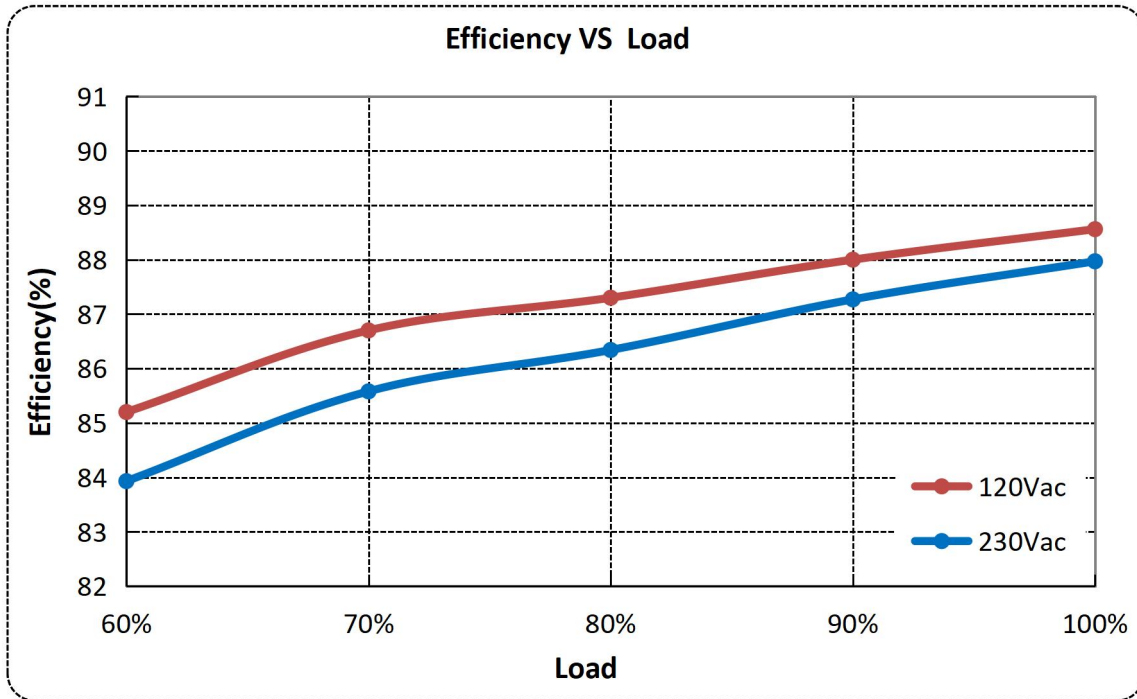
### OUTPUT POWER VS INPUT VOLTAGE



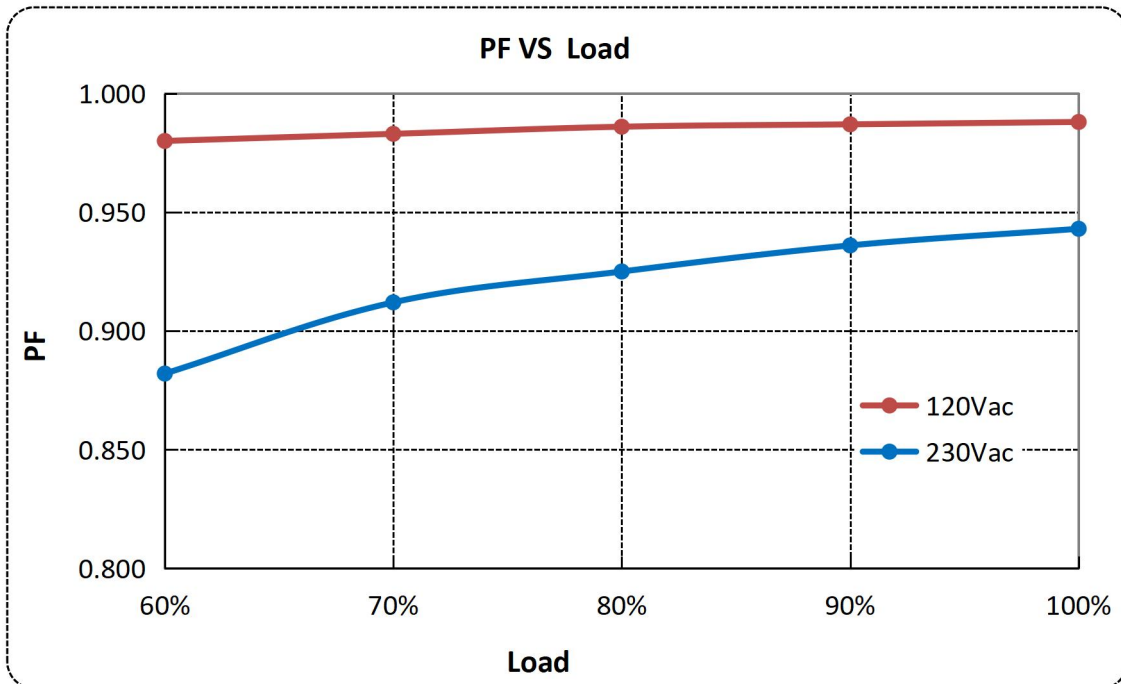
### LIFETIME VS CASE TEMPERATURE



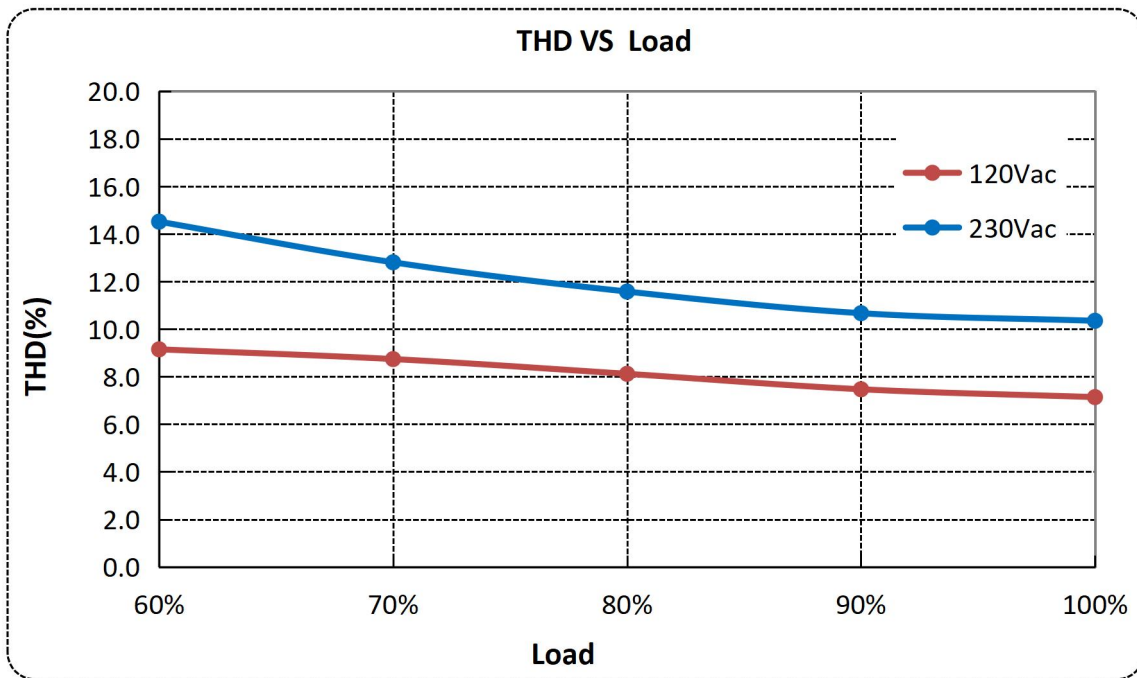
### EFFICIENCY VS LOAD



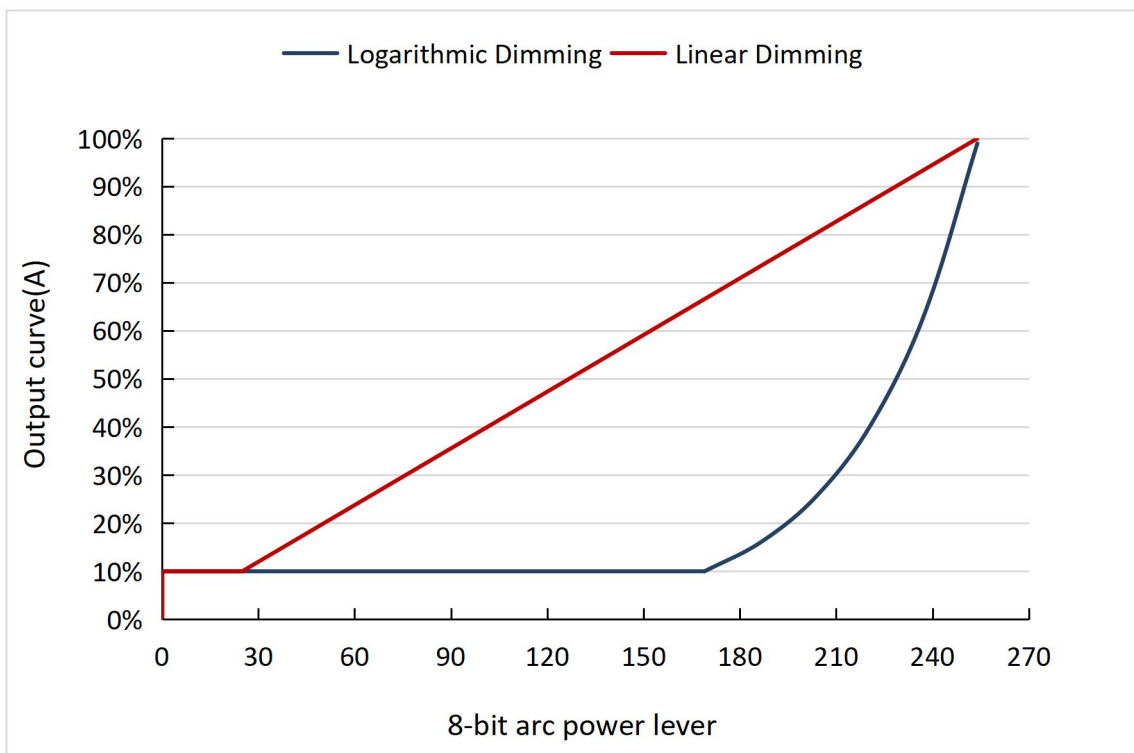
### POWER FACTOR VS LOAD



### TOTAL HARMONIC DISTORTION



### DALI-2 DIMMING

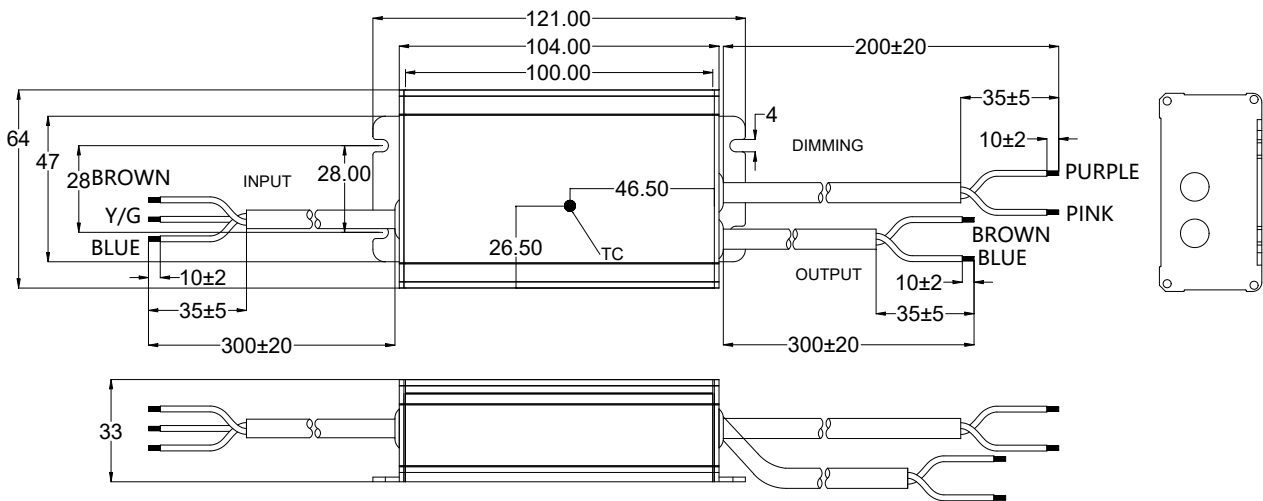


**Note: The factory default value is linear**

### PROTECTIONS

Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed, exclude auxiliary power supply.
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.

### MECHANICAL OUTLINE



Wire	Specification	Note
Input	CCC+VDE 3x1.0 mm <sup>2</sup> L=300±20mm	CCC/CE
Output	CCC+VDE 2x1.0 mm <sup>2</sup> L=300±20mm	CCC/CE
Dimming	UL 2733 22AWG L=200±20mm	UL

LABEL:

95.00 mm

45.00 mm

**INPUT**

L (BROWN 棕)

G (Y/G 黄/绿)

N (BLUE 蓝)

**MOSO<sup>®</sup>** X6-018D048

LED DRIVER 控制装置  
Constant Current Type 恒流型

INPUT (输入)	100-240V~ 50/60Hz, 0.22A Max. $\lambda(P_{out} \geq 14W) = 0.92C-0.95$ , Max. 21W
OUTPUT (输出)	28-48V== 0.05-0.50A U <sub>out</sub> (最大电压): 65V== Max.Power(最大功率): 18W

**OUTPUT**

(PURPLE 紫) DA

(PINK 粉) DA

(BROWN 棕) LED +

(BLUE 蓝) LED -

中国制造  
仅适用于LED模块  
MADE IN CHINA  
For LED module only

$t_c: 75^\circ C$

$t_a: 50^\circ C$

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