MXG SERIES LED DRIVERS

DL-50W-DX-MXG SPEC V1.4

GUANGDONG DONE POWER TECHNOLOGY CO.,LTD

Features

- Class I structure
- Input voltage: 120-277 V ~ 50/60 Hz
- Efficiency: 88%(Typ.)
- Constant power drive and constant current output control mode
- Metal shell structure, protection grade: IP67
- Lightning protection level: differential mode 6kV,common mode 15kV
- Function selection:

  DALI-2 communication protocol (IEC62386-101/102/207)

  Linear dimming, logarithmic dimming, scene control...

  Auxiliary source: 12V/300mA
- Lifetime design: 5 years

Applications

Road lighting、Industrial lighting、Venue lighting

Floodlight lighting、Landscape lighting 、Plant lighting

Model list

Model NO.	Input voltage	Output power	Output voltage	The default current	Eff. (Typ.)	T.H.D	PF
DL-50W-V56DX-MXG	AC120-277V 50/60Hz	50W	25-56Vdc	1.5A	≥87%	≤10%	≥0.95
DL-50W-V72DX-MXG	AC120-277V 50/60Hz	50W	36-72Vdc	0.7A	≥88%	≤10%	≥0.95

Note : Test conditions of the above parameters: Ta=25℃, 230Vac input, full load operation for 30 minutes.

Input characteristics

Parameter	Min	Typ.	Max	Note
Rated input voltage	120Vac	230Vac	277Vac	
Input voltage range	108Vac		305Vac	
Rated frequency	47Hz	50/60Hz	63Hz	
Power factor	0.95	-	-	@230Vac full load,rated input voltage
T.H.D.	-	-	10%	@230Vac full load
Input current	-	-	0.5A	@120Vac full load
Inrush current	-	-	70A	230Vac, cold start (25℃)

Output characteristic

Parameter	Min	Typ.	Max	Note
Rated current				
DL-50W-V56DX-MXG	-	0.9A	-	
DL-50W-V72DX-MXG	-	0.7A	-	
Output current range				
DL-50W-V56DX-MXG	0.6A	-	1.7A	
DL-50W-V72DX-MXG	0.5A	-	1.05A	
Output voltage range				Constant power voltage range:
DL-50W-V56DX-MXG	25V	-	56V	30-56V
DL-50W-V72DX-MXG	36V	-	72V	48-72V
Rated power(120-277Vac)	-	50W	-	
No-load voltage				
DL-50W-V56DX-MXG	-	-	75V	
DL-50W-V72DX-MXG	-	-	90V	
Efficiency@120Vac				
DL-50W-V56DX-MXG	83%	85%	-	full load @120Vac
DL-50W-V72DX-MXG	84%	86%	-	
Efficiency@230Vac				
DL-50W-V56DX-MXG	85%	87%	-	full load @230Vac
DL-50W-V72DX-MXG	86%	88%	-	

Output characteristic

Parameter	Min	Typ.	Max	Note
Output Current Ripple	-	5% Iomax	-	100% load , 20 MHz BW ; Ripple =rms/ average
Accuracy of output current	-5%	-	+5%	full load Constant power range
Line regulation	-3%	-	+3%	full load
Load regulation	-3%	-	+3%	full load
Starting time	300ms	-	1000ms	Full load@120-277Vac
Auxiliary source output voltage	10.8 V	12V	13.2V	-
Auxiliary source output current	0 mA	-	300 mA	Reference ground is "Dim -"
Auxiliary source output transient peak current @6W	-	-	500 mA	In a 5.0ms cycle, the maximum duration of the maximum peak current of 500mA is 2ms, and the average value must not exceed 250mA

Note:

1. The output current range is limited by the input and output voltage, please refer to "I-V WORKING AREA" for details.
2. When the output voltage is within the constant power range, the current precision is -5% to +5%; when the output voltage is below the constant power range, the current precision is -10% to +10%.

Dimming characteristic

Dimming function	Min	Typ.	Max	Instructions
DA+、DA- High voltage level	9.5V	16V	22.5V	
DA+、DA- Low voltage level	-	0V	6.5V	
DA+、DA- Current	-	-	2mA	
Dimming output range	10%Iout	-	100%Iout	

Note:

1. DA+, DA- support the maximum 310Vac misconnection.
2. The standby power consumption is less than 0.5W when it is turned off.

Protection

Function	Function instructions
Output overload protection	Protection mode:hiccup mode,recovers automatically after fault condition is removed.
Output short circuit protection	Hiccup mode:recovers automatically after fault condition is removed
Over temperature protection	Self-recovery type :when the housing temperature is greater than 90℃, the output power decreases gradually.
Output over-voltage protection	Protection mode: Hiccup mode or clamped in output highest voltage , the product is not damaged , LED driver works normally after fault condition is removed.

Note:

1. Unless otherwise specified, all specifications and parameters shall be measured at the conditions of 230Vac (50Hz), rated load and 25℃ of ambient temperature.
2. Including setting error, line regulation and load regulation.

Environmental

Environmental categories	Parameter
Working temperature	-40 ~ +55℃@200-277Vac, -40 ~ +45℃ @120-200Vac (refer to "Life Curve ")
Max.Case Temp.	-40 ~ 90℃
Working humidity	20 ~ 95% RH, non condensing
Storage temperature、humidity	-40 ~ +80℃, 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	230Khrs min. MIL-HDBK-217F (Ta=25℃)
Lifetime	75,000 hours @Tcase≤75℃,230Vac, 80% Load, Please refer to "Tcase VS Lifetime" section

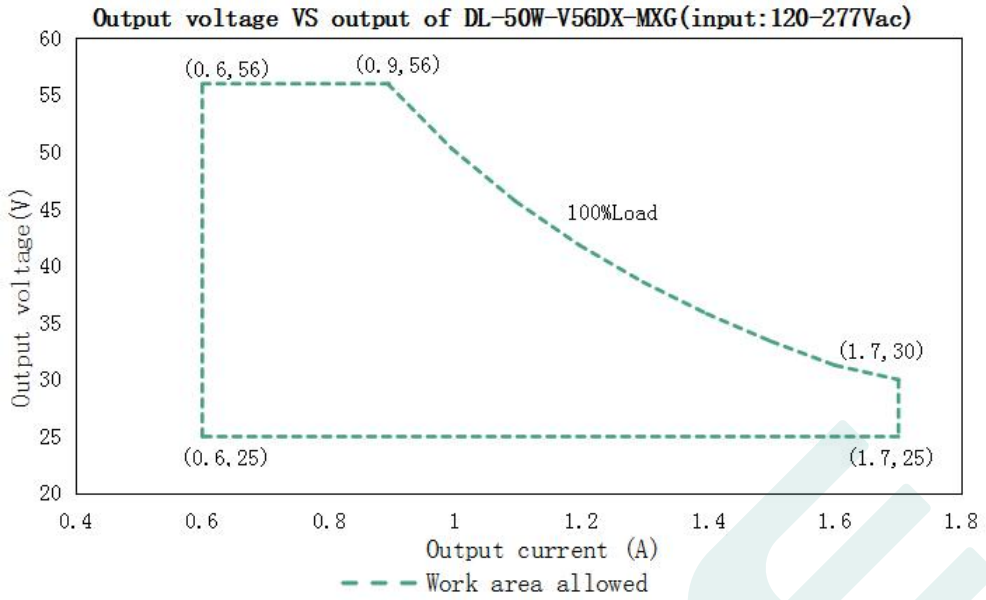
Safety and EMC

Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384
EMC	EN 55015、EN 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3
Surge protection	Differential mode L-N ±6KV (2 ohm) ,common mode L , N-PE± 15 KV (12 ohm) ; Refer to IEC61000-4-5 2014 Criterion B
High-pot test	I/P-O/P:3.75KVac I/P-PE :1.5KVac O/P-PE : 2U+1KVac I/P-DIM:1.5KVac O/P-DIM:2U+1KVac
Insulation impedance	I/P-PE:100MΩ / 500VDC; I/P-O/P:100MΩ / 500VDC / 25℃/ 70% RH
Leakage current	<0.7mA@277Vac
DALI-2 standards	Instruction
DALI-2	IEC 62386-101、IEC 62386-102、IEC 62386-207

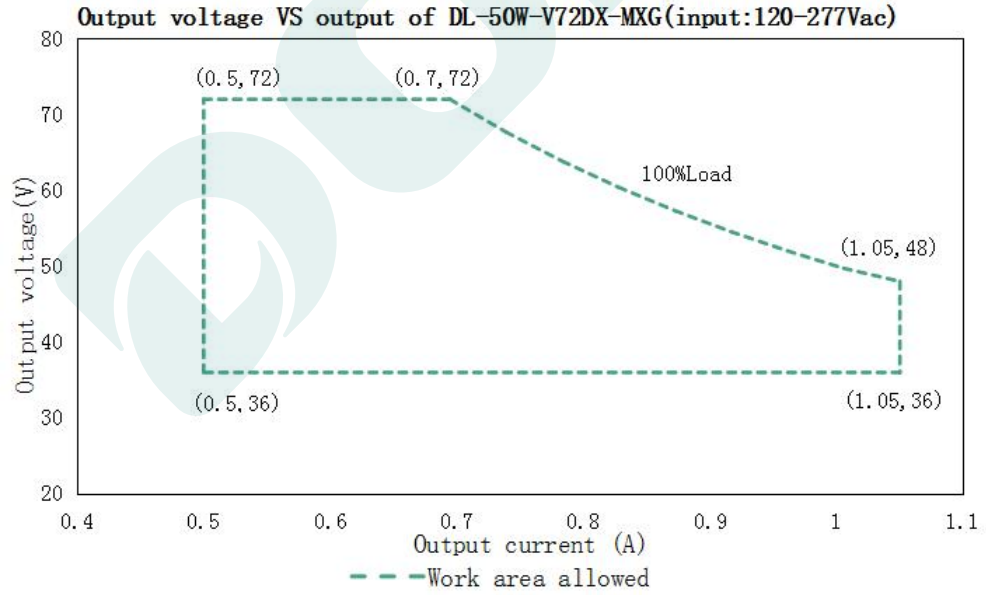
Note:

1. The driver is considered as a component that will be operated in combination with the final equipment. Since EMC performance will be affected by the complete installation,the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
2. DALI part:101、102、207.

I-V Working area

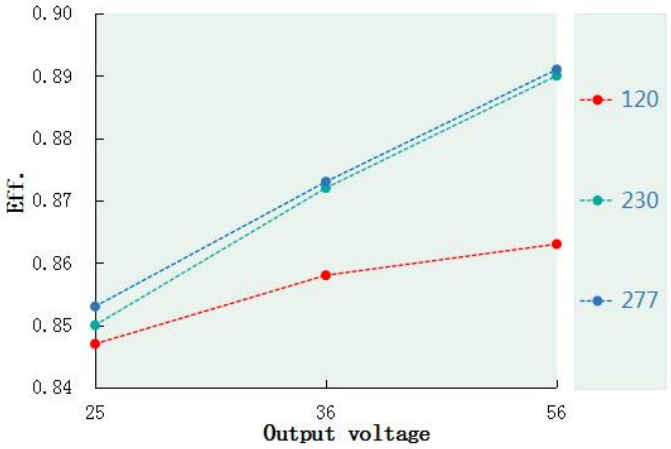


Load	Output								
Load working Voltage	25V	30V	33V	36V	40V	44V	48V	52V	56V
Io_MAX	1.7A	1.7A	1.51A	1.39A	1.25A	1.14A	1.04A	0.96A	0.9A
Po_MAX	42.5W	50W	50W	50W	50W	50W	50W	50W	50W

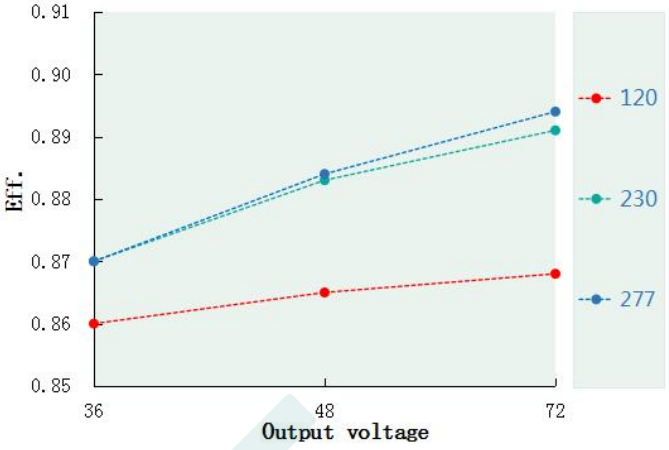


Load	Output								
Load working Voltage	36V	39V	42V	45V	48V	52V	58V	64V	72V
Io_MAX	1.05A	1.05A	1.05A	1.05A	1.05A	0.96A	0.86A	0.78A	0.7A
Po_MAX	37.8W	41W	44.1W	47.25W	50W	50W	50W	50W	50W

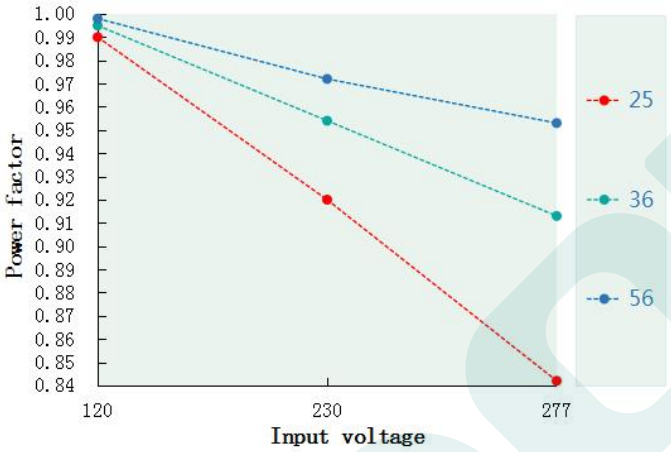
Eff. VS Output voltage(DL-50W-V56DX-MXG)



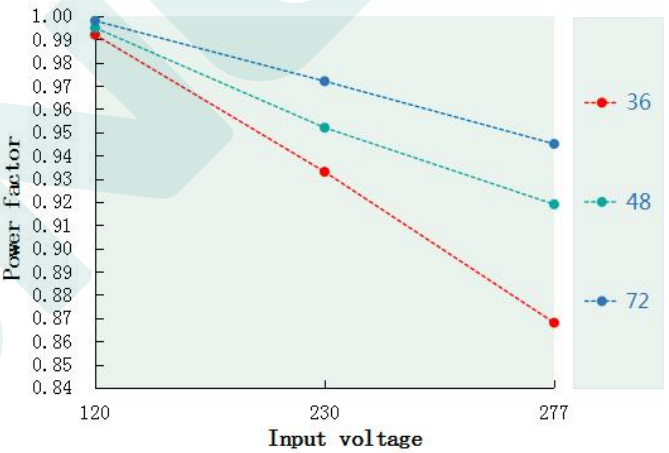
Eff. VS Output voltage(DL-50W-V72DX-MXG)



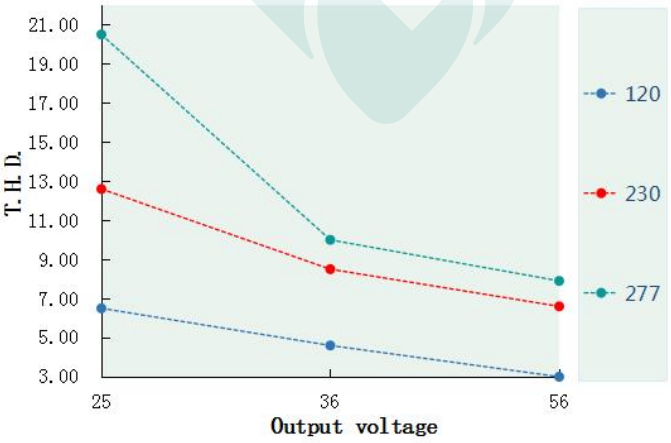
Power factor VS Input voltage(DL-50W-V56DX-MXG)



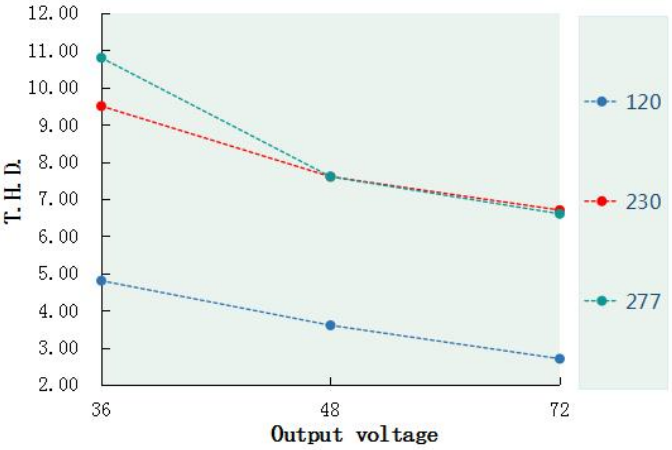
Power factor VS Input voltage(DL-50W-V72DX-MXG)



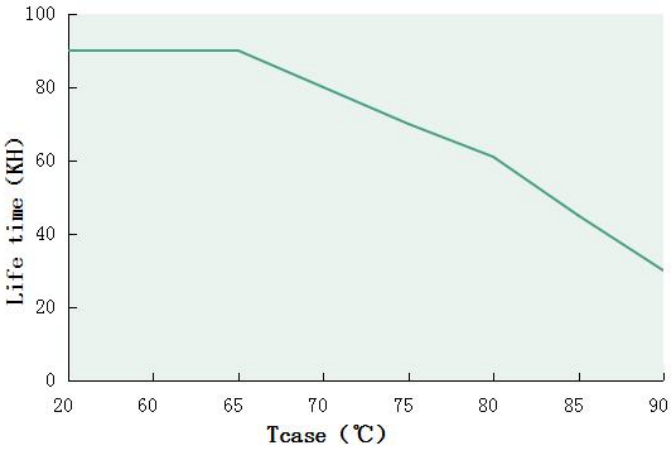
T.H.D. VS Output voltage(DL-50W-V56DX-MXG)



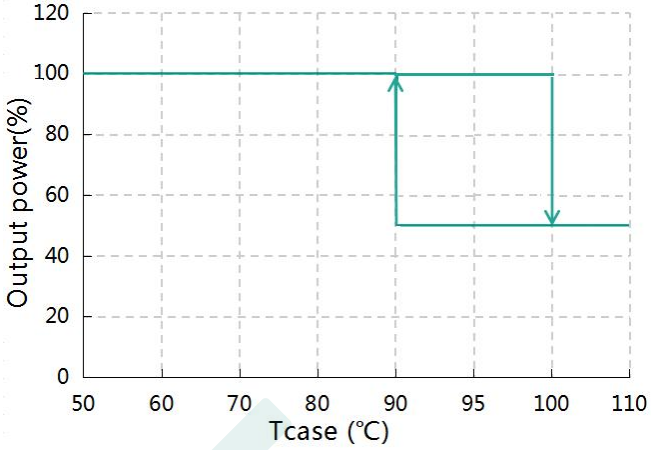
T.H.D. VS Output voltage(DL-50W-V72DX-MXG)



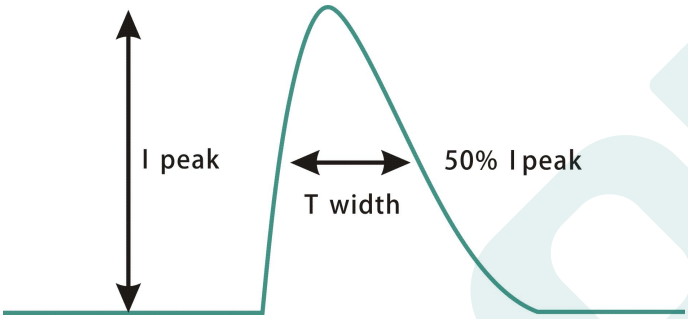
Tcase VS Lifetime(DL-50W-DX-MXG)



Output power VS Tcase (DL-50W-DX-MXG)



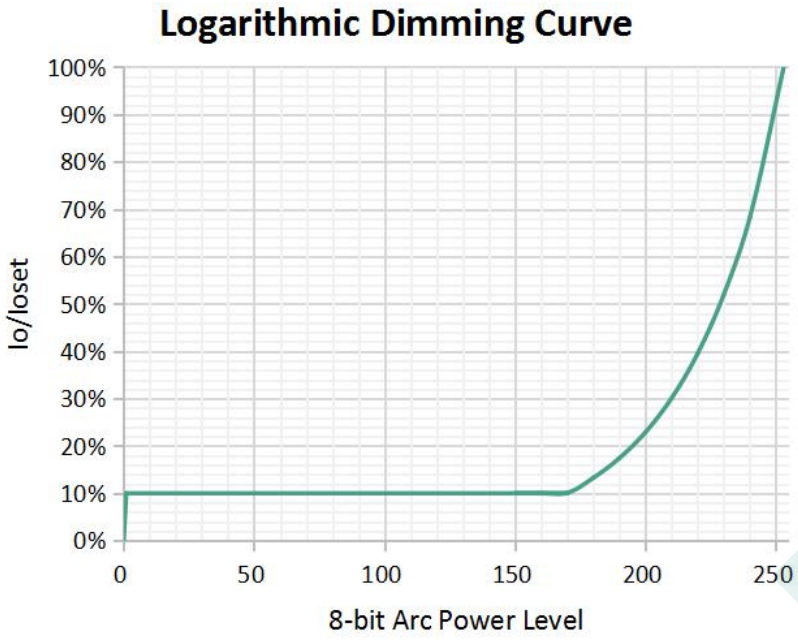
Inrush current(DL-50W-DX-MXG)



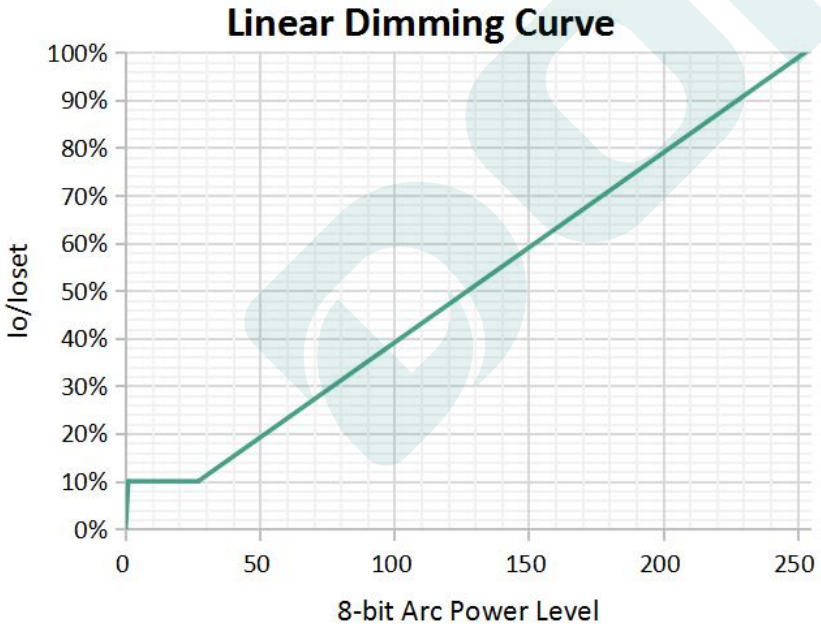
Input voltage	Peak current	T(@50% Peak current)
120Vac	20A	168us
230Vac	37.5A	167us
277Vac	45.2A	166us

Dali-2 dimming curve

1. Logarithmic Dimming Curve



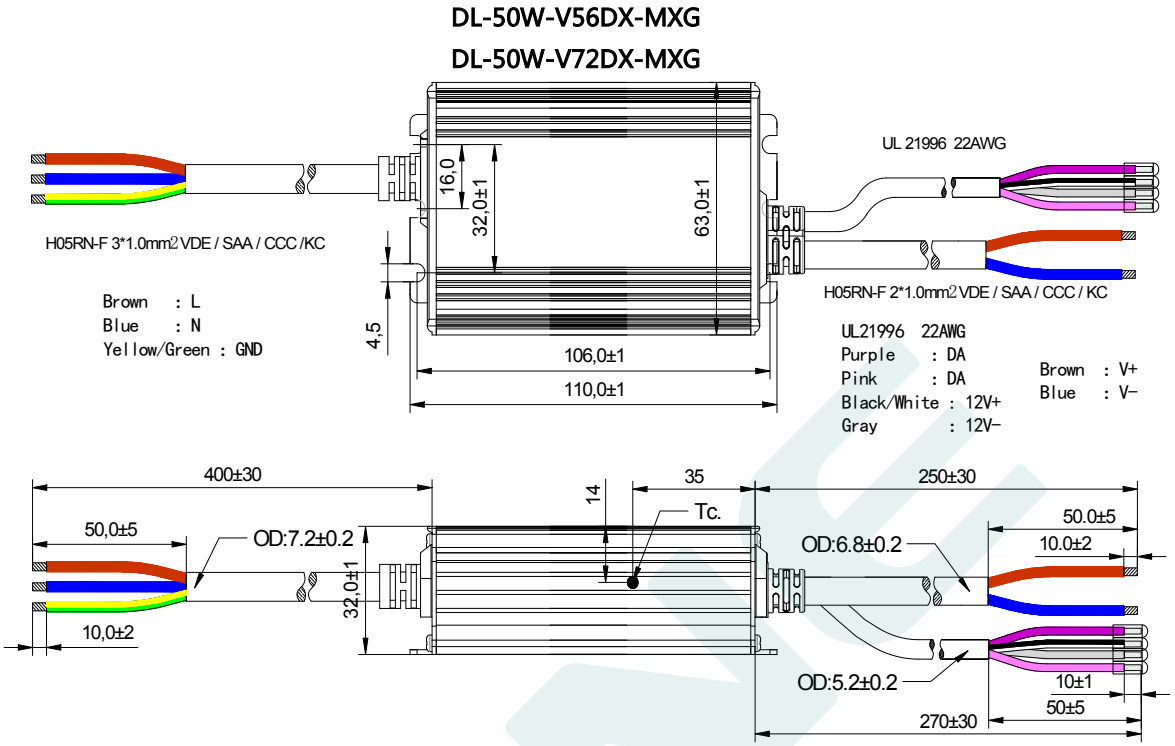
2. Linear Dimming Curve



Note: Factory default logarithmic dimming.

Mechanical specification

Size (mm)	L110*W63*H32

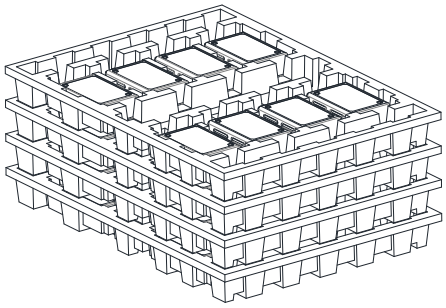


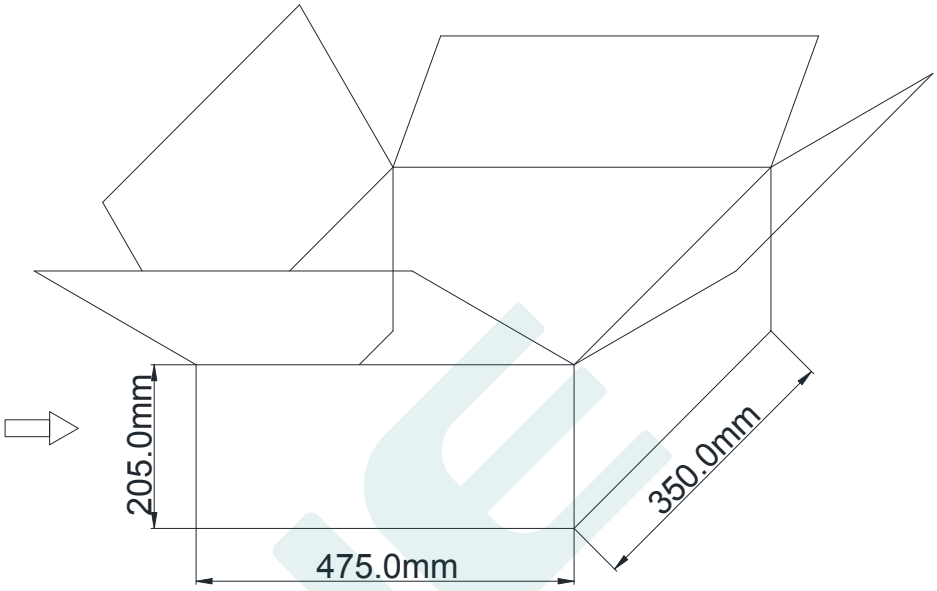
Weight

Weight	430 g

Packaging

Packaging (mm)	L475*W350*H205





Note: One Carton 4 layers and 8 pcs each layer, total 32pcs/carton.

Note:

1. According to the certificate obtained by the LED DRIVER, the LED DRIVER with the English label is sold in Europe, America and India.
2. The LED DRIVER with Chinese label is only used for China market.

Version

DATE	DESCRIPTION	REV.	CHECK
2023.09.19	Initial version.	V1.0	
2024.03.28	Change the output current range on page 3.	V1.1	
2024.6.4	Change the input line to H05RN-F 3*1.0mm ² and modify the safety certification icon.	V1.2	
2024.9.29	Modify the High-pot test on page 6.	V1.3	
2026.3.9	Adjust the Output power VS Tcase curve on page 9	V1.4	JH 2026.03.10 10:38:31 +08'00' LYF 2026.03.10 14:42:09 +08'00'

MANUFACTRUER		
EDIT	CHECK	APPROVE
LYS 2026.03.09 13:54:12 +08'00' ZCY 2026.03.10 09:24:29 +08'00'	GZK 2026.03.10 09:40:27 +08'00'	数字签名者：ZHS DN：cn=ZHS, o=DONE, ou=YFZX, email=zhanghongsheng@donepower.com, c=CN 日期：2026.03.10 15:43:23 +08'00'