Constant Voltage LED Driver



Constant Voltage Driver

Model:LV(30-250)W24CG DALI

Model	Rated Input Voltage	Input Power	Input Current	PF	Output Power Range	Output Voltage	Output Current	Efficiency (typ.)
LV30W24CG DALI	220-240VAC	≤38W	≤0.19A	≥0.95	12-30W	24V	0.5-1.25A	85%
LV60W24CG DALI		≤72W	≤0.35A		24-60W		1-2.5A	88%
LV100W24CG DALI		≤115W	≤0.6A		30-100W		1.25-4.17A	93%
LV150W24CG DALI		≤168W	≤0.9A		45-150W		1.875-6.25A	93%
LV250W24CG DALI		≤275W	≤1.5A		75-250W		3.12-10.42A	93%

*** Test result @230V, 50Hz, Full Load.**

1. Parameters

category	Item	Technical Norm				
Features	Output Type	Constant Voltage				
	Dimming Type	DALI-2				
	Output Features	Isolation SELV				
	IP Grade	IP20				
	Insulation Class	Class II				
Input	Rated Input Voltage	220-240VAC				
	Range of AC Input Voltage	176-264VAC				
	Range of DC Input Voltage	175-280VDC（EMI not evaluated）				
	Frequency	Rate:50/60Hz, Range:47~63Hz				
	Power Factor	≥0.95, 220-240VAC, Rated Load, see graphs				
	THD	30W	≤10%	230VAC，Rated Load, see graphs		
		60W/100W/150W /250W	≤7%	230VAC，Rated Load, see graphs		
	Standby Power Consumption	≤0.5W, @230VAC,Dim to OFF				
	Inrush Current	Model	IP	IP (typ.)	Duration time	240Vac/50Hz, 90-degree phase, full load, cold start-up, duration time measure from 50%Ipk to 50%Ipk
		30W	<100A	82A	0.8us	
		60W	<30A	26A	220us	
		100W	<50A	45A	250us	
		150W	<60A	56A	185us	
		250W	<80A	76A	310us	
	Connected quantity of 16A Breaker	30W	36pcs,16A type B / 60pcs 16A type C			
		60W	18pcs,16A type B / 30pcs 16A type C			

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		100W	10pcs,16A type B / 17pcs 16A type C		
		150W	8pcs,16A type B / 13pcs 16A type C		
		250W	6pcs,16A type B / 8pcs 16A type C		
Output	Output Voltage	24VDC±3%			
	Output Voltage Ripple	30W			<480mV$_{PK-PK}$ (1%)
		60W/100W/150W/250W			<240mV$_{PK-PK}$ (0.5%)
	Line Regulation	±1%			
	Load Regulation	±2%			
	Overshoot	<105%Vo (<110%Vo, only for 30W)			
	Start-up Time	≤0.5S (220-240VAC)			
	Hold-up time & Turn off time	Model	Hold-up time(mS)	Turn-off time(mS)	230VAC, LED Rated Load, Hold-up time measure from AC input turn-off to output voltage drop to 90%, turn-off time measure from AC input turn-off to output voltage drop to 90%
		30W	6.8	800	
		60W	22.8	62.8	
		100W	9.2	69.6	
		150W	10	384	
		250W	16.2	676	
	Efficiency	30W	≥84%	85% typ.	230VAC, Rated Load, at output terminals, see graphs
		60W	≥86%	88% typ.	
		100W	≥91%	93% typ.	
		150W	≥91%	93% typ.	
		250W	≥91%	93% typ.	
Protection	Short Circuit Protection	Auto Recovery			
	Over Current Protection	120%-180%Io, Auto Recovery			
	Over Voltage Protection	110%-150%Vo, Auto Recovery			
	Over Temperature Protection	90<Tc<110℃, Auto Recovery(only for 100W/150W/250W)			
	Insulation voltage	I/P to O/P,3KVac/5mA/1min			
	Insulation resistance	>100M ohm @ 500VDC			
	Leakage current	I/P to O/P < 250μA			
Control Method	Secondary PUSH dimming	Secondary PUSH dimming (Max. lead wire length：20m,same port of DALI）			
	DALI function	DALI dimming (Max. lead wire length： 300m） logarithm or linear dimming curve selectable			
	Dimming range	DALI dimming: 1%-100% (1KHz)			
Environment	Ta/Operation Temperature	-25….+45℃			
	Ts/Storage Temperature	-40….+85℃			
	Tc/Enclosure Temperature For Safety	30W/60W		80℃	
		100W/150W/250W		90℃	
	Humidity	5%....85%RH			
	Atmosphere	86-108KPa			
Construction	Connection Method	Terminal (250V 10A)			
	Cable Terminals	Input		1 terminal block (300V/10A)	
		Output	30W/60W	1 terminal block (300V 10A)	

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			100W/150W/250W	2 terminals block (300V 10A)
		Dimming		1terminals block(min.150V/10A)
	Installation	Independent		
	Input Wire Cross Section	0.75mm²-1.5 mm²		
	Output Wire Cross Section	30W	1*0.5mm²-1.5 mm²	
		60W	1*0.75mm²-1.5 mm²	
		100W/150W	2*0.75mm²-1.0 mm²	
		250W	2*0.75mm²-1.5 mm²	
	Dimming Wire Cross Section	30W/60W/250W	3.5-7mm²,9.5-10.5mm²	
		100W/150W	2.2-4mm²	
	Output Cable Length	Max. 3M		
	Cable diameters range	Input	2.2-4mm or 9.5-10.5mm	
		Output & Dimming	2.2-4mm	
	Dimension	30W	300*30*16mm (L*W*H)	
		60W/100W/150W	350*30*18mm (L*W*H)	
		250W	400*40*22mm (L*W*H)	
Standards	Certification	CE		
	Safety Standards	EN61347-1:2015,EN61347-2-13:2014/A1:2017,EN62493:2015, AS61347.2.13:2018,AS/NZS 61347.1:2016 Inc A1		
	EMC Standards	EN55015:2013/A1:2015,EN61000-3-2:2014,EN61000-3-3:2013, EN61547:2009		
	Performance	EN62384;IEC 62386-101 Edition2.0 2014-11; BS EN 62386-102:2014 ; BS EN 62386-207:2009		
	Surge	L-N:2KV		
Others	RoHS	2011/65/EU		
	MTBF	≥250KHours,Ta=25℃(MIL-HDBK-217F)		
	Audible Noise	<25dB @ 10cm distance, 20dB background		
	Life Time(@Ta max)	30W	≥80K Hrs	@230VAC , full load, End of Life: Failure Rate<10%
		60W	≥65K Hrs	
		100W	≥60K Hrs	
		150W	≥55K Hrs	
		250W	≥52K Hrs	
	Warranty	5years		

Remark:

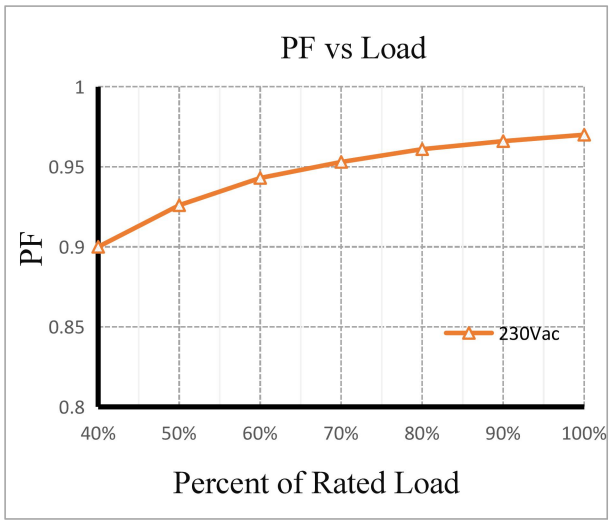
1. All Parameters, if not specified, are measured at 230VAC/50Hz and 25℃ ambient temperature.
2. LED Driver is a component of the luminaires, Luminaires and wire layout will affect the EMC, please check the EMC with end products again.
3. Output ripple should be measured at the output end which has with 0.1uF/50V ceramic capacitance and 47uF/50V Aluminum capacitance connected in parallel. Measured using oscilloscope with bandwidth limited to 20MHz.

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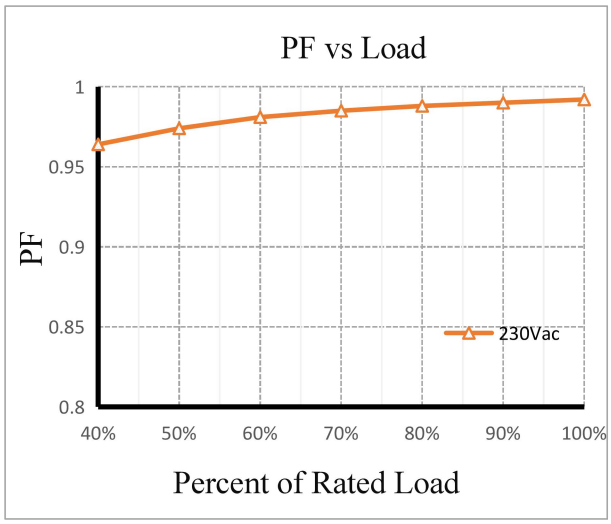
2. Graph

PF VS LOAD Curve

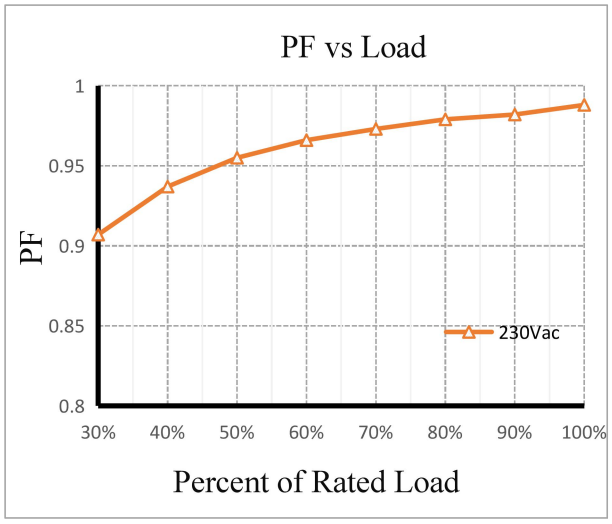
30W



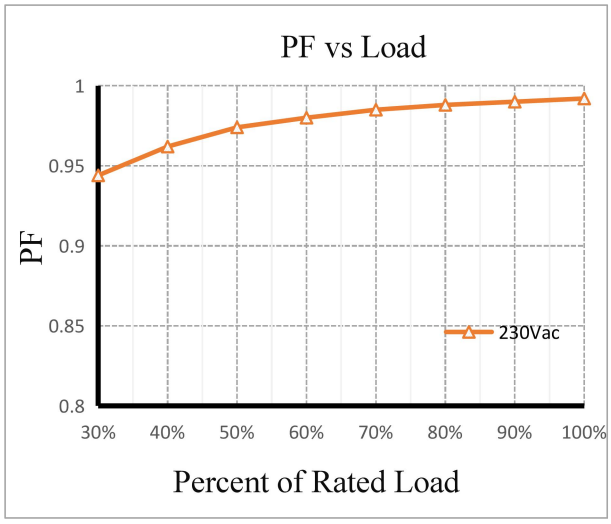
60W



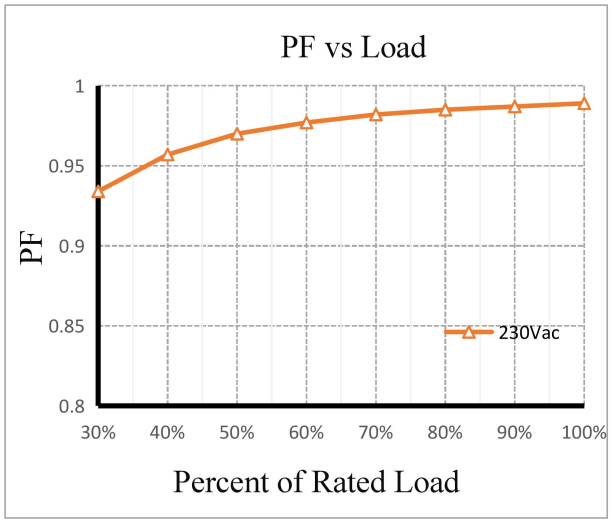
100W



150W

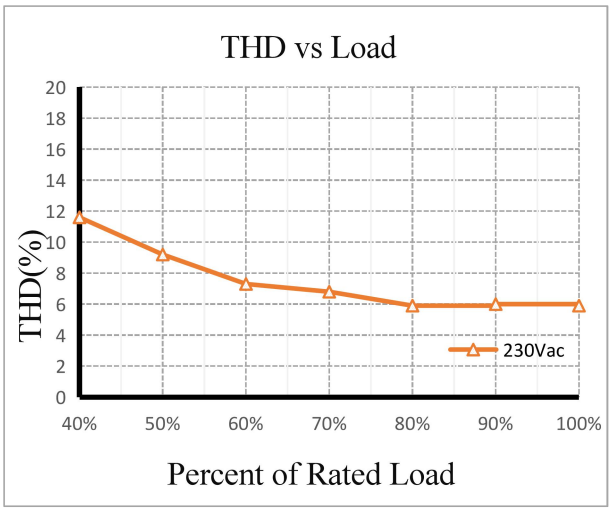


250W

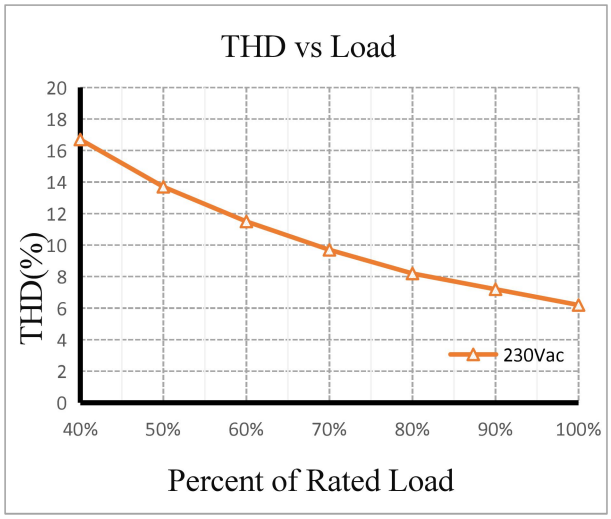


THD VS LOAD Curve

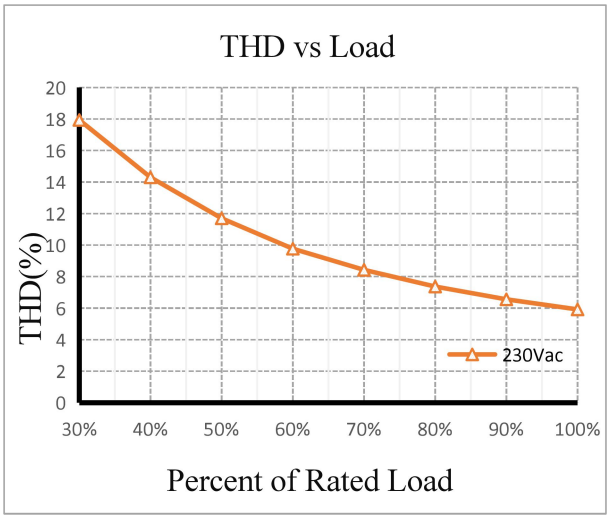
30W



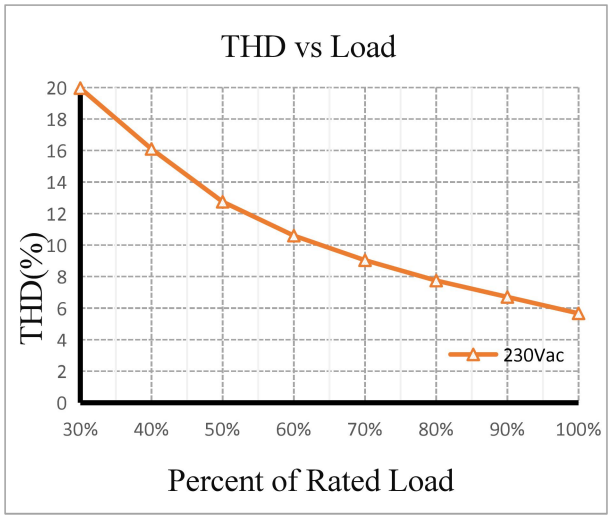
60W



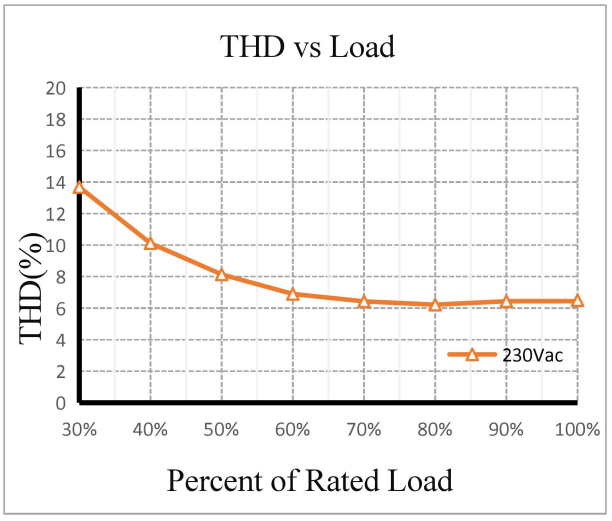
100W



150W



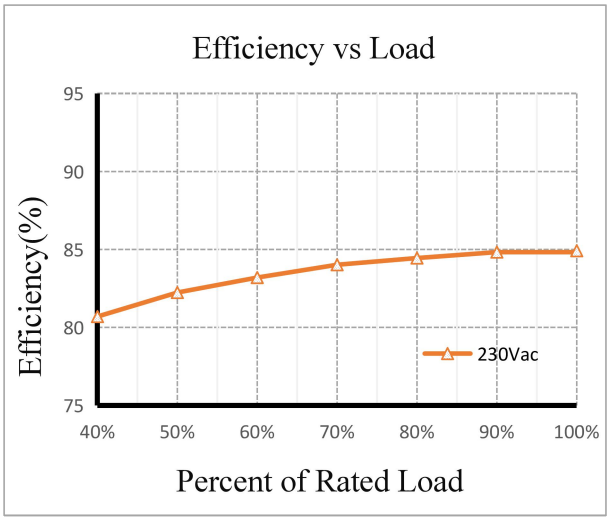
250W



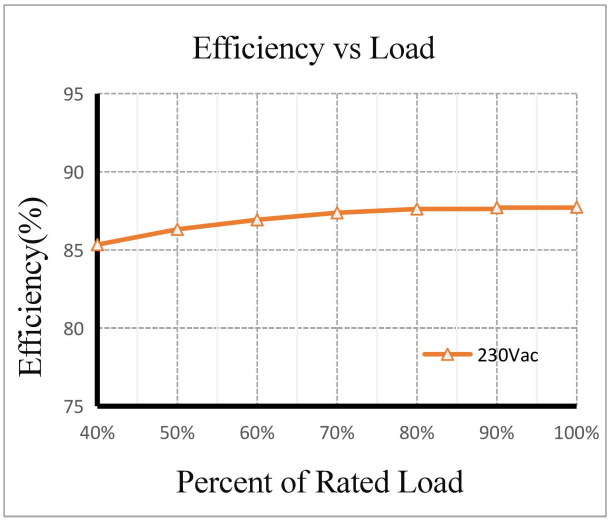
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Efficiency VS LOAD Curve

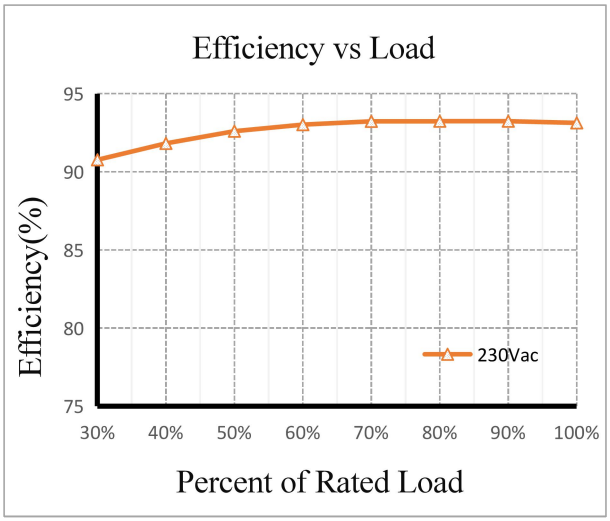
30W



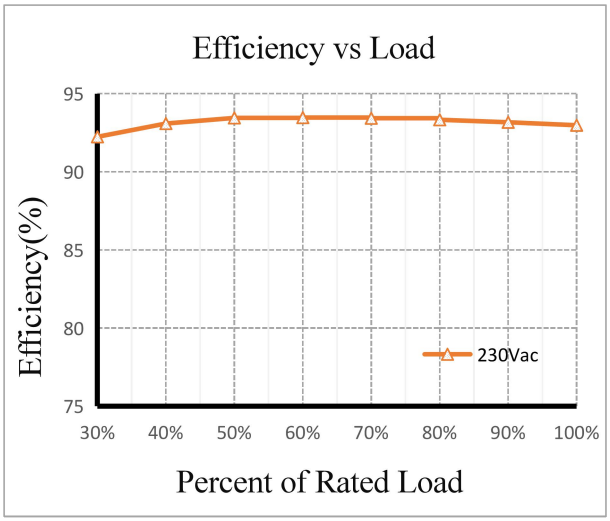
60W



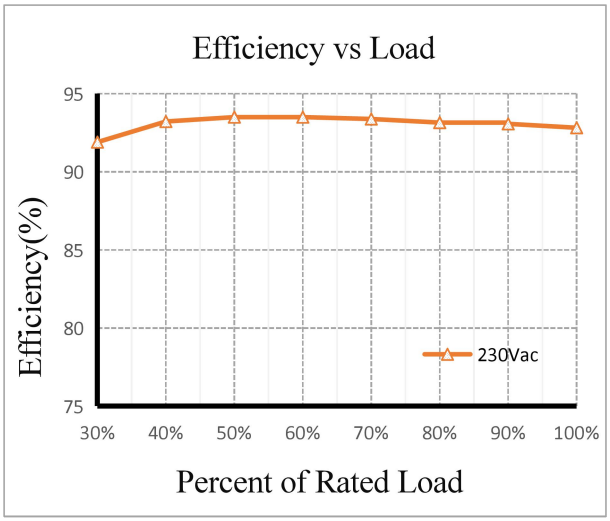
100W



150W

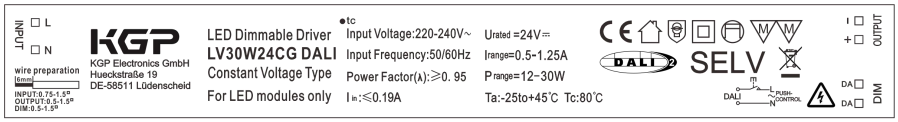


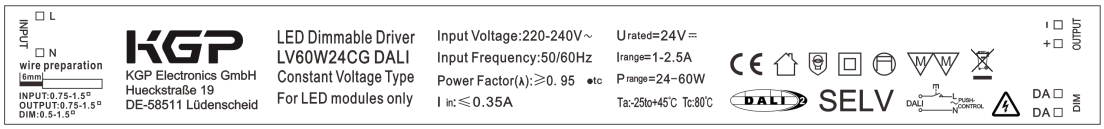
250W

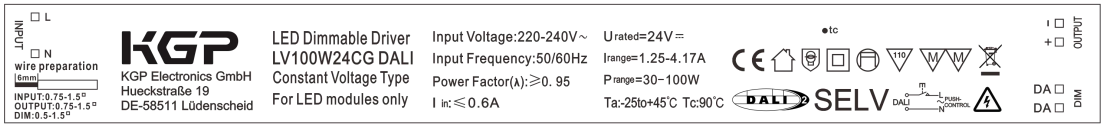


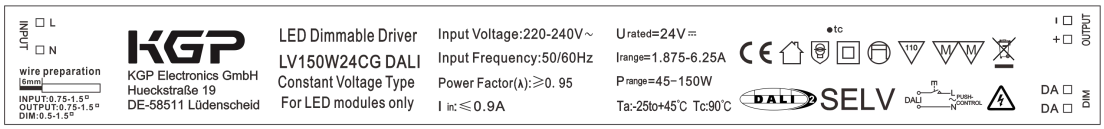
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3.Label











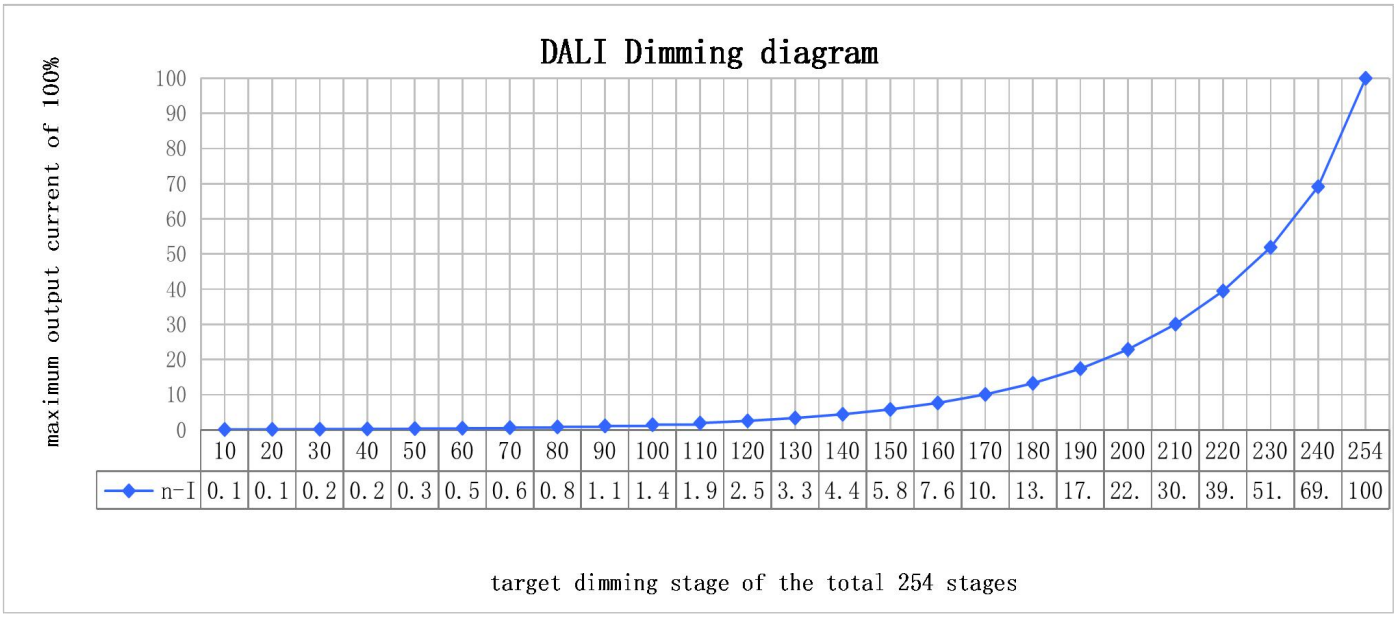
4.DALI dimming curve

4.1 formula for DALI dimming.

X(n)=10^{[(n-1)/(253/3)]-1},

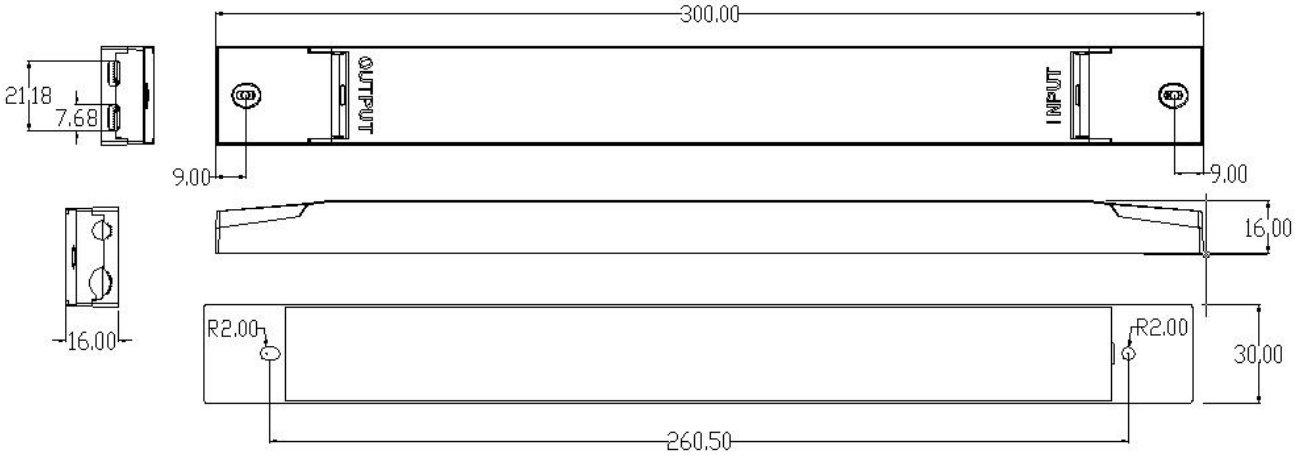
Here,n means the target dimming stage of the total 254 stages.

X(n) means the percent of the maximum output current

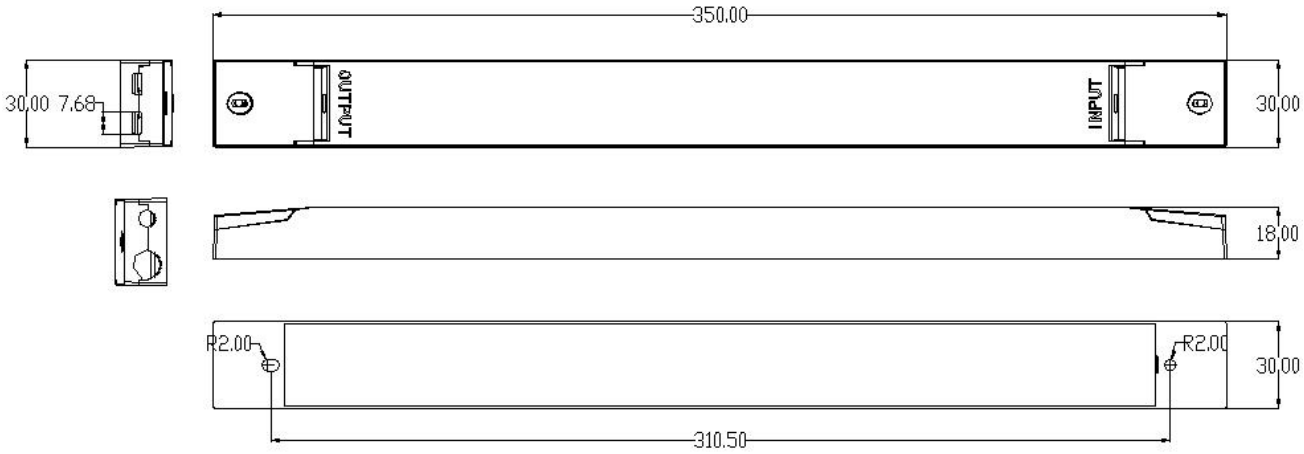


5.Dimension （Unit：mm）

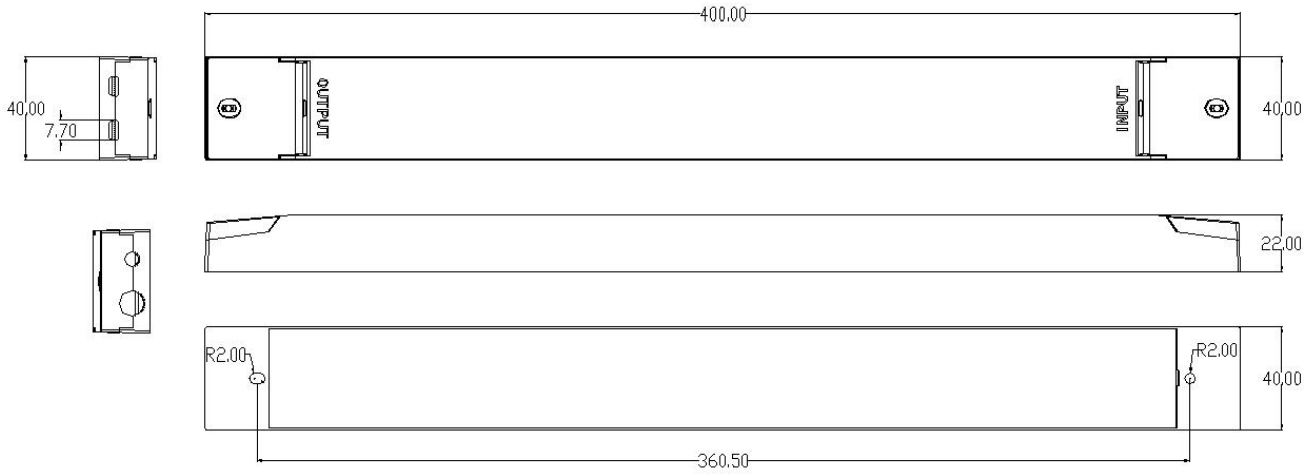
LV30W24CG DALI



LV60W24CG DALI&LV100W24CG DALI & LV150W24CG DALI:



LV250W24CG DALI:



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