



Constant Voltage Driver

Model: LV(30-250)W24CG2 DALI



Model	Rated Input Voltage	Input Power	Input Current	PF	Output Power Range	Output Voltage	Output Current	Efficiency (typ.)
LV30W24CG2 DALI	220-240VAC	≤38W	≤0.19A	≥0.95	12-30W	24V	0.5-1.25A	86%
LV60W24CG2 DALI		≤72W	≤0.35A		24-60W		1-2.5A	87%
LV100W24CG2 DALI		≤115W	≤0.6A		30-100W		1.25-4.17A	92%
LV150W24CG2 DALI		≤168W	≤0.9A		45-150W		1.875-6.25A	92%
LV250W24CG2 DALI		≤275W	≤1.5A		75-250W		3.12-10.42A	92%

* 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	198-264VAC		
	Range of DC Input Voltage	198-280VDC (EMI not evaluated)		
	Frequency	Rate:50/60Hz, Range:47~63Hz		
	Power Factor	≥0.95, 220-240VAC, Rated Load, see graphs		
	THD	30W/60W	≤10%	230VAC, Rated Load, see graphs
		100W/150W/250W	≤7%	230VAC, Rated Load, see graphs
	Standby Power Consumption	≤0.5W, @230VAC, Dim to OFF		
Output	Output Voltage	24VDC+5%		
	No load Voltage	24VDC+5%		
	Output Voltage Ripple	<240mV _{PK-PK} (0.5%)		
	Line Regulation	±1%		
	Load Regulation	±2%		
	Overshoot	<105%V _o		
	Start-up Time	Start-up time <0.5s @ power switch on without DALI control. Start-up time <1s @ DALI system on.		

	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	30	72.3	
		60W	22.8	62.8	
		100W	9.2	69.6	
		150W	10	384	
		250W	16.2	676	
	Efficiency	30W	≥85%	86% typ.	230VAC, Rated Load, at output terminals, see graphs
		60W	≥86%	87% typ.	
		100W	≥91%	92% typ.	
		150W	≥91%	92% typ.	
		250W	≥91%	92% 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 <0.7mA			
Control Method	PUSH dimming	PUSH dimming (Max. lead wire length: 20m,same port of DALI)			
	PUSH-button	Max parallel connection qty for Push-dim 15			
	DALI function	DALI dimming (Max. lead wire length: 300m) logarithm or linear dimming curve selectable DALI-2 certified incl. Parts 251, 252, 253, CLO			
	Dimming range	DALI dimming: 1%-100%			
	Dimming frequency	2KHz			
Environment	Ta/Operation Temperature	-25...+45℃			
	Ts/Storage Temperature	-40...+85℃			
	Tc/Enclosure Temperature For	30W	80℃		
	Safety	60W/100W/150W/250W	90℃		
	Humidity	5%85%RH			
	Atmosphere	86-108KPa			
Construction	Connection Method	Terminal			
	Cable Terminals	Input	1 terminal block		
		Output	2 terminals block		
		Dimming	1terminals block		
	Installation	Independent			
	Input Wire Cross Section	30W/60W/100W/150W	0.5mm² -1.5 mm²		
		250W	0.75mm² -1.5 mm²		
	Output Wire Cross Section	2*0.75mm² -1.5 mm²			
	Dimming Wire Cross Section	0.5mm² -1.5 mm²			

	Output Cable Length	Max. 3M		
	Cable diameters range	Input& Dimming	2.2-4mm	
		Output	2.2-4mm or 9.5-10.5mm	
	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	ENEC,CE,SAA,UKCA		
	Safety Standards	EN 61347-1:2015/A1:2021,EN 61347-2-13:2014/A1:2017,EN IEC 62384:2020,EN 62493:2015,AS61347.2.13:2018, AS/NZS 61347.1:2016 Inc A1,BS EN 61347-1:2015/A1:2021, BS EN 61347-2-13:2014/A1:2017,BS EN 62493:2015, BS EN IEC 62384:2020		
	EMC Standards	EN IEC 55015:2019,EN IEC 55015:2019/A11:2020, EN IEC 61000-3-2:2019/A1:2021,EN 61000-3-3:2013/A2:2021 EN 61547:2009,EMC for UKCA,BS EN IEC 55015:2019, BS EN IEC 55015:2019+A11:2020,BS EN 61547:2009, BS EN IEC 61000-3-2:2019/A1:2021, BS EN 61000-3-3:2013+A2:2021		
	Performance	EN62384;IEC 62386-101 Edition2.0 2014-11; BS EN 62386-102:2014 ; BS EN 62386-207:2009 DALI Part -251,-252 and -253		
	Surge	L-N:2KV		
	Others	RoHS	2011/65/EU	
MTBF		≥250KHours,Ta=25℃(MIL-HDBK-217F)		
Audible Noise		30W/60W	<28dB @ 15cm distance, 18dB background	
		100W/150W/250W	<28dB @ 15cm distance, 18dB background	
Life Time(@Ta max)		30W	≥80K Hrs	@230VAC , full oad, End of Life: Failure Rate<10%
		60W	≥60K Hrs	
		100W	≥60K Hrs	
		150W	≥55K Hrs	
		250W	≥52K Hrs	
Warranty	5years, End of Life: Maximum Failure Rate=10%			

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.

2. Connected quantities of different current Breaker

TYPE	LV30W24CG2 DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current <25A	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm ²	2.5mm ²	2.5mm ²	4mm ²	4mm ²			
TYPE B		27	35	44	55	68	@230VAC	22	200µs
TYPE C		44	57	70	87	109			
TYPE D		70	91	112	140	175			

TYPE	LV60W24CG2 DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current <30A	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm ²	2.5mm ²	2.5mm ²	4mm ²	4mm ²			
TYPE B		23	30	37	46	58	@230VAC	26	220µs
TYPE C		37	48	59	74	92			
TYPE D		59	77	95	118	148			

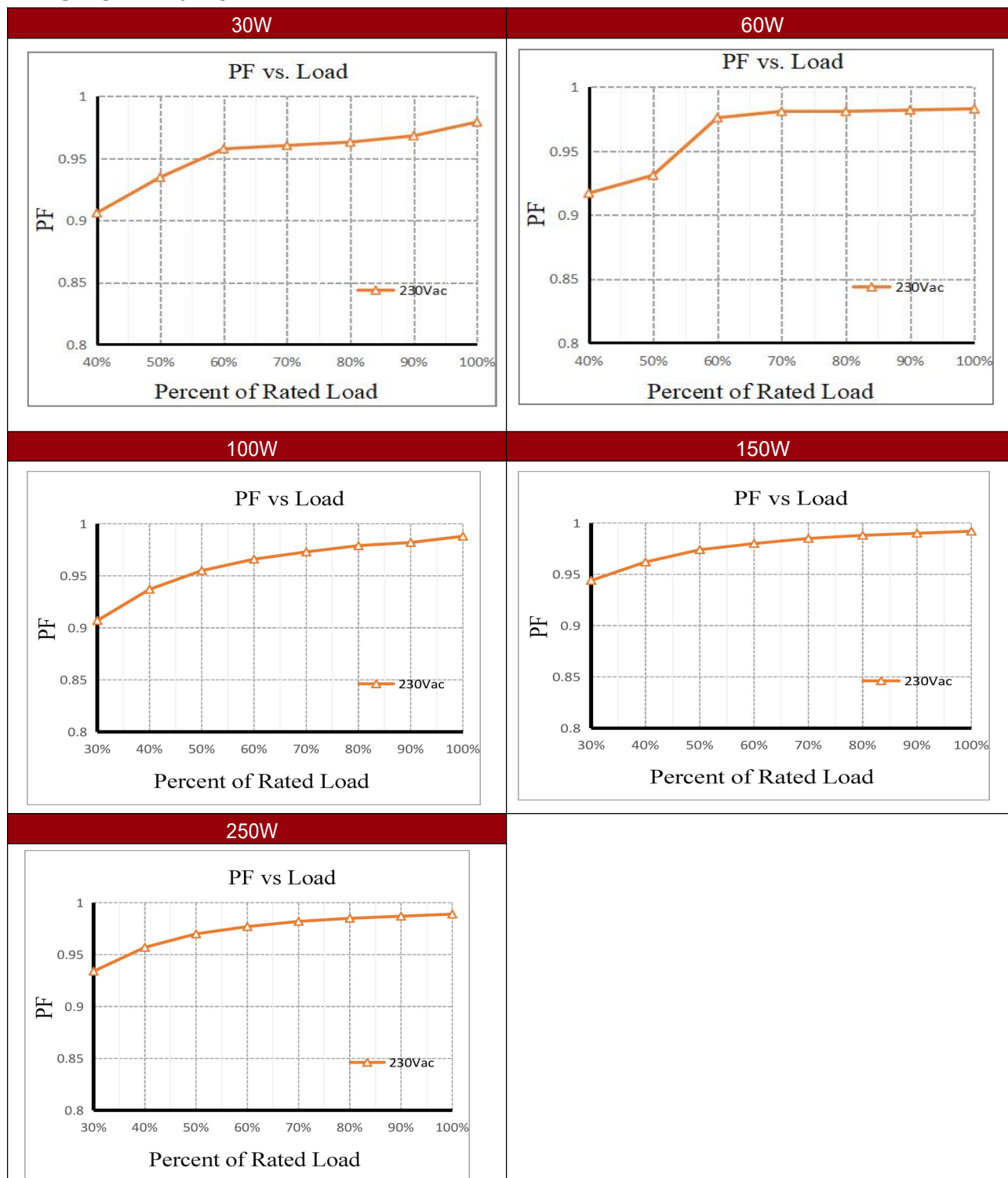
TYPE	LV100W24CG2 DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current <50A	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm ²	2.5mm ²	2.5mm ²	4mm ²	4mm ²			
TYPE B		13	17	21	27	33	@230VAC	45	250µs
TYPE C		21	28	34	43	53			
TYPE D		34	44	55	68	85			

TYPE	LV150W24CG2 DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current <60A	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm ²	2.5mm ²	2.5mm ²	4mm ²	4mm ²			
TYPE B		11	14	17	21	27	@230VAC	56	185µs
TYPE C		17	22	27	34	43			
TYPE D		27	36	44	55	69			

TYPE	LV250W24CG2 DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current <80A	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm ²	2.5mm ²	2.5mm ²	4mm ²	4mm ²			
TYPE B		8	10	13	16	20	@230VAC	76	310µs
TYPE C		13	16	20	25	32			
TYPE D		20	26	32	40	51			

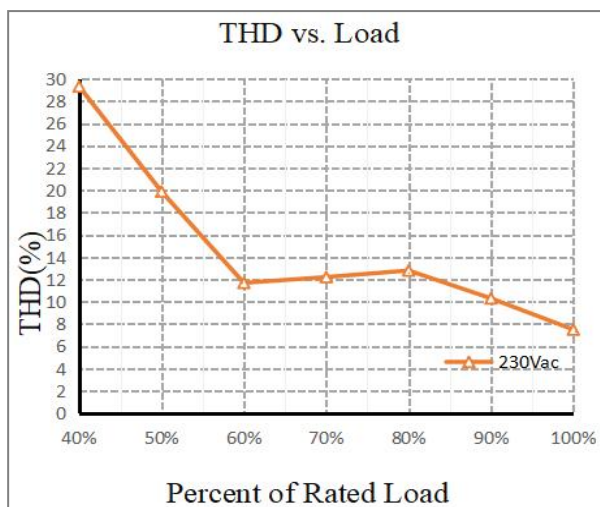
3. Graph

PF VS LOAD Curve

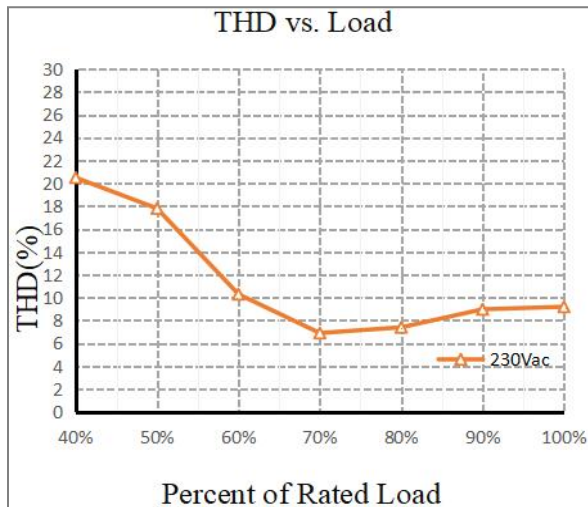


THD VS LOAD Curve

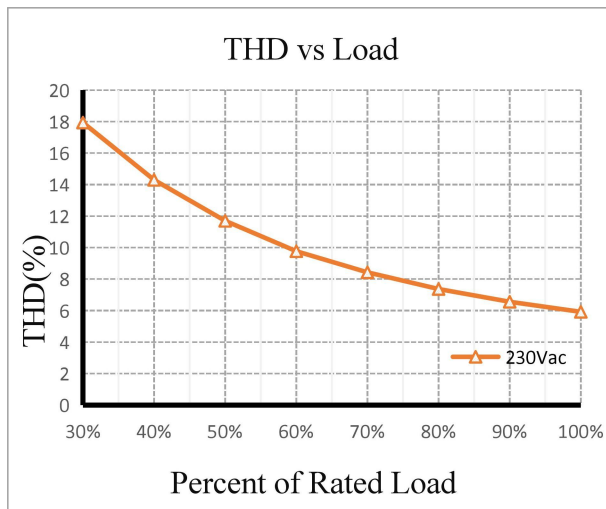
30W



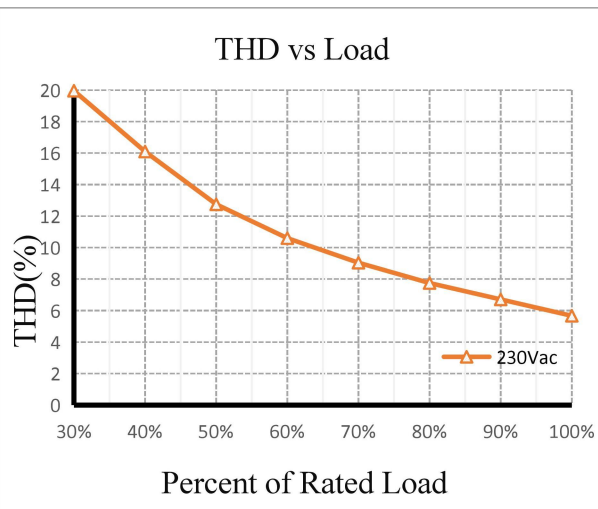
60W



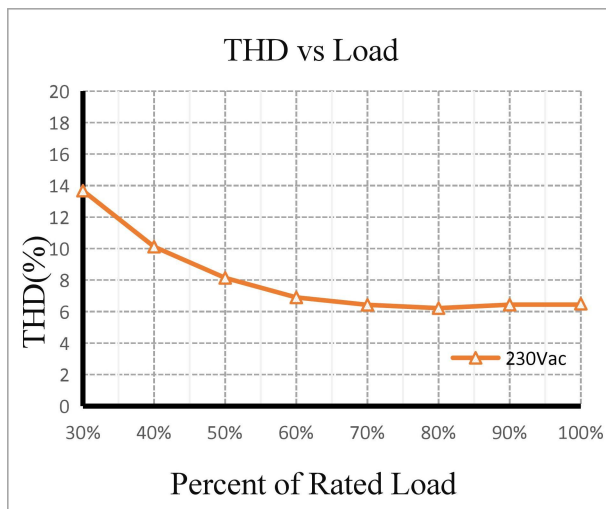
100W



150W

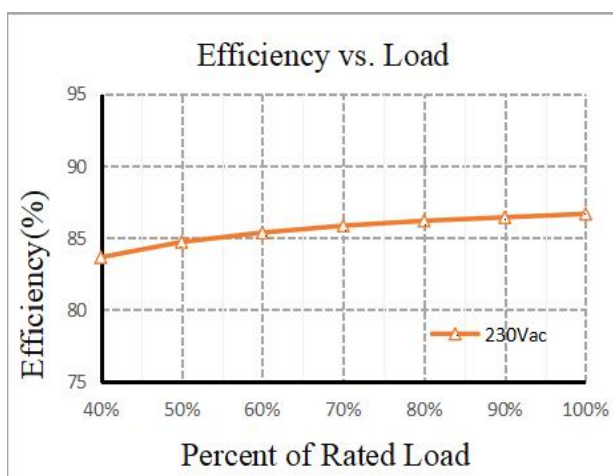


250W

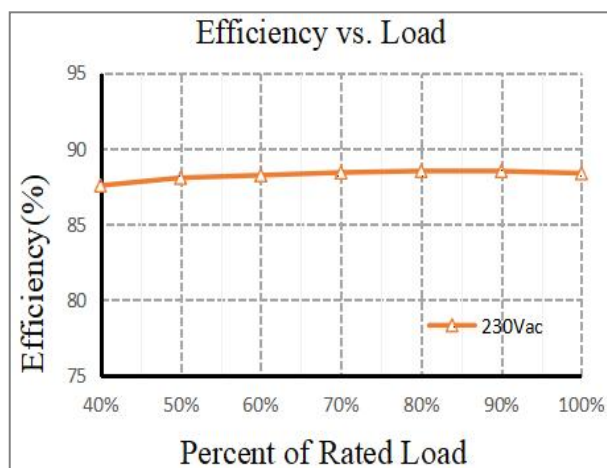


Efficiency VS LOAD Curve

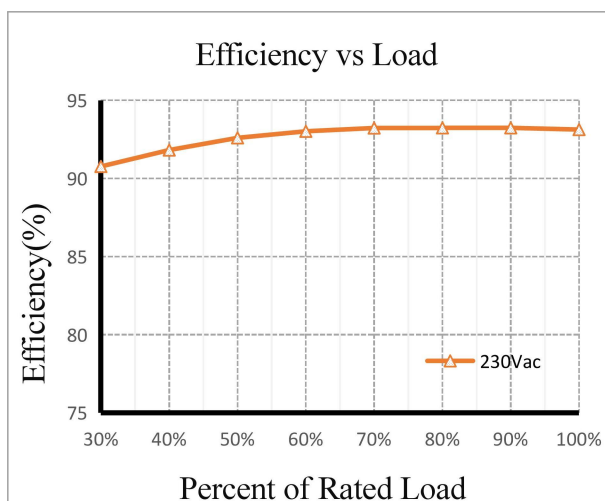
30W



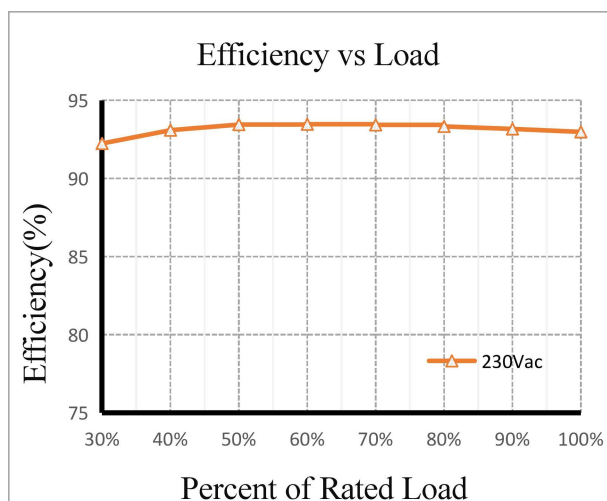
60W



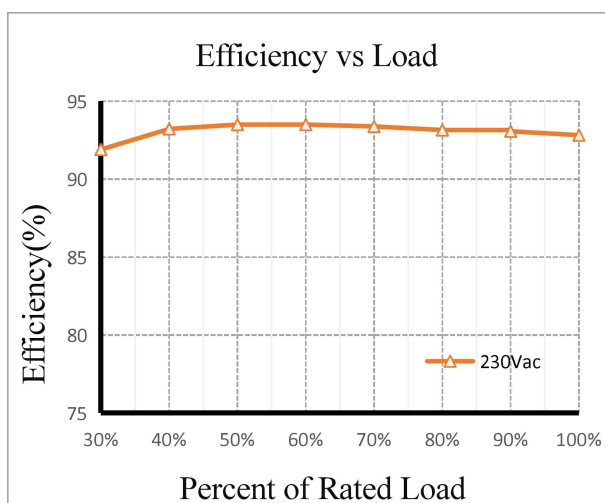
100W



150W



250W



4. Label

☐ L wire preparation
☐ N INPUT: 0.5-1.5"
☐ DA OUTPUT: 0.75-1.5"
☐ DA DIM: 0.5-1.5"

KGP
 KGP Electronics GmbH
 Hueckstraße 19
 DE-58511 Lüdenscheid

LED Dimmable Driver
 LV30W24CG2 DALI
 Constant Voltage Type
 For LED modules only

INPUT: 220-240V~ 50/60Hz 0.19A
 OUTPUT: 24V ~0.5-1.25A
 Rated Power: 12-30W
 Power Factor(λ): ≥0.95
 ta: -25...45°C tc: 80°C

☐ L wire preparation
☐ N INPUT: 0.5-1.5"
☐ DA OUTPUT: 0.75-1.5"
☐ DA DIM: 0.5-1.5"

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LED Dimmable Driver
 LV60W24CG2 DALI
 Constant Voltage Type
 For LED modules only

INPUT: 220-240V~ 50/60Hz 0.35A
 OUTPUT: 24V ~1-2.5A
 Rated Power: 24-60W
 Power Factor(λ): ≥0.95
 ta: -25...45°C tc: 90°C

☐ L wire preparation
☐ N INPUT: 0.5-1.5"
☐ DA OUTPUT: 0.75-1.5"
☐ DA DIM: 0.5-1.5"

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LED Dimmable Driver
 LV100W24CG2 DALI
 Constant Voltage Type
 For LED modules only

INPUT: 220-240V~ 50/60Hz 0.8A
 OUTPUT: 24V ~1.25-4.17A
 Rated Power: 30-100W
 Power Factor(λ): ≥0.95
 ta: -25...45°C tc: 90°C

☐ L wire preparation
☐ N INPUT: 0.5-1.5"
☐ DA OUTPUT: 0.75-1.5"
☐ DA DIM: 0.5-1.5"

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LED Dimmable Driver
 LV150W24CG2 DALI
 Constant Voltage Type
 For LED modules only

INPUT: 220-240V~ 50/60Hz 0.9A
 OUTPUT: 24V ~1.875-6.25A
 Rated Power: 45-150W
 Power Factor(λ): ≥0.95
 ta: -25...45°C tc: 90°C

☐ L wire preparation
☐ N INPUT: 0.75-1.5"
☐ DA OUTPUT: 0.75-1.5"
☐ DA DIM: 0.5-1.5"

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LED Dimmable Driver
 LV250W24CG2 DALI
 Constant Voltage Type
 For LED modules only

INPUT: 220-240V~ 50/60Hz 1.5A
 OUTPUT: 24V ~3.12-10.42A
 Rated Power: 75-250W
 Power Factor(λ): ≥0.95
 ta: -25...45°C tc: 90°C

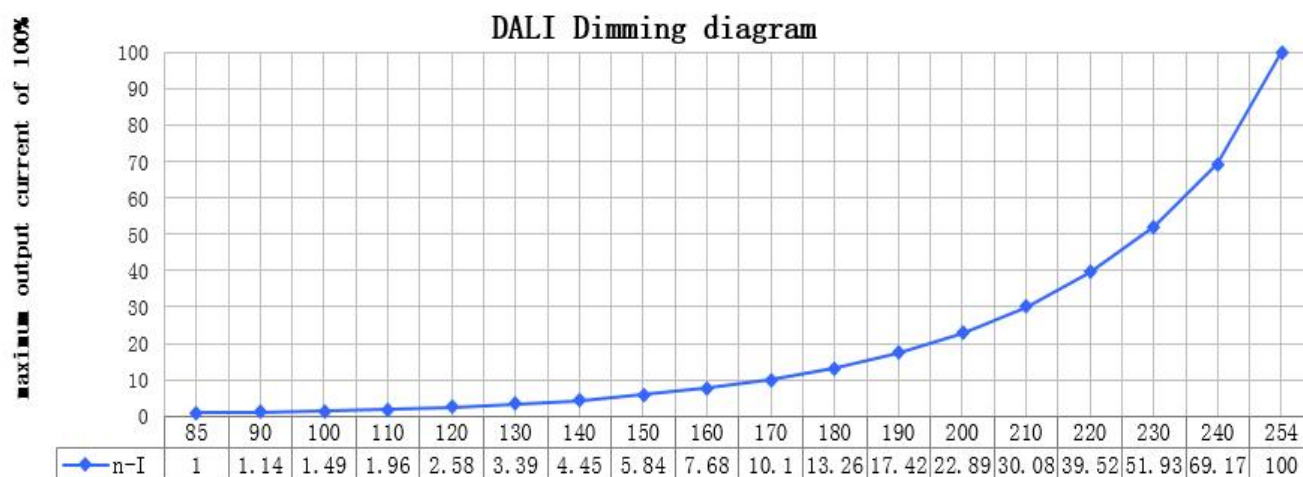
5. DALI dimming curve

5.1 formula for DALI dimming.

$$X(n) = 10^{\left\{ \frac{(n-1)}{(253/3)} \right\} - 1},$$

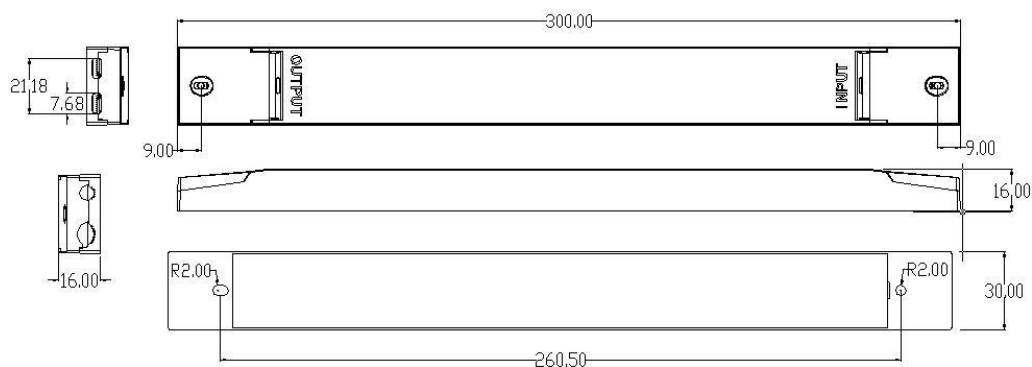
Here, n means the target dimming stage of the total 254 stages.

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

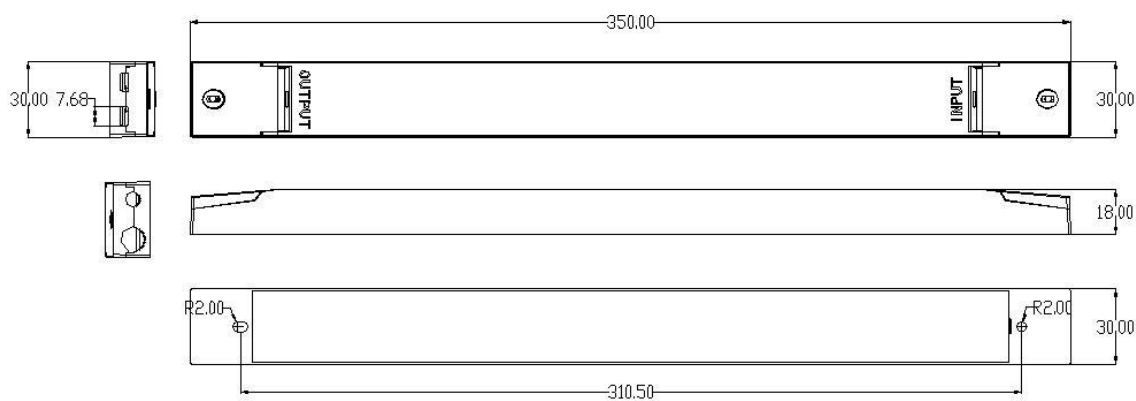


target dimming stage of the total 254 stages

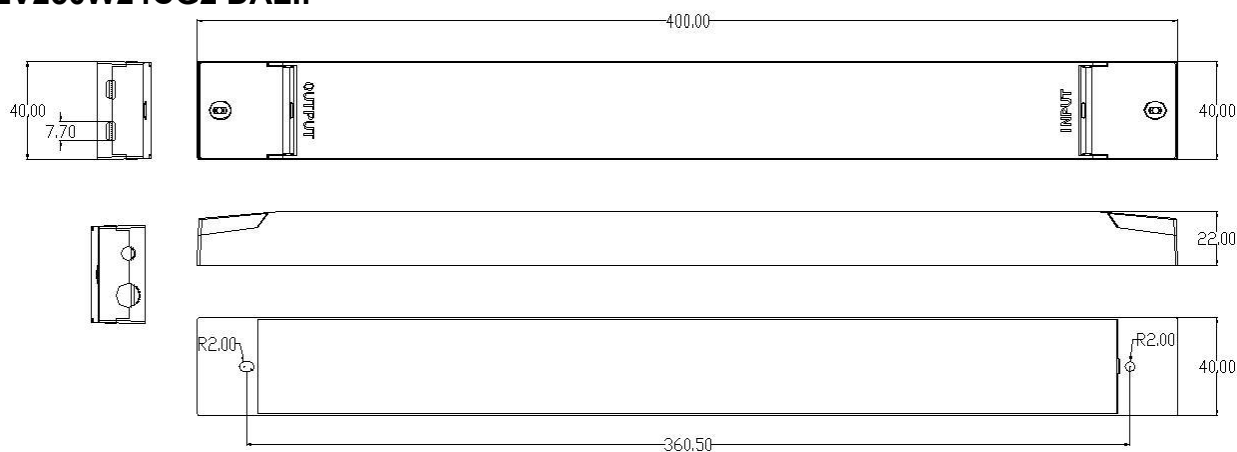
6. Dimension (Unit: mm) LV30W24CG2 DALI



LV60W24CG2 DALI&LV100W24CG2 DALI & LV150W24CG2 DALI:



LV250W24CG2 DALI:



7. Wiring Diagram

Fig. A: Push Dimming

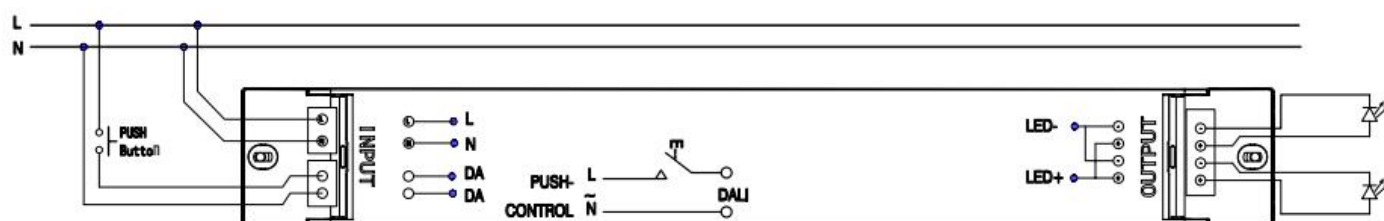
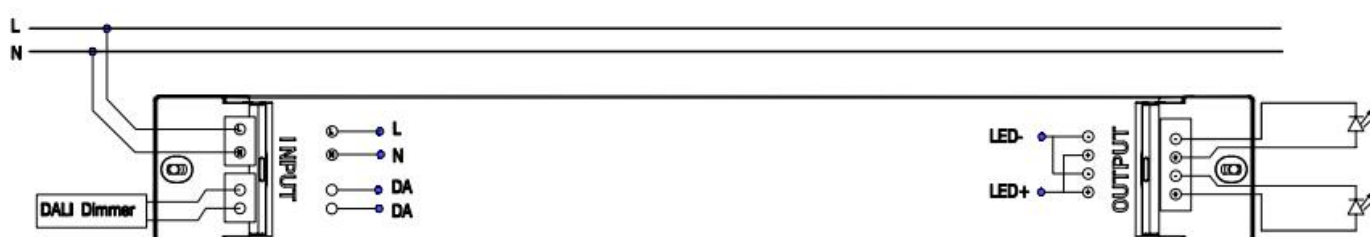


Fig. B: DALI Dimming



8. Packing information

Packing way	Model	Carton L*W*H(mm)	Pcs/C arton	Net weight/ Pcs(kg)	Net weight/ Carton(kg)	Gross weight /Carton(kg)
With white box and manual	LV30W24CG2 DALI	320*230*195	50	0.143	7.15	7.78
	LV60W24CG2 DALI	375*235*195	50	0.23	11.5	12.2
	LV100W24CG2 DALI			0.27	13.5	14.3
	LV150W24CG2 DALI			0.29	14.5	15.3
	LV250W24CG2 DALI	420*230*160	25	0.53	13.25	13.94
Without white box and manual	LV30W24CG2 DALI	440*345*155	60	0.125	7.5	8.12
	LV60W24CG2 DALI	440*345*155	40	0.25	10	10.7
	LV100W24CG2 DALI			0.27	10.8	11.5
	LV150W24CG2 DALI			0.28	11.2	11.9
	LV250W24CG2 DALI	440*300*155	25	0.5	12.5	13.84

9. Wiring instructions

- All connections must be kept as short as possible to ensure good EMI behaviour
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- Advice the maximum length of output wires is 3 m
- Secondary switching is not permitted (Except for constant voltage)
- Incorrect wiring can damage LED modules.
- The wiring must be protected against short circuits to earth (sharp edged metals parts, metal cable clips, louver, etc.)

10. REVISION HISTORY

DATE	REV.	REMARK
2023-3-20	V1.0	Initial release.
2023-10-31	V1.1	Update the screen printing, packaging information
2024-8-19	V1.2	1.Update the dimming frequency 2.Add the product wiring diagram