


**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.)	Cementig product
LV30W24CG2 DALI	220-240VAC	≤38W	≤0.19A	≥0.95	12-30W	24V	0.5-1.25A	86%	N
LV60W24CG2 DALI		≤72W	≤0.35A		24-60W		1-2.5A	87%	N
LV100W24CG2 DALI		≤115W	≤0.6A		30-100W		1.25-4.17A	92%	Y
LV150W24CG2 DALI		≤168W	≤0.9A		45-150W		1.875-6.25A	92%	Y
LV250W24CG2 DALI		≤275W	≤1.5A		75-250W		3.12-10.42A	92%	Y

\* 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 <sub>PK-PK</sub> (0.5%)	
	Line Regulation	±1%	
	Load Regulation	±2%	
	Overshoot	<105%V <sub>o</sub>	
	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 < 250 μ A			
Control Method	PUSH dimming	PUSH dimming (Max. lead wire length: 20m,same port of DALI)			
	PUSH-button	Max parallel connections 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% (1KHz)			
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	0.5mm <sup>2</sup> -1.5 mm <sup>2</sup>		
		250W	0.75mm <sup>2</sup> -1.5 mm <sup>2</sup>		
	Output Wire Cross Section	2*0.75mm <sup>2</sup> -1.5 mm <sup>2</sup>			
	Dimming Wire Cross Section	0.5mm <sup>2</sup> -1.5 mm <sup>2</sup>			
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%				
<p>Remark:</p> <p>1.All Parameters, if not specified, are measured at 230VAC/50Hz and 25℃ ambient temperature.</p> <p>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.</p> <p>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.</p>					

**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 <sup>2</sup>	2.5mm <sup>2</sup>	2.5mm <sup>2</sup>	4mm <sup>2</sup>	4mm <sup>2</sup>			
TYPE B	27	35	44	55	68	@230VAC	22	200us	
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 <sup>2</sup>	2.5mm <sup>2</sup>	2.5mm <sup>2</sup>	4mm <sup>2</sup>	4mm <sup>2</sup>			
TYPE B	23	30	37	46	58	@230VAC	26	220us	
TYPE C	37	48	59	74	92				
TYPE D	59	77	95	118	148				

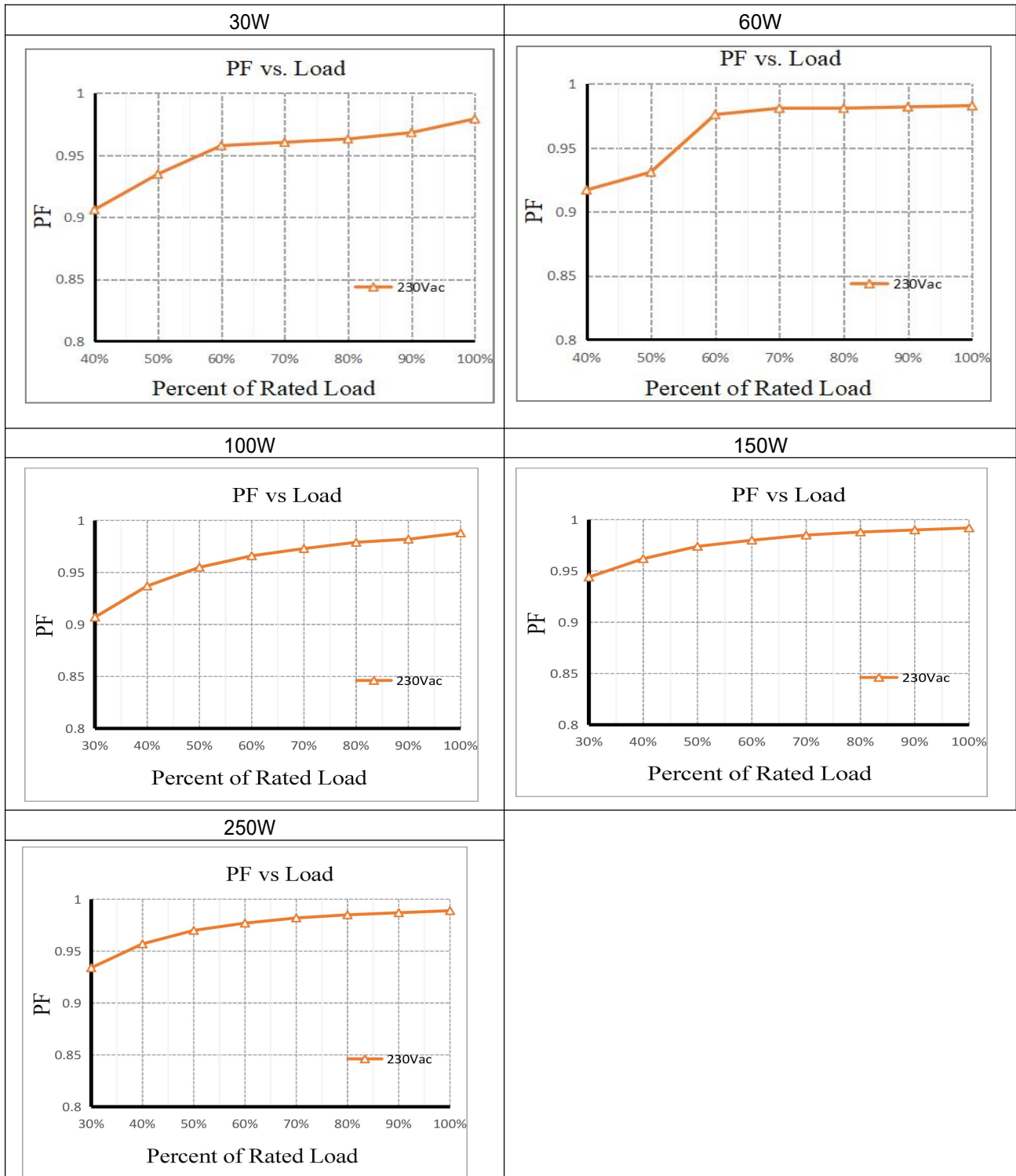
TYPE	LV100W24CG2 DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current <50A	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>	2.5mm <sup>2</sup>	4mm <sup>2</sup>	4mm <sup>2</sup>			
TYPE B	13	17	21	27	33	@230VAC	45	250us	
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 <sup>2</sup>	2.5mm <sup>2</sup>	2.5mm <sup>2</sup>	4mm <sup>2</sup>	4mm <sup>2</sup>			
TYPE B	11	14	17	21	27	@230VAC	56	185us	
TYPE C	17	22	27	34	43				
TYPE D	27	36	44	55	69				

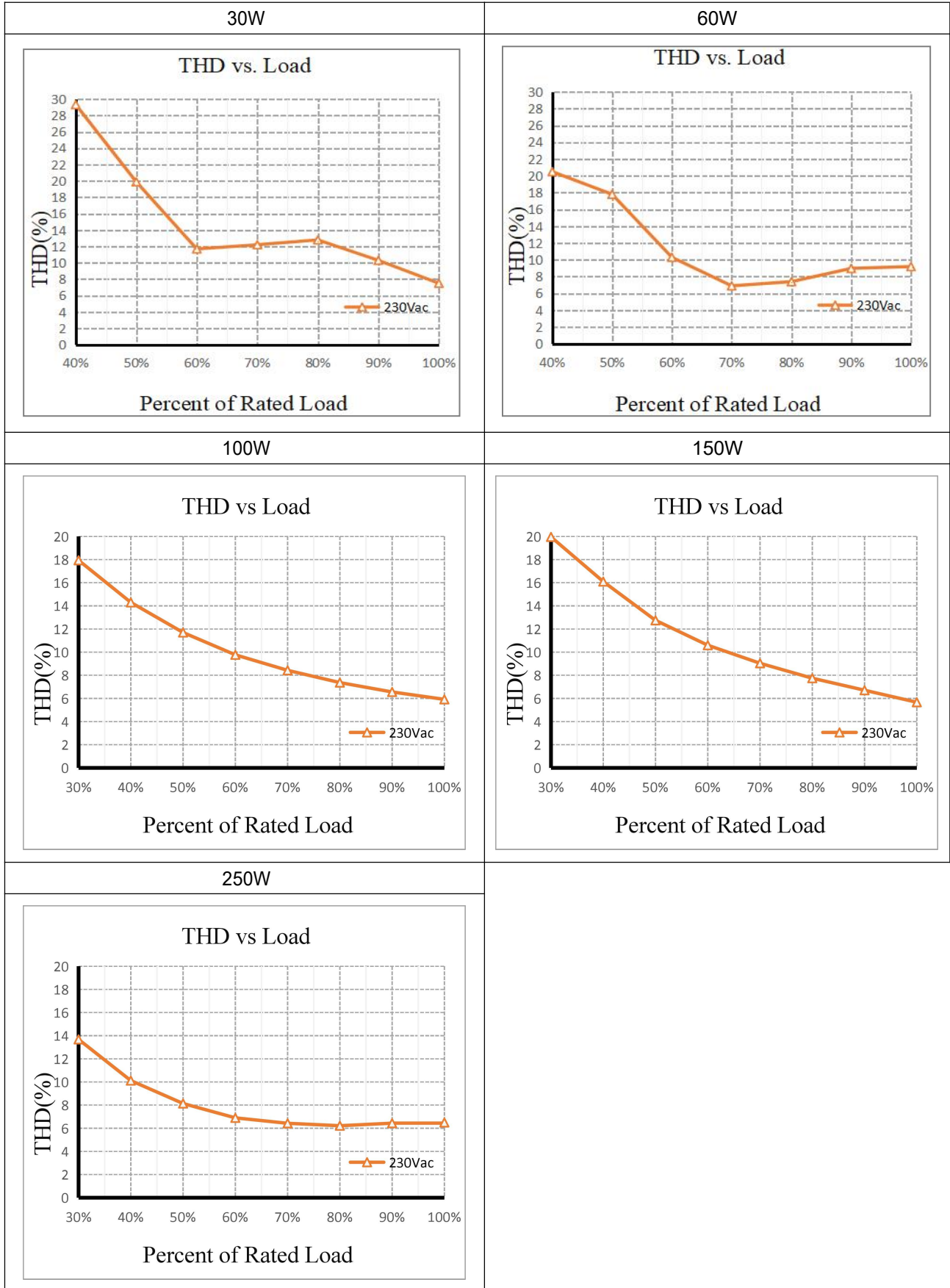
TYPE	LV250W24CG2 DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current <80A	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>	2.5mm <sup>2</sup>	4mm <sup>2</sup>	4mm <sup>2</sup>			
TYPE B	8	10	13	16	20	@230VAC	76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

### 3. Graph

#### PF VS LOAD Curve

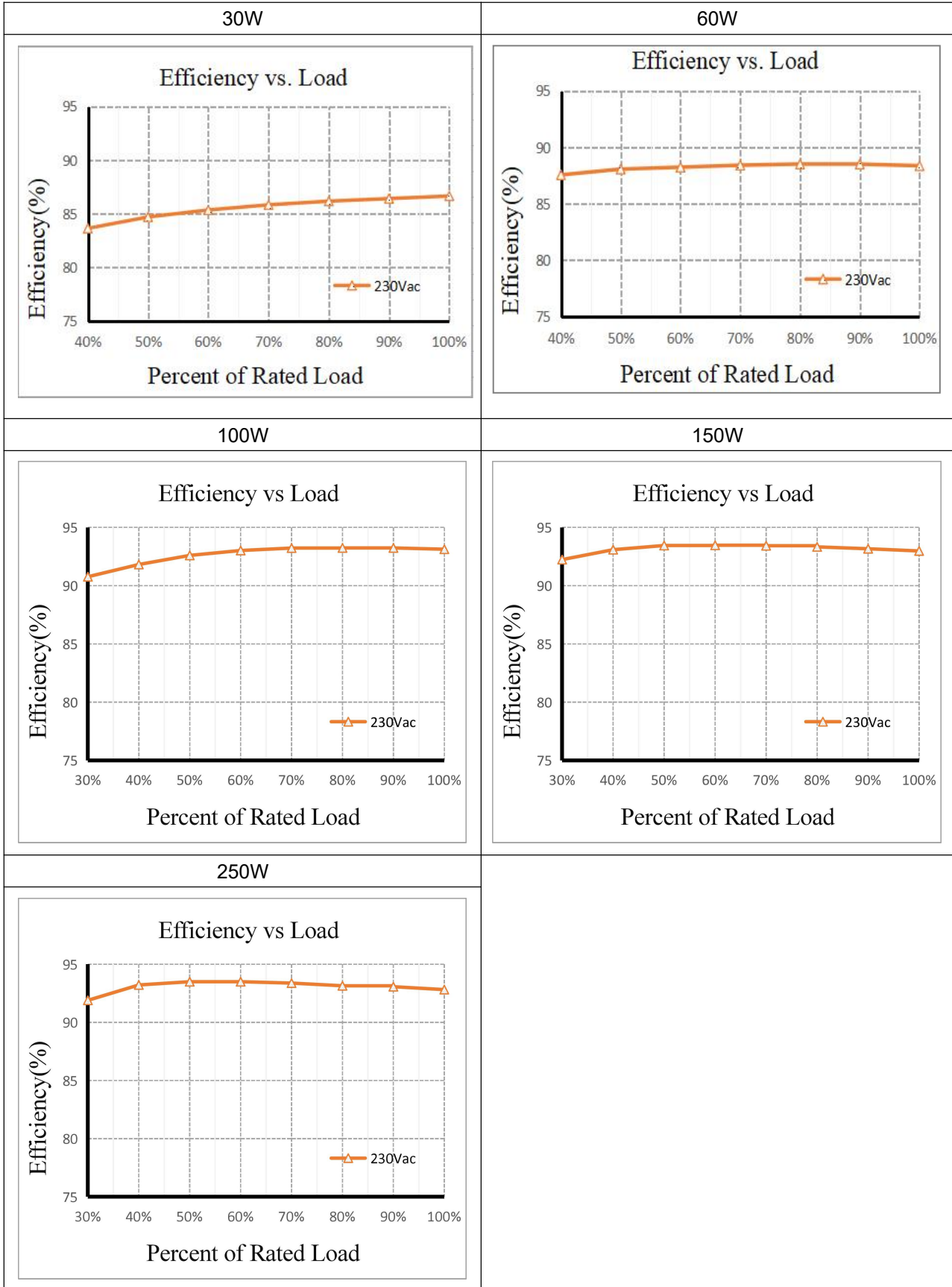


### THD VS LOAD Curve





### Efficiency VS LOAD Curve



### 4. Label

<input type="checkbox"/> L <input type="checkbox"/> N <input type="checkbox"/> DA <input type="checkbox"/> DA	wire preparation INPUT: 0.5-1.5* OUTPUT: 0.75-1.5* DIM: 0.5-1.5*	<b>KGP</b> KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	<b>LED Dimmable Driver</b> <b>LV30W24CG2 DALI</b> 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		
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<input type="checkbox"/> L <input type="checkbox"/> N <input type="checkbox"/> DA <input type="checkbox"/> DA	wire preparation INPUT: 0.5-1.5* OUTPUT: 0.75-1.5* DIM: 0.5-1.5*	<b>KGP</b> KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	<b>LED Dimmable Driver</b> <b>LV60W24CG2 DALI</b> Constant Voltage Type For LED modules only	INPUT: 220-240V~ 50/60Hz 0.36A OUTPUT: 24V ~ 1-2.5A Rated Power: 24-60W Power Factor(λ): ≥0.95 ta: -25...45°C tc: 90°C		
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<input type="checkbox"/> L <input type="checkbox"/> N <input type="checkbox"/> DA <input type="checkbox"/> DA	wire preparation INPUT: 0.5-1.5* OUTPUT: 0.75-1.5* DIM: 0.5-1.5*	<b>KGP</b> KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	<b>LED Dimmable Driver</b> <b>LV100W24CG2 DALI</b> 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		
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<input type="checkbox"/> L <input type="checkbox"/> N <input type="checkbox"/> DA <input type="checkbox"/> DA	wire preparation INPUT: 0.5-1.5* OUTPUT: 0.75-1.5* DIM: 0.5-1.5*	<b>KGP</b> KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	<b>LED Dimmable Driver</b> <b>LV150W24CG2 DALI</b> Constant Voltage Type For LED modules only	INPUT: 220-240V~ 50/60Hz 0.8A OUTPUT: 24V ~ 1.875-6.25A Rated Power: 45-150W Power Factor(λ): ≥0.95 ta: -25...45°C tc: 90°C		
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<input type="checkbox"/> L <input type="checkbox"/> N <input type="checkbox"/> DA <input type="checkbox"/> DA	wire preparation INPUT: 0.75-1.5* OUTPUT: 0.75-1.5* DIM: 0.5-1.5*	<b>KGP</b> KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	<b>LED Dimmable Driver</b> <b>LV250W24CG2 DALI</b> 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		
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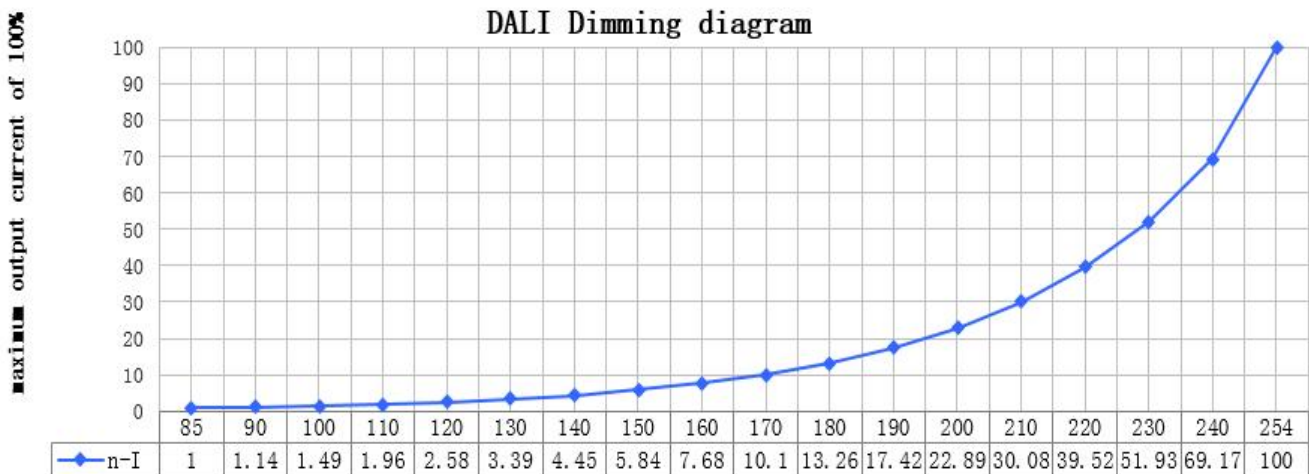
### 5. DALI dimming curve

#### 5.1 formula for DALI dimming.

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

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

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

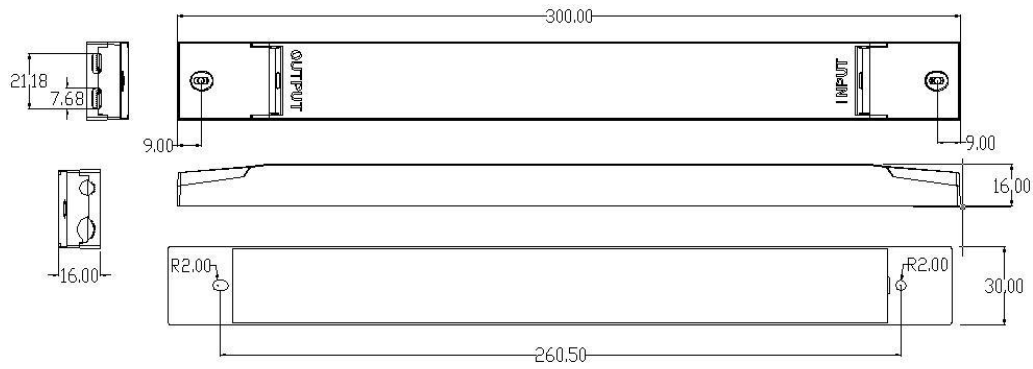


target dimming stage of the total 254 stages

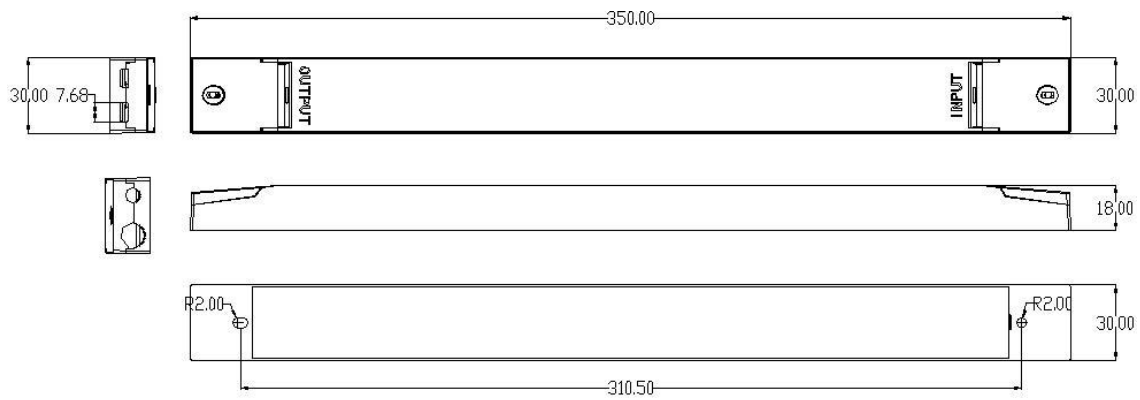


### 6. Dimension (Unit: mm)

#### LV30W24CG2 DALI



#### LV60W24CG2 DALI & LV100W24CG2 DALI & LV150W24CG2 DALI:



#### LV250W24CG2 DALI:



## 7. Packing information

Packing way	Model	Carton L*W*H(mm)	Pcs/Carton	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

## 8. 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.)

## 9. REVISION HISTORY

DATE	REV.	REMARK
2023-3-20	V1.0	Initial release.
2023-10-31	V1.1	Update the screen printing, packaging information