

LV(30-250)W24CG2 DALI



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.	

LV(30-250)W24CG2 DALI

	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	
	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	0.5mm ² -1.5 mm ²		
		250W	0.75mm ² -1.5 mm ²		
	Output Wire Cross Section	2*0.75mm ² -1.5 mm ²			
Dimming Wire Cross Section	0.5mm ² -1.5 mm ²				

LV(30-250)W24CG2 DALI

	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°C(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:

- All Parameters, if not specified, are measured at 230VAC/50Hz and 25°C ambient temperature.
- LED Driver is a component of the luminaires, Luminaires and wire layout will affect the EMC, please check the EMC with end products again.
- 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.

LV(30-250)W24CG2 DALI

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			

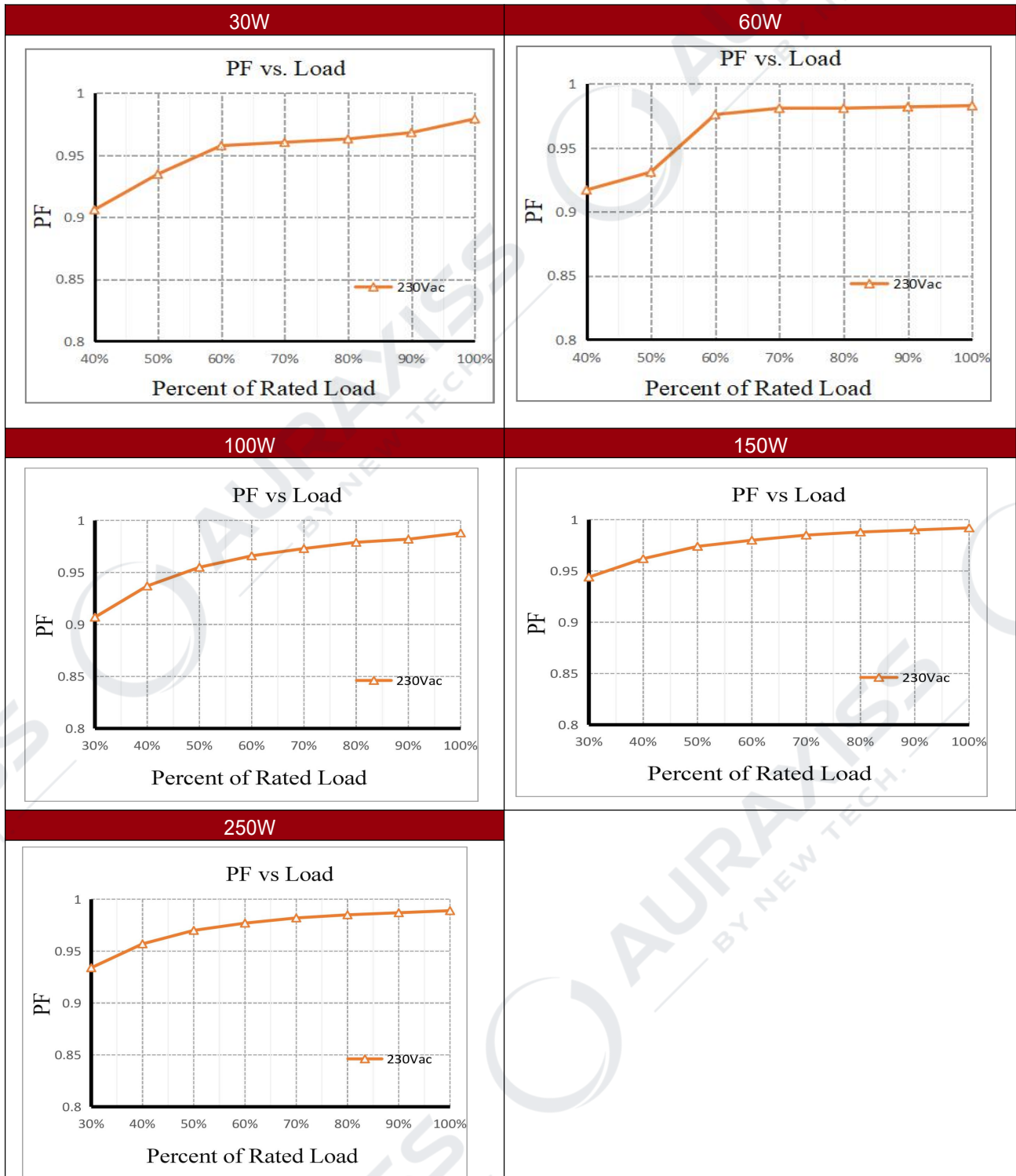
TYPE	LV100W24CG2 DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current <50A	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm ²	2.5mm ²	2.5mm ²	4mm ²	4mm ²			
TYPE B		13	17	21	27	33	@230VAC	45	250µs
TYPE C		21	28	34	43	53			
TYPE D		34	44	55	68	85			

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

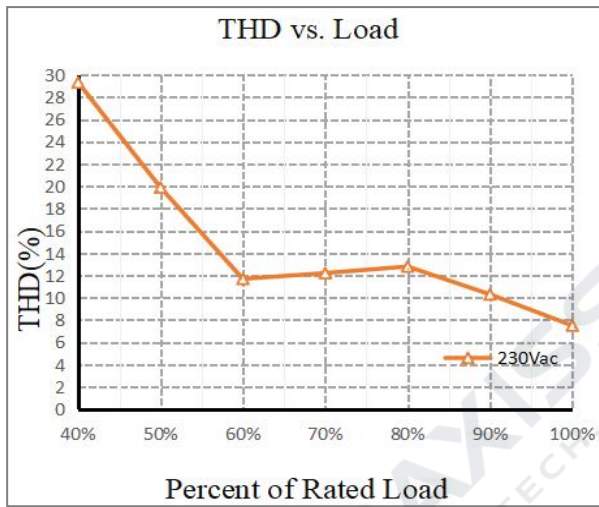
PF VS LOAD Curve



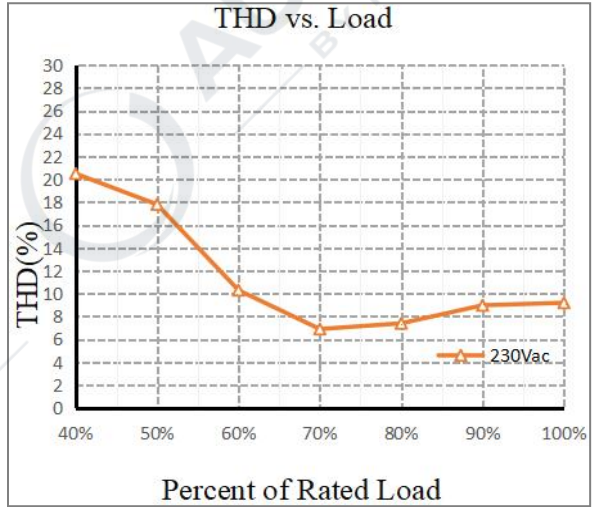
LV(30-250)W24CG2 DALI

THD VS LOAD Curve

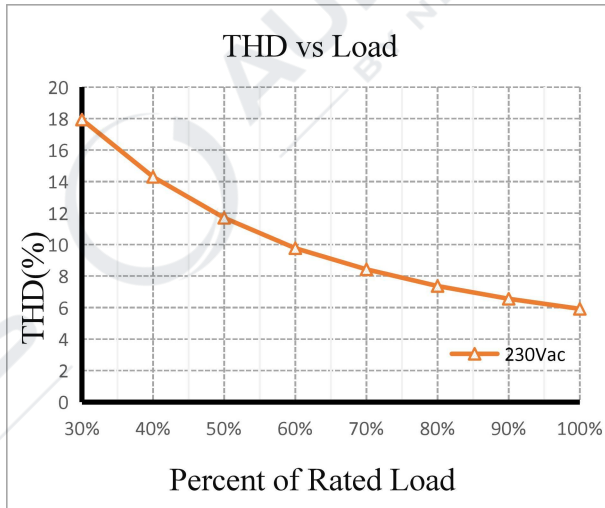
30W



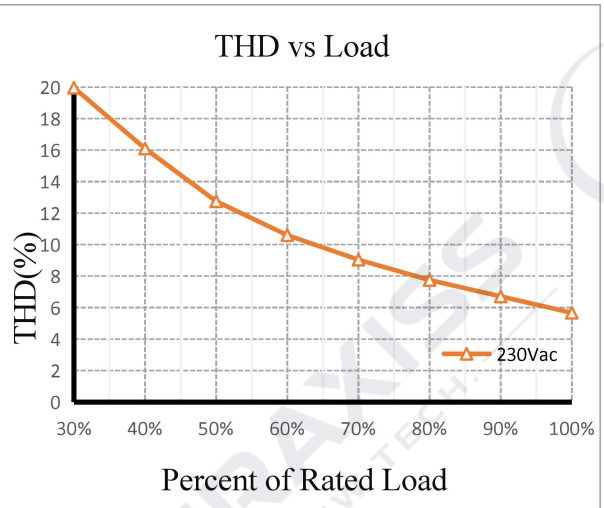
60W



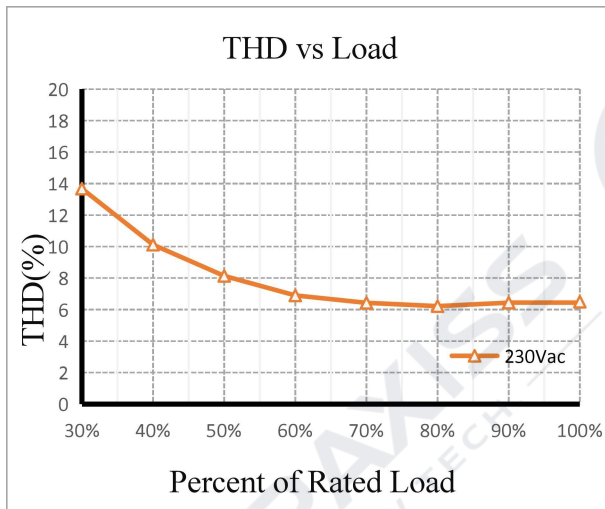
100W



150W

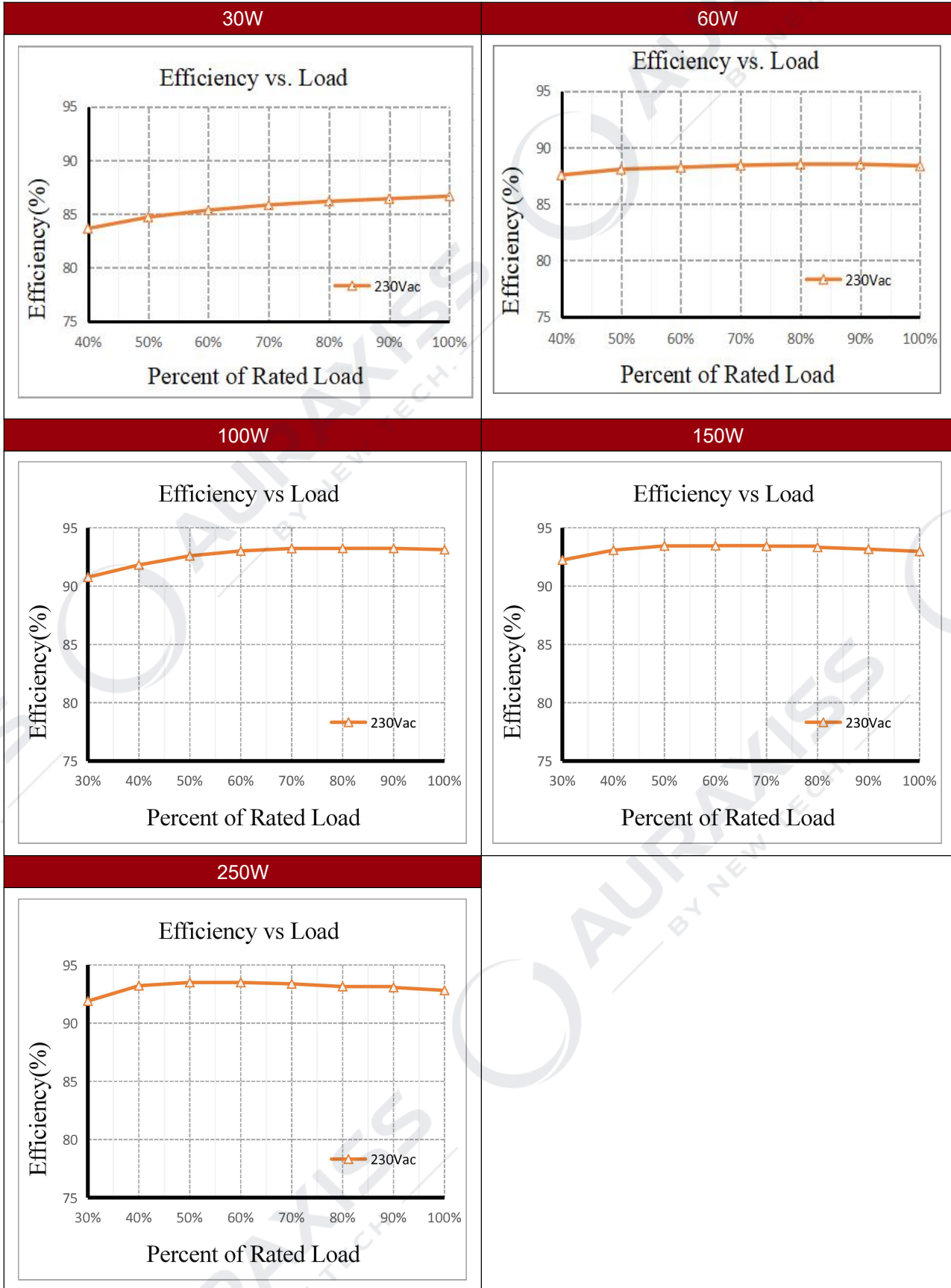


250W



LV(30-250)W24CG2 DALI

Efficiency VS LOAD Curve



LV(30-250)W24CG2 DALI

4. Label

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

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

Electronics GmbH
 Hueckstraße 19
 DE-58511 Lüdenscheid

CE ENEC UK W/W LED- LED+
 DALI SELV

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

LED Dimmable Driver
LV60W24CG2 DALI
 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

Electronics GmbH
 Hueckstraße 19
 DE-58511 Lüdenscheid

CE ENEC UK W/W LED- LED+
 DALI SELV

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

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

INPUT: 220-240V~50/60Hz 0.6A
 OUTPUT: 24V=1.25-4.17A
 Rated Power: 30-100W
 Power Factor(λ): ≥0.95
 ta: -25...45°C tc: 90°C

Electronics GmbH
 Hueckstraße 19
 DE-58511 Lüdenscheid

CE ENEC UK W/W LED- LED+
 DALI SELV

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

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

Electronics GmbH
 Hueckstraße 19
 DE-58511 Lüdenscheid

CE ENEC UK W/W LED- LED+
 DALI SELV

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

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

Electronics GmbH
 Hueckstraße 19
 DE-58511 Lüdenscheid

CE ENEC UK W/W LED- LED+
 DALI SELV

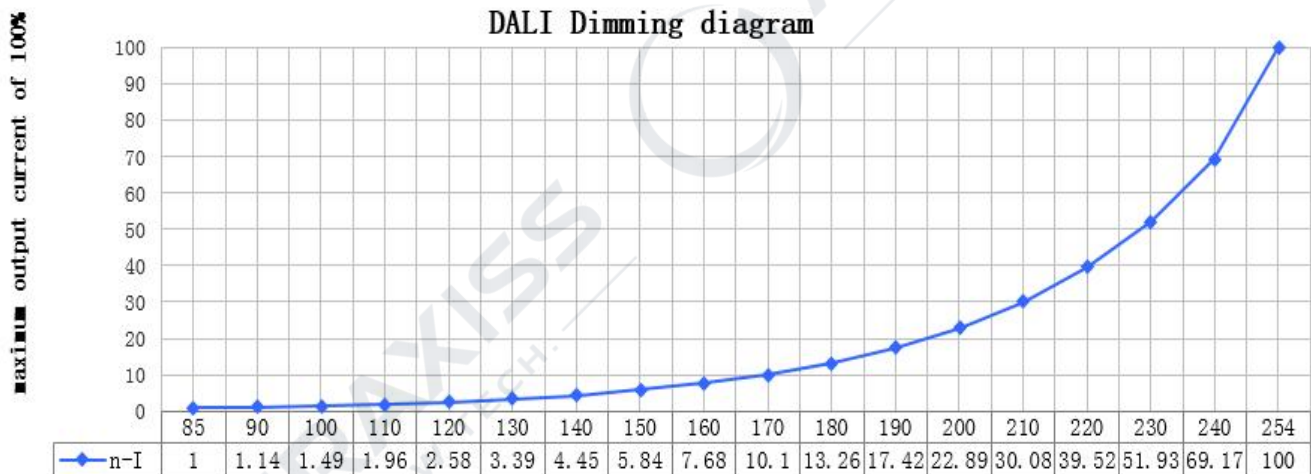
5. DALI dimming curve

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 current

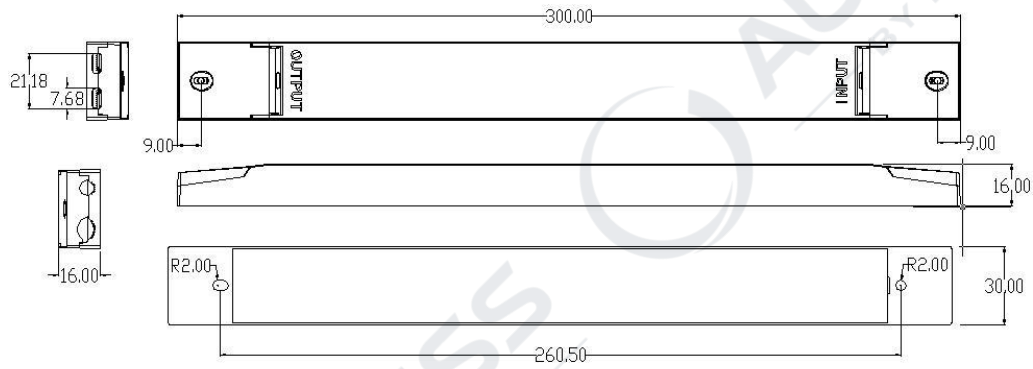


target dimming stage of the total 254 stages

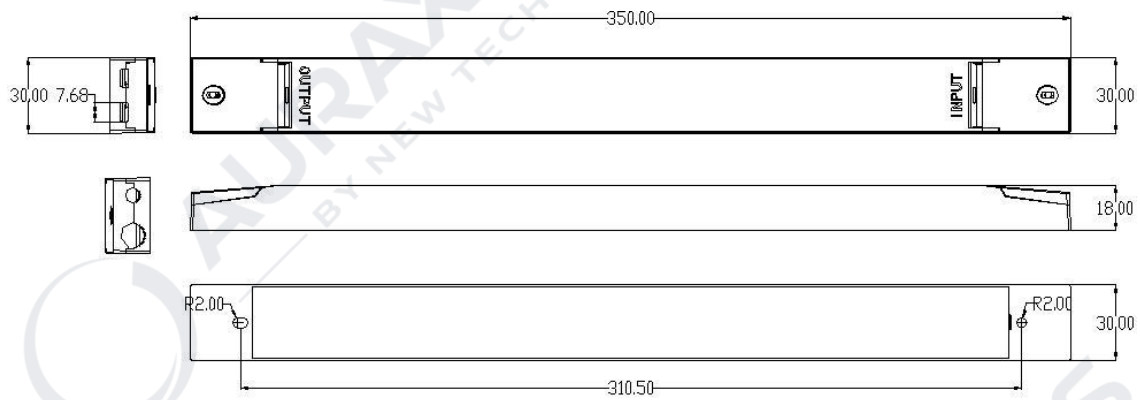
LV(30-250)W24CG2 DALI

6. Dimension (Unit: mm)

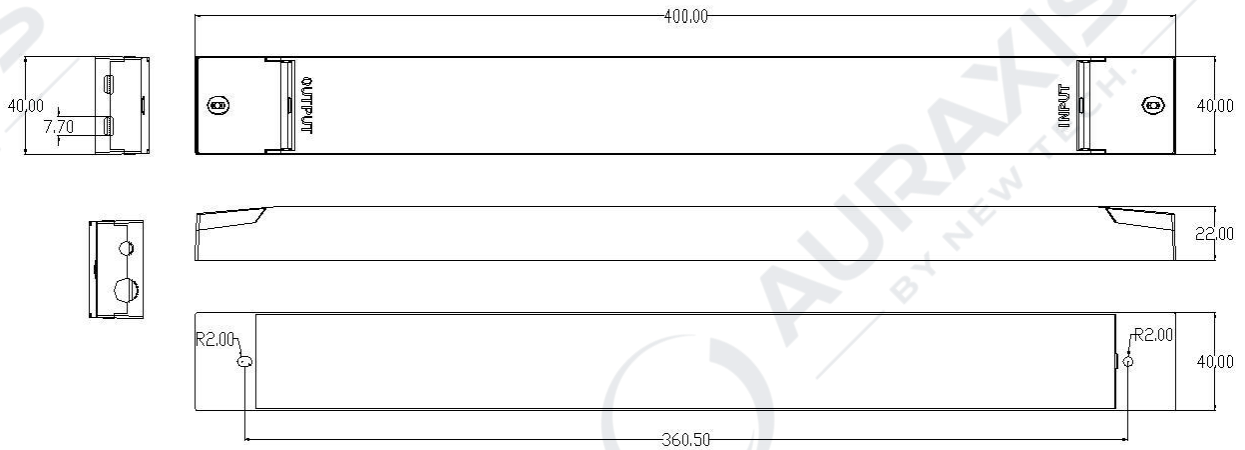
LV30W24CG2 DALI



LV60W24CG2 DALI & LV100W24CG2 DALI & LV150W24CG2 DALI:



LV250W24CG2 DALI:



LV(30-250)W24CG2 DALI

7. Wiring Diagram

Fig. A: Push Dimming

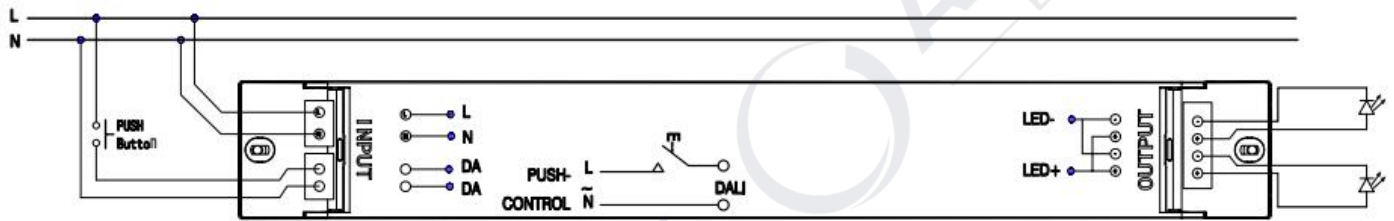
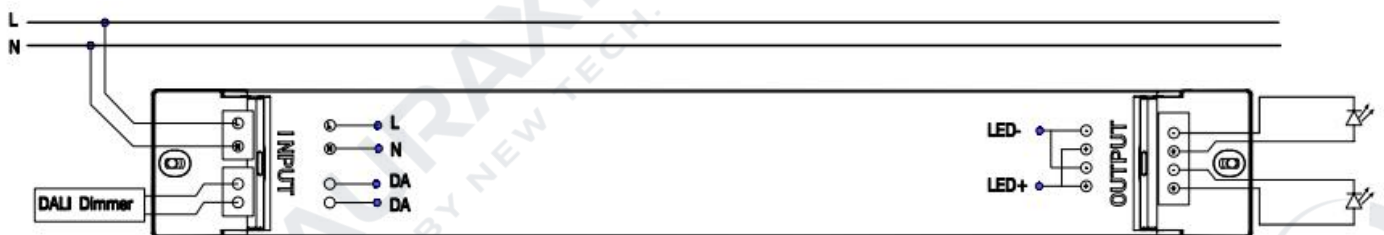


Fig. B: DALI Dimming



8. 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

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