

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.)	Cementing product
LV30W24CG DALI	220-240VAC	≤38W	≤0.19A	≥0.95	12-30W	24V	0.5-1.25A	85%	N
LV60W24CG DALI		≤72W	≤0.35A		24-60W		1-2.5A	88%	N
LV100W24CG DALI		≤115W	≤0.6A		30-100W		1.25-4.17A	92%	N
LV150W24CG DALI		≤168W	≤0.9A		45-150W		1.875-6.25A	93%	Y
LV250W24CG DALI		≤275W	≤1.5A		75-250W		3.12-10.42A	93%	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	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		
Output	Output Voltage	24VDC+5%		
	No load Voltage	24VDC+5%		
	Output Voltage Ripple	30W	<480mV$_{PK-PK}$ (1%)	
		60W/100W/150W/250W	<240mV$_{PK-PK}$ (0.5%)	
	Line Regulation	±1%		
	Load Regulation	±2%		
	PstLM	≤1		
	SVM	≤0.4		
	Overshoot	<105%Vo (<110%Vo, only for 30W)		
	Start-up Time	≤0.5S (220-240VAC)		

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

	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	PUSH dimming terminal	PUSH dimming terminal (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	30W/60W		80℃	
	Safety	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)	
			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/100W/150W		1*0.75mm²-1.5 mm²	
		250W		2*0.75mm²-1.5 mm²	
	Dimming Wire Cross Section	0.5mm²-1.5 mm²			
	Cable stripping lengths	6mm			

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

	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	EN61347-2-13:2014/A1:2017,EN61347-1:2015, AS61347.2.13:2018,AS/NZS 61347.1:2016 Inc A1		
	EMC Standards	EN IEC 55015:2019,EN IEC 55015:2019/A11:2019 EN IEC 61000-3-2:2019,EN61547:2009, EN 61000-3-3:2013/A1:2019		
	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. Terminal wiring must be operated with a suitable screwdriver.After installation, check to make sure that the terminals cannot be pressed against the wire sheath
3. LED Driver is a component of the luminaires, Luminaires and wire layout will affect the EMC, please check the EMC with end products again.
4. 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.

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

2. Connected quantities of different current Breaker

TYPE	LV30W24CG DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current	Time
	current（A）	10	13	16	20	25			
	Installation wire diameter	1.5mm²	2.5mm²	2.5mm²	4mm²	4mm²			
TYPE B		7	10	12	15	18	@230VAC	82	0.8us
TYPE C		12	15	19	23	29			
TYPE D		19	24	30	37	47			

TYPE	LV60W24CG DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current	Time
	current（A）	10	13	16	20	25			
	Installation wire diameter	1.5mm²	2.5mm²	2.5mm²	4mm²	4mm²			
TYPE B		23	30	37	46	58	@230VAC	26	220us
TYPE C		37	48	59	74	92			
TYPE D		59	77	95	118	148			

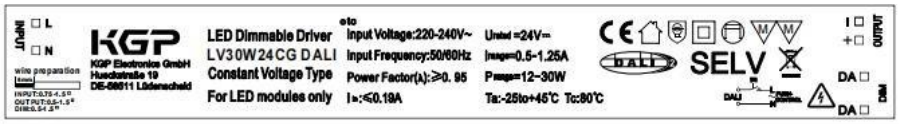
TYPE	LV100W24CG DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current	Time
	current（A）	10	13	16	20	25			
	Installation wire diameter	1.5mm²	2.5mm²	2.5mm²	4mm²	4mm²			
TYPE B		12	16	19	24	30	@230VAC	50	250us
TYPE C		19	25	31	38	48			
TYPE D		31	40	49	61	77			

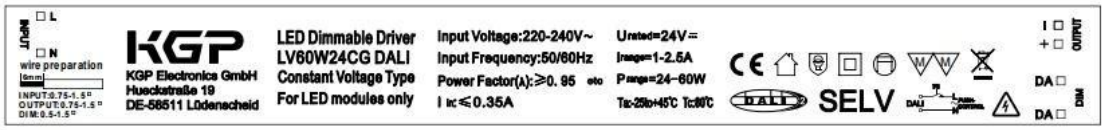
TYPE	LV150W24CG DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current	Time
	current（A）	10	13	16	20	25			
	Installation wire diameter	1.5mm²	2.5mm²	2.5mm²	4mm²	4mm²			
TYPE B		11	14	17	21	27	@230VAC	56	185us
TYPE C		17	22	27	34	43			
TYPE D		27	36	44	55	69			

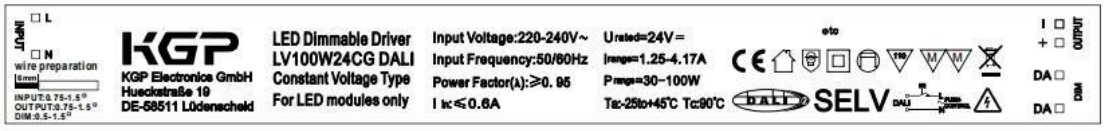
TYPE	LV250W24CG DALI Connected quantities of different current Breaker						Input Voltage	Inrush Current	Time
	current（A）	10	13	16	20	25			
	Installation wire diameter	1.5mm²	2.5mm²	2.5mm²	4mm²	4mm²			
TYPE B		8	10	13	16	20	@230VAC	76	310us
TYPE C		13	16	20	25	32			
TYPE D		20	26	32	40	51			

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

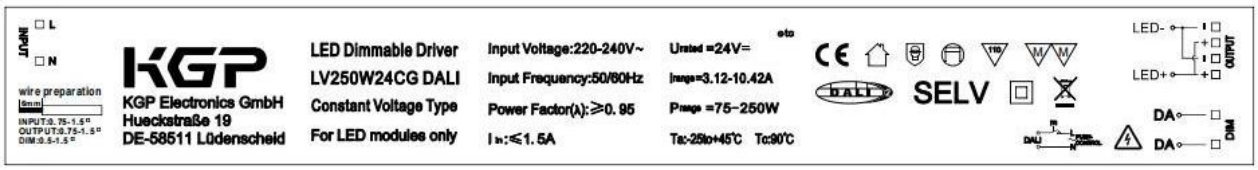
3.Label


INPUT
L
N
wire preparation
6mm
INPUT:0.75-1.5²
OUTPUT:0.5-1.5²
DIM:0.5-1.5²
KGP
KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid
LED Dimmable Driver
LV30W24CG DALI
Constant Voltage Type
For LED modules only
Input Voltage:220-240V~
Input Frequency:50/60Hz
Power Factor(λ):≥0. 95
I in:≤0.19A
Urated =24V⎓
Irange=0.5-1.25A
Prange=12-30W
Ta:-25to+45℃ Tc:80℃
SELV
OUTPUT
DA
DIM


INPUT
L
N
wire preparation
6mm
INPUT:0.75-1.5²
OUTPUT:0.75-1.5²
DIM:0.5-1.5²
KGP
KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid
LED Dimmable Driver
LV60W24CG DALI
Constant Voltage Type
For LED modules only
Input Voltage:220-240V~
Input Frequency:50/60Hz
Power Factor(λ):≥0. 95
I in≤0.35A
Urated=24V⎓
Irange=1-2.5A
Prange=24-60W
Ta:-25to+45℃ Tc:80℃
SELV
OUTPUT
DA
DIM


INPUT
L
N
wire preparation
6mm
INPUT:0.75-1.5²
OUTPUT:0.75-1.5²
DIM:0.5-1.5²
KGP
KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid
LED Dimmable Driver
LV100W24CG DALI
Constant Voltage Type
For LED modules only
Input Voltage:220-240V~
Input Frequency:50/60Hz
Power Factor(λ):≥0. 95
I in≤0.6A
Urated=24V⎓
Irange=1.25-4.17A
Prange=30-100W
Ta:-25to+45℃ Tc:90℃
SELV
OUTPUT
DA
DIM

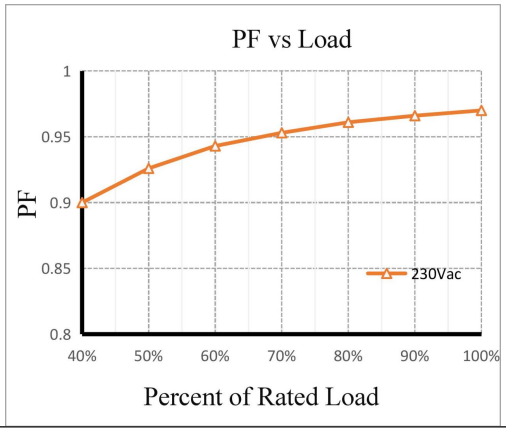

INPUT
L
N
wire preparation
6mm
INPUT:0.75-1.5²
OUTPUT:0.75-1.5²
DIM:0.5-1.5²
KGP
KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid
LED Dimmable Driver
LV150W24CG DALI
Constant Voltage Type
For LED modules only
Input Voltage:220-240V~
Input Frequency:50/60Hz
Power Factor(λ):≥0. 95
I in≤0.9A
Urated=24V⎓
Irange=1.675-6.25A
Prange=45-150W
Ta:-25to+45℃ Tc:90℃
SELV
OUTPUT
DA
DIM


INPUT
L
N
wire preparation
6mm
INPUT:0.75-1.5²
OUTPUT:0.75-1.5²
DIM:0.5-1.5²
KGP
KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid
LED Dimmable Driver
LV250W24CG DALI
Constant Voltage Type
For LED modules only
Input Voltage:220-240V~
Input Frequency:50/60Hz
Power Factor(λ):≥0. 95
I in:≤1. 5A
Urated =24V⎓
Irange=3.12-10.42A
Prange =75-250W
Ta:-25to+45℃ Tc:90℃
SELV
LED-
LED+
OUTPUT
DA
DIM

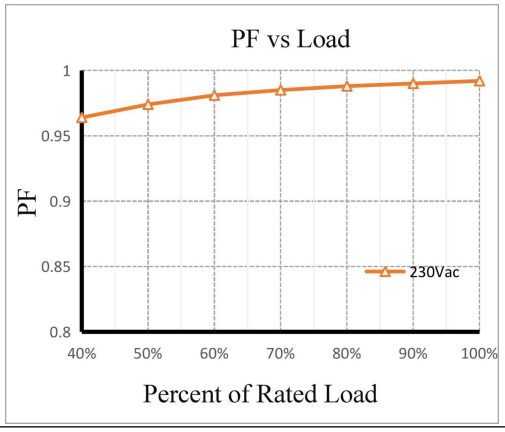
4. Graph

PF VS LOAD Curve

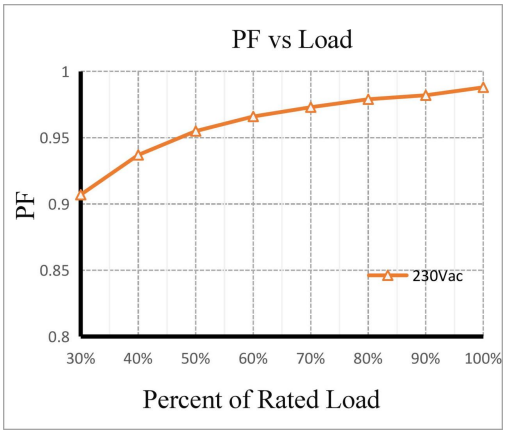
30W



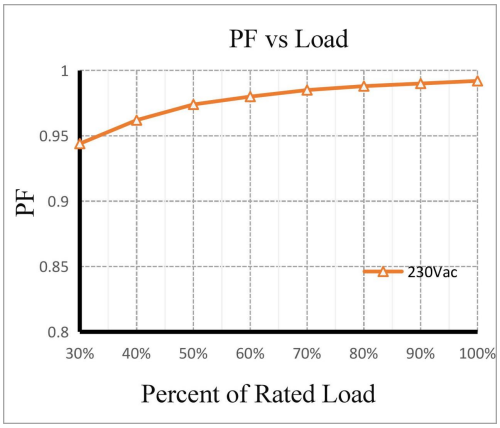
60W



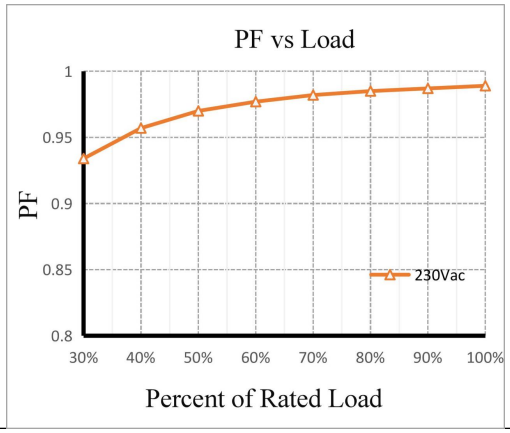
100W



150W

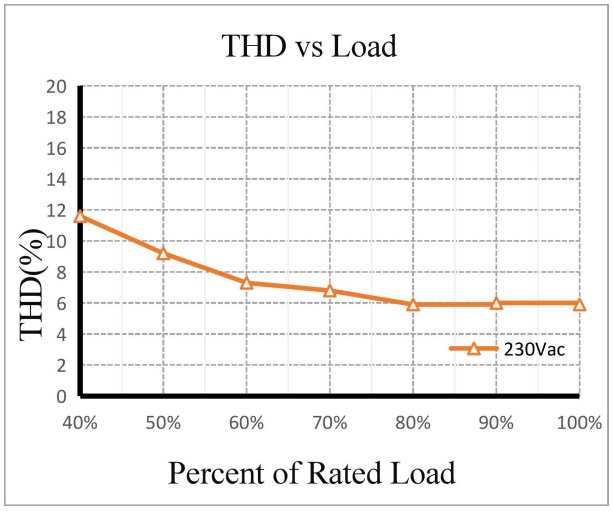


250W

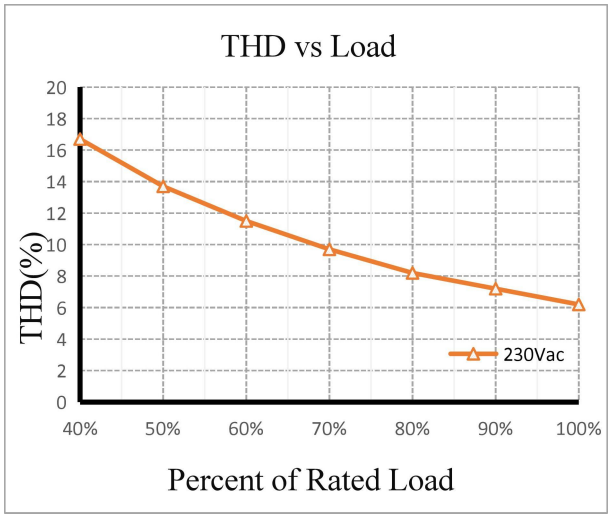


THD VS LOAD Curve

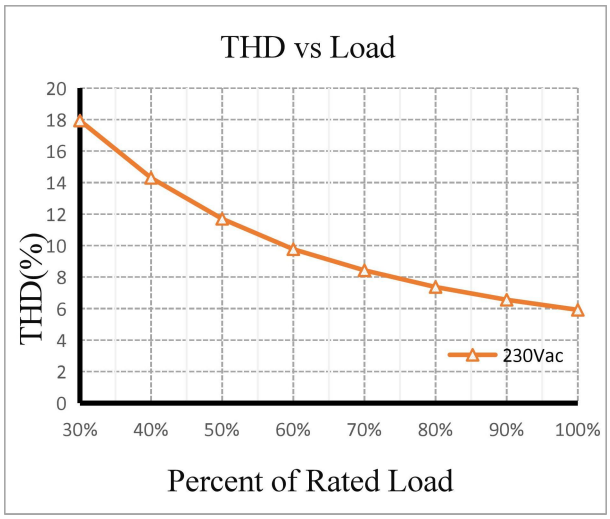
30W



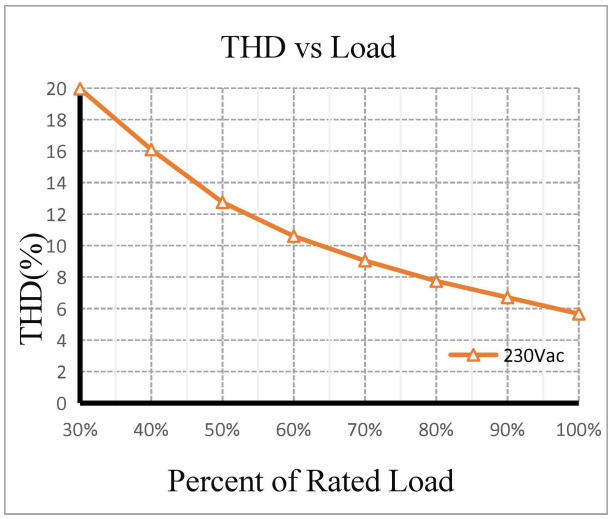
60W



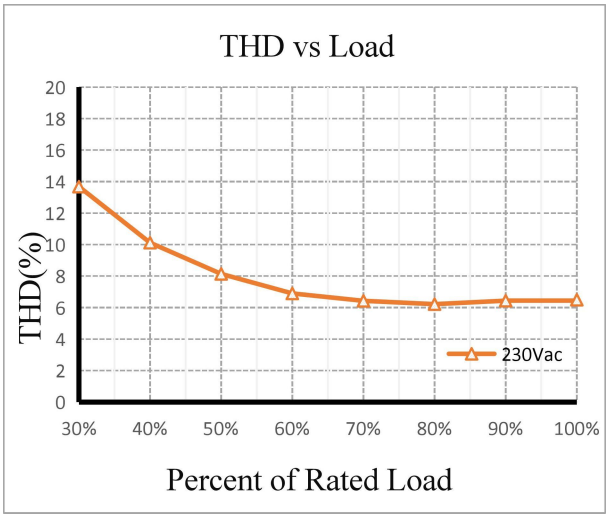
100W



150W



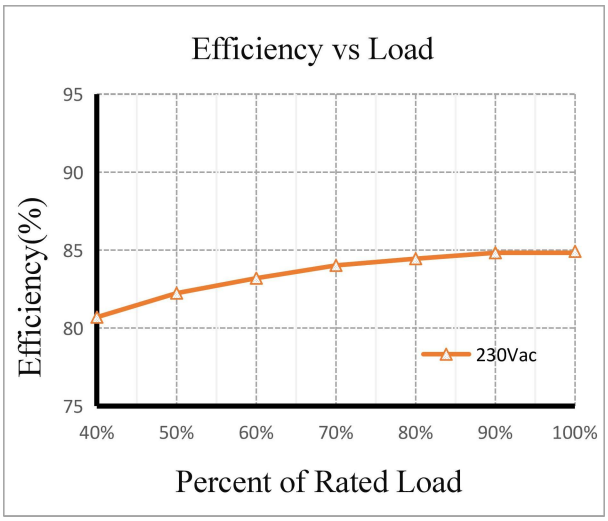
250W



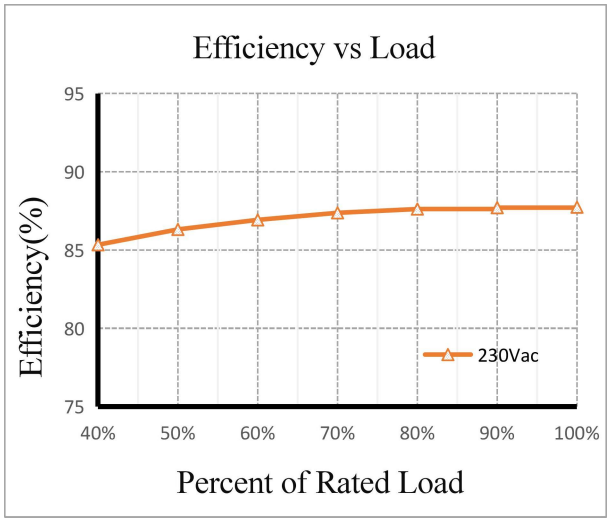
KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

Efficiency VS LOAD Curve

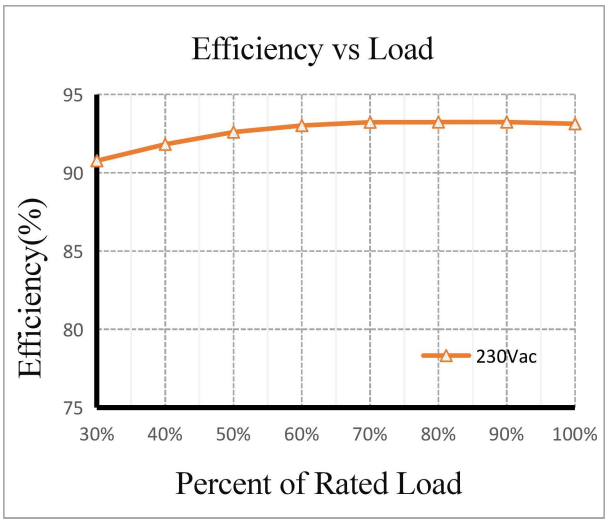
30W



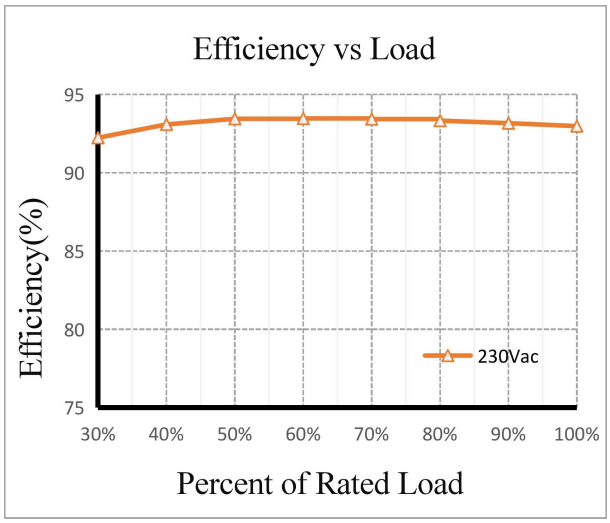
60W



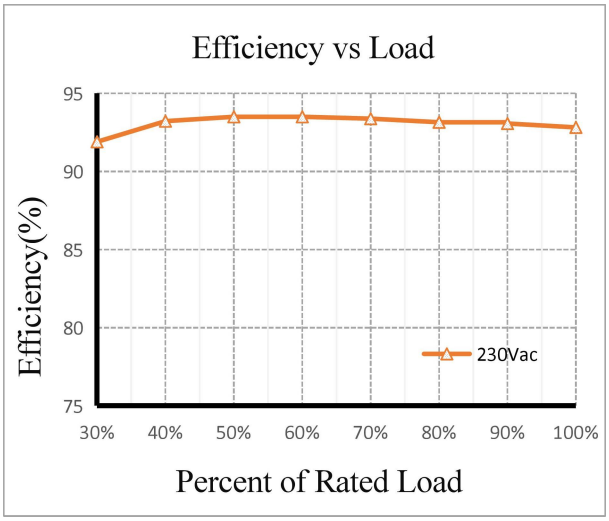
100W



150W



250W



KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

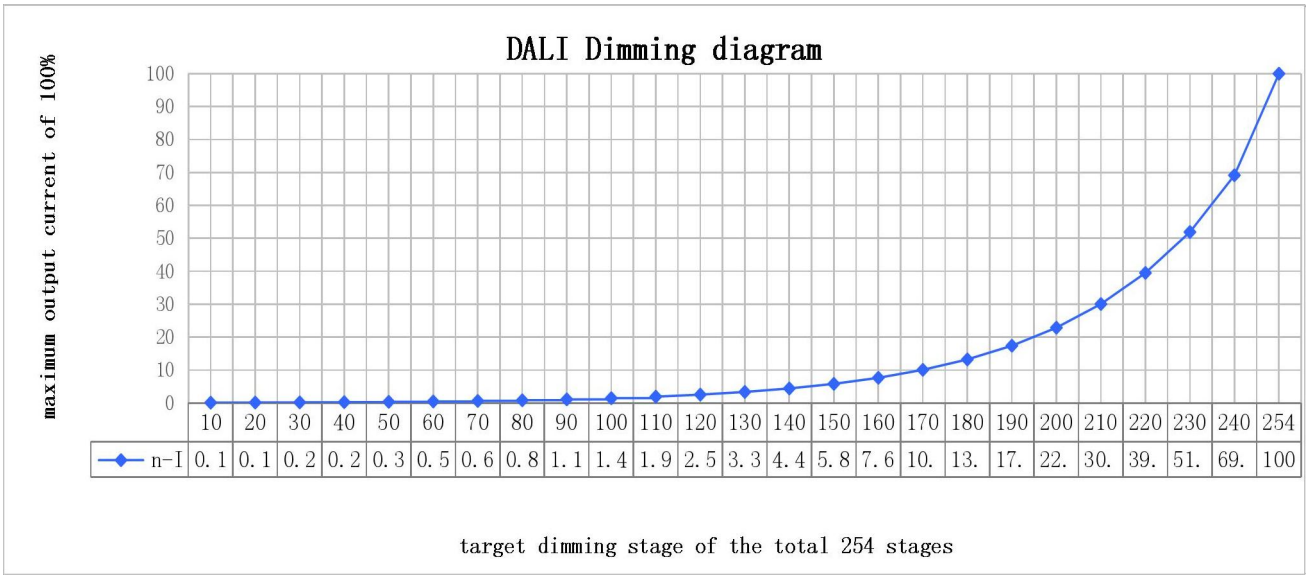
5. DALI dimming curve

5.1 formula for DALI dimming.

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

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

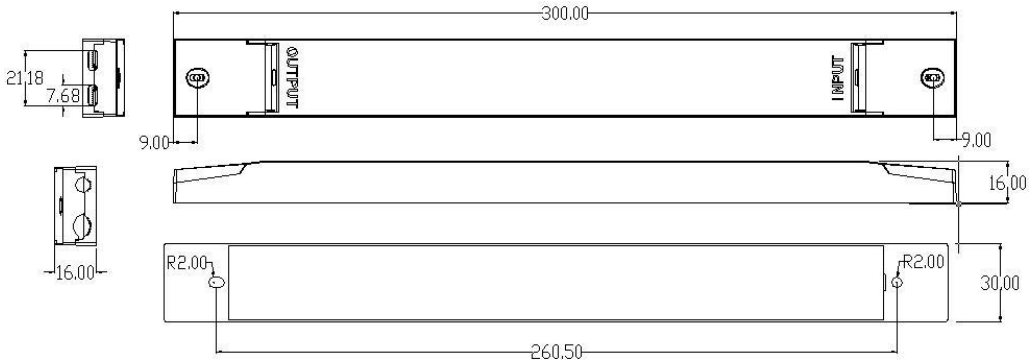
X(n) means the percent of the maximum output current



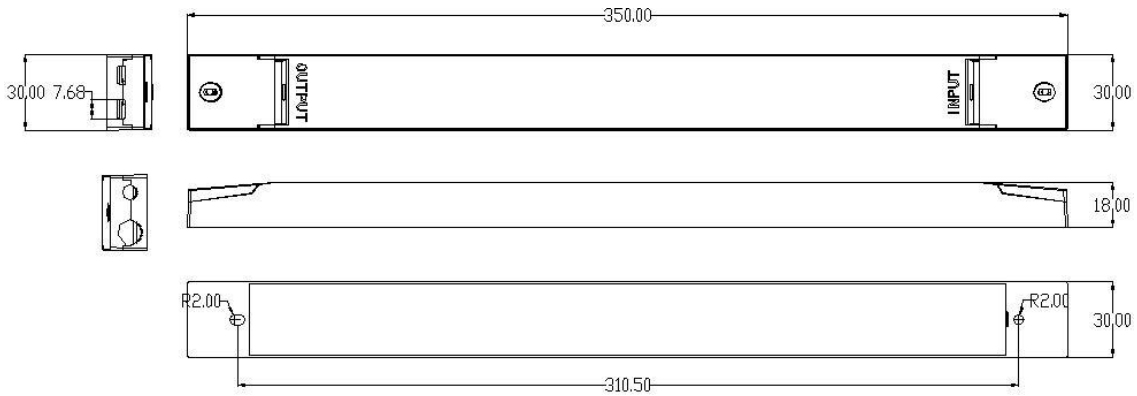
	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	254
n-I	0.1	0.1	0.2	0.2	0.3	0.5	0.6	0.8	1.1	1.4	1.9	2.5	3.3	4.4	5.8	7.6	10.	13.	17.	22.	30.	39.	51.	69.	100

6. Dimension （Unit：mm）

LV30W24CG DALI

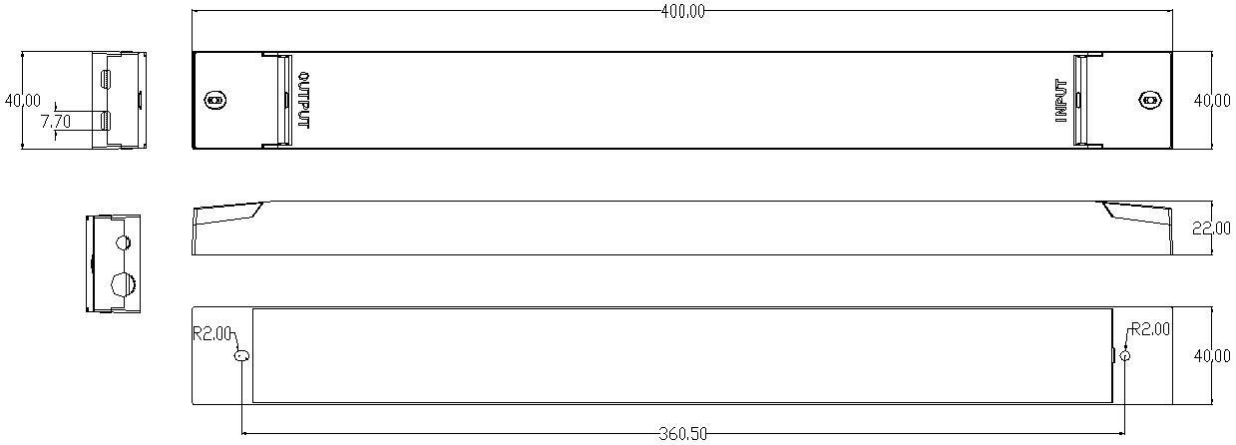


LV60W24CG DALI&LV100W24CG DALI & LV150W24CG DALI:



KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

LV250W24CG 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	LV30W24CG DALI	450*240*200	45	0.143	6.44	6.96
	LV60W24CG DALI		45	0.23	10.35	10.87
	LV100W24CG DALI		35	0.21	7.35	7.87
	LV150W24CG DALI		35	0.31	10.78	11.3
	LV250W24CG DALI		30	0.53	15.9	16.42
Without white box and manual	LV30W24CG DALI		75	0.125	9.38	10.08
	LV60W24CG DALI		75	0.21	15.75	16.45
	LV100W24CG DALI		70	0.19	12.88	13.48
	LV150W24CG DALI		70	0.28	19.6	20.2
	LV250W24CG DALI		40	0.5	20	20.6

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.)

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

9. REVISION HISTORY

DATE	REV	REMARK
2020-0518	V0.01	Initial release.
2021-08-10	V0.02	Add the wiring instructions
2022-06-02	V0.03	Add circuit breaker table

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid