



Constant Voltage Driver

Model: LV(100-250)W24CG2 1-10



Model	Rated Input Voltage	Input Power	Input Current	PF	Output Power Range	Output Voltage	Output Current	Efficiency (typ.)	Cementing product
LV100W24CG2 1-10	220-240VAC	≤115W	≤0.6A	≥0.95	0-100W	24V	0-4.17A	92%	N
LV150W24CG2 1-10		≤168W	≤0.9A		0-150W		0-6.25A	93%	Y
LV250W24CG2 1-10		≤275W	≤1.5A		0-250W		0-10.42A	93%	Y

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

* Recommended minimum full load power is 10% load.

1. Parameters

Category	Item	Technical Norm			
Features	Output Type	Constant Voltage			
	Dimmable Type	3 in 1: 1-10VDC, PWM signal, Resistance			
	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	≤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%			
	Flicker	SVM ≤0.4, PstLM ≤1.0 (Dim to 100% load)			
	Overshoot	<105%Vo			
	Start-up Time	≤0.5S (220-240VAC)			
	Hold-up time & Turn off time (Typical)	Model	Hold-up time(ms)	Turn-off time(ms)	230VAC, LED Rated Load, Hold-up time measure from AC input turn-off to output
		100W	9.2	69.6	
150W		10	384		

		250W	16.2	676	voltage drop to 90%, turn-off time measure from AC input turn-off to output voltage drop to 10%
	Efficiency	100W	≥91%	92% typ.	230VAC, Rated Load, at output terminals, see graphs
		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			
	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	1-10V(0-10V)dimming	0-10Vdc, Port source current 0.1mA typical			
	PWM dimming	PWM Signal dimming Duty: 0- 99%,0.25KHz-2KHz, Voltage amplitude:3-10V			
	Resistance dimming	0-100/N Kohm (N=driver quantity for synchronized dimming operation)			
	Output Dimming range	Output duty:1%-100%,1.38KHz, Dim-to-off			
Environment	Ta/Operation Temperature	-25....+45℃			
	Ts/Storage Temperature	-40....+85℃			
	Tc/Enclosure Temperature For Safety	90℃			
	Humidity	5% 85%RH			
	Atmosphere	86-108KPa			
Construction	Connection Method	Terminal			
	Cable Terminals	Input	1 terminal block (300V/10A)		
		Output	2terminals block(min.150V/10A)		
		Dimming	1terminals block(min.150V/10A)		
	Installation	Independent			
	Input Wire Cross Section	0.75mm²-1.5 mm²			
	Output Wire Cross Section	100W/150W	2*0.75mm²-1.0 mm²		
		250W	2*0.75mm²-1.5 mm²		
	Dimming Wire Cross Section	100W/150W	1*0.5mm²-1.0 mm²		
		250W	1*0.5mm²-1.5mm²		
	Cable stripping lengths	6mm			
	Output Cable Length	Max. 3M			
	Cable diameters range	Input	2.2-4mm or 9.5-10.5mm		
		Output & Dimming	2.2-4mm		
	Dimension	100W/150W	350*30*18mm (L*W*H)		
		250W	400*40*22mm (L*W*H)		

Standards	Certification	CE, ENEC, SAA		
	Safety Standards	EN61347-2-13:2014/A1:2017,EN 61347-1:2015/A1:2021, EN IEC 62384:2020,EN61347-1:2015, EN62493:2015, AS61347.2.13:2018,AS/NZS 61347.1:2016 IncA1		
	EMC Standards	EN IEC 55015:2019,EN IEC 55015:2019/A11:2020, EN IEC 61000-3-2:2019/A1:2021,EN61547:2009, EN 61000-3-3:2013/A2:2021		
	Performance	EN62384		
	Surge	L-N:2KV		
Others	RoHS	2011/65/EU		
	MTBF	≥250KHours,Ta=25℃(MIL-HDBK-217F)		
	Life Time(@Ta max)	100W	≥60K Hrs	@230VAC , full load, End of Life: Failure Rate<10%
		150W	≥55K Hrs	
		250W	≥52K Hrs	
	Warranty	5years		
Noise	≤ 28dB @Background noise ≤18dB , Interval≥15cm			

Remark:

All Parameters, if not specified, are measured at 230VAC/50Hz and 25℃ ambient temperature.

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

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.

2. Connected quantities of different current Breaker

TYPE	LV100W24CG2 1-10V 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	250us
TYPE C		21	28	34	43	53			
TYPE D		34	44	55	68	85			

TYPE	LV250W24CG2 1-10V 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	310us
TYPE C		13	16	20	25	32			
TYPE D		20	26	32	40	51			

TYPE	LV150W24CG2 1-10V 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	185us
TYPE C		17	22	27	34	43			
TYPE D		27	36	44	55	69			

3. Label

☐ L ☐ N wire preparation (6mm) INPUT: 0.75-1.5° OUTPUT: 0.75-1.0° DIM: 0.5-1.0°	KGP KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheld	LED Dimmable Driver LV100W24CG2 1-10 Constant Voltage Type For LED modules only	Input Voltage: 220-240V~ Input Frequency: 50/60Hz Power Factor(λ): ≥0.95 I in: ≤0.6A	U rated=24V= I range=0~4170mA P range=0~100W ta:-25to+45°C tc:90°C	•tc CE ENEC ENEC SELV	LED- ☐ ☐ LED+ ☐ ☐ DIM- ☐ ☐ DIM+ ☐ ☐
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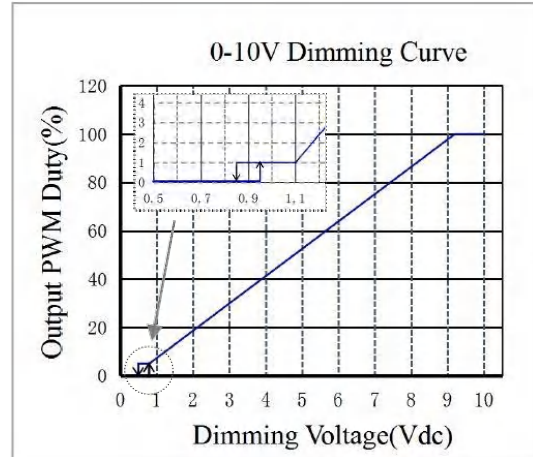
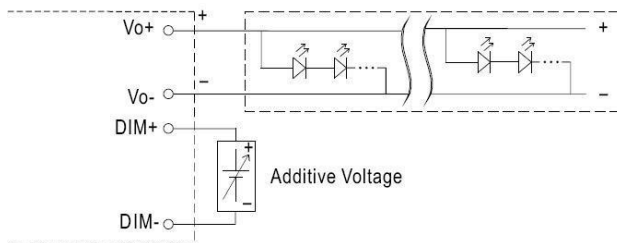
☐ L ☐ N wire preparation (6mm) INPUT: 0.75-1.5° OUTPUT: 0.75-1.0° DIM: 0.5-1.0°	KGP KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheld	LED Dimmable Driver LV150W24CG2 1-10 Constant Voltage Type For LED modules only	Input Voltage: 220-240V~ Input Frequency: 50/60Hz Power Factor(λ): ≥0.95 I in: ≤0.9A	U rated=24V= I range=0~6250mA P range=0~150W ta:-25to+45°C tc:90°C	•tc CE ENEC ENEC SELV	LED- ☐ ☐ LED+ ☐ ☐ DIM- ☐ ☐ DIM+ ☐ ☐
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☐ L ☐ N wire preparation (6mm) INPUT: 0.75-1.5° OUTPUT: 0.75-1.0° DIM: 0.5-1.0°	KGP KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheld	LED Dimmable Driver LV250W24CG2 1-10 Constant Voltage Type For LED modules only	Input Voltage: 220-240V~ Input Frequency: 50/60Hz Power Factor(λ): ≥0.95 I in: ≤1.5A	U rated=24V= I range=0~10420mA P range=0~250W ta:-25to+45°C tc:90°C	•tc CE ENEC ENEC SELV	LED- ☐ ☐ LED+ ☐ ☐ DIM- ☐ ☐ DIM+ ☐ ☐
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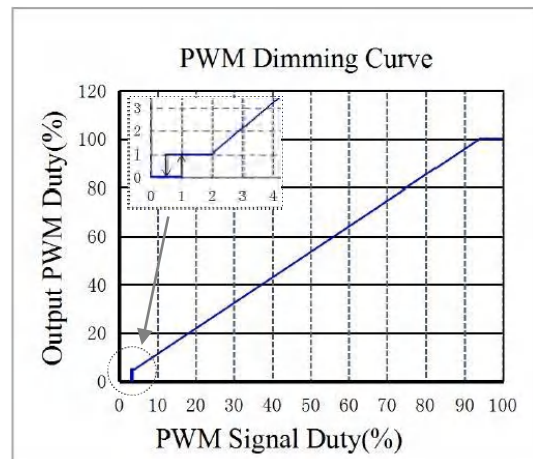
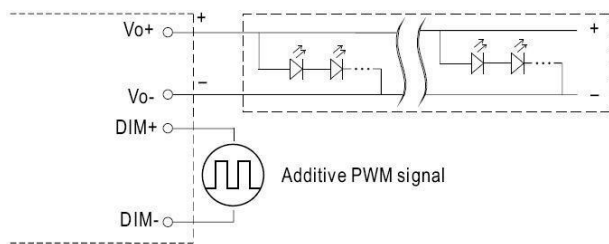
4. 3 in 1 Dimming Function

Output power can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 0 -10VDC, or PWM signal or resistance.

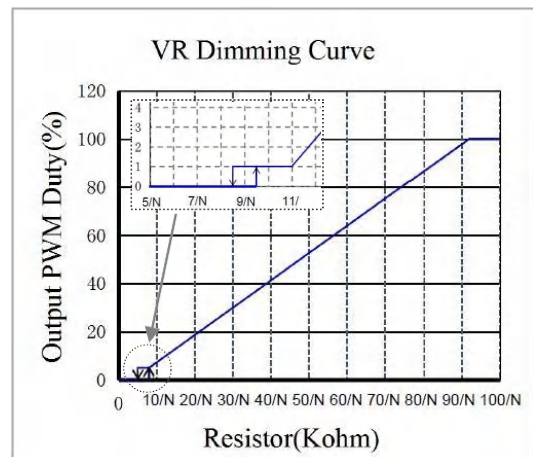
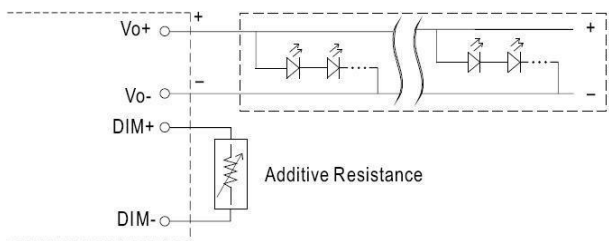
Applying additive 0 ~ 10VDC



Applying additive PWM signal (Duty: 0- 99%,frequency range 0.25KHz ~ 2KHz,Voltage amplitude:3-10V)

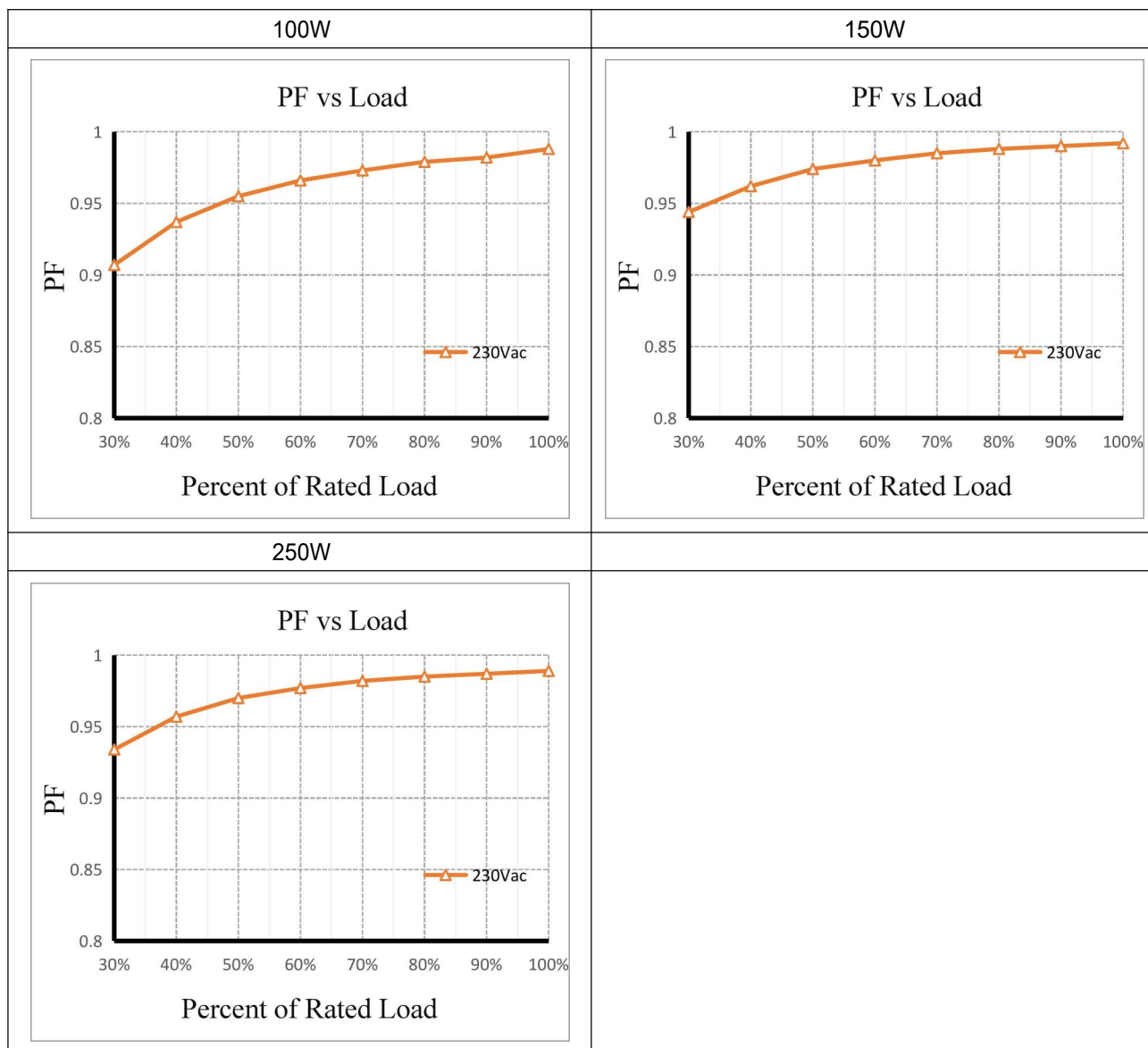


Applying additive resistance



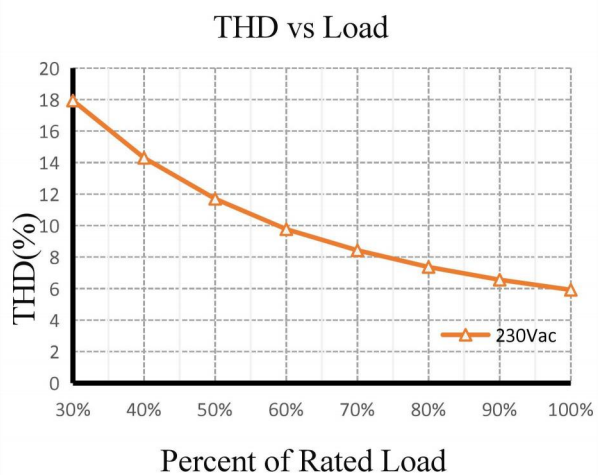
(N=driver quantity for synchronized dimming operation)

5. Graph PF VS LOAD Curve

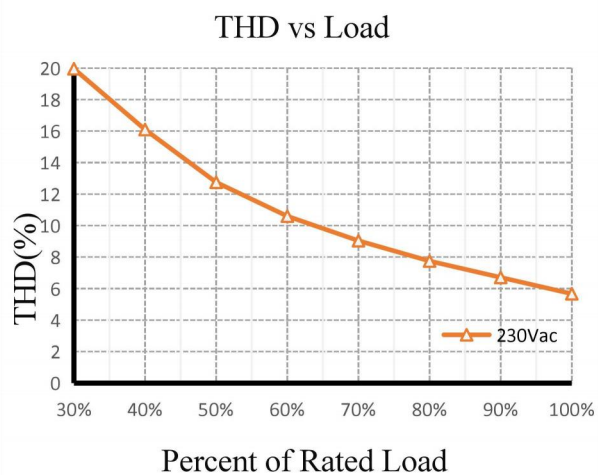


THD VS LOAD Curve

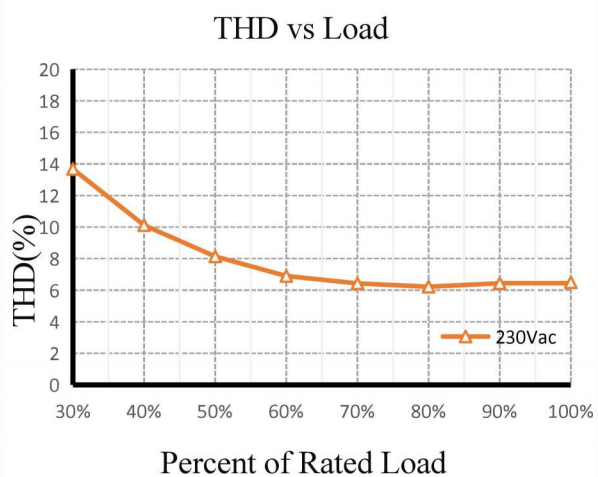
100W



150W

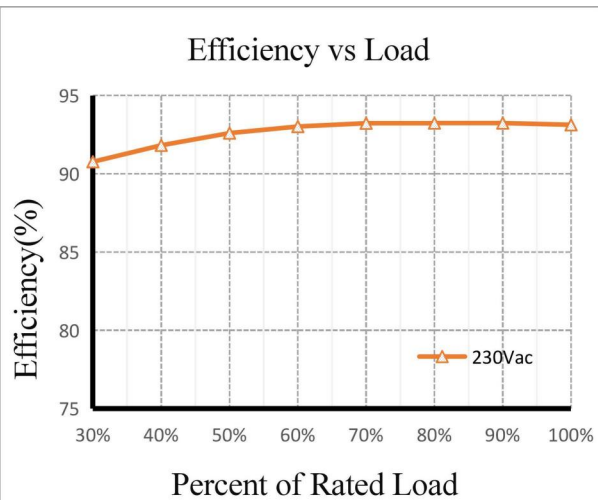


250W

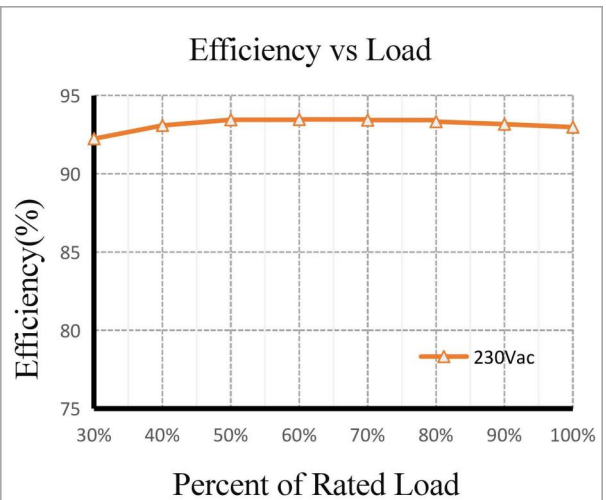


Efficiency VS LOAD Curve

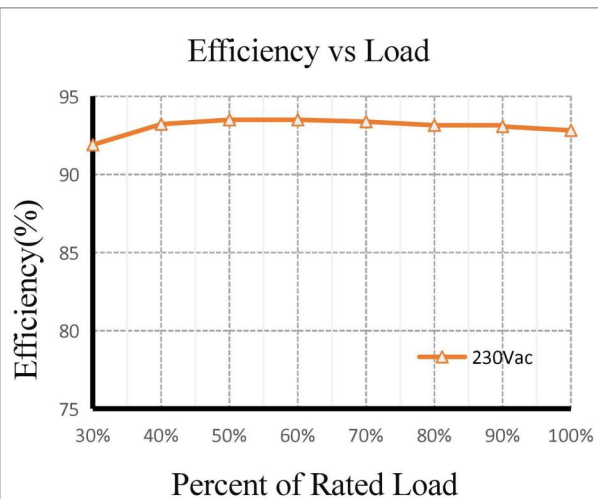
100W



150W

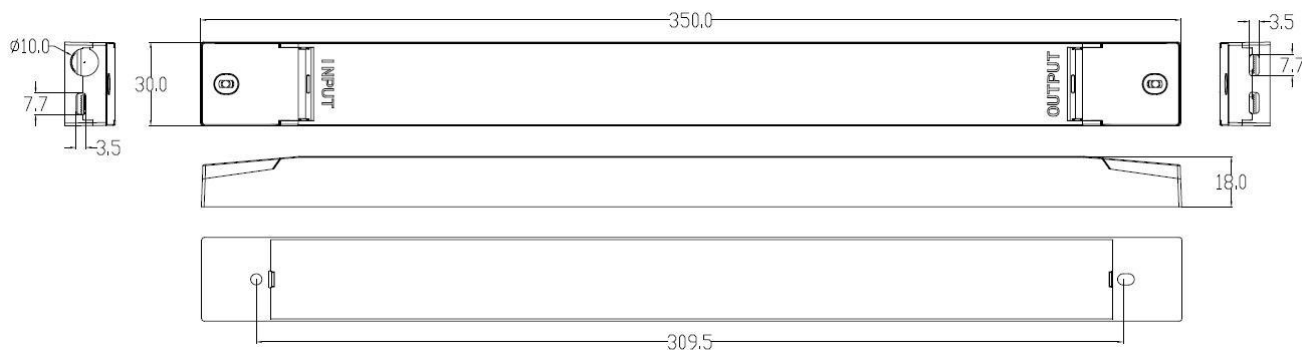


250W

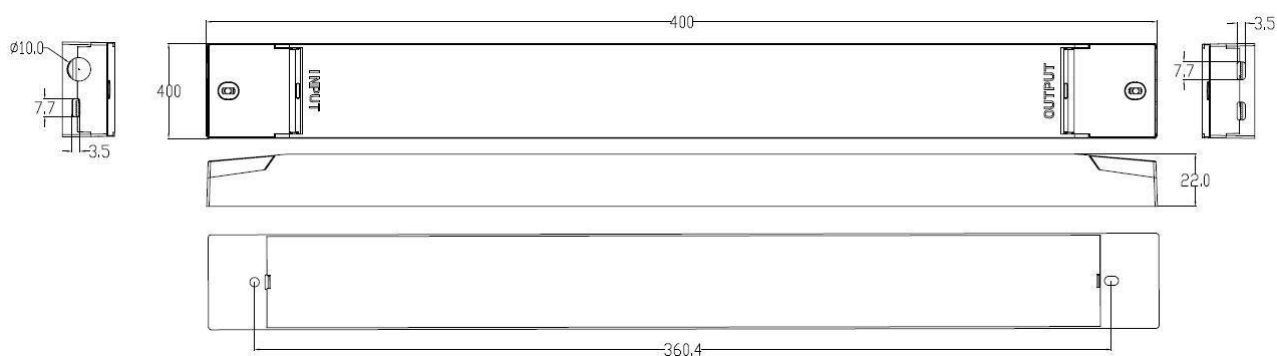


6. Dimension (Unit: mm)

LV100W24CG2 1-10 & LV150W24CG2 1-10:



LV250W24CG2 1-10:



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	LV100W24CG2 1-10	450*240*200	35	0.21	7.35	7.87
	LV150W24CG2 1-10		35	0.31	10.78	11.3
	LV250W24CG2 1-10		30	0.53	15.9	16.42
Without white box and manual	LV100W24CG2 1-10		70	0.19	12.88	13.48
	LV150W24CG2 1-10		70	0.28	19.6	20.2
	LV250W24CG2 1-10		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.)

9. REVISION HISTORY

DATE	VER	REMARK
2022-04-13	V1.0	Initial release.
2022-06-02	V1.1	Add circuit breaker table.
2022-09-05	V1.2	Update safety standards and EMC standards.