



Constant Voltage Driver

Model: LV(100-250)W48CG2 1-10



Model	Rated Input Voltage	Input Power	Input Current	PF	Output Power Range	Output Voltage	Output Current	Efficiency (typ.)	Cementing product
LV100W48CG2 1-10	220-240VAC	≤115W	≤0.6A	≥0.95	0-100.8W	48V	0-2.1A	92%	N
LV150W48CG2 1-10		≤168W	≤0.9A		0-150W		0-3.125A	92%	Y
LV250W48CG2 1-10		≤275W	≤1.5A		0-250W		0-5.21A	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	
	ON/OFF time	>0.5S(There will be a delay in the quick switch.)	
	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	48VDC+2%	
	No load Voltage	48VDC+3%	
	Output Voltage Ripple	<480mV _{PK-PK} (0.5%)	
	Line Regulation	±1%	
	Load Regulation	±2%	
	Flicker 频闪	SVM ≤0.4, PstLM ≤1.0 (Dim to 100% load)	
	Overshoot	<105%Vo	
	Start-up Time	≤0.5S (220-240VAC)	
	Efficiency	100W	≥90% 92% typ.
		150W	≥90% 92% 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°C,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°C			
	Tc/Enclosure Temperature	100W/150W/250W	90°C		
	Humidity	5%.... 85%RH			
	Atmosphere	86-108KPa			
Construction	Connection Method	Terminal			
	Cable Terminals	Input	1 terminal block (300V/10A)		
		Output	100W/150W	1 terminal block (300V/10A)	
			250W	2 terminals block(300V/10A)	
		Dimming	1 terminal block(300V/10A)		
	Installation	Independent			
	Input Wire Cross Section	0.75mm ² -1.5 mm ²			
	Output Wire Cross Section	100W/150W	1*0.75mm ² -1.5 mm ²		
		250W	2*0.75mm ² -1.5 mm ²		
	Dimming Wire Cross Section	1*0.5mm ² -1.5mm ²			
	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°C (MIL-HDBK-217F)			
	Audible Noise	<25dB @ 10cm distance, 20dB background			

Life Time(@Ta max)	100W	≥100K Hrs	@230VAC , full load, End of Life: Failure Rate<10%
	150W	≥55K Hrs	
	250W	≥63K Hrs	
Warranty	5years		

Remark:

- All Parameters, if not specified, are measured at 230VAC/50Hz and 25°C 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	LV100W48CG2 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	LV150W48CG2 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			

TYPE	LV250W48CG2 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			

3. Label

<input type="checkbox"/> L <input type="checkbox"/> N wire preparation (6mm)	KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	LED Dimmable Driver LV100W48CG2 1-10 Constant Voltage Type For LED modules only	Input Voltage:220-240V~	U _{rated} =48V=	•tc 	<input type="checkbox"/> OUTPUT + <input type="checkbox"/>
			Input Frequency:50/60Hz Power Factor(λ):≥0.95 I _{in} :≤0.6A	I _{range} =0~2100mA P _{range} =0~100.8W ta:-25to+45°C tc:90°C		<input type="checkbox"/> DIM + <input type="checkbox"/>

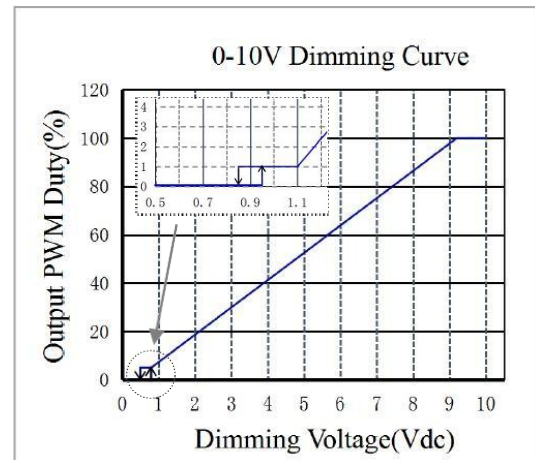
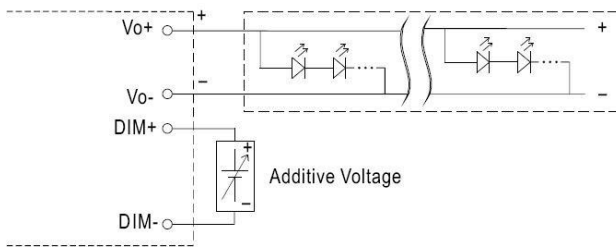
<input type="checkbox"/> L <input type="checkbox"/> N wire preparation (6mm)	KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	LED Dimmable Driver LV150W48CG2 1-10 Constant Voltage Type For LED modules only	Input Voltage:220-240V~	U _{rated} =48V=	•tc 	<input type="checkbox"/> OUTPUT + <input type="checkbox"/>
			Input Frequency:50/60Hz Power Factor(λ):≥0.95 I _{in} :≤0.9A	I _{range} =0~3125mA P _{range} =0~150W ta:-25to+45°C tc:90°C		<input type="checkbox"/> DIM + <input type="checkbox"/>

<input type="checkbox"/> L <input type="checkbox"/> N wire preparation (6mm)	KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	LED Dimmable Driver LV250W48CG2 1-10 Constant Voltage Type For LED modules only	Input Voltage:220-240V~	U _{rated} =48V=	•tc 	LED- <input type="checkbox"/> LED+ <input type="checkbox"/> OUTPUT <input type="checkbox"/> + <input type="checkbox"/>
			Input Frequency:50/60Hz Power Factor(λ):≥0.95 I _{in} :≤1.5A	I _{range} =0~5210mA P _{range} =0~250W ta:-25to+45°C tc:90°C		<input type="checkbox"/> DIM- <input type="checkbox"/> <input type="checkbox"/> DIM+ <input type="checkbox"/>

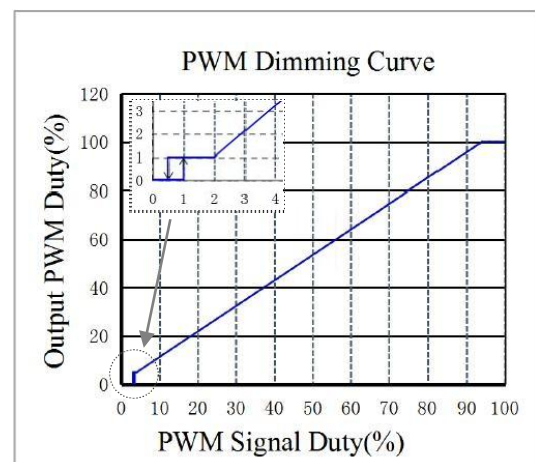
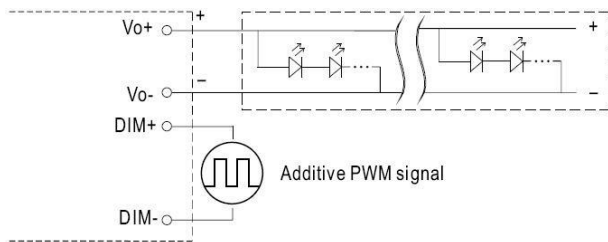
4. 3 in 1 Dimming Function

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

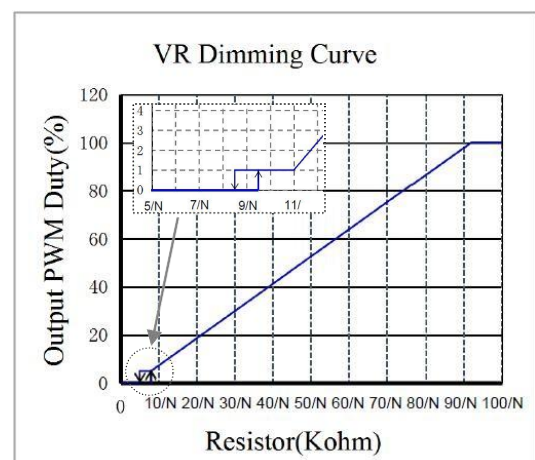
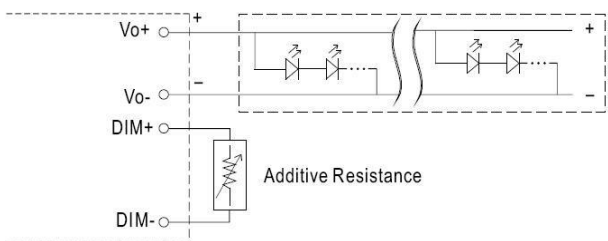
Applying additive 0 ~ 10VDC



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

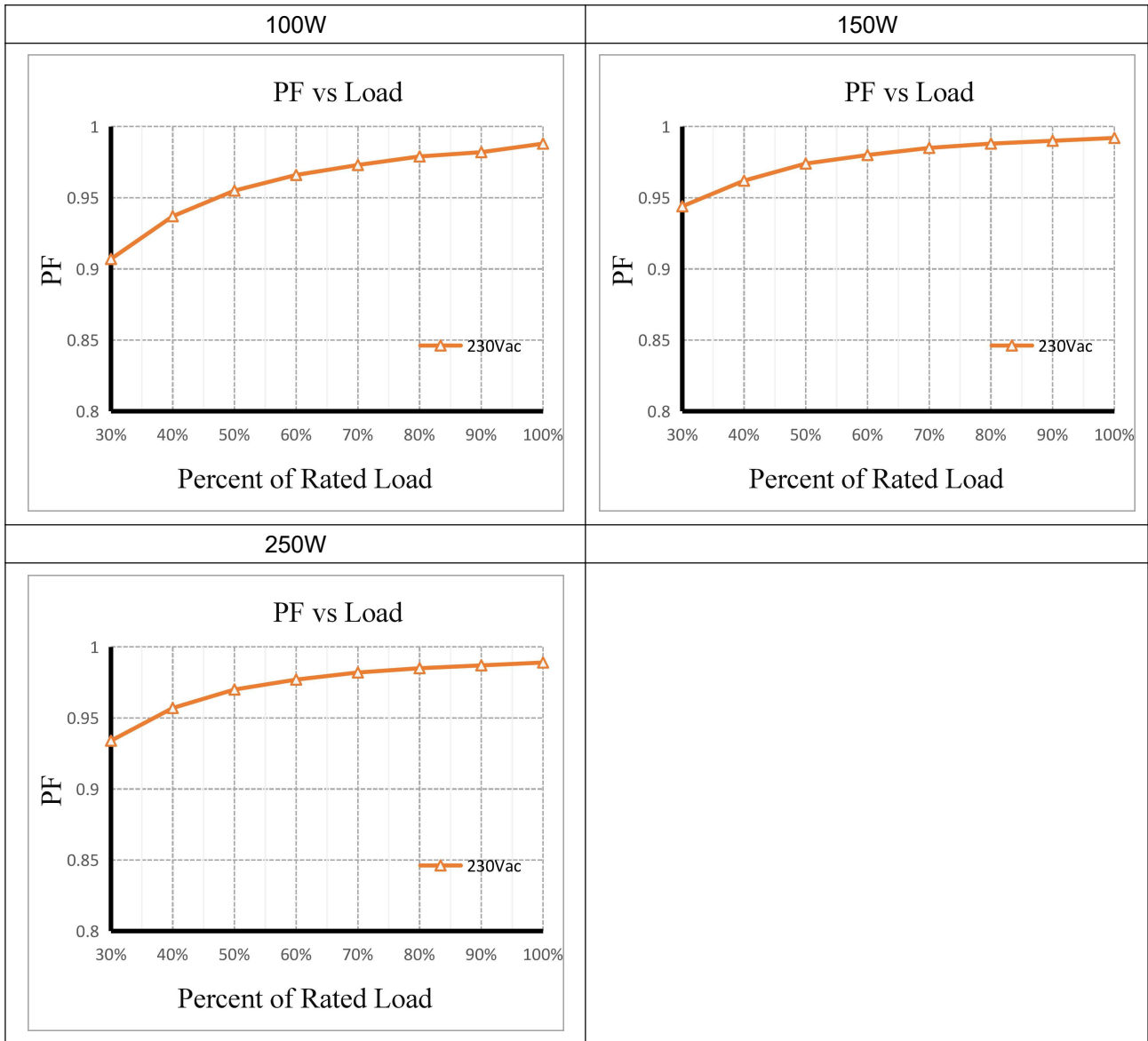


Applying additive resistance

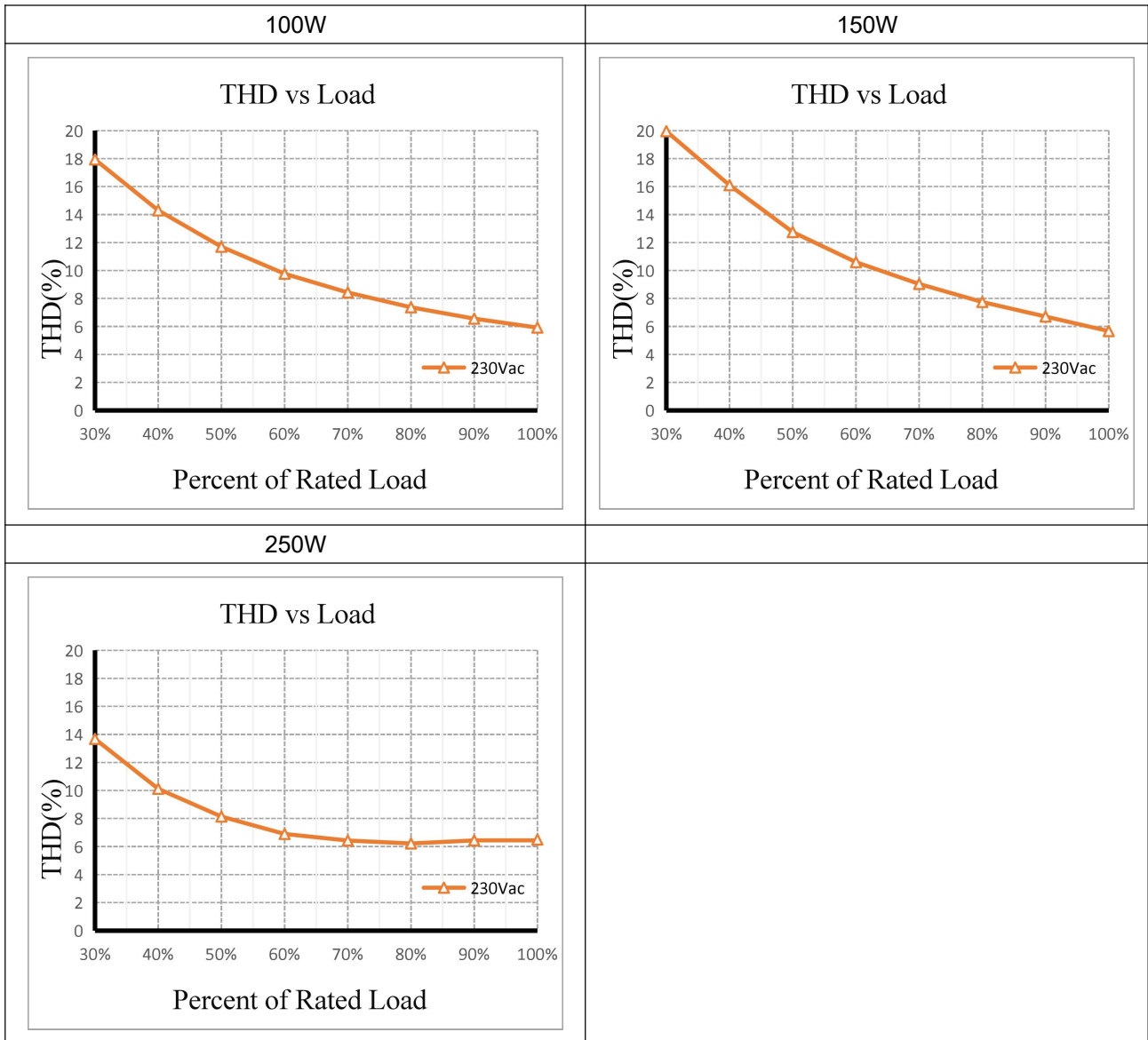


(N=driver quantity for synchronized dimming operation)

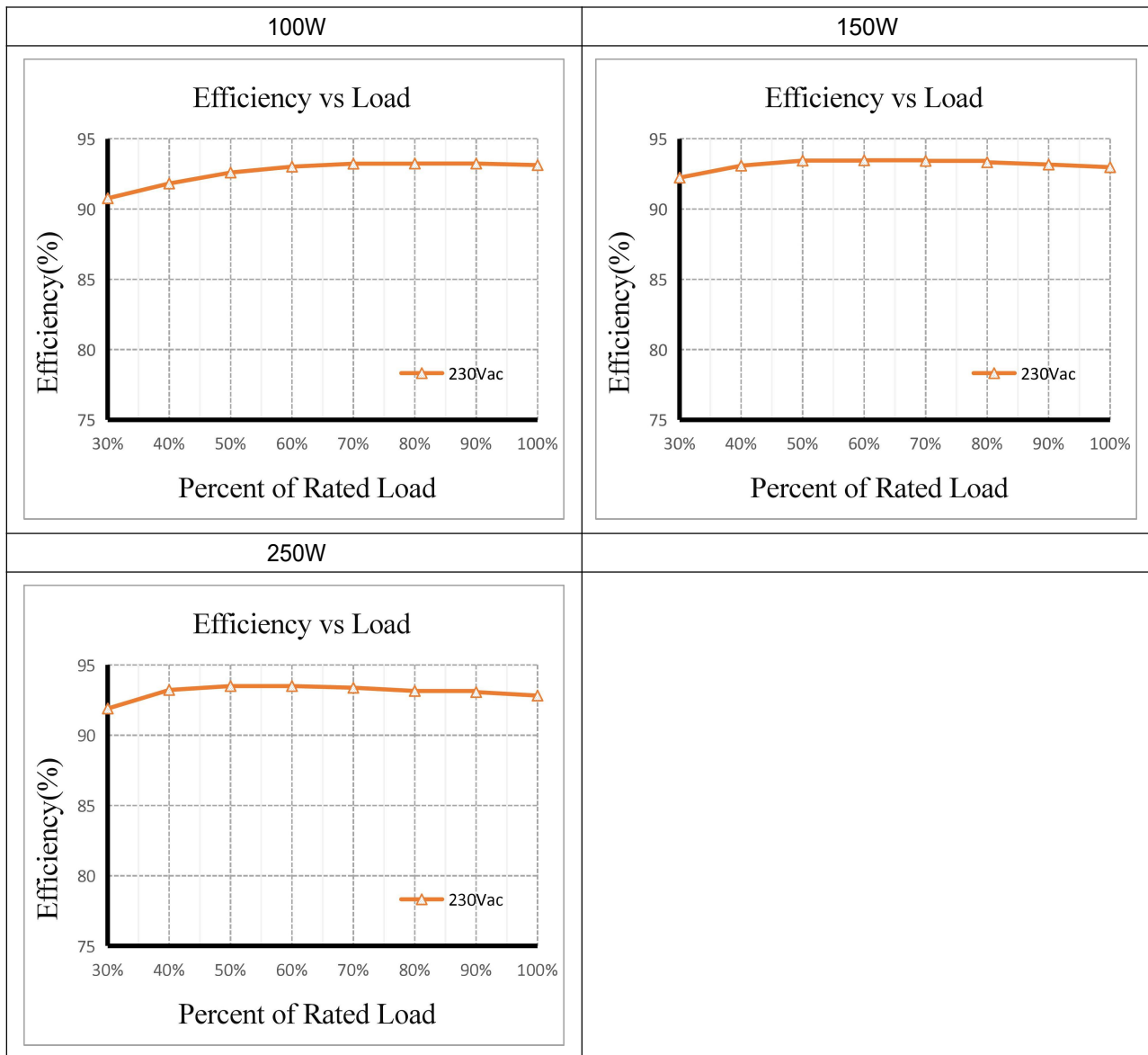
5. Graph PF VS LOAD Curve



THD VS LOAD Curve

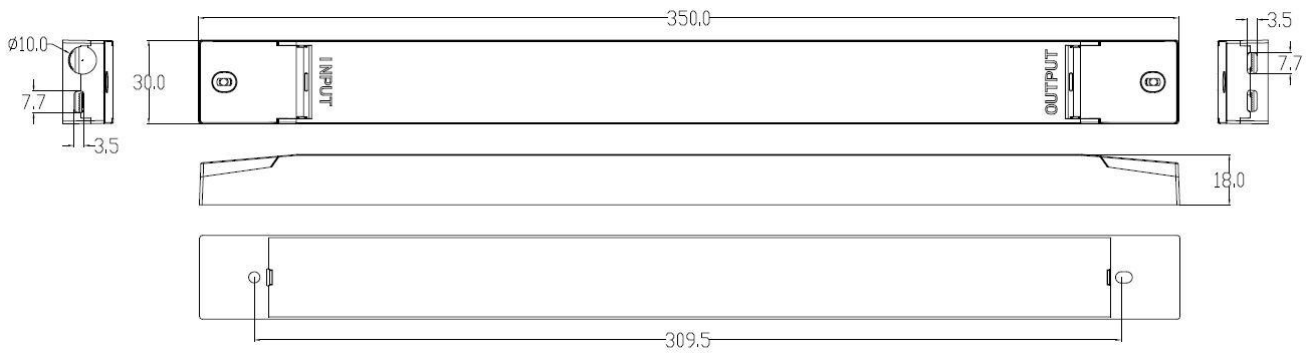


Efficiency VS LOAD Curve

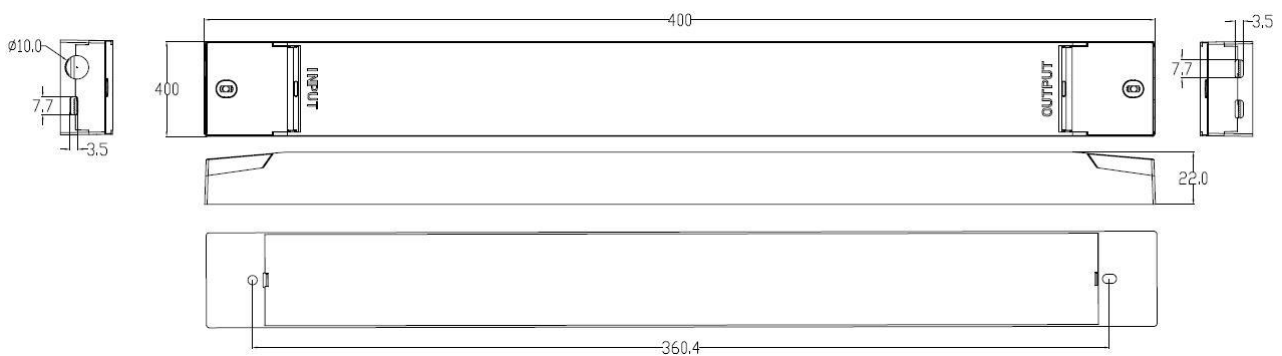


6. Dimension (Unit: mm)

LV100W48CG2 1-10 & LV150W48CG2 1-10:



LV250W48CG2 1-10:



7. Packing information

Packing way	Model	Carton L*W*H(mm)	Pcs/Car ton	Net weight/ Pcs(kg)	Net weight/ Carton(kg)	Gross weight / Carton(kg)
With white box and manual	LV100W48CG2 1-10	450*240*200	35	0.21	7.35	7.87
	LV150W48CG2 1-10		35	0.309	10.82	11.34
	LV250W48CG2 1-10		30	0.535	16.05	16.57
Without white box and manual	LV100W48CG2 1-10		70	0.184	12.88	13.48
	LV150W48CG2 1-10		70	0.281	19.67	20.27
	LV250W48CG2 1-10		40	0.502	20.08	20.68

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.