

### Constant Voltage Driver

Model:LV(30-250)W24CG 1-10



Model	Rated Input Voltage	Input Power	Input Current	PF	Output Power Range	Output Voltage	Output Current	Efficiency (typ.)
LV30W24CG 1-10	220-240VAC	≤38W	≤0.19A	≥0.95	0-30W	24V	0-1.25A	85%
LV60W24CG 1-10		≤72W	≤0.35A		0-60W		0-2.5A	88%
LV100W24CG 1-10		≤115W	≤0.6A		0-100W		0-4.17A	93%
LV150W24CG 1-10		≤168W	≤0.9A		0-150W		0-6.25A	93%
LV250W24CG 1-10		≤275W	≤1.5A		0-250W		0-10.42A	93%

\* Test result @230V, 50Hz, Full 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	
	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	
	Inrush Current	Model	$I_{peak}$ (typ.) Duration time
		30W	<100A 82A 0.8us
		60W	<30A 26A 220us
100W		<50A 45A 250us	
150W		<60A 56A 185us	
250W	<80A 76A 310us		
Connected quantity of 16A Breaker	30W	36pcs, 16A type B / 60pcs 16A type C	
	60W	18pcs, 16A type B / 30pcs 16A type C	
	100W	10pcs, 16A type B / 17pcs 16A type C	
	150W	8pcs, 16A type B / 13pcs 16A type C	

		250W	6pcs, 16A type B / 8pcs 16A type C		
Output	Output Voltage	24VDC±3%			
	Output Voltage Ripple	30W	<480mV <sub>PK-PK</sub> (1%)		
		60W/100W/150W/250W	<240mV <sub>PK-PK</sub> (0.5%)		
	Line Regulation	±1%			
	Load Regulation	±2%			
	Overshoot	<105%Vo (<110%Vo, only for 30W)			
	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 voltage drop to 90%, turn-off time measure from AC input turn-off to output voltage drop to 10%
		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°C, 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	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 For Safety	30W/60W	80 °C		
		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	30W/60W	1 terminal block (300V/10A)	
		100W/150W/250W	2terminals block(min.150V/10A)		

		Dimming	1terminal block(min.150V/10A)	
	Installation	Independent		
	Input Wire Cross Section	0.75mm <sup>2</sup> -1.5 mm <sup>2</sup>		
	Output Wire Cross Section	30W	1*0.5mm <sup>2</sup> -1.5 mm <sup>2</sup>	
		60W	1*0.75mm <sup>2</sup> -1.5 mm <sup>2</sup>	
		100W/150W	2*0.75mm <sup>2</sup> -1.0 mm <sup>2</sup>	
		250W	2*0.75mm <sup>2</sup> -1.5 mm <sup>2</sup>	
	Dimming Wire Cross Section	30W/60W/250W	1*0.5mm <sup>2</sup> -1.5mm <sup>2</sup>	
		100W/150W	1*0.5mm <sup>2</sup> -1.0 mm <sup>2</sup>	
	Output Cable Length	Max. 3M		
	Cable diameters range	Input	2.2-4mm or 9.5-10.5mm	
		Output & Dimming	2.2-4mm	
	Dimension	30W/60W	300*30*16mm (L*W*H)	
		100W/150W	350*30*18mm (L*W*H)	
		250W	400*40*22mm (L*W*H)	
Standards	Certification	CE, ENEC, SAA		
	Safety Standards	EN61347-1:2015,EN61347-2-13:2014/A1:2017,EN62493:2015, AS61347.2.13:2018,AS/NZS 61347.1:2016 Inc A1		
	EMC Standards	EN55015:2013/A1:2015,EN61000-3-2:2014, EN61000-3-3:2013,EN61547:2009		
	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)	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			

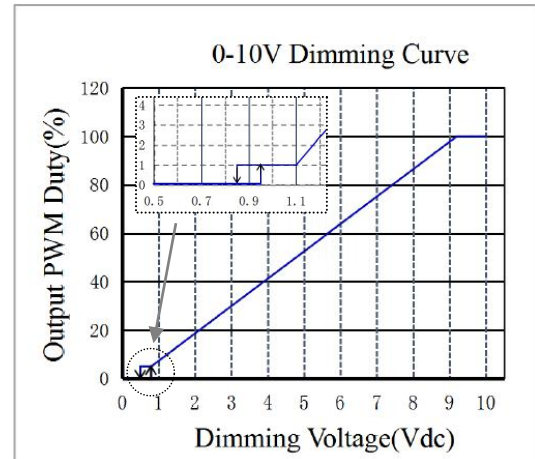
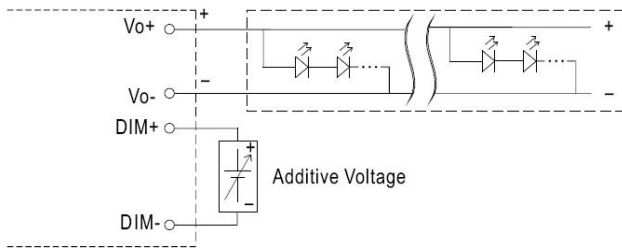
**Remark:**

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

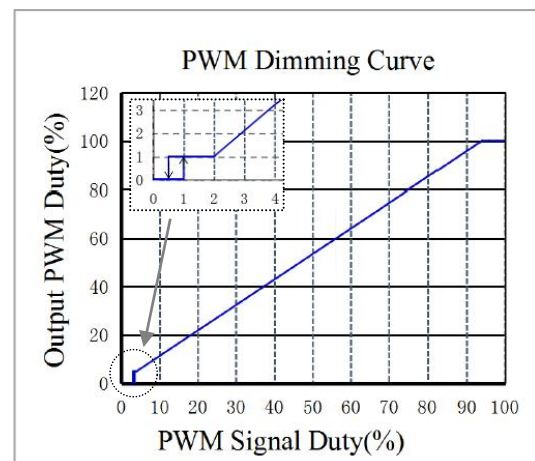
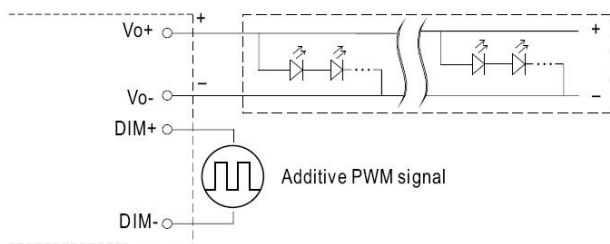
### 2. 3 in 1 Dimming Function

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

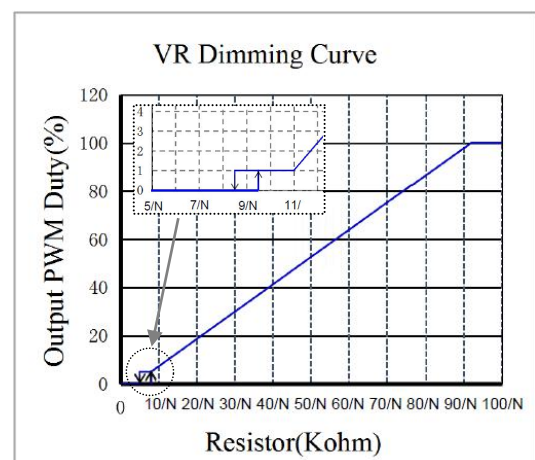
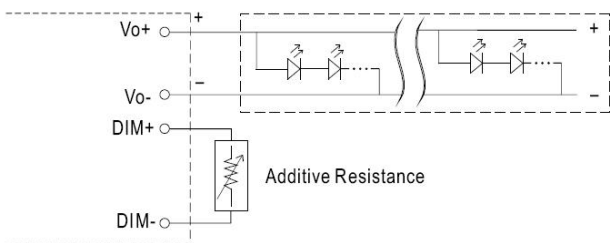
Applying additive 0 ~ 10VDC



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



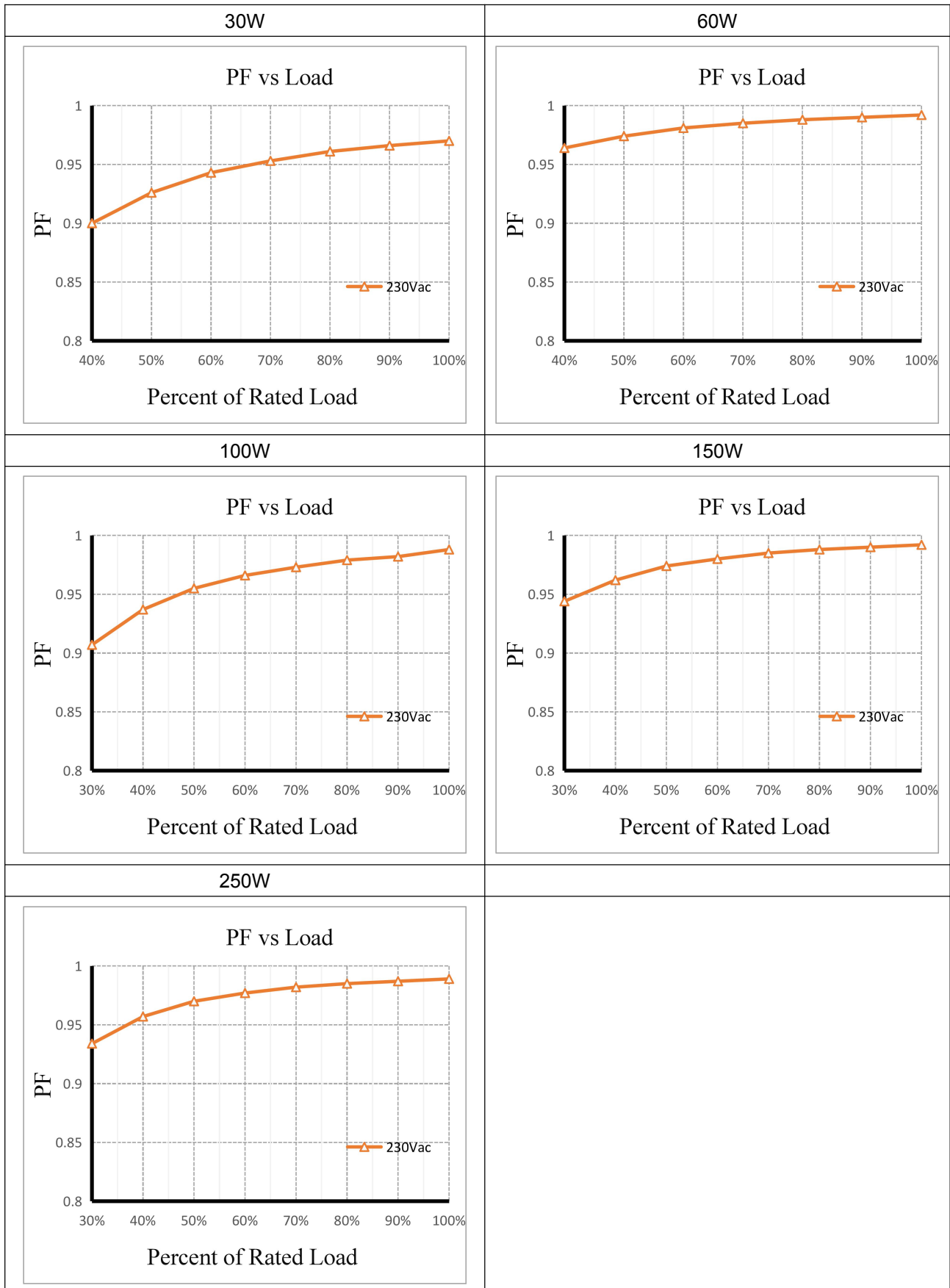
Applying additive resistance



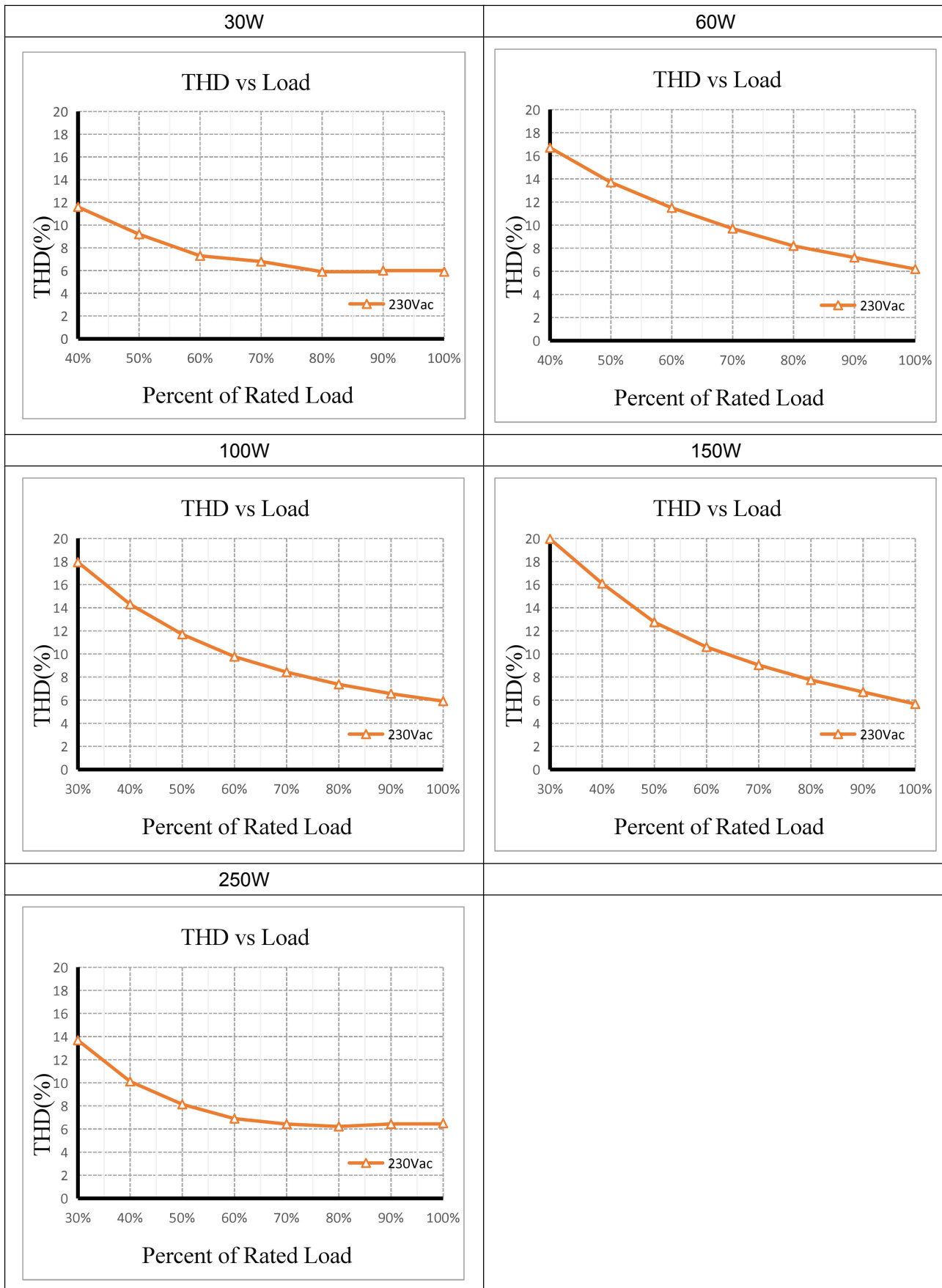
(N=driver quantity for synchronized dimming operation)

### 3. Graph

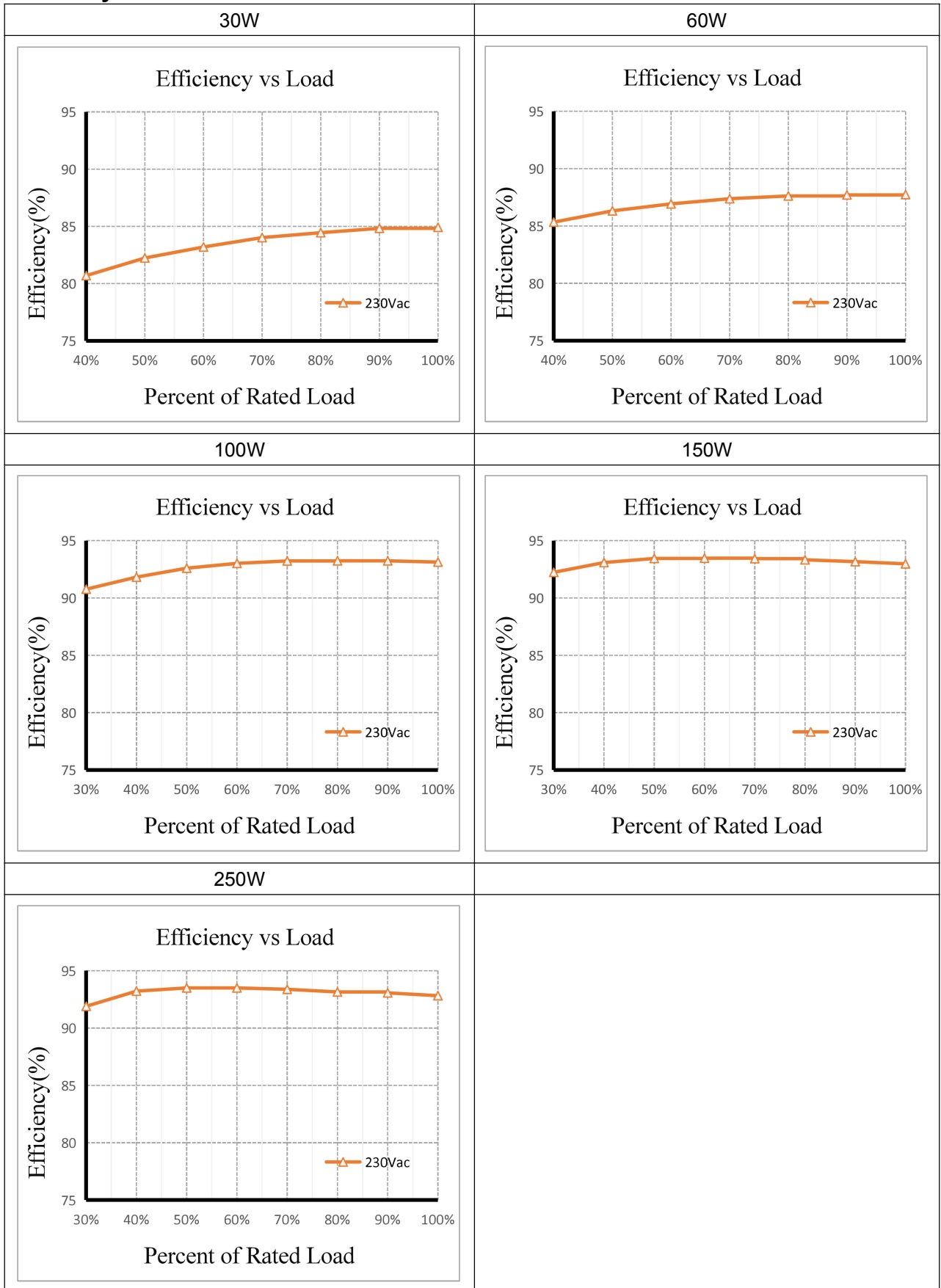
#### PF VS LOAD Curve



### THD VS LOAD Curve



### Efficiency VS LOAD Curve



### 4. Label

<input type="checkbox"/> L <input type="checkbox"/> N wire preparation (6mm)	<b>KGP</b> KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	LED Dimmable Driver <b>LV30W24CG 1-10</b> Constant Voltage Type For LED modules only	Input Voltage:220-240V~ Input Frequency:50/60Hz Power Factor( $\lambda$ ): $\geq 0.95$ $I_{in} \leq 0.19A$	U <sub>rated</sub> =24V= I <sub>range</sub> =0~1250mA P <sub>range</sub> =0~30W Ta:-25to+45°C Tc:80°C		<input type="checkbox"/> OUTPUT <input type="checkbox"/> DIM
						<input type="checkbox"/> OUTPUT <input type="checkbox"/> DIM

<input type="checkbox"/> L <input type="checkbox"/> N wire preparation (6mm)	<b>KGP</b> KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	LED Dimmable Driver <b>LV60W24CG 1-10</b> Constant Voltage Type For LED modules only	Input Voltage:220-240V~ Input Frequency:50/60Hz Power Factor( $\lambda$ ): $\geq 0.95$ $I_{in} \leq 0.35A$	U <sub>rated</sub> =24V= I <sub>range</sub> =0~2500mA P <sub>range</sub> =0~60W Ta:-25to+45°C Tc:80°C		<input type="checkbox"/> OUTPUT <input type="checkbox"/> DIM
						<input type="checkbox"/> OUTPUT <input type="checkbox"/> DIM

<input type="checkbox"/> L <input type="checkbox"/> N wire preparation (6mm)	<b>KGP</b> KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	LED Dimmable Driver <b>LV100W24CG 1-10</b> Constant Voltage Type For LED modules only	Input Voltage:220-240V~ Input Frequency:50/60Hz Power Factor( $\lambda$ ): $\geq 0.95$ $I_{in} \leq 0.6A$	U <sub>rated</sub> =24V= I <sub>range</sub> =0~4170mA P <sub>range</sub> =0~100W Ta:-25to+45°C Tc:90°C		LED- <input type="checkbox"/> OUTPUT LED+ <input type="checkbox"/> OUTPUT DIM- <input type="checkbox"/> DIM DIM+ <input type="checkbox"/> DIM
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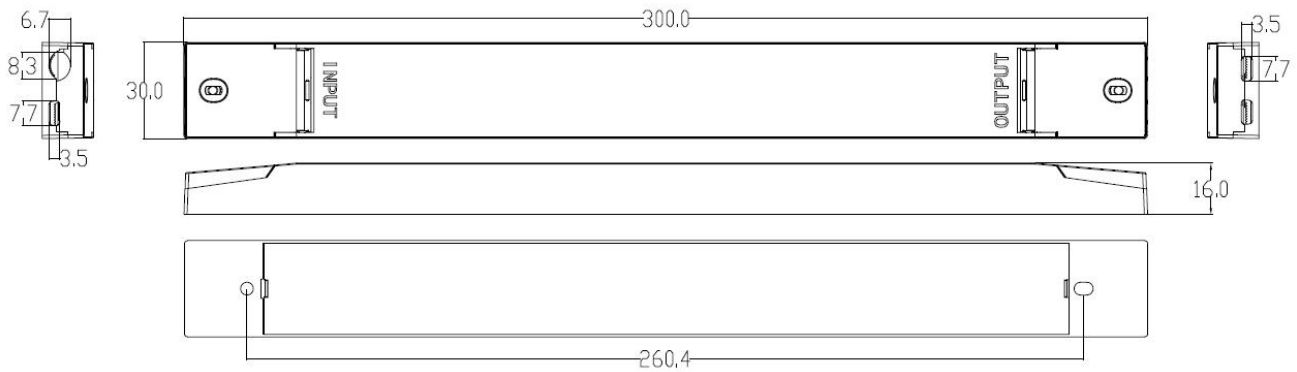
<input type="checkbox"/> L <input type="checkbox"/> N wire preparation (6mm)	<b>KGP</b> KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	LED Dimmable Driver <b>LV150W24CG 1-10</b> Constant Voltage Type For LED modules only	Input Voltage:220-240V~ Input Frequency:50/60Hz Power Factor( $\lambda$ ): $\geq 0.95$ $I_{in} \leq 0.9A$	U <sub>rated</sub> =24V= I <sub>range</sub> =0~6250mA P <sub>range</sub> =0~150W Ta:-25to+45°C Tc:90°C		LED- <input type="checkbox"/> OUTPUT LED+ <input type="checkbox"/> OUTPUT DIM- <input type="checkbox"/> DIM DIM+ <input type="checkbox"/> DIM
						<input type="checkbox"/> OUTPUT <input type="checkbox"/> DIM

<input type="checkbox"/> L <input type="checkbox"/> N wire preparation (6mm)	<b>KGP</b> KGP Electronics GmbH Hueckstraße 19 DE-58511 Lüdenscheid	LED Dimmable Driver <b>LV250W24CG 1-10</b> Constant Voltage Type For LED modules only	Input Voltage:220-240V~ Input Frequency:50/60Hz Power Factor( $\lambda$ ): $\geq 0.95$ $I_{in} \leq 1.5A$	U <sub>rated</sub> =24V= I <sub>range</sub> =0~10420mA P <sub>range</sub> =0~250W Ta:-25to+45°C Tc:90°C		LED- <input type="checkbox"/> OUTPUT LED+ <input type="checkbox"/> OUTPUT DIM- <input type="checkbox"/> DIM DIM+ <input type="checkbox"/> DIM
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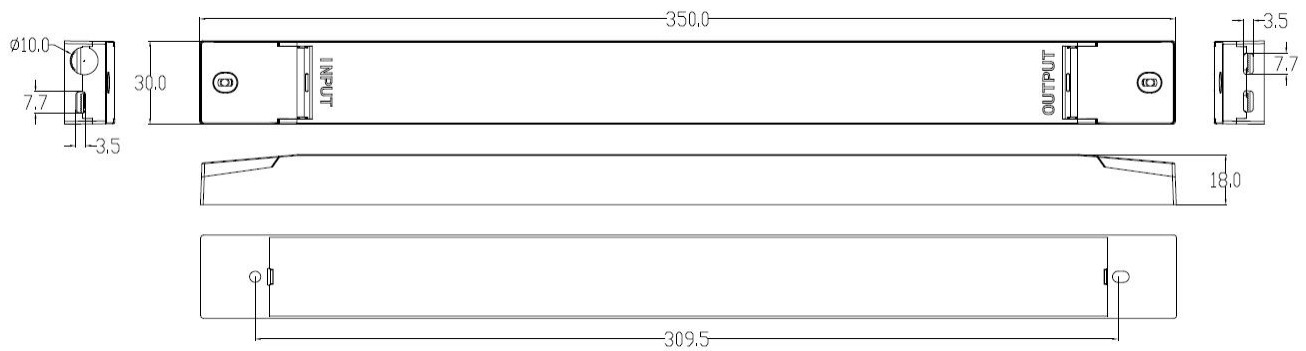


### 5. Dimension (Unit: mm)

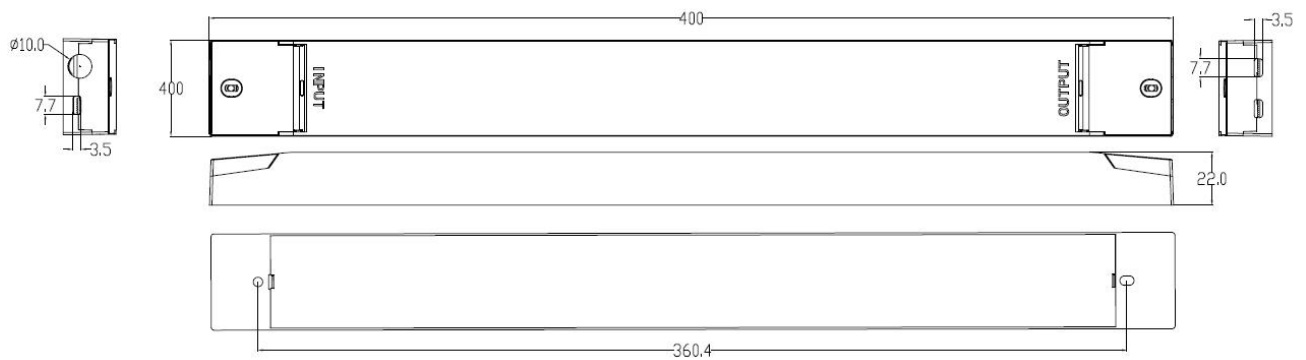
#### LV30W24CG 1-10 & LV60W24CG 1-10:



#### LV100W24CG 1-10 & LV150W24CG 1-10:



#### LV250W24CG 1-10:



**6. 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 1-10	450*240*200	45	0.143	6.44	6.96
	LV60W24CG 1-10		45	0.23	10.35	10.87
	LV100W24CG 1-10		35	0.21	7.35	7.87
	LV150W24CG 1-10		35	0.31	10.78	11.3
	LV250W24CG 1-10		30	0.53	15.9	16.42
Without white box and manual	LV30W24CG 1-10		75	0.125	9.38	10.08
	LV60W24CG 1-10		75	0.21	15.75	16.45
	LV100W24CG 1-10		70	0.19	12.88	13.48
	LV150W24CG 1-10		70	0.28	19.6	20.2
	LV250W24CG 1-10		40	0.5	20	20.6

**7. REVISION HISTORY**

DATE	REV.	REMARK
2020-05-15	V0.01	Initial release.