

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.)
LV100W48CG2 1-10	220-240VAC	≤115W	≤0.6A	≥0.95	0-100.8W	48V	0-2.1A	92%
LV150W48CG2 1-10		≤168W	≤0.9A		0-150W		0-3.125A	92%
LV250W48CG2 1-10		≤275W	≤1.5A		0-250W		0-5.21A	93%

*** 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	48VDC+2%			
	No load Voltage	48VDC+3%			
	Output Voltage Ripple	<480mVPK-PK (0.5%)			
	Line Regulation	±1%			
	Load Regulation	±2%			
	Filcker 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.	230VAC, Rated Load, at output terminals, see graphs
		150W	≥90%	92% typ.	
		250W	≥91%	93% typ.	
Protection	Short Circuit Protection	Auto Recovery			

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

	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	100W/150W/250W	90℃	
	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	0.75mm²-1.5 mm²		
	Output Wire Cross Section	100W/150W	1*0.75mm²-1.5 mm²	
		250W	2*0.75mm²-1.5 mm²	
	Dimming Wire Cross Section	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)		
		100W	≥100K Hrs	@230VAC , full load,

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

	Life Time(@Ta max)	150W	≥55K Hrs	End of Life: Failure Rate<10%
		250W	≥63K 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

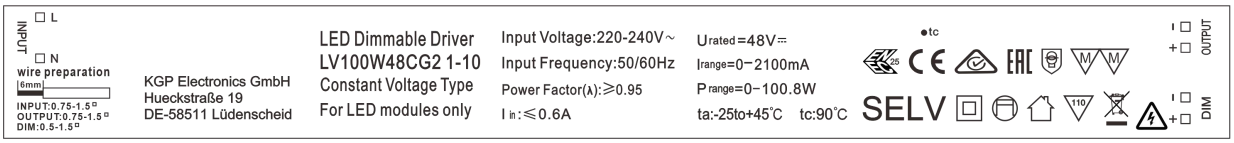
TYPE	LV100W48CG2 1-10V Connected quantities of different current Breaker						Input Voltage	Inrush Current ＜50A	Time
	current（A）	10	13	16	20	25			
	Installation wire diameter	1.5mm²	2.5mm²	2.5mm²	4mm²	4mm²			
TYPE B		13	17	21	27	33	@230VAC	45	250μs
TYPE C		21	28	34	43	53			
TYPE D		34	44	55	68	85			

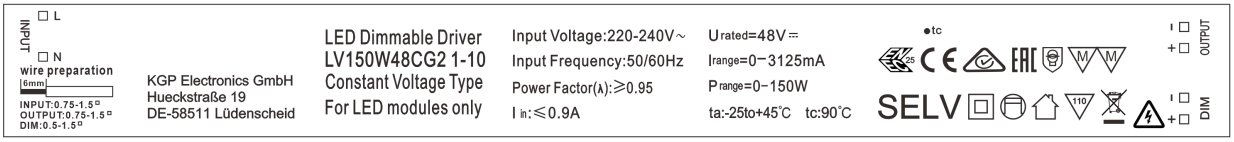
TYPE	LV150W48CG2 1-10V Connected quantities of different current Breaker						Input Voltage	Inrush Current ＜60A	Time
	current（A）	10	13	16	20	25			
	Installation wire diameter	1.5mm²	2.5mm²	2.5mm²	4mm²	4mm²			
TYPE B		11	14	17	21	27	@230VAC	56	185μs
TYPE C		17	22	27	34	43			
TYPE D		27	36	44	55	69			

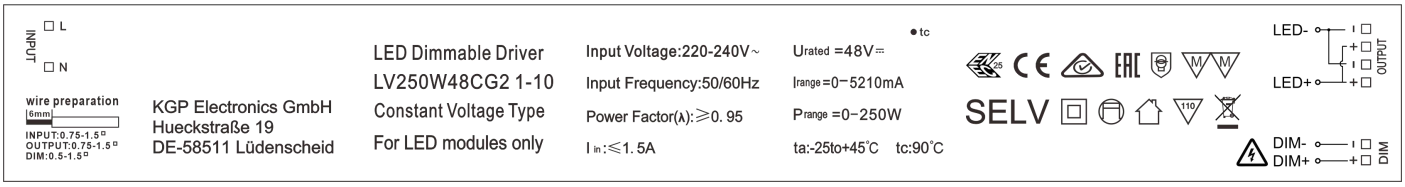
TYPE	LV250W48CG2 1-10V Connected quantities of different current Breaker						Input Voltage	Inrush Current ＜80A	Time
	current（A）	10	13	16	20	25			
	Installation wire diameter	1.5mm²	2.5mm²	2.5mm²	4mm²	4mm²			
TYPE B		8	10	13	16	20	@230VAC	76	310μs
TYPE C		13	16	20	25	32			
TYPE D		20	26	32	40	51			

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

3. Label


INPUT
L
N
wire preparation
6mm
INPUT:0.75-1.5
OUTPUT:0.75-1.5
DIM:0.5-1.5
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~
Input Frequency:50/60Hz
Power Factor(λ):≥0.95
I in:≤0.6A
Urated=48V
Irange=0-2100mA
Prange=0-100.8W
ta:-25to+45℃ tc:90℃
tc
SELV
OUTPUT
DIM


INPUT
L
N
wire preparation
6mm
INPUT:0.75-1.5
OUTPUT:0.75-1.5
DIM:0.5-1.5
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~
Input Frequency:50/60Hz
Power Factor(λ):≥0.95
I in:≤0.9A
Urated=48V
Irange=0-3125mA
Prange=0-150W
ta:-25to+45℃ tc:90℃
tc
SELV
OUTPUT
DIM

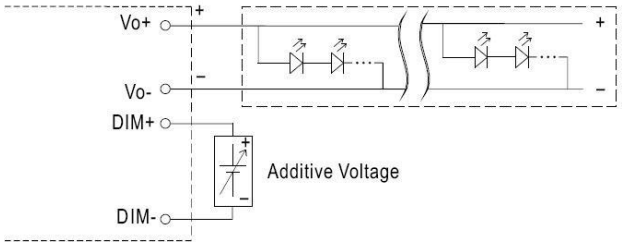

INPUT
L
N
wire preparation
6mm
INPUT:0.75-1.5
OUTPUT:0.75-1.5
DIM:0.5-1.5
KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid
LED Dimmable Driver
LV250W48CG2 1-10
Constant Voltage Type
For LED modules only
Input Voltage:220-240V~
Input Frequency:50/60Hz
Power Factor(λ):≥0. 95
I in:≤1. 5A
Urated =48V
Irange=0-5210mA
Prange =0-250W
ta:-25to+45℃ tc:90℃
tc
SELV
LED-
LED+
DIM-
DIM+
OUTPUT
DIM

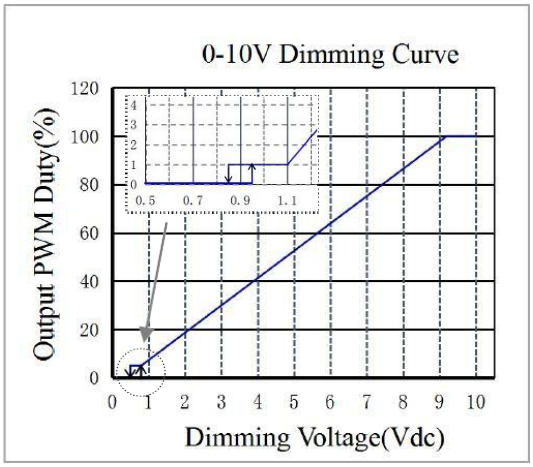
4. 3 in 1 Dimming Function

Output power can be adjusted by applying one of the three methodologies between DIM+ and DIM-:

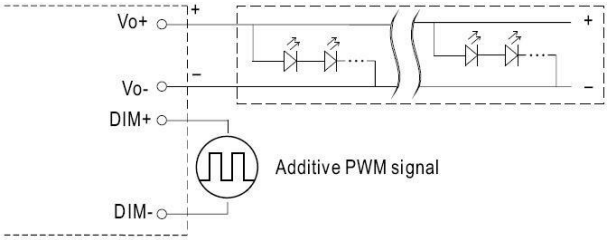
0 -10VDC, or PWM signal or resistance.

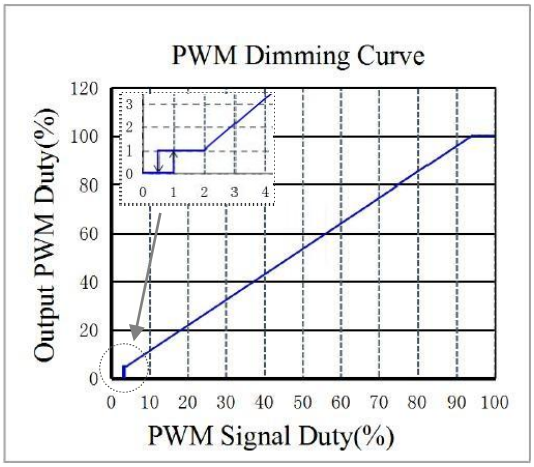
Applying additive 0 ~ 10VDC



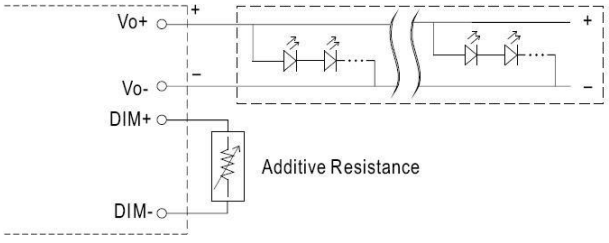


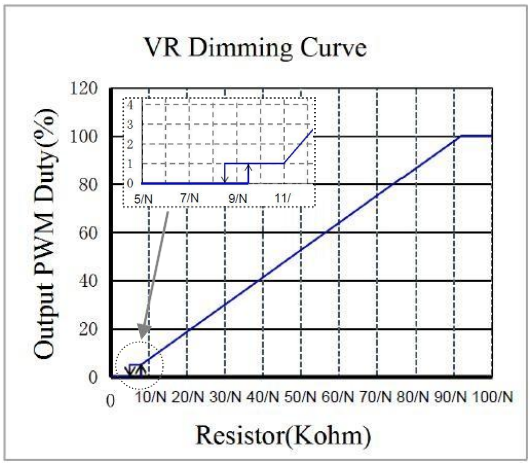
Applying additive PWM signal (Duty: 0- 99%,frequency range 0.25KHz ~ 2KHz,Voltage amplitude:3-10V)





Applying additive resistance



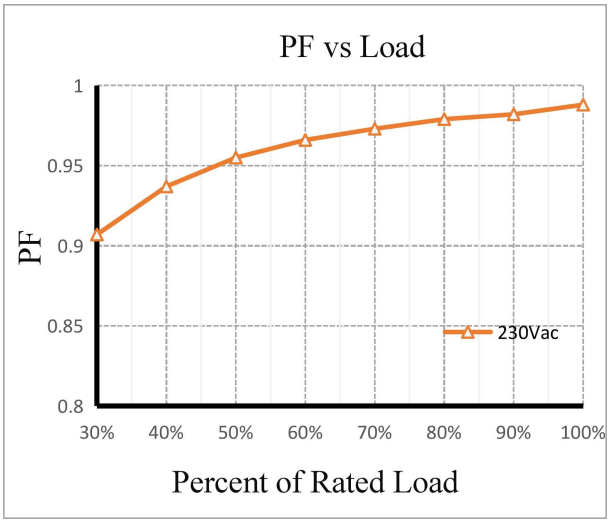
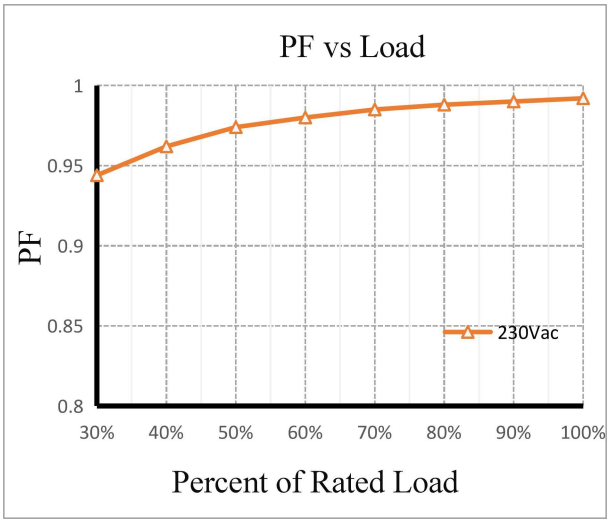
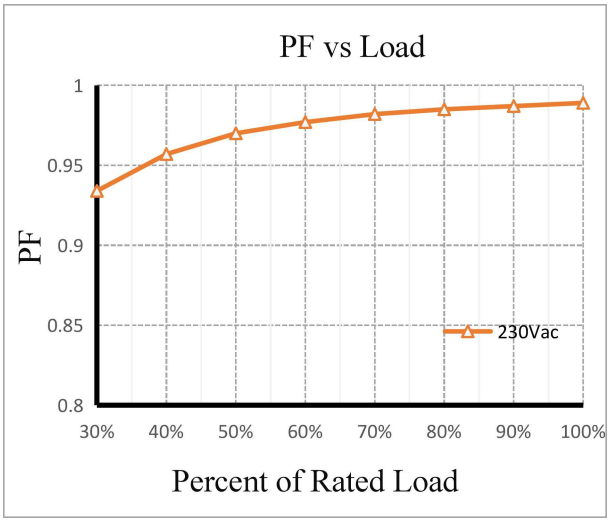


(N=driver quantity for synchronized dimming operation)

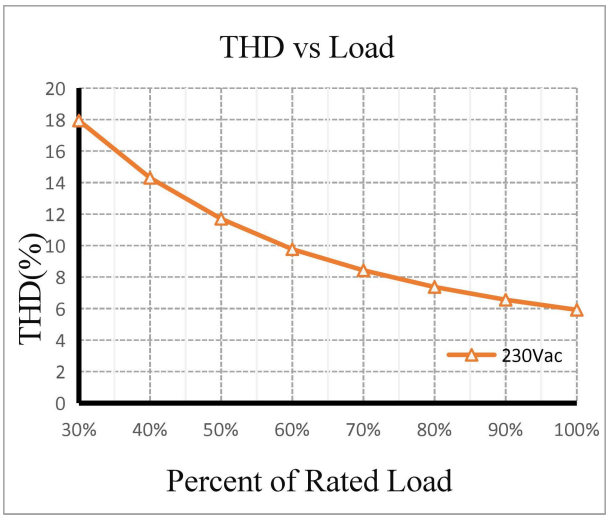
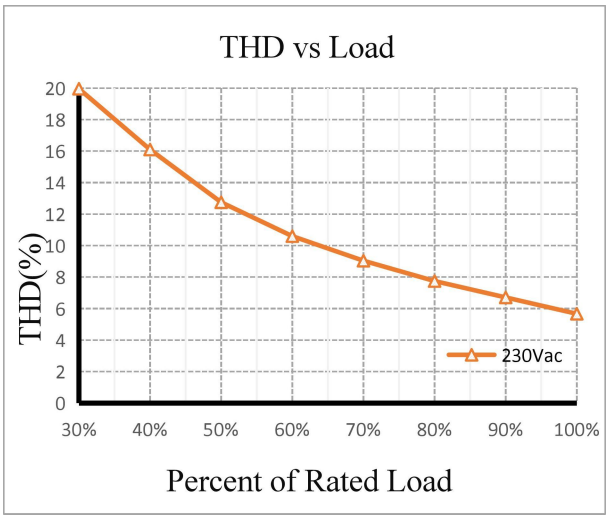
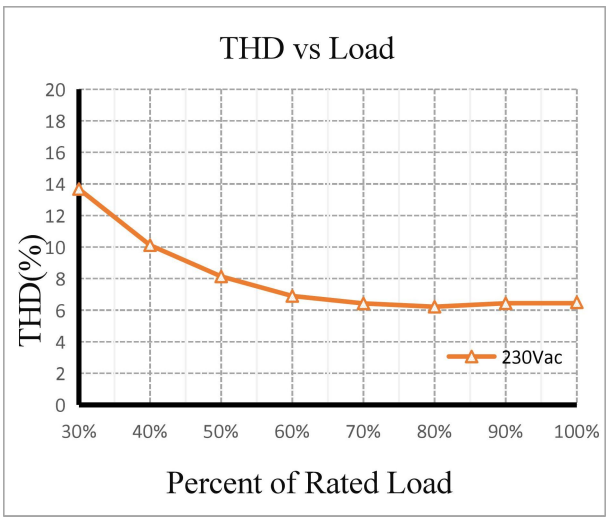
KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

5. Graph

PF VS LOAD Curve

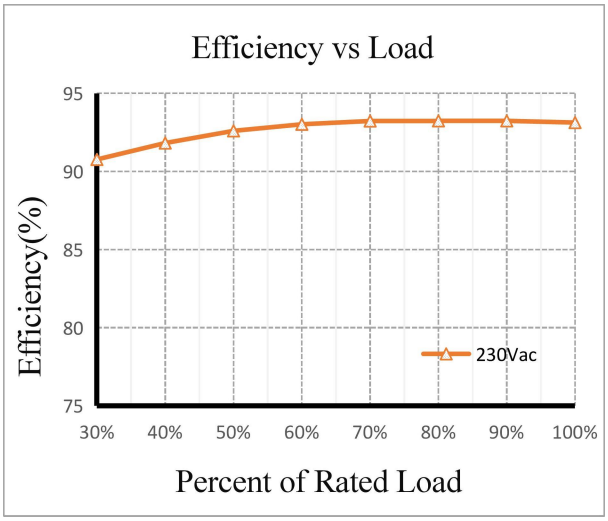
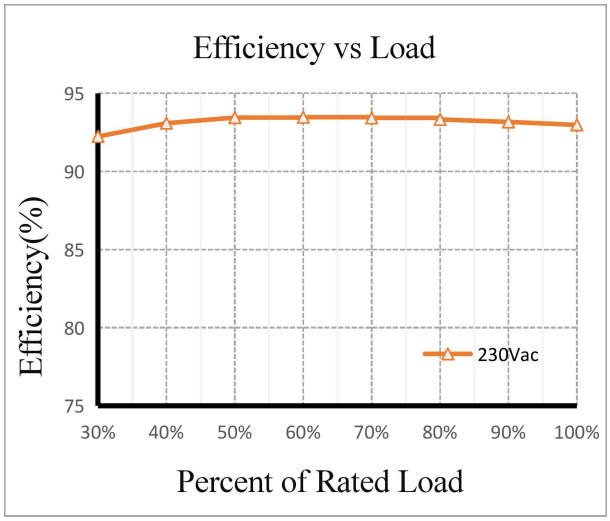
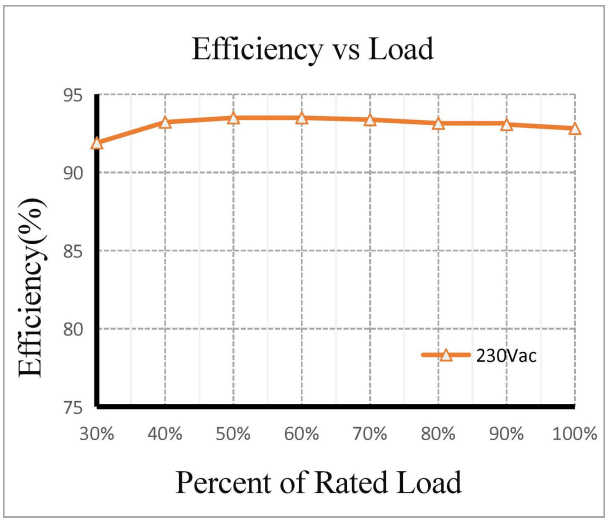
100W	150W
	
250W	
	

THD VS LOAD Curve

100W	150W
	
250W	
	

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

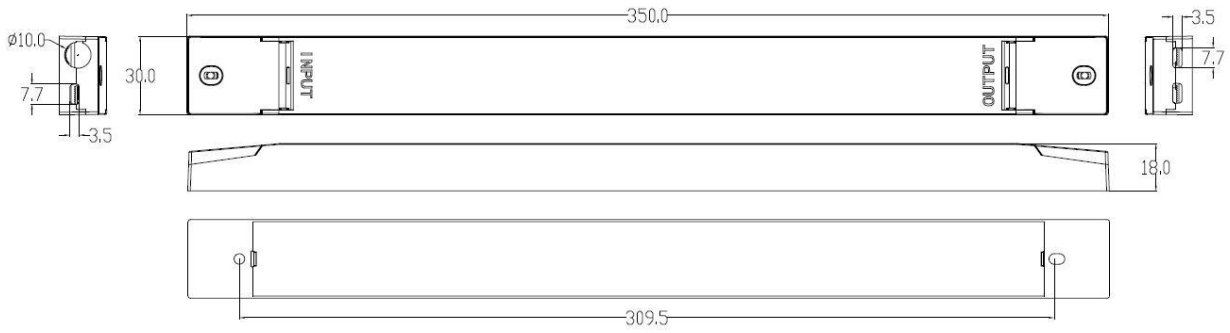
Efficiency VS LOAD Curve

100W	150W
	
250W	
	

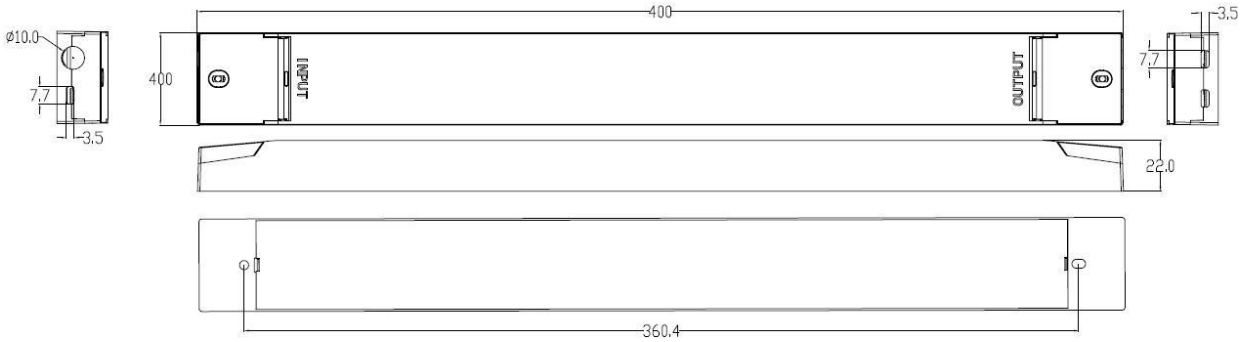
KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

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/ Carton	Net eight/ Pcs(kg)	Net weight/ Carton(kg)	Gross weight /Carton(kg)
With white box and manual	LV100W48CG2 1-10	375*235*195	50	0.21	10.5	11.03
	LV150W48CG2 1-10			0.309	15.45	16.02
	LV250W48CG2 1-10	420*230*160	25	0.535	13.375	13.82
Without white box and manual	LV100W48CG2 1-10	440*345*155	40	0.184	7.36	7.89
	LV150W48CG2 1-10			0.281	11.24	11.75
	LV250W48CG2 1-10	440*300*155	25	0.502	12.55	13.0

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid

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.

KGP Electronics GmbH
Hueckstraße 19
DE-58511 Lüdenscheid