

SPECIFICATION

SS-75G Series LED Driver

Model: SS-75G-XX

Description: 75W LED DRIVER

Rev.: V03

Release Date: 2019-07-04

SHENZHEN SOSEN ELECTRONICS CO.,LTD

A3 Building, Gonghe Fourth Industrial Area, Shajing Street, Baoan District
Shenzhen, China 518104

Features

- Efficiency up to 90.5%
- Optional dimming function: 0-10V, PWM, Resistor, Timing
- IP67 rated
- Protections: SCP, OTP, OVP
- Metal case with full potted for hazardous scenarios
- Surge Protection: L/N-PE: 12kV, L-N: 6kV
- 7 years warranty



Description

SS-75G series are constant current LED driver with universal input voltage 180-305Vac and high power factor. They are specifically designed for LED luminaires such as high bay, street lights with low standby power, high efficiency, compact housing and good thermal management, which greatly enhance the reliability and lifespan. Comprehensive protections, including Over Voltage Protection, Short Circuit Protection and Over Temperature Protection, ensure proper functioning.

Model List

Model	O/P Voltage	O/P Current	Max. O/P Power	O/P Current Tolerance	THD (Typ.)	PF (Typ.)	Efficiency (Typ.)
SS-75G-42*	24-42V	1.1-2.3A	75W	±5%	10%	0.95	88.5%
SS-75G-54*	32-54V	0.9-1.8A	75W	±5%	10%	0.95	89%
SS-75G-108*	54-108V	0.5-1.05A	75W	±5%	10%	0.95	90.5%

Note:

1. Default Tested at 230Vac, full load, Ta 25°C.
 2. Optional B, T or space in the place of * means additional function.
Space is the base model without any optional function;
- Suffix B for model with 3-in-1 dimming (0-10V, PWM, Resistor);
 - Suffix T for model with timing control.

Input Characteristics

Parameter	Min	Typ.	Max	Remarks
Rated AC input range	200 Vac		277 Vac	
AC input range	180 Vac		305 Vac	
Input frequency range	47Hz		63Hz	
Max input current			0.5A	180Vac, full load
Inrush current			60A	Cold start , 230Vac/50Hz , Twidth=450us measured at 50% Ipeak
No load power		0.77W	1W	277Vac/50Hz, No load
Power factor	0.93	0.95		230Vac/50Hz, full load
	0.9			180-277Vac/50Hz, 70-100% Load
THD		10%	12%	230Vac/50Hz, full load
			20%	180-277Vac/50Hz, 70-100% Load

Output Characteristics

Parameter	Min	Typ.	Max	Remarks
Output voltage range	SS-75G-42*	24V	42V	Power derated @ 24-33Vdc, see Fig. 1
	SS-75G-54*	32V	54V	Power derated @ 32-42Vdc, see Fig. 1
	SS-75G-108*	54V	108V	Power derated @ 54-72Vdc, see Fig. 1
Rated output voltage	SS-75G-42*	33V	42V	Po=Vo*Io=75W, full load, see Fig. 1
	SS-75G-54*	42V	54V	
	SS-75G-108*	72V	108V	
Rated output current	SS-75G-42*	1.8A	2.3A	2.3A for 33V, 1.8A for 42V
	SS-75G-54*	1.4A	1.8A	1.8A for 42V, 1.4A for 54V
	SS-75G-108*	0.7A	1.05A	1.05A for 72V, 0.7A for 108V
Current adjustable range	SS-75G-42*	1.1A	2.3A	Rated Io 50%-100% adjustable
	SS-75G-54*	0.9A	1.8A	
	SS-75G-108*	0.5A	1.05A	
No load voltage	SS-75G-42*	42.5	43.5V	45V
	SS-75G-54*	54.5V	56V	57V
	SS-75G-108*	109	111V	112V
Efficiency @230Vac	SS-75G-42*	87%	88.5%	Output 42V/1.8A, see Fig. 5
	SS-75G-54*	88%	89%	Output 54V/1.4A , see Fig. 5
	SS-75G-108*	89%	90.5%	Output 108V/0.7A , see Fig. 5
Output current tolerance	-5%		+5%	
Output voltage ripple (PK-PK)		1%	2%	Full load

Output current ripple (PK-PK)		5%	10%	Full load
Start-up current overshoot			10%	
Start-up time		0.4S	0.5S	230Vac
Line Regulation	-1%		+1%	Full load
Load Regulation	-2%		+2%	

Other Characteristics

Parameter		Min	Typ.	Max	Remarks
0-10V Dimming (Optional)	Dim Vmax	0V		14V	3 in 1 Dimming; 0-5V Dimming Optional; Negative Logic Dim Optional; Dim-off(Optional, contact SOSEN for more details)
	Dim Range	10%Iomax		100%Ioset	
	Voltage	1V		10V	
PWM Dimming (Optional)	High	5V		10V	
	Low	-0.3V		-0.6V	
	Frequency	200Hz		2KHz	
	PWM Duty	1%		99%	
Resistor Dimming (Optional)	Resistance	10K ohm		100K ohm	
	Dimming	10%Iomax		100%Ioset	
Timing Curve (Optional)	IC Control	By programming			Typically 3-4 sections
	Timing	5H/6H/7H/8H per section			Default Mode: 24Hour/Circle with 50% load
Protection	OTP	90°C	100°C	110°C	Tc, recovery need again on
	Short Circuit Protection	Driver will not damaged with short-circuit power <10W			Hiccup mode
Life time			55,000hrs		230Vac, full load, Tc 75°C, See Fig. 6
MTBF			200,000hrs		230Vac, full load, Ta= 25°C, (MIL-HDBK-217F)
Temperature Coefficient		-0.03%/°C		+0.03%/°C	Tc: 0°C ~ 85°C
Tc				85°C	
Warranty			7 years		Tc: 75°C
Net Weight			430g		
Dimension		116.4mm*63mm*36.9mm			L x W x H

NOTE: All the parameters above are tested Ta 25°C, unless specified.

Environmental Requirements

Parameter	Min	Typ.	Max	Remarks
Operating Temperature	-40°C	25°C	+60°C	See Fig. 2
Storage Temperature	-40°C	25°C	+85°C	
Operation Humidity	10%RH		90%RH	
Storage Humidity	5%RH		95%RH	
Altitude	-65m		4,000m	
Cooling Method	Air Cooling			

Safety and EMI/EMS Standards

Certification	Standard	Status	Remark
TUV	EN 61347-2-13:2014 EN61347-1:2008+A1:2011+A2:2013 EN62493:2015	✓	
CCC	GB 19510.14-2009	✓	
CE	EN 61347-2-13:2014 EN61347-1:2008+A1:2011+A2:2013	✓	

Item	Standard	Remark
Insulation strength	Input-output	3200Vac/5mA Max/60s
	Primary-Earth	1600Vac/5mA Max/60s
	Sec.- Earth	1000Vac/5mA Max/60s
Insulation resistance	Input-output	≥10 MΩ
	Ground resistor	≤0.1Ω
Leakage current	≤0.75mA	25A/1min 277Vac

Item	Criterion	Remark
Conduction Emission	EN55015:2013+A1:2015	
Radiation Emission	EN55015:2013+A1:2015	
Harmonic Current Emissions	IEC/EN 61000-3-2	Class C
Surge	IEC/EN61000-4-5	Difference mode 6kV, Common mode 12kV Criterion B

NOTE:

- SOSEN warrants the LED Driver itself complies with EMC standard. However, LED Driver's EMC should be re-checked when integrated into lighting systems due to unexpected interference as component.
- Please short Line and Nuture, V+ and V-, Dim+ and Dim - when conduct Hi-pot test.

Performance Curves

Fig. 1 O/P Voltage VS Output Current

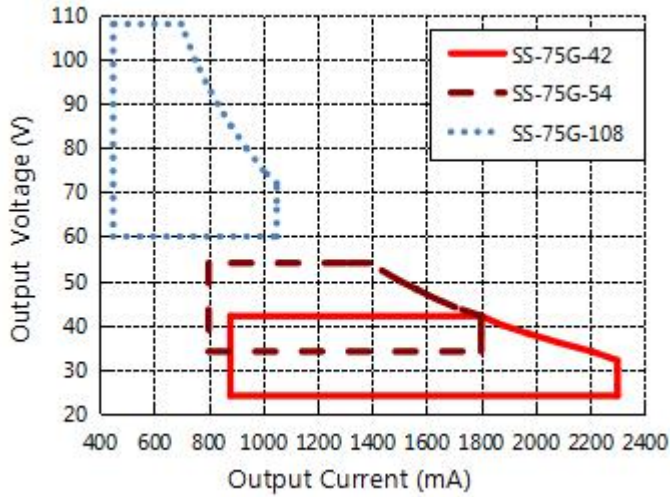


Fig. 2 O/P Power VS Ambient Temperature

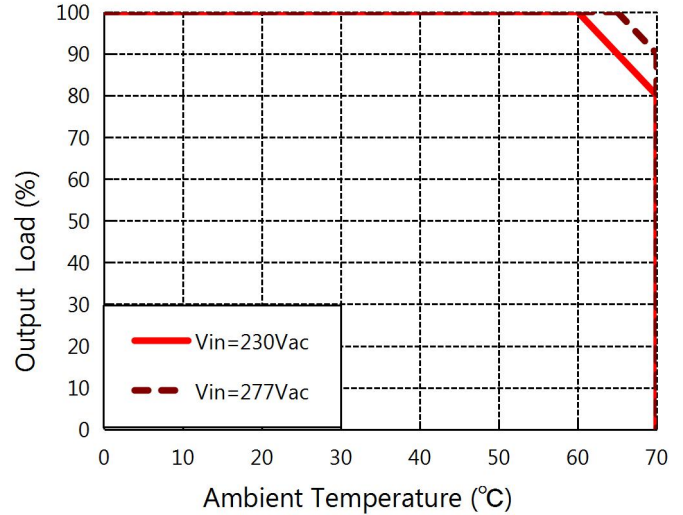


Fig. 3 Power Factor VS Output Power

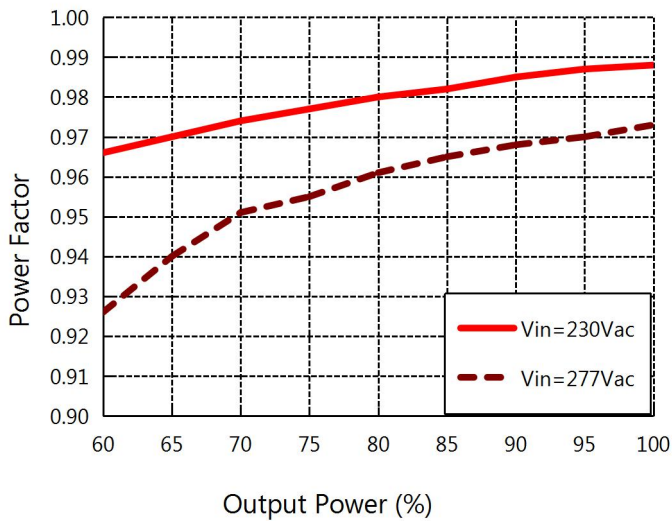


Fig. 4 THD VS Output Power

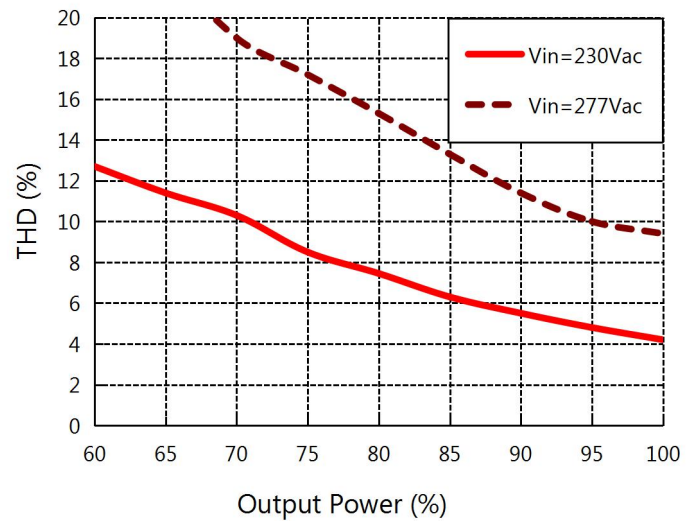


Fig. 5 Efficiency VS Output Power

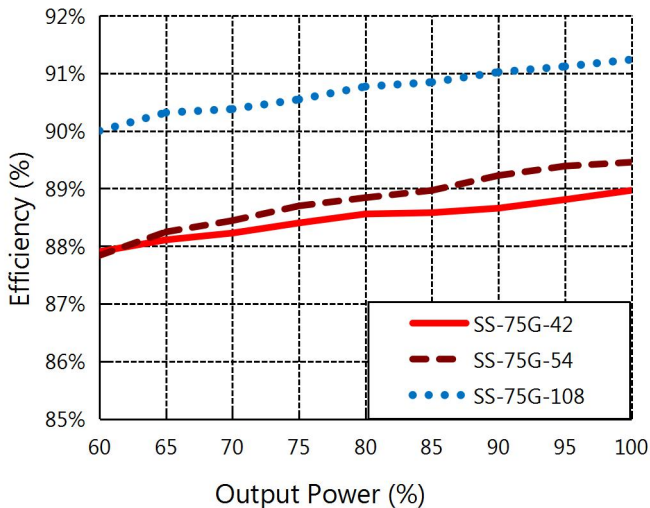


Fig. 6 Lifespan VS Case Temperature

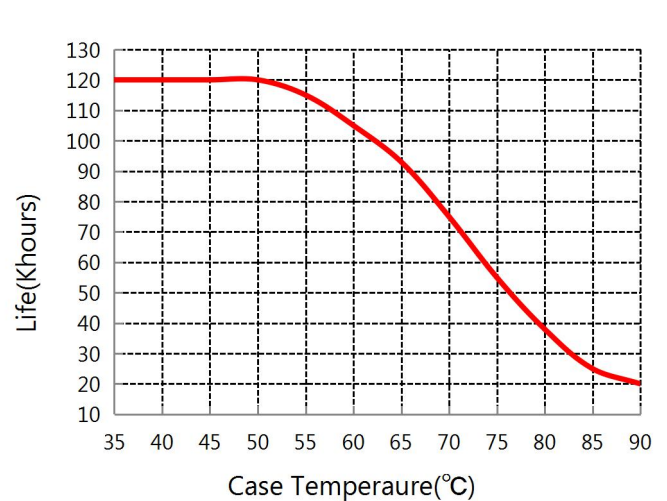
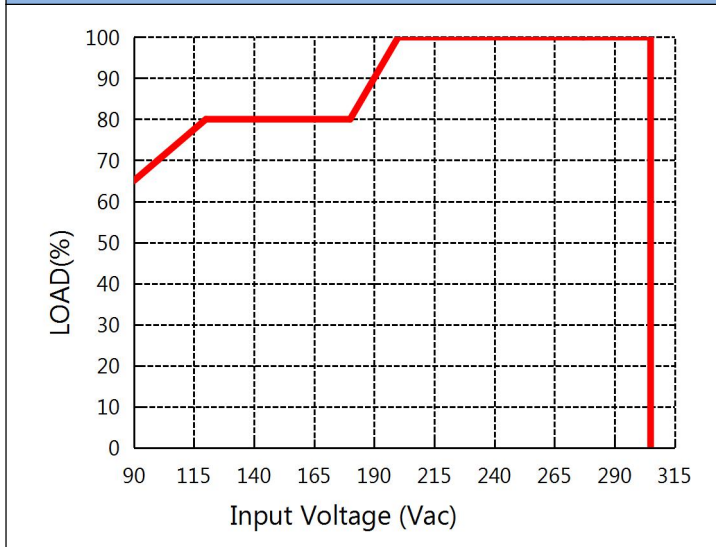
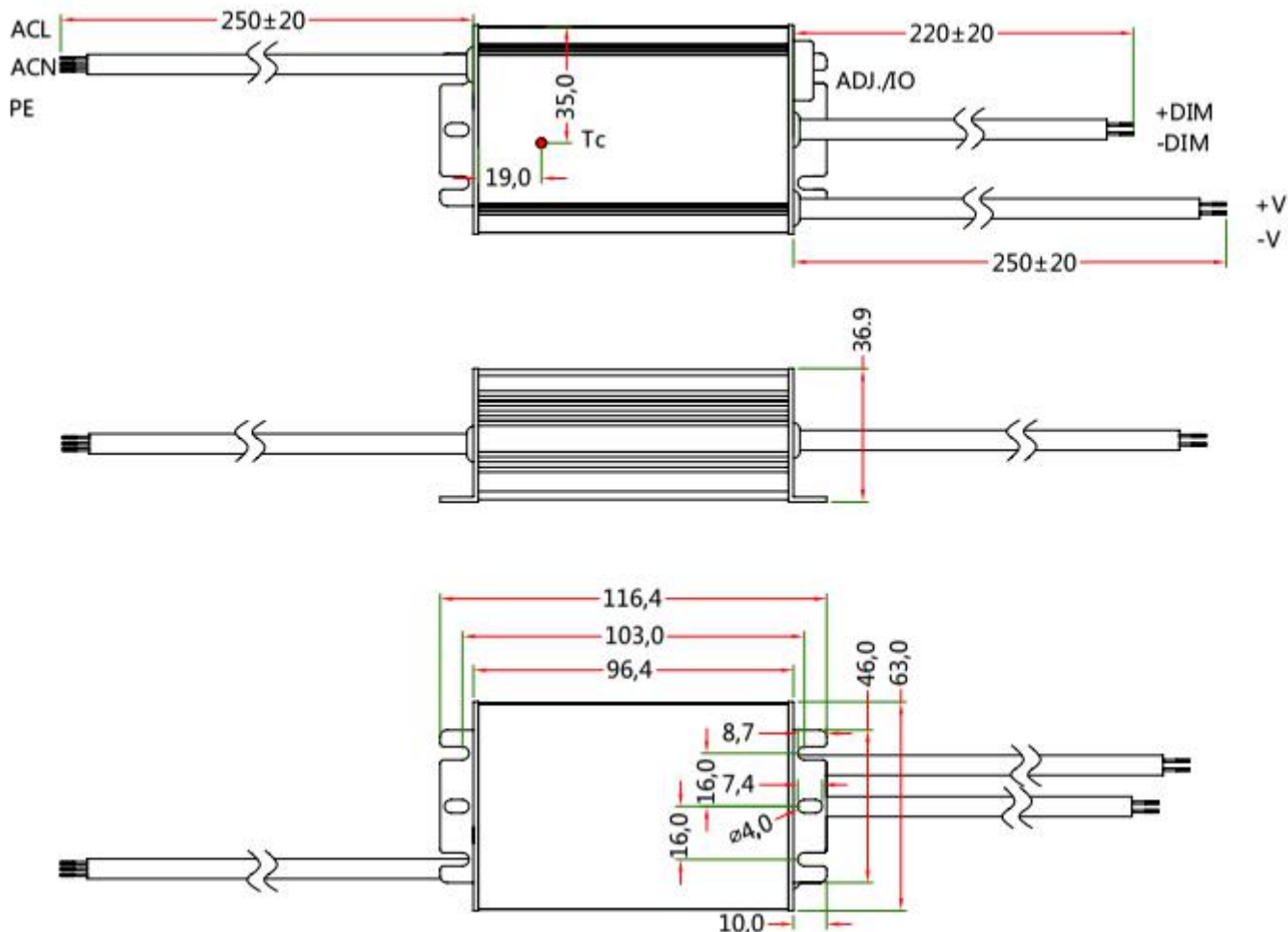


Fig. 7 Output Power VS Input Voltage
























Mechanical Characteristics(Unit: mm)



NOTE:

Input Wire	VDE H05RN-F 3*1.0 mm ² , O.D: 7.4mm, BROWN: L, BLUE: N, YELLOW/GREEN: PE
Output Wire	VDE H05RN-F 2*1.0 mm ² , O.D: 7.0mm, BROWN: V+, BLUE: V-
Suffix B DIM	SJTW #18AWG 2*0.824 mm ² , O.D: 7.6mm, PURPLE: DIM+, GRAY: DIM-

Labels

TUV/SAA/CE	
<p style="text-align: center;"> MODEL:SS-75G-42B SOSEN LED Driver</p> <p>○ ACL ---BROWN ○ ACN ---BLUE ○  --- GREEN/YELLOW</p> <p>MADE IN CHINA HTTP://www.szsofen.com</p>	<p style="text-align: center;">INPUT</p> <p>Manufacturer: Shenzhen Sosen Electronics Co.,Ltd A3 building, Gonghe Fourth Industrial Area, Shajing Street, Baoan District, 518104 Shenzhen, PEOPLE'S REPUBLIC OF CHINA</p> <p>INPUT :200-277V ~ Max.0.5A 50/60Hz PF>0.95 t_c: 90°C t_a: 60°C</p> <p>OUTPUT :24-42V \pm 1.1-2.3A Max.45V \pm Max.75W</p> <p>Suitable for Dry, Damp and Wet Locations For LED modules use only</p> <p style="text-align: center;">OUTPUT</p> <p>Io ADJ.  DIM+ ---PURPLE ○ DIM ---GRAY ○ V+ ---BROWN ○ V ---BLUE ○</p> <p style="text-align: center;"> RoHS SELV         </p>
CCC	
<p style="text-align: center;"> MODEL(型号):SS-75G-42B SOSEN LED DRIVER (LED模块用交流电子控制装置)</p> <p>○ ACL ---BROWN (棕) ○ ACN ---BLUE (蓝) ○  --- GREEN/YELLOW (绿/黄)</p> <p>HTTP://www.szsofen.com MADE IN CHINA 制造地:中国</p>	<p style="text-align: center;">INPUT (输入端)</p> <p>Manufacturer: Shenzhen City Sosen Electronics Co.,Ltd 制造商: 深圳市崧盛电子股份有限公司</p> <p>INPUT (输入): 220-240V~ 0.5A 50/60Hz PF≥0.95 t_c: 90°C t_a: 60°C 277V ~ 0.35A 50/60Hz (277V ~ 只适用于北美)</p> <p>OUTPUT (输出): 24-42V \pm 1.1-2.3A Max.46V 输出功率:75W (LED模块) 内置防雷管</p> <p style="text-align: center;">OUTPUT (输出端)</p> <p>Io ADJ.  (电流可调) DIM+ ---PURPLE (紫色) DIM ---GRAY (灰色) V+ --- BROWN (棕色) V --- BLUE (蓝色)</p> <p style="text-align: center;"> RoHS SELV        </p>

Dimming Diagram



- Output current could be adjusted by connecting 0-10V or PWM signal between DIM+ and DIM-
- DO **NOT** connect DIM- and V- to avoid abnormal output

0-10V Dimming(Typ.), See Fig. 8

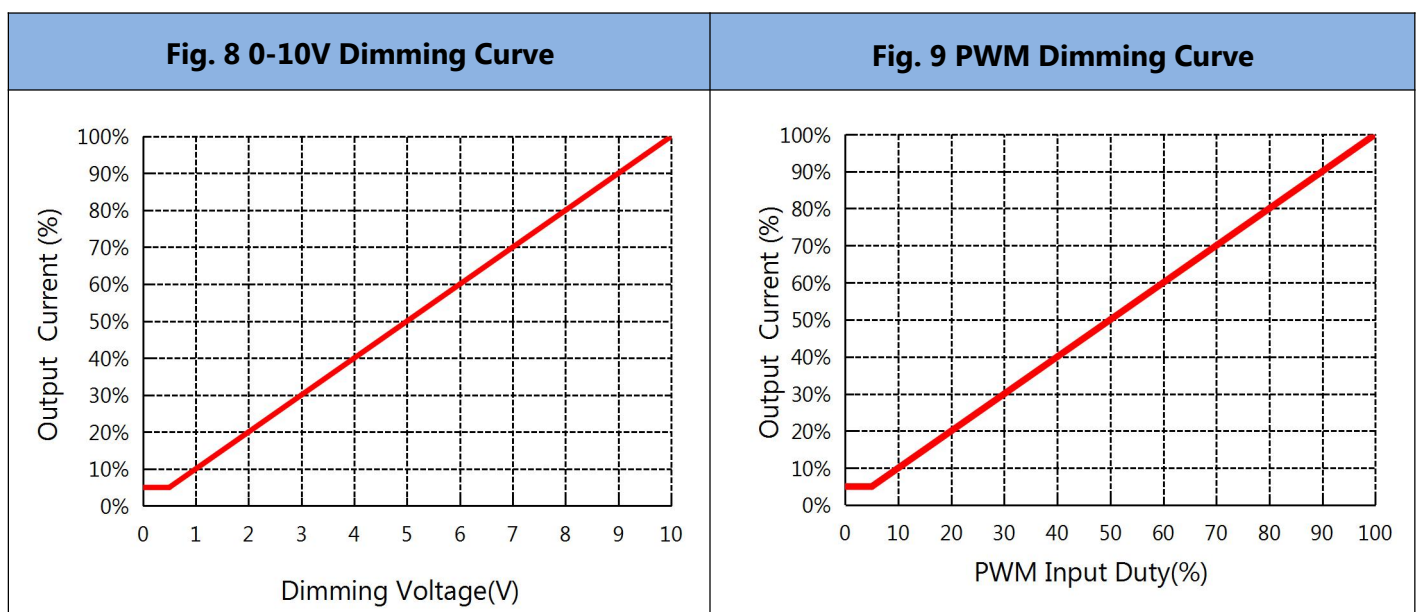
Voltage Range	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Rated current percentage	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%-108%

10V PWM frequency range(Typ.): 200Hz-2KHz, See Fig. 9

PWM duty	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Rated current percentage	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%-108%

Resistor(Typ.), N represents the number of power supplies

Resistor	10KΩ	20KΩ	30KΩ	40KΩ	50KΩ	60KΩ	70KΩ	80KΩ	90KΩ	100KΩ	OPEN
	/N	/N	/N	/N	/N	/N	/N	/N	/N	/N	
Rated current percentage	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%-108%



Installation Tips

1. Highly recommended to seal the adjustable hole with silicon glue (#704 preferred) after adjusting the driver's output current. Torsion with proper strength to avoid permanent damage to the potentiometer inside.
2. Remove the out screw for Hi-pot test, and fasten it back and connect to the metal case appropriately after test to maintain the 12kV/6kV surge protection per IEC 50598-1-10.2, refer to below:
3. Dimming leads should be capped if not in use to avoid dimming circuit damage caused by external signals.



Package, Transportation & Storage

1. Package

- Outside carton dimension: L×W×H =500mm*390mm*170 mm;
- 28PCS/Carton;
- Net weight/PC: 0.43kg;
- Gross weight/Carton: 13kg.

2. Transportation

Packaging is designed suitable for transportation by trucks, vessels and flights. The products should be shielded from direct sunshine, loaded/unloaded with caution.

3. Storage

The product storage meets the standard of the GB 3873—83.

Products should be rechecked if stock for over 1 year before installation.