

SUP50A-1WPC-WB

Summary

SUP50A-1WPC-WB is a constant current output LED dimming driver. The driver supports 0-10V active signal, PWM, and adjustable resistance signal, Achieve a smooth dimming effect

Product Features

- Single channel output, the output current can be selected through software.
- 0-10V dimming
- Class 2 power supply
- NTC External over temperature protection
- Protection: Overload, overvoltage, short circuit, NTC protection
- Suitable for indoor LED lighting applications

Application



Down Light



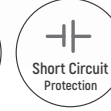
Flicker free



0-10V



Programming Current



Short Circuit Protection



Over Load Protection

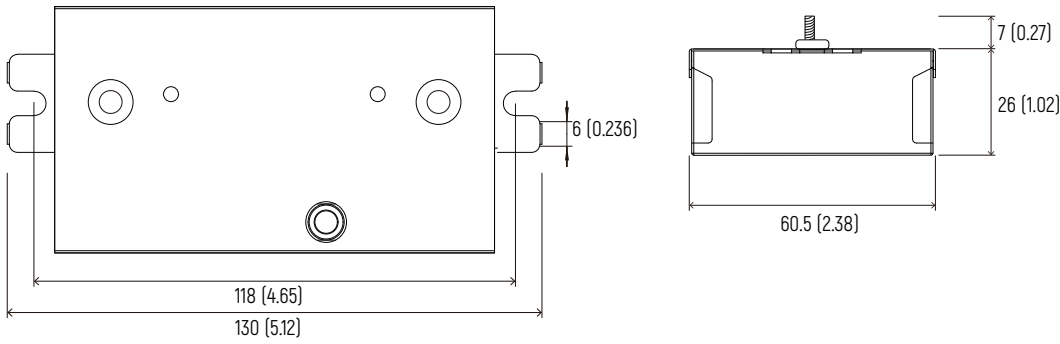


Over Current Protection

Technical Parameters

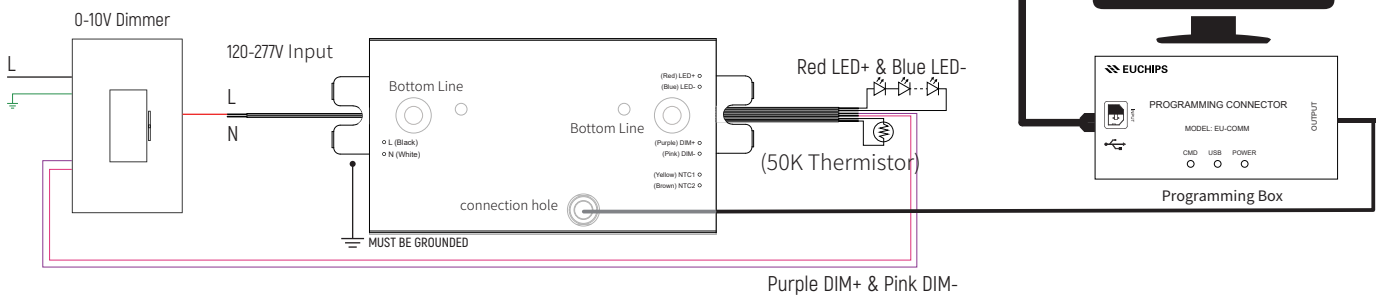
Model	SUP50A-1WPC-WB	
Input	Efficiency	≥87%@120VAC, full load ≥88%@277VAC, full load
	Frequency	50-60Hz
	Voltage	120VAC-277VAC
	PF	≥0.95@120VAC, ≥0.9@277VAC, Full load
	THD(full load)	≤10%@120VAC, ≤15%@277VAC, Full load
	Current	0.6Amax@120VAC, 0.25A@277VAC
	Inrush Current	Cold start,4.5A@120VAC 160us Cold start,9.6A@277VAC 280us
	Standby power	<0.5W
	No load power	<1W
	Turn on delay Time	≤ 0.75s, at120Vac (When the light begins to shine)
Output	Current	450-1400mA (Set the current through software) (Default:450mA)
	Voltage	9-52V
	Power	50W
	Channel	1
	No load output voltage	59V Max
	Current Accuracy	±5%
	LF current ripple(<120Hz)	3%
Protection	Short circuit	No output, self recovery after removing the fault
	Over Voltage	Output voltage>52V hiccup protection, troubleshooting and normal output
	Over load	Reduce current hiccup protection, troubleshoot and output normally
	NTC	External over temperature protection: NTC external resistor (50K Thermistor) is placed inside the lamp. When the temperature rises to the set value, it drives a current reduction output,Prevent lighting fixtures from overheating and extend their service life
Safety & EMC	Surge	L-N:2.5KV LN-G:2.5KV
	Withstand Voltage	I/P-O/P: 2000Vac/1min/<5mA I/P-PG: 1500Vac/1min/<5mA O/P-PG: 500Vac/1min/<5mA O/P-O-10V: 500Vac/1min/<5mA
	Safety standards	UL8750/UL1310/CSA25013,CSA class P; EN 61347-1/EN 61347-2-13
	EMI	FCC class B(120V)/class A(277V) EN55015,EN61000-3-2 Class C,IEC61000-3-3
	EMS	EN61000-4-2, 3, 4, 5, 6, 8, 11; EN61547
	Insulation Resistance	5MΩ
Function	Dimming type	0-10V
	Dimming range	1%-100%
	Dimming curve	0-10V Linearity (User editable and modifiable)
	Flicker	Flicker free
Others	IP rating	IP20
	Working temp.	(-20~+50) °C [-4°F~122°F]
	Storage Temp., Humidity	-40°C~85°C [-40°F~185°F], 20-90%RH
	tc	80°C [176°F] for safety & life
	Lifetime	50,000h@tc:80°C[176°F]
	Warranty Condition	5 years
	Switch cycle	>25,000 times
	Material	Metal
	Dimension	130*60.5*26mm[5.12*2.38*1.02 Inch](L*W*H)
Pack Information	N.W: 355g(0.782 lb)±5%/PCS; 36PCS/Carton; 13.28kg(29.28lb)±5%/Carton; Carton Size: 469*343*240mm[18.46*13.5*9.448 Inch](L*W*H)	

Dimension(mm)



Wiring Diagram

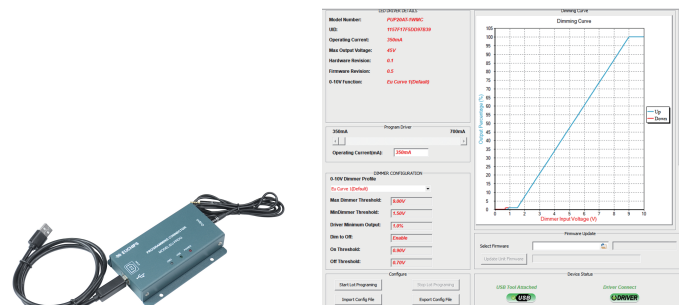
- Metal case
- All material to be ROHs compliant to Directive 2002/95/EC
- Wires to be Stranded with UL approval
- Input: Black & White: 160mm , 18AWG
- Output: Red & Blue: 160mm , 18AWG
- 0-10V: Purple & Pink: 160mm , 22AWG
- NTC: Yellow & Brown: 160mm , 22AWG



Configurable functions

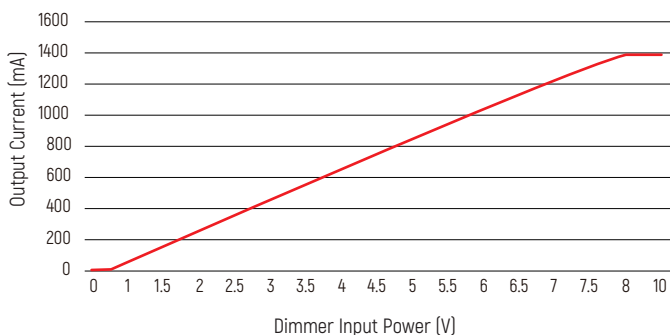
- Data log reading: SKU, serial number, batch number, FW revision version
- Output current regulation (factory default: 450)
- Dimming depth editing (factory default: see technical parameter table, editable range 10% Max)
- Dimming curve editing. Built in linear and logarithmic fixed curves, can be directly selected for use. At the same time, it has built-in custom curves and supports editing curves.
- Support parameter copying/replication and batch editing.

EU-PROG User Manual, Please click the link to view.
<https://v2.fangcloud.com/share/2549f7729789c1c5ad5be53728>

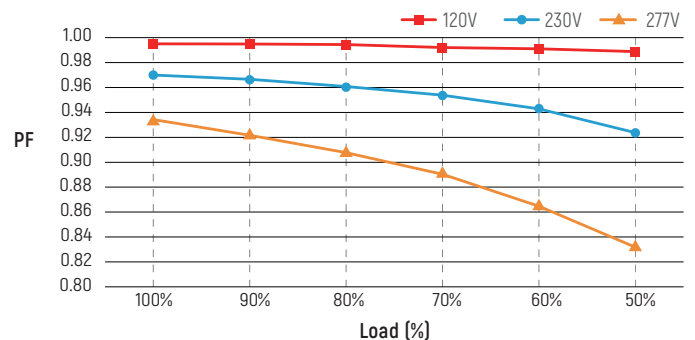


EU-PROG Programming connector Interface

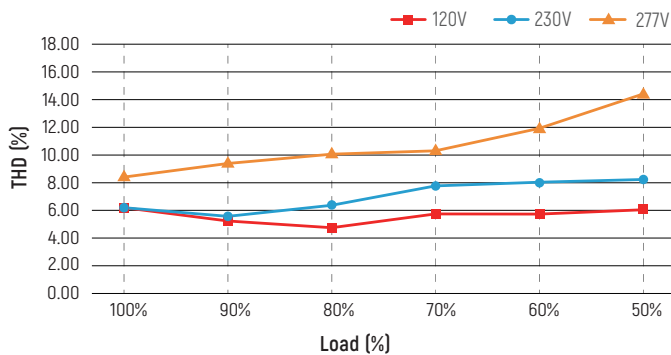
0-10V Dimming Curve



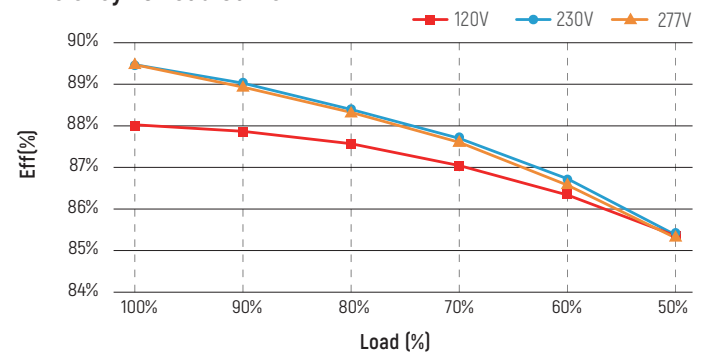
PF vs Load Curve



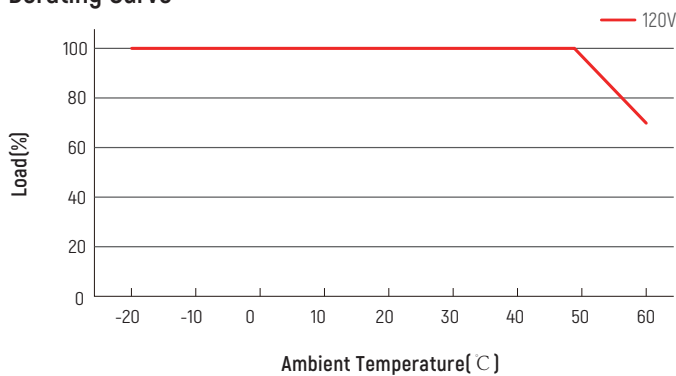
THD vs Load Curve



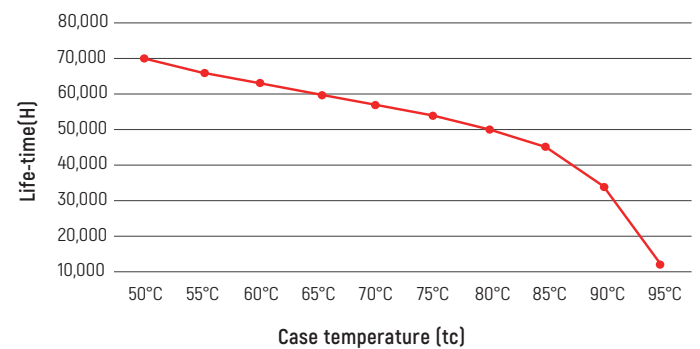
Efficiency vs Load Curve



Derating Curve



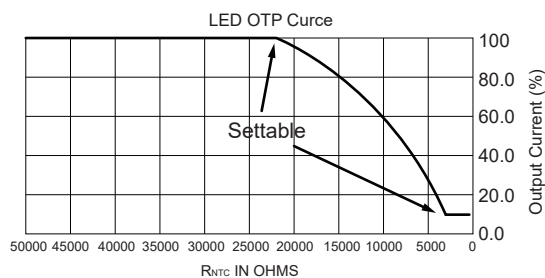
Life-time vs. case temperature



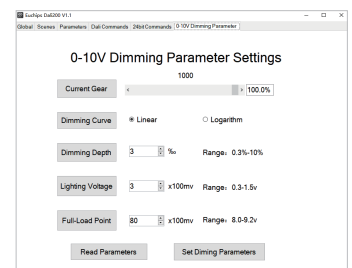
The life-time of the led driver is shown in the figure above (calculated based on the 90% survival rate).

The relation of t_c to t_a temperature depends also on the luminaire design.

LED Thermal Protection (NTC) Characteristic(Optional)



Graphs for reference. The derating limits can be programmed using the Light Touch. In the end application, care must be taken to place the NTC thermistor close to the hottest spot on the LED module. If LED thermal protection is not required the NTC port on the LED power supply connector can be left open.

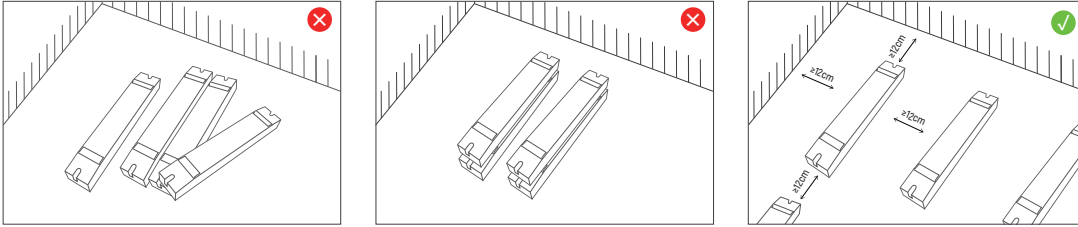


Max. quantity of drivers per miniature circuit breaker

Specification item	Value	Value	Condition
Inrush current I_{peak}	4.5A (120V)	9.6A (277V)	Input Voltage 120V/277V
Inrush current T_{width}	160us (120V)	280us (277V)	Input Voltage 120V/277V, measured to 50% I_{peak}

MCB	Input Voltage 120V Drivers	Input Voltage 277V Drivers	MCB	Input Voltage 120V Drivers	Input Voltage 277V Drivers
B10	16pcs	29pcs	C10	16pcs	40pcs
B13	21pcs	38pcs	C13	21pcs	52pcs
B16	26pcs	47pcs	C16	26pcs	64pcs
B20	33pcs	59pcs	C20	33pcs	80pcs
			D16	26pcs	64pcs

Installation Precautions



Please do not stack the products. The distance between two products should be $\geq 12\text{cm}$ so as not to affect heat dissipation and the lifespan of the products.

Cautions

1. This product should be installed by qualified personnel.
2. This product is non waterproof, need to avoid sun and rain. In case of outdoor use, please ensure it is mounted in a water proof enclosure.
3. Good heat dissipation conditions extend product life. Please install the product in a well-ventilated environment.
4. Please make sure LED power supply output voltage, current is used to meet the product requirements.
5. Please ensure that adequate sized cable is used from the controller to the LED lights to carry the current. Please also ensure that the cable is secured tightly in the connector.
6. Due to safety concerns, PVC or rubber cord of $0.75\text{-}2.5\text{mm}^2$ is recommended for input and output terminal(s) (excluding signal terminals). Flat power cord is not suitable. Ensure all wire connections and polarities are correct before applying power to avoid any damages to the LED lights.
7. In case of malfunction, do not repair it yourself.

※ The contents of this manual are updated without prior notice. If the function of the product you are using is inconsistent with the instructions, the function of the product shall prevail. Please contact us if you have any questions .

Warranty Agreement

1. Warranty periods from the date of delivery : 5 years.
2. Free repair or replacement services for quality problems are provided within warranty periods.

Warranty exclusions below:

1. Beyond warranty periods.
2. Any artificial damage caused by high voltage, overload, or improper operations
3. Products with severe physical damage.
4. Damage caused by natural disasters and force majeure.
5. Warranty labels and barcodes have been damaged.
6. No any contract signed by EUCHIPS.

- Repair or replacement provided is the only remedy for customers. EUCHIPS is not liable for any incidental or consequential damage unless it is within the law.
- EUCHIPS has the right to amend or adjust the terms of this warranty, and release in written form shall prevail.