

SUP50AD-1WPC-WS

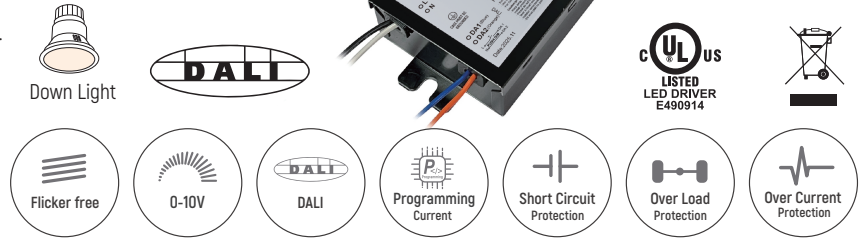
Summary

SUP50AD-1WPC-WS is a constant current output LED dimming driver. The driver supports DALI, Touch DIM/Push DIM, 0-10V edge signal PWM and adjustable resistor signals achieve smooth dimming effect.

Product Features

- Single channel output, the output current can be selected through software.
- Five in one dimming (DALI, 0-10V, PWM, Adjustable resistance, Push DIM)
- Adhere to the DALI protocol standard IEC62386-207 Ed2.0
- Class 2 power supply
- NTC External over temperature protection
- Protection: Overload, overvoltage, short circuit, NTC protection
- Suitable for indoor LED lighting applications

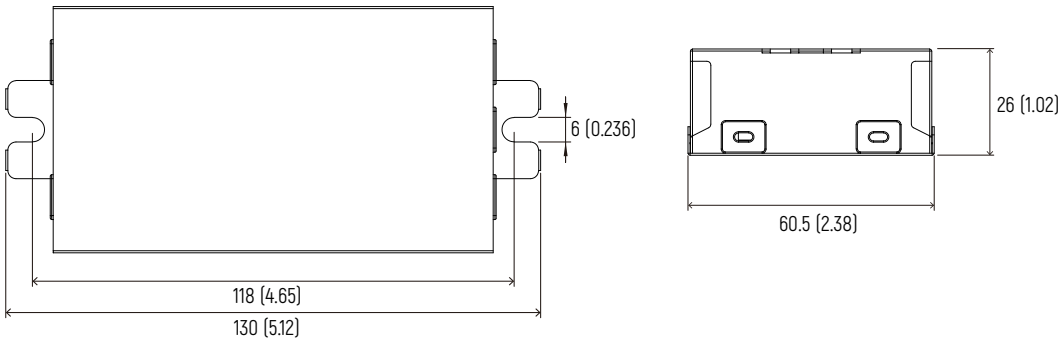
Application



Technical Parameters

Model	SUP50AD-1WPC-WS	
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-DALI:1500Vac/1min/<5mA O/P-0-10V: 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	DALI, 0-10V, PWM, Adjustable resistance, Push DIM
	Dimming range	1%-100%
	Dimming curve	0-10V Linearity, DALI Logarithm, 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]
	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: 385g(0.849 lb)±5%/PCS; 40PCS/Carton; 15.9kg(39.2lb)±5%/Carton; Carton Size: 342*287*148mm(13.46*11.3*5.83 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: 320mm, 18AWG

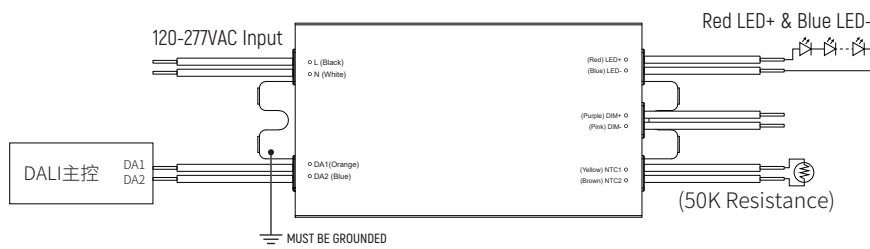
Output: Red & Blue: 320mm, 18AWG

0-10V: Purple & Pink: 320mm, 22AWG

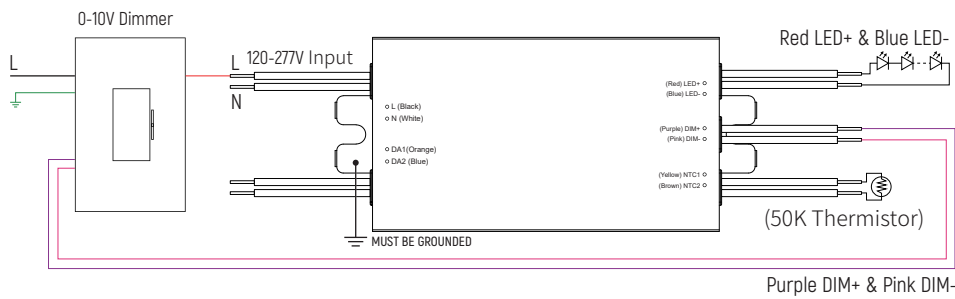
DALI: Orange & Blue: 320mm, 22AWG

NTC: Yellow & Brown: 320mm, 22AWG

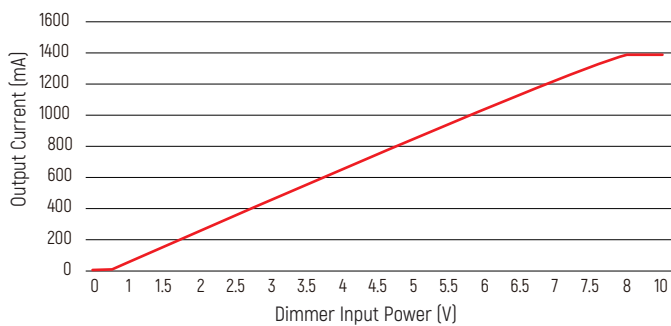
DALI Wiring



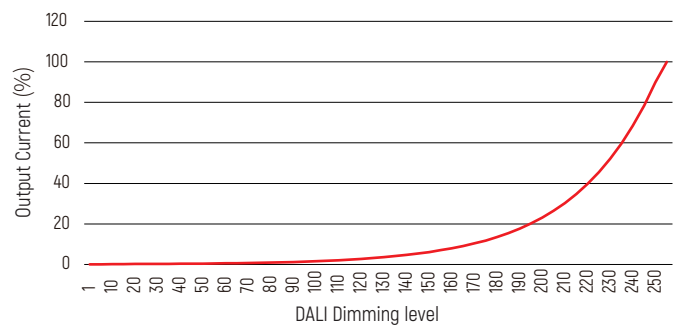
0-10V Wiring



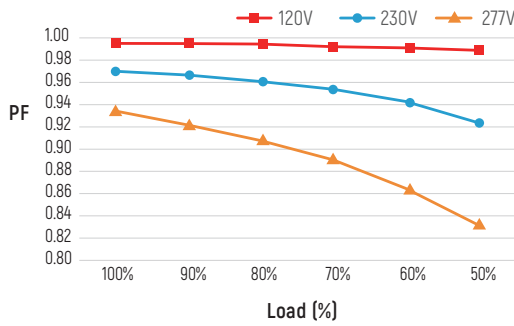
0-10V Dimming Curve



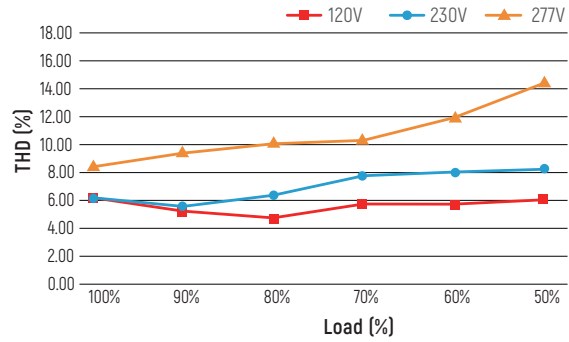
DALI Dimming Curve



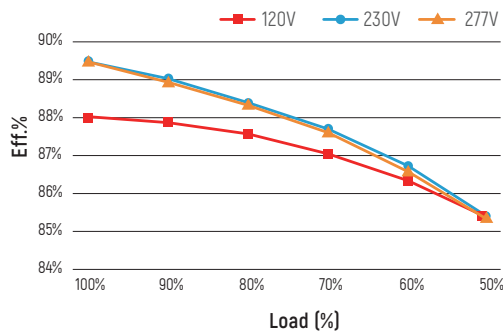
PF vs Load Curve



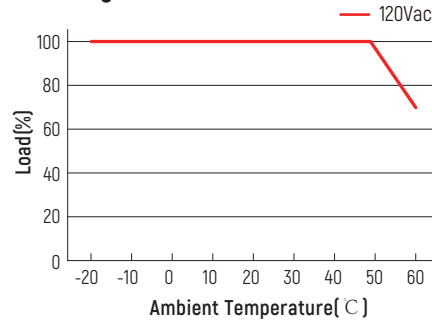
THD vs Load Curve



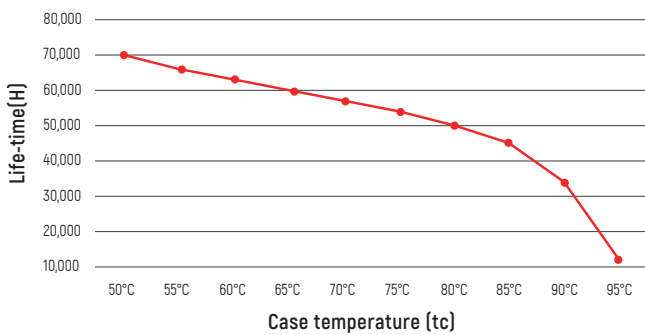
Efficiency vs Load Curve



Derating Curve



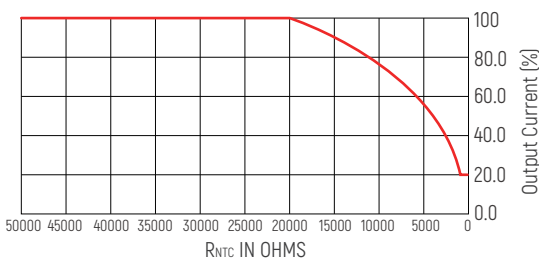
Life-time vs. case temperature



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

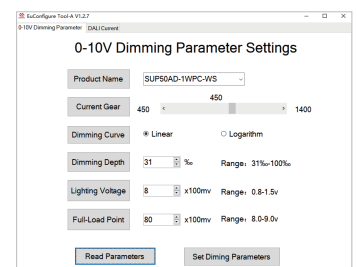
The relation of tc to temperature depends also on the luminaire design.

LED Thermal Protection (NTC) Characteristic



Graphs for reference.

NTC supports one temperature detection point. In practical applications, the NTC thermistor is placed at the highest temperature area of the LED module or at the power supply's temperature control (TC) point. If the LED thermal protection function is not required, the NTC interface on the power supply can be left unconnected (floating).

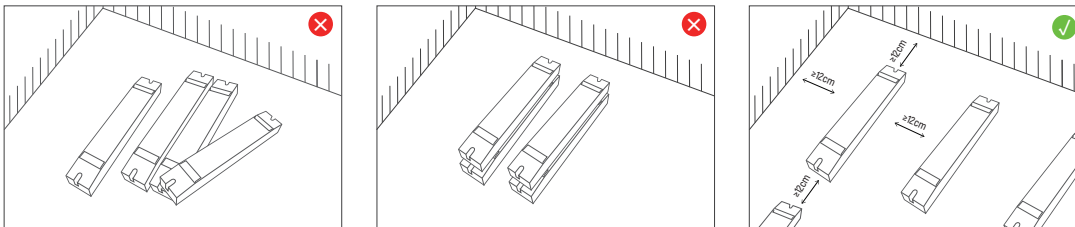


Max. quantity of drivers per miniature circuit breaker

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 ta 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 $>12\text{cm}$ 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.