SUP30AD-1WPC-WS

Summary

SUP30AD-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

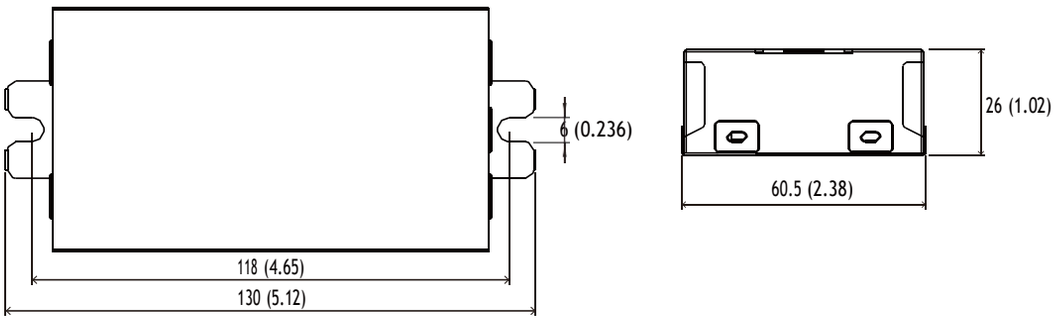
Application

Down Light

Technical Paramaters

Model	SUP30AD-1WPC-WS	
Input	Efficiency	85%@120VAC,full load 86%@277VAC,full load
	Frequency Range(Hz)	50/60Hz
	Voltage	120VAC-277VAC
	PF	≥0.95@120VAC, ≥0.9@277VAC, full load
	THD(full load)	≤10%@120VAC, ≤15%@277VAC, full load
	Current	0.37Amax@120VAC, 0.25Amax@230VAC, 0.17Amax@277VAC
	Inrush current	Cold start,8.68A@120VAC 156us Cold start,19.9A@277VAC 156us
	Standby power	≤0.5W
	No load power	<1W
	Turn on delay Time	≤ 0.75s, @120Vac (When the light begins to shine)
Output	Current	250-1050mA (Set the current through software) (Default:250mA
	Voltage	9-52V
	Power	30W
	Channel	1
	No load output voltage	59V Max
	Current Accuracy	±5%
	Ripple Voitage	±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 Resisance	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) ℃ [-4°F~122°F]
	Storage Temp., Humidity	-40℃~85℃ [-40°F~185°F], 20-90%RH
	tc	75℃ [167°F]
	Lifetime	50,000h@tc:75℃[167°F]
	Warranty	5 years
	Switch cycle	>25,000 times
	Material	Metal
	Dimension	130*60.5*26㎜(5.12*2.38*1.02 Inch)(L*W*H)
	Packing size	Net weight: 385g(0.849 lb)±5%/PCS; 40PCS/Carton; 15.9kg(39.2 lb)±5%/Carton; Carton Size: 342x287x148mm(13.46*11.3*5.83 Inch)(L*W*H)

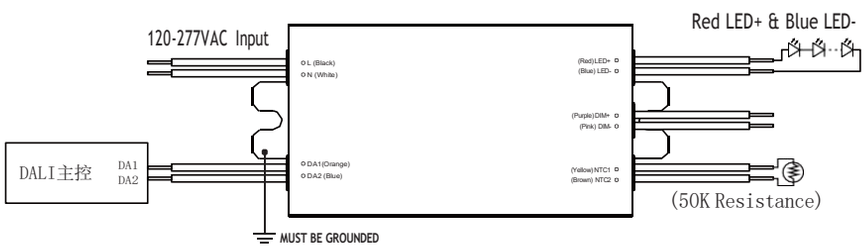
Dimension(mm)



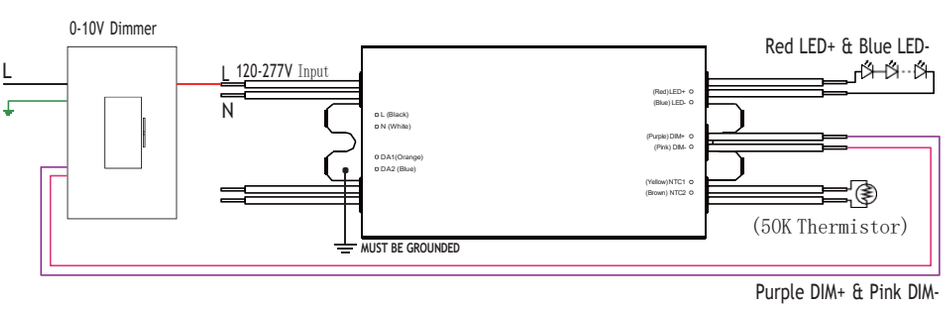
Wring Diagram

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

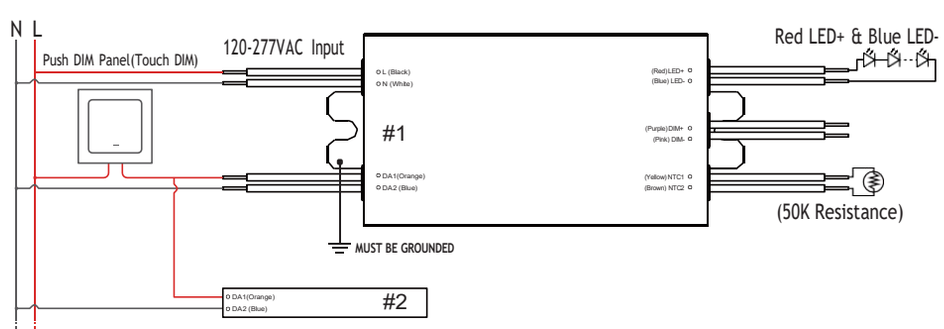
DALI Wiring



0-10V Wiring



Push DIM(Touch DIM) Diagram

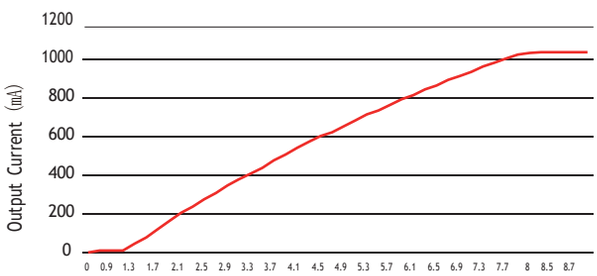


Remark: Only use open push button without indicator light. Maximum cable length between each Unit: 20 meters.

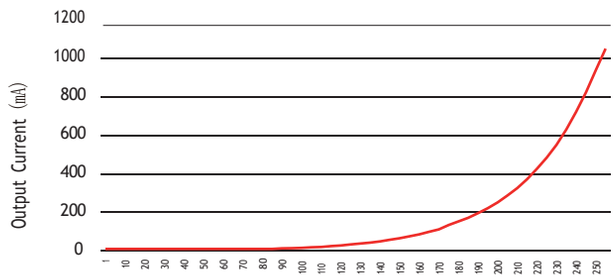
Push DIM Function

1. Press the Push DIM (Touch DIM) switch for 8s or more,the driver can be controlled via Push DIM switch.
2. Short press the Push DIM (Touch DIM) switch (<0.5s) to control the lamp on or off.
3. Long press the Push DIM (Touch DIM) switch (>0.5s) to dim the brightness of light. The dimming direction will change every time after pressing switch.
4. Double-click the Push DIM (Touch DIM) switch (<0.3s), then all lamps connected on the device will be set maximum brightness.
5. The brightness adjustment range is 1%-100%, and the light can be turned off through short pressing when doing the adjustment with long pressing Push DIM (Touch DIM) switch.
6. With the Power off memory function, the power-down state will be recovered when power on again.

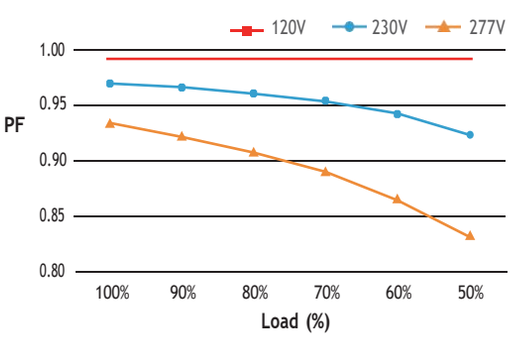
0-10V Dimming curve



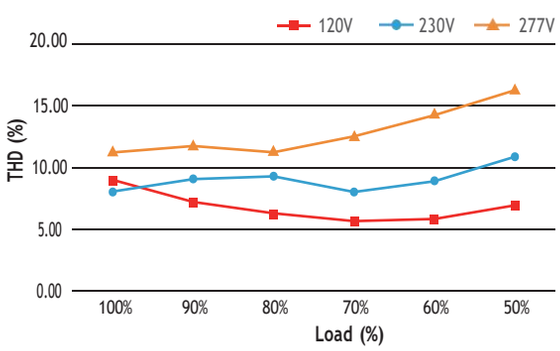
DALI dimming curve



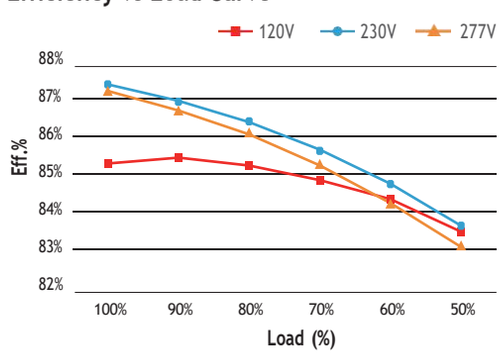
PF vs Load Curve



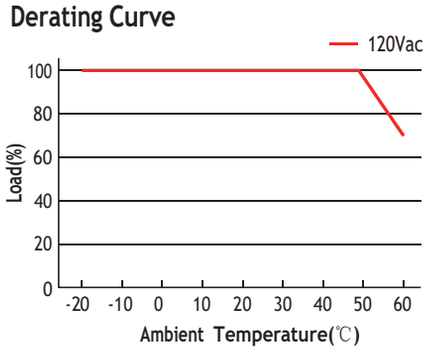
THD vs Load Curve



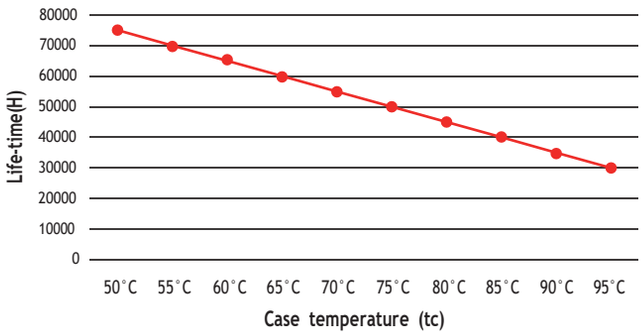
Efficiency vs Load Curve



Derating Curve

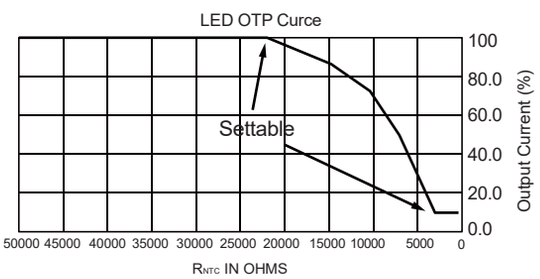


Life-time vs. case temperature

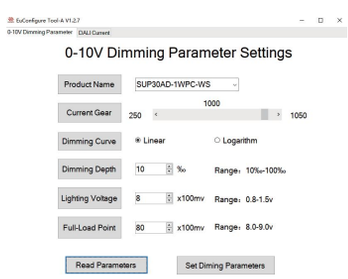


The life-time of the led driver is shown in the figure above
(calculated based on the 90% survival rate).
The relation of tc ta temperature depends also on the luminaire design.

LED Thermal Protection (NTC) Characteristic



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.

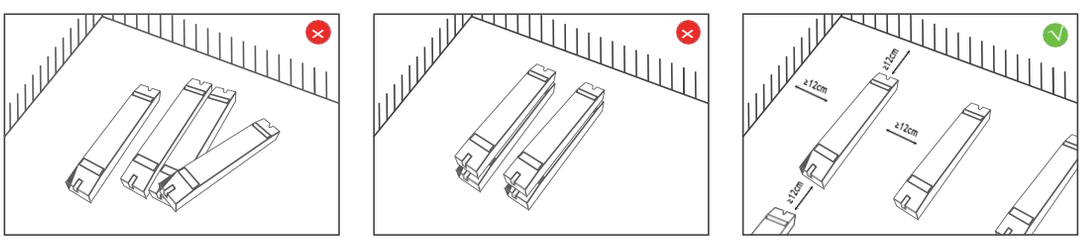


Max. quantity of drivers per miniature circuit breaker

Specification item	Value	Value	Condition
Inrush current I_{peak}	8.68A (120V)	19.9A (277V)	Input Voltage120V/277V
Inrush current T_{width}	156us (120V)	277us (277V)	Input Voltage120V/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	277pcs	14pcs	C10	27pcs	24pcs
B13	35pcs	18pcs	C13	35pcs	31pcs
B16	43pcs	23pcs	C16	43pcs	38pcs
B20	54pcs	29pcs	C20	54pcs	48pcs
			D16	43pcs	77pcs

Installation Precautions



Please do not stack the products. The distance between two products should be>12cm so as not to affect heat dissipation and the lifespan of the products.

Cautions

This product must be installed and adjusted by a qualified professional.		
1	Confirmation of installation conditions	· **Waterproof and Protection:** Install in a suitable location according to the waterproof and protection requirements of the power supply. Products without waterproof function should be protected from direct sunlight and rain. When installing outdoors, please use a waterproof box for protection. · **Heat dissipation requirements:** The drive power supply should avoid exposure to high temperature environments. Please ensure that the working environment temperature is within the recommended range. To ensure proper heat dissipation of the drive power supply, a well ventilated area should be selected for installation. Good heat dissipation conditions can help extend product lifespan.
2	Power check	· Before use, check the product parameters and confirm that the output voltage and current of the LED power supply meet the requirements
3	Safe wiring	· Use cables that meet the specifications to ensure that the cross-section of the wire matches the requirements of the driving power supply. Solid cables typically measuring 0.75-2.5 mm^2 , (Please refer to the silk screen printing or wiring diagram in the instruction manual for specific wire diameter requirements). · If the power supply (metal casing) is installed on a grounded lighting component or equipment, the power supply needs to be grounded.
4	Wiring confirmation	· Before power on debugging, ensure that the wiring is secure and avoid poor contact to prevent unstable current or equipment damage.
5	Repair suggestions	· If the product malfunctions, please do not repair it without authorization. If you have any questions, please contact the supplier or sales team for assistance.

※ 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:

The following situations are not covered by the free warranty or replacement service:

1. Exceeding the warranty period.
2. Damage caused by human factors such as high voltage, overload, and improper operation.
3. The appearance of the product is severely damaged or deformed.
4. Normal wear and tear or aging during regular product use.
5. Damage caused by natural disasters or force majeure factors.
6. The quality inspection label of the product is damaged (QC PASS).
7. No contract or valid invoice proof signed with EUCHIPS has been provided.

※Remedies: Repair or replacement is the only remedy provided by EUCHIPS to the customer, and EUCHIPS shall not be liable for incidental damages arising from repair or replacement, unless within the scope of applicable law.

※Adjustment of Warranty Terms: EUCHIPS reserves the right to modify or adjust the warranty terms, which shall be published in writing.