

Features

- Constant voltage PWM style output with frequency up to 4KHz compliant IEEE1789-2015 no risk
- Bluetooth Mesh Dimming Function
- Plastic housing with class II design
- Built-in active PFC function
- Typical lifetime>50000 hours
- 5 years warranty

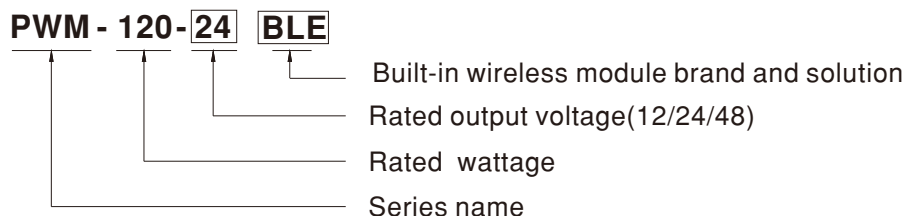
Applications

- LED strip lighting
- Indoor LED lighting
- LED decorative lighting
- LED architecture lighting
- Intelligent lighting control

Description

PWM-120 IoT series is a bluetooth ready 120W AC/DC LED driver featuring the constant voltage mode with PWM style output, which is able to maintain the brightness homogeneity when driving all kinds of LED strips and constant voltage LED bulbs. PWM-120 IoT operates from 90~305VAC and offers models with different rated voltage ranging between 12V and 48V. Thanks to the high efficiency up to 90%, with the fanless design, the entire series is able to operate for -20℃~+90℃ case temperature under free air convection. PWM-120 IoT can provide minimal dimming level low to 0.4% suitable for low light level applications e.g cinema. The output frequency is up to 4KHz which compliant to IEEE1789-2015 requirement for no risk providing a great solution for health concern due to light flickering.

Model Encoding



IoT wireless Module brand and solution

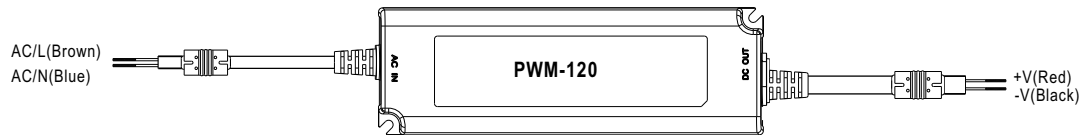
Brand	Solution	Wireless standard	Note
Casambi	BLE	Bluetooth low energy mesh 2.4GHz protocol	By request
Tuya	TY1	Bluetooth low energy mesh 2.4GHz protocol	By request
Silvair	SVA	Bluetooth low energy mesh 2.4GHz protocol	By request

SPECIFICATION

MODEL		PWM-120-12 ☐		PWM-120-24 ☐		PWM-120-48 ☐	
OUTPUT	DC VOLTAGE	12V		24V		48V	
	RATED CURRENT	10A		5A		2.5A	
	RATED POWER	120W		120W		120W	
	PWM FREQUENCY (Typ.)	up to 4kHz					
	SETUP, RISE TIME Note.2	1000ms,80ms/115VAC or 230VAC for BLE and TY1; 2000ms,80ms/115VAC or 230VAC for SVA					
	HOLD UP TIME (Typ.)	16ms/230VAC or 115VAC					
INPUT	VOLTAGE RANGE Note.3	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF>0.97/115VAC, PF>0.96/230VAC, PF>0.94/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)					
	TOTAL HARMONIC DISTORTION	THD<20%(@load≥60%/115VAC, 230VAC; @load≥75%/277VAC) (Please refer to "TOTAL HARMONIC DISTORTION" section)					
	EFFICIENCY (Typ.)	87.5%		90%		90%	
	AC CURRENT (Typ.)	1.3A / 115VAC 0.65A / 230VAC 0.55A / 277VAC					
	INRUSH CURRENT (Typ.)	COLD START 60A(twidth=520μs measured at 50% Ipeak) at 230VAC; Per NEMA 410					
	MAX. NO. of PSUs on 16A CIRCUIT BREAKER	4 units (circuit breaker of type B) / 6 units (circuit breaker of type C) at 230VAC					
	LEAKAGE CURRENT	<0.25mA / 277VAC					
	STANDBY POWER CONSUMPTION	<1W					
	PROTECTION	OVERLOAD	108 ~ 130% rated output power Hiccup mode, recovers automatically after fault condition is removed				
OVER VOLTAGE		15 ~ 17V		28 ~ 34V		54 ~ 60V	
		Shut down o/p voltage, re-power on to recover					
OVER TEMPERATURE		Shut down o/p voltage, re-power on to recover					
ENVIRONMENT	WORKING TEMP.	Tcase=-20 ~ +90℃ (Please refer to " OUTPUT LOAD vs TEMPERATURE" section)					
	MAX. CASE TEMP.	Tcase=+90℃					
	WORKING HUMIDITY	20 ~ 95% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 45℃,except 0 ~ 40℃ for 12V)					
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes					
FUNCTION	WIERLESS PROTOCOL	Bluetooth low energy 2.4GHz protocol					
	DIMMING RANGE	0 ~ 100% Minimum dimming level:1%,dim to off					
	WIERLESS DISTANCE	Up to 20m					
	DIMMING Note.9	Please refer to "DIMMING OPERATION" section					
SAFETY & EMC	SAFETY STANDARDS Note.5	UL8750(type "HL"), CSA C22.2 No. 250.13-12; ENEC BS EN/EN61347-1, BS EN/EN61347-2-13,BS EN/EN62384 independent, IP67,BIS IS15885(for PWM-120-12,24 only), EAC TP TC 004,GB19510.1,GB19510.14 approved; Design refer to BS EN/EN60335-1					
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC					
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH					
	EMC EMISSION Note.6	Compliance to BS EN/EN55015, BS EN/EN61000-3-2 Class C (@load≥60%) ; BS EN/EN61000-3-3,GB17743 and GB17625.1,EAC TP TC 020					
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11; BS EN/EN61547, light industry level (surge immunity Line-Line 2KV),EAC TP TC 020					
OTHERS	MTBF	860.4K hrs min. Telcordia SR-332 (Bellcore) ; 228.7K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION	191*63*37.5mm (L*W*H)					
	PACKING	0.97Kg; 15pcs/15.6Kg/0.87CUFT					
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature. 2. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. 3. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time. 4. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again. 5. This series meets the typical life expectancy of >50,000 hours of operation when Tcase, particularly (Tc point (or TMP, per DLC), is about 75℃or less. 6. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com 7. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft). 8. For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf 9. The dimming memory function needs at least 5 seconds to complete. 10. The matching mode of TY1 type is on-off-on-off-on by AC or DC power. 11. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED power supply can only be used behind a switch without permanently connected to the mains. ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx						

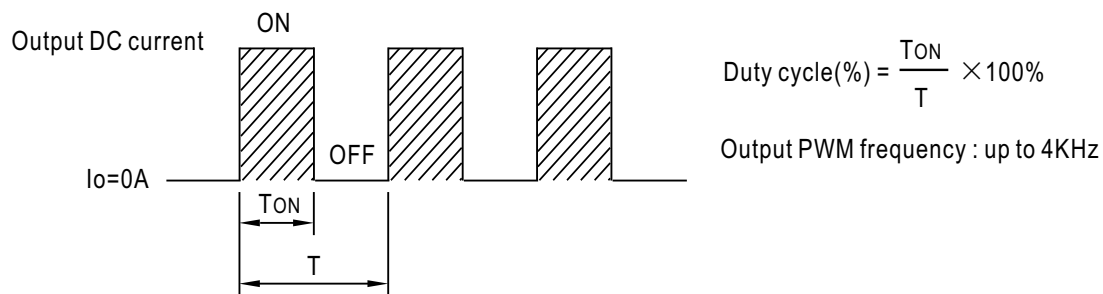
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DIMMING OPERATION



※ Dimming principle for PWM style output

- Dimming is achieved by varying the duty cycle of the output current.

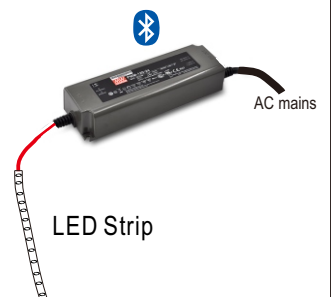
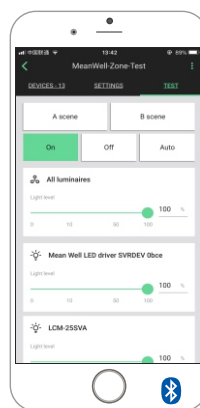
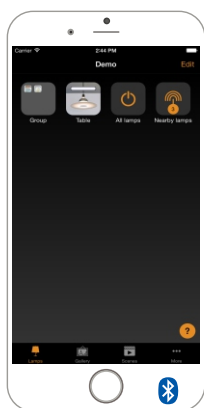


※ Bluetooth control

- To be used through APP available on Apple Store and Google Play Store for iOS and Android.
Search: BLE with Casambi/TY1 with Smart Life/SVA with Silvair
Example:



The APP for BLE type is "Casambi" The APP for TY1 type is "Smart Life" The APP for SVA type is "Silvair"





■ OFFICIAL WEBSITE AND ECOSYSTEM INFORMATION

CASAMBI

The real time Bluetooth IC temperature is shown in the APP. In case it reaches above 72 °C (equivalent to Tc 85°C), the driver will be turn off to provide a protection. In case the units is cooled down, it can be manually turn ON and back to normal operation again.

NOTE: 1.This software temperature protection is an extra independent function from driver its own hardware over temperature protection(when it is enabled, it needs re-AC power on to recover).

2.In general the software temperature protection is triggered before the hardware one when in over temperature.

3.Website: <https://www.casambi.com>

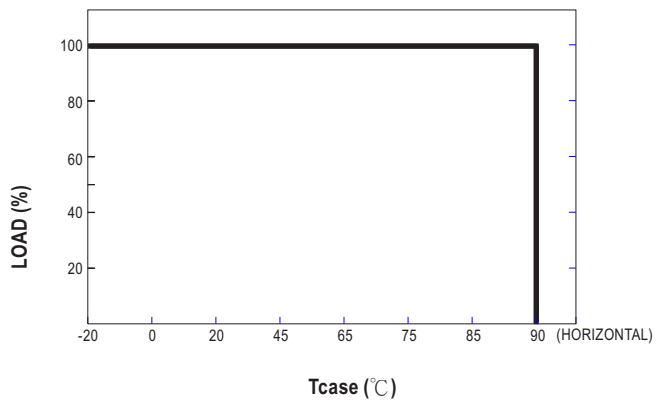
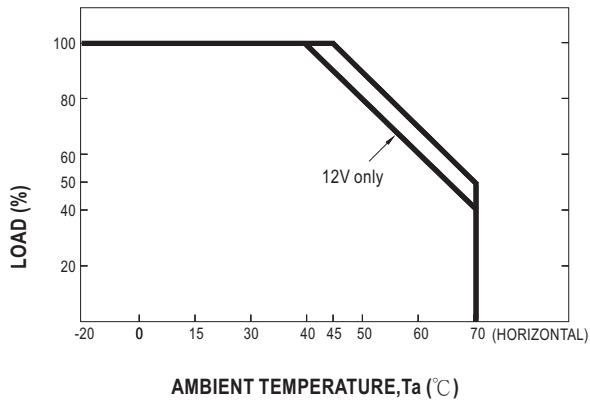


NOTE: 1.Website: <https://www.tuya.com>

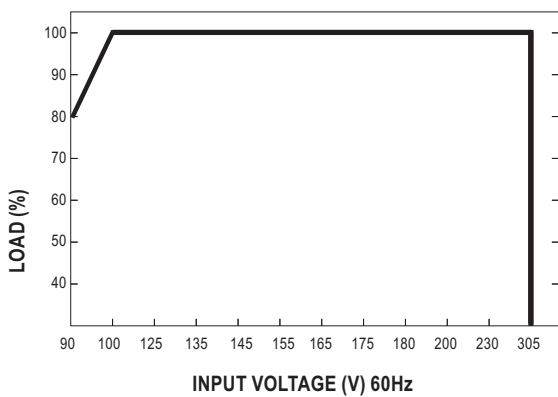
SILVAIR

NOTE: 1.Website: <https://www.silvair.com>

OUTPUT LOAD vs TEMPERATURE



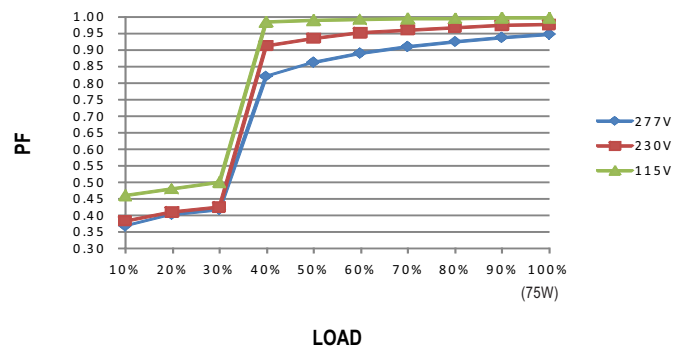
STATIC CHARACTERISTIC



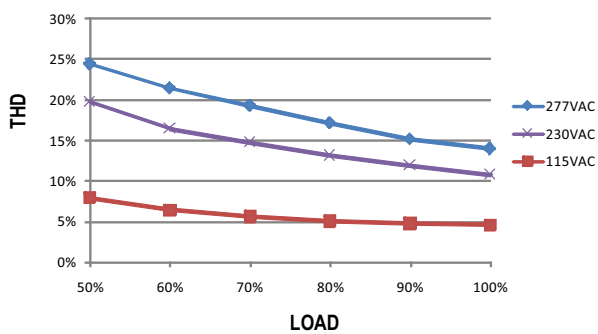
※ De-rating is needed under low input voltage.

POWER FACTOR (PF) CHARACTERISTIC

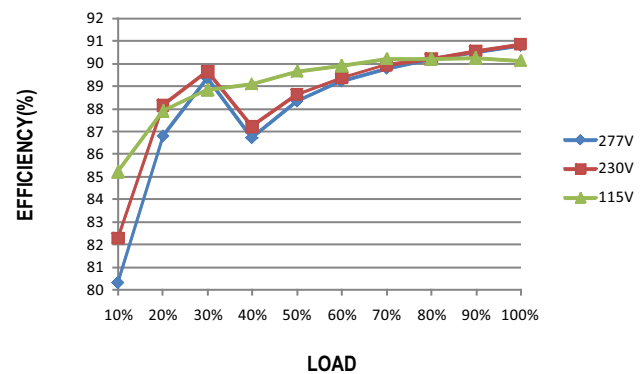
※ Tcase at 80°C



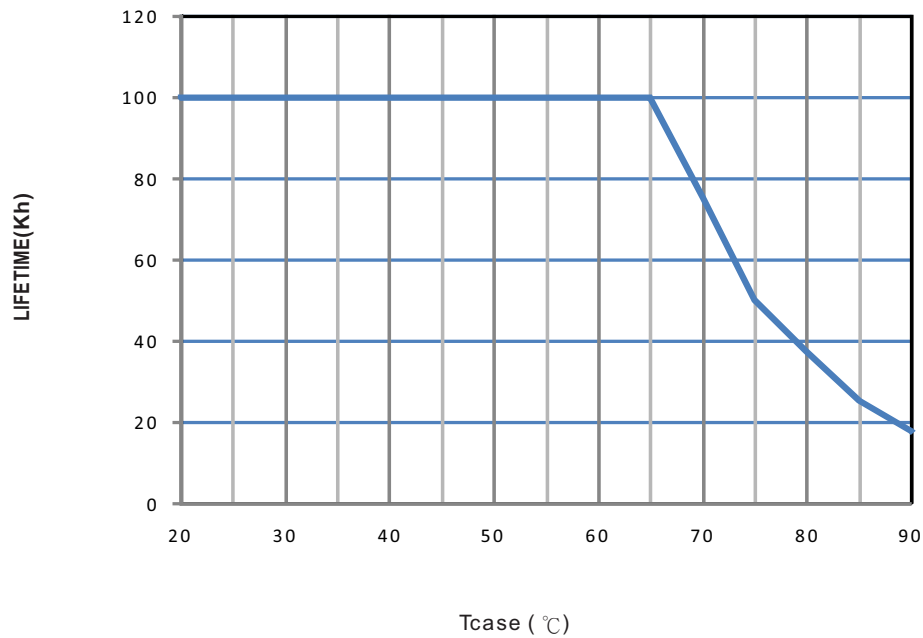
TOTAL HARMONIC DISTORTION (THD)



EFFICIENCY vs LOAD



■ LIFE TIME



■ Bluetooth mesh LED driver for intelligent lighting Application



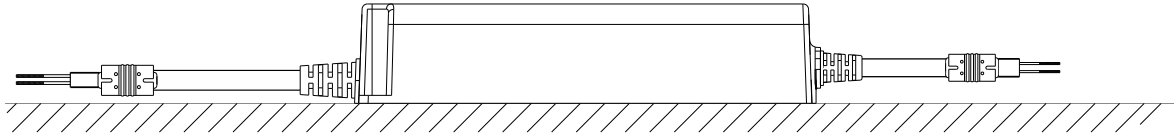
PWM-60/90/120/200 Series

Multi-Dimming Function LED Driver and Wireless IoT Solutions

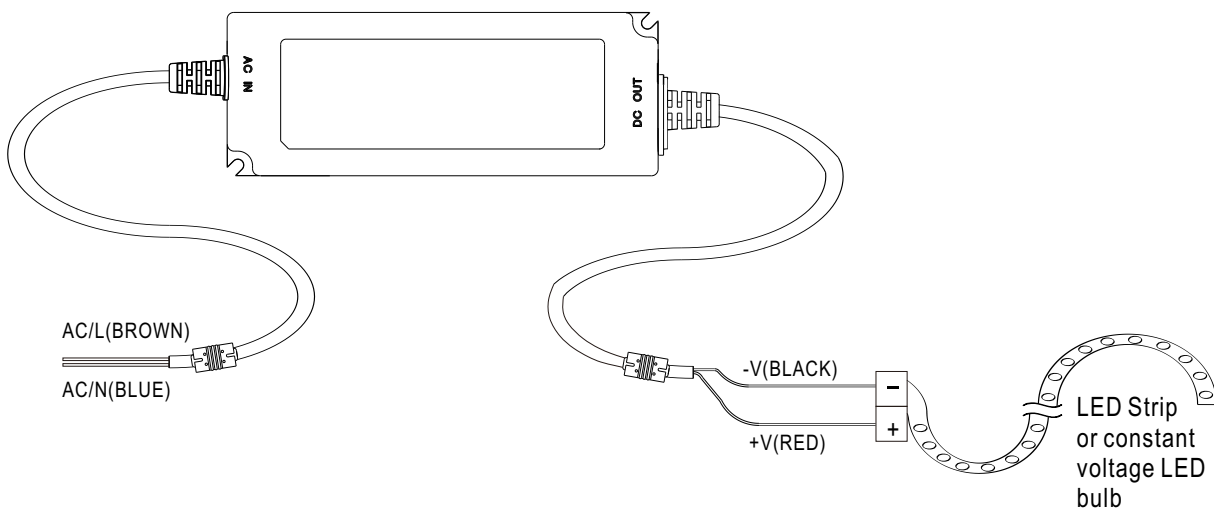
- 0-10V
- PWM
- Resistance
- Push Dimming
- DALI / DALI 2.0
- KNX
- Bluetooth Mesh
- WiFi.....and so on



■ Recommend Mounting Direction



■ Installation Manual



◎Cautions

- Before commencing any installation or maintenance work, please disconnect the power supply from the utility. Ensure that it cannot be re-connected inadvertently!
- Keep proper ventilation around the unit and do not stack any object on it. Also a 10-15 cm clearance must be kept when the adjacent device is a heat source.
- Mounting orientations other than standard orientation or operate under high ambient temperature may increase the internal component temperature and will require a de-rating in output current.
- Current rating of an approved primary /secondary cable should be greater than or equal to that of the unit. Please refer to its specification.
- For LED drivers with waterproof connectors, verify that the linkage between the unit and the lighting fixture is tight so that water cannot intrude into the system.
- Tc max. is identified on the product label. Please make sure that temperature of Tc point will not exceed limit.
- Suitable for indoor use or outdoor use without direct sunlight exposure. Please avoid immerse in the water over 30 minutes.
- The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.