120W Single Output Moistureproof Adaptor OWA-120U series

User's Manual



UL8750

IP67 (for power body)

Features

- Universal AC input / Full range
- Class Ⅱ power unit, no FG
- Built-in active PFC function
- High efficiency up to 90.5%
- No load power consumption <0.15W
- Energy efficiency Level Ⅵ
- Comply with EISA 2007/DoE,NRCan
- Fully isolated plastic case
- Fanless design, cooling by free air convection
- Protections: Short circuit / Over current / Over voltage / Over temperature
- UL LISTED, suitable for dry and damp locations
- Various DC plug quick adapter accessory available (Plug kit sold sperately, please refer to : https://www.meanwell.com/upload/pdf/DC_plug.pdf)
- 5 years warranty

Applications

- Indoor LED lighting
- LED decorative lighting
- LED office lighting
- General electronic products in dusty or humid environment

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

OWA-120U is one 120W single-output external LED power supply series. Pairing the North American type of AC plug and the prevailing DC connectors, OWA-120U, working like an adaptor, simplifies the connection with LED lighting fixtures without extra wiring efforts. The entire series is certified with the “UL LISTED” for dry and damp locations.

As a class Ⅱ (no FG) design, the enclosure of OWA-120U is a 94V-0 flame retardant plastic case. The interior is fully potted with silicone that enhances the heat dissipation. With the working efficiency up to 90.5%, OWA-120U is cooled by free air convection; the working temperature ranges from -40℃ to +70℃.

Model Encoding

OWA - 120U - 12

- 12 — Output voltage
- U — North American type of AC plug
- 120 — Output wattage
- OWA — Series name

Mean Well Brasil

MEAN WELL

120W Single Output Moistureproof Adaptor

OWA-120U series

SPECIFICATION

MODEL			OWA-120U-12	OWA-120U-15	OWA-120U-20	OWA-120U-24	OWA-120U-30	OWA-120U-36	OWA-120U-42	OWA-120U-48	OWA-120U-54
OUTPUT	DC VOLTAGE		12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION		7.2 ~ 12V	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V
	RATED CURRENT		10A	8A	6A	5A	4A	3.4A	2.9A	2.5A	2.3A
	RATED POWER		120W	120W	120W	120W	120W	122.4W	121.8W	120W	124.2W
	RIPPLE & NOISE (max.) Note.2		150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	250mVp-p	250mVp-p	350mVp-p
	VOLTAGE TOLERANCE Note.3		±4.0%	±4.0%	±4.0%	±4.0%	±3.0%	±2.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION		±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.4		500ms, 80ms at 95% load 230VAC / 115VAC								
	HOLD UP TIME (Typ.)		16ms at full load 230VAC / 115VAC								
INPUT	VOLTAGE RANGE		90 ~ 264VAC 127 ~ 370VDC								
	FREQUENCY RANGE		47 ~ 63Hz								
	POWER FACTOR (Typ.)		PF>0.97/115VAC, PF>0.96/230VAC at full load								
	TOTAL HARMONIC DISTORTION		THD< 20% when output loading≧60% at 115VAC/230VAC								
	EFFICIENCY (Typ.)	115VAC	87%	88%	89%	89.5%	89%	89%	89.5%	89.5%	89.5%
		230VAC	87.5%	89%	90%	90.5%	90%	90%	90.5%	90.5%	90.5%
	AC CURRENT (Typ.)		1.3A / 115VAC 0.65A / 230VAC								
	INRUSH CURRENT (Typ.)		COLD START 30A(twidth=520μs measured at 50% Ipeak) at 115VAC COLD START 60A(twidth=520μs measured at 50% Ipeak) at 230VAC								
	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		<0.125mA / 120VAC <0.25mA / 240VAC								
PROTECTION	OVER CURRENT		95 ~ 108%								
			Protection type : Constant current limiting, recovers automatically after fault condition is removed								
	SHORT CIRCUIT		Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE		15 ~ 17V	17.5 ~ 21V	23 ~ 27V	28 ~ 34V	34 ~ 40V	41 ~ 46V	46 ~ 54V	54 ~ 60V	59 ~ 66V
			Protection type : 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.		-40 ~ +70℃ (Refer to "Derating Curve")								
	WORKING HUMIDITY		20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY		-40 ~ +80℃, 10 ~ 95% RH								
	TEMP. COEFFICIENT		±0.03%/℃ (0 ~ 50℃)								
	VIBRATION		10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARDS		UL8750 listed, CSA C22.2 No. 250.13-12; IP67(for power body) approved								
	WITHSTAND VOLTAGE		I/P-O/P:3.75KVAC								
	ISOLATION RESISTANCE		I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH								
	EMC EMISSION		Compliance to FCC Part15								
OTHERS	MTBF		2902.2K hrs min. Telcordia SR-332 (Bellcore) 294.4K hrs min. MIL-HDBK-217F (25℃)								
	DIMENSION		191*63*37.5mm								
	PACKING		1.15Kg; 12pcs/13Kg/0.89CUFT								

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.

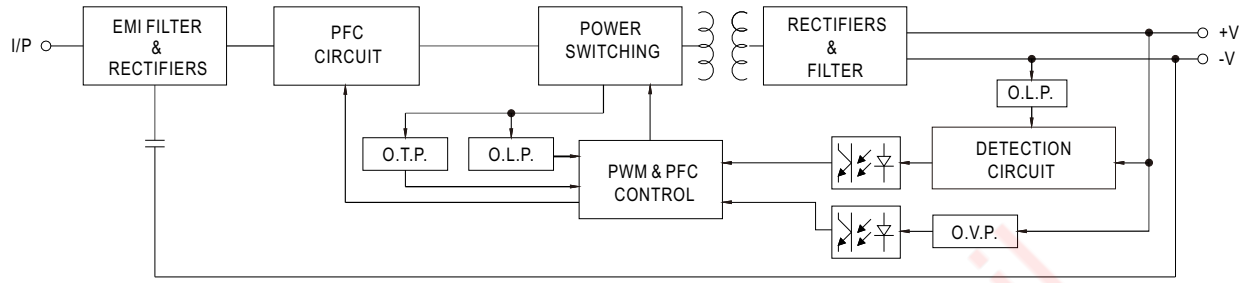
※ Product Liability Disclaimer：For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

Mean Well Brasil

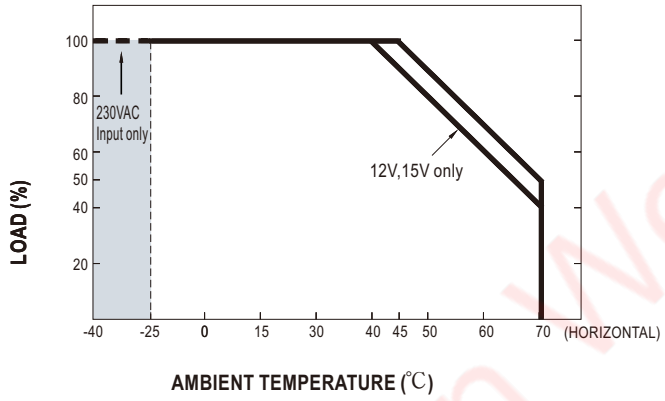
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Block Diagram

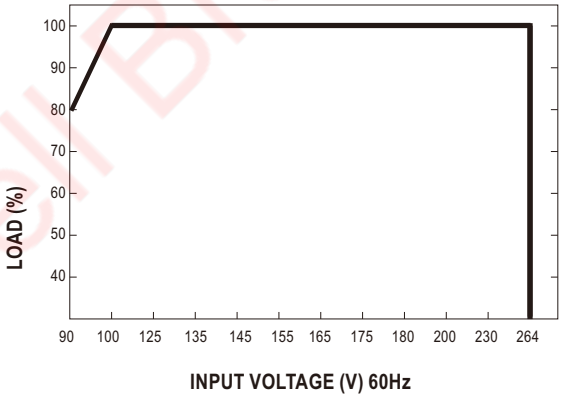
PFC fosc : 50~120KHz
PWM fosc : 60~130KHz



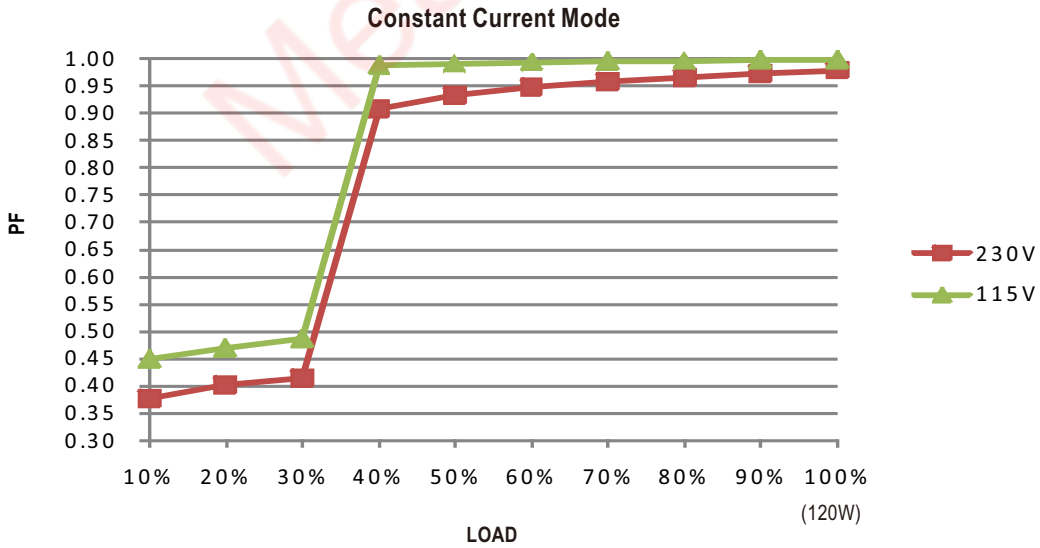
Derating Curve



Static Characteristics



Power Factor Characteristic

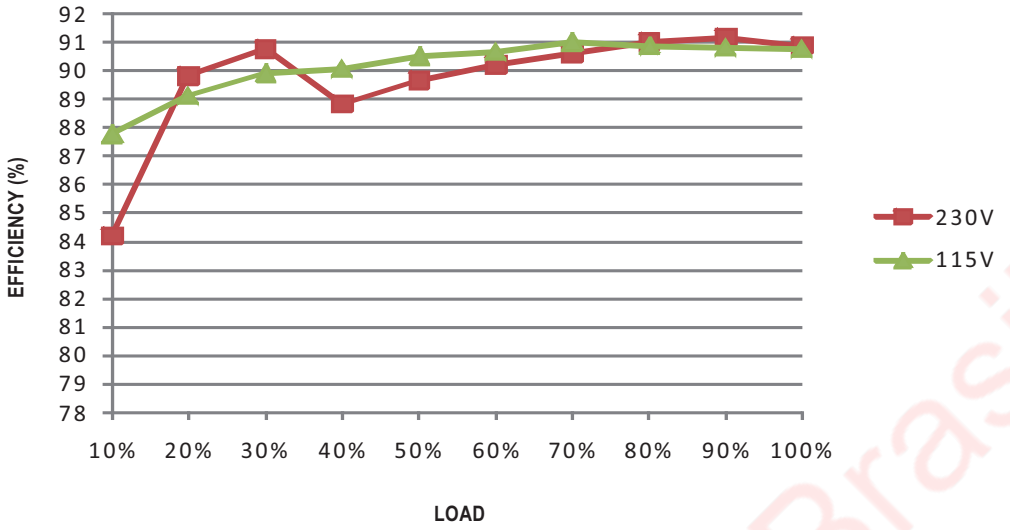


Mean Well Brasil

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

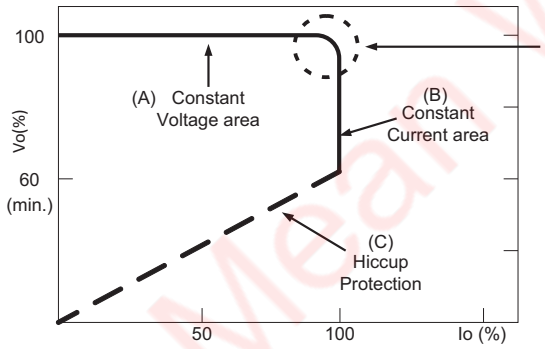
■ EFFICIENCY vs LOAD (48V Model)

OWA-120U series possess superior working efficiency that up to 90.5% can be reached in field applications.



■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method, "direct drive" and "with LED driver".
A typical LED power supply may either work in "constant voltage mode (CV)" or "constant current mode (CC)" to drive the LEDs.
Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve

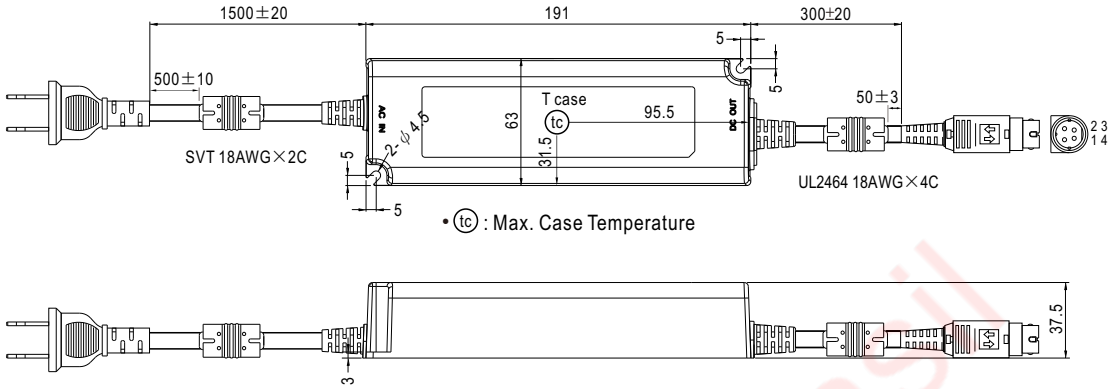
In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.
Should there be any compatibility issues, please contact MEAN WELL.

Mean Well Brasil

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

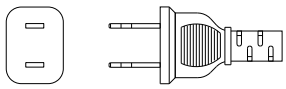
■ Mechanical Specification

Case No. PWM-120 Unit:mm



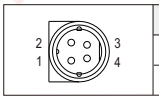
■ Input Plug Type

All models : NEMA 1-15p male plug



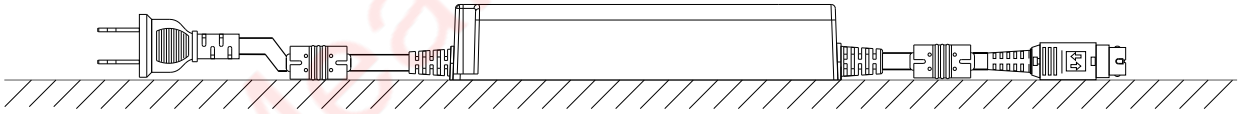
■ Output Plug Assignment

All models : power DIN 4 pins with lock type,
KYCON KPPX-4P, or equivalent



PIN NO.	OUTPUT
1,4	+V
2,3	-V

■ Recommend Mounting Direction



■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

Mean Well Brasil

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000