

■ Features

- Universal AC input / Full range (up to 305VAC)
- Built-in active PFC function
- High efficiency up to 91%
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Class II power unit, no FG
- Cooling by free air convection
- No load power consumption <0.15W
- ErP step 2, NRCan compliant
- Meet EISA 2007 (Energy Independence and Security Act)
- Suitable for dry, damp, wet locations
- 5 years warranty

■ Applications

- Robotic lawn mower
- Outdoor household appliance
- Outdoor battery charging
- LED lighting fixture
- General electronic products in dusty or humid environment

■ Description

OWA-120 is a 120W AC/DC, class II (without earth pin) external power supply series pinpointing the waterproof feature for outdoor usage. Fully potted with silicone, OWA-120 is IP67 design, specializing the application in which the damp, humidity or dust resistance is required for the power supply. The no load power consumption is less than 0.15W and the setup time is less than 500ms, following the global demand for adaptors, LED lighting fixture, and many other requirements concerning energy efficiency. With the working efficiency up to 91%, OWA-120 is enclosed by the plastic housing and cooled by free air convection; the working temperature ranges from -40°C to +70°C. Two sub-series are provided for the major plug/receptacle types in the world: the E-type (for the Europe system, input range 90~305VAC) and the U-type (for the North America system, input range 90~264VAC.)

■ Model Encoding

OWA - 120 E - 12

Output voltage

E : Europe type, 90~305VAC

U : America type, 90~264VAC

Output wattage

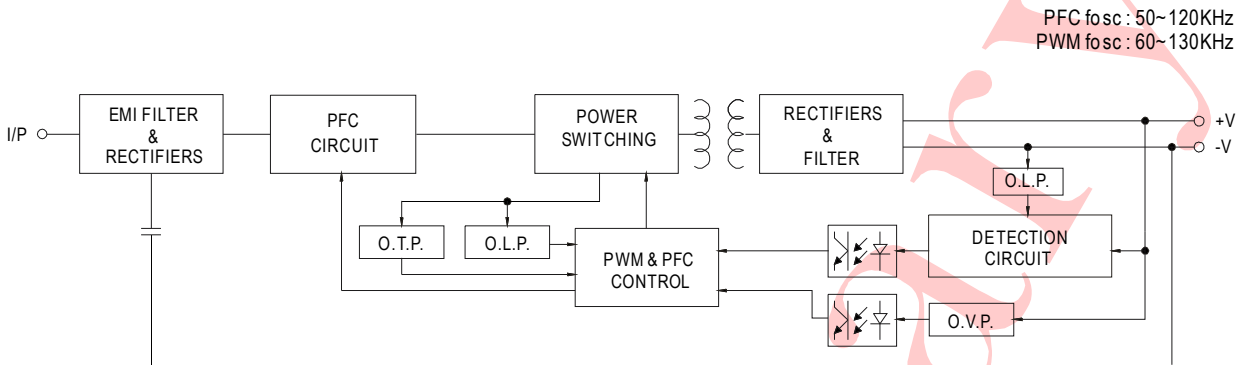
Series name



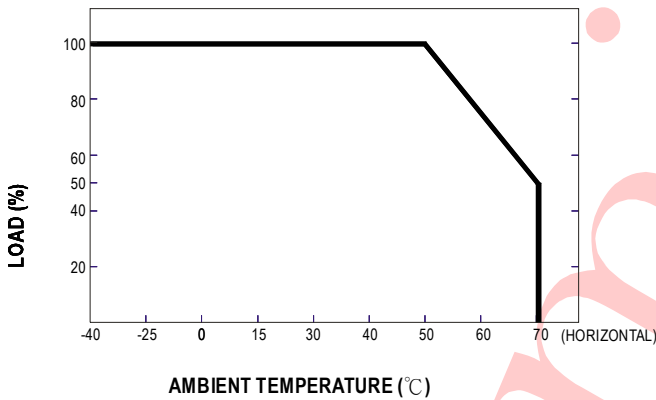
SPECIFICATION (□ - E: Europe type, 90~305VAC; U: America type, 90~264VAC)

MODEL		OWA-120□-12	OWA-120□-15	OWA-120□-20	OWA-120□-24	OWA-120□-30	OWA-120□-36	OWA-120□-42	OWA-120□-48	OWA-120□-54	
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	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	200mVp-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 full load 230VAC / 115VAC									
HOLD UP TIME (Typ.)	16ms at full load 230VAC / 115VAC										
INPUT	VOLTAGE RANGE	E-type : 90 ~ 305VAC 127 ~ 431VDC ; U-type : 90 ~ 264VAC 127 ~ 373VDC									
	FREQUENCY RANGE	47 ~ 63Hz									
	POWER FACTOR (Typ.)	PF>0.97/115VAC, PF>0.96/230VAC, PF>0.95/277VAC (E-type only) at full load									
	TOTAL HARMONIC DISTORTION	THD<20% when output loading ≥ 60% at 115VAC/230VAC input and output loading ≥ 75% at 277VAC input									
	EFFICIENCY (Typ.)	89%	89%	89%	90%	90%	90%	90%	91%	91%	
	AC CURRENT (Typ.)	1.6A / 115VAC 0.8A / 230VAC									
	INRUSH CURRENT (Typ.)	COLD START 40A(t _{width} = μs measured at 50% I _{peak}) at 230VAC									
	LEAKAGE CURRENT	<0.75mA / 240VAC									
PROTECTION	OVER CURRENT	95 ~ 108% Protection type : Constant current limiting, recovers automatically after fault condition is removed									
	SHORT CIRCUIT	Constant current limiting, 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	
	OVER TEMPERATURE	90°C±10°C (RTH2) Protection type : Shut down o/p voltage, recovers automatically after temperature goes down									
ENVIRONMENT	WORKING TEMP.	-40 ~ +70°C (Refer to "Derating Curve")									
	WORKING HUMIDITY	20 ~ 95% RH non-condensing									
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH									
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)									
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes									
SAFETY & EMC	SAFETY STANDARDS	E-type : EN61558-2-16 listed, U-type : UL8750 listed, CSA C22.2 No. 250.13-12(except for 42V, 48V, 54V), IP67 approved									
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC									
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH									
	EMC EMISSION	E-type : Compliance to EN55015, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (≥ 60% load), EN61000-3-3 U-type : Compliance to FCC Part15									
	EMC IMMUNITY	E-type : Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, light industry level (surge 2KV), criteria A									
OTHERS	MTBF	K hrs min. MIL-HDBK-217F (25°C)									
	DIMENSION	190*61*37mm									
	PACKING	Kg									
NOTE	<ol style="list-style-type: none"> All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μf & 47uf parallel capacitor. Tolerance : includes set up tolerance, line regulation and load regulation. 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. 										

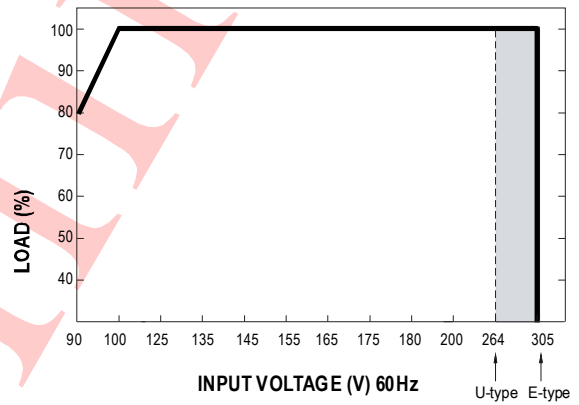
■ Block Diagram



■ Derating Curve



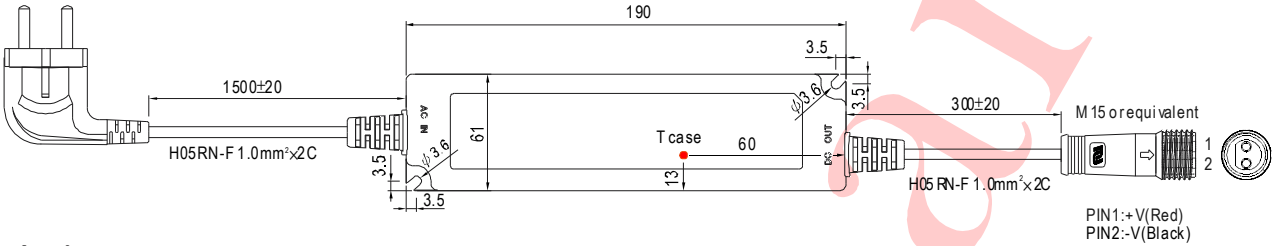
■ Static Characteristics



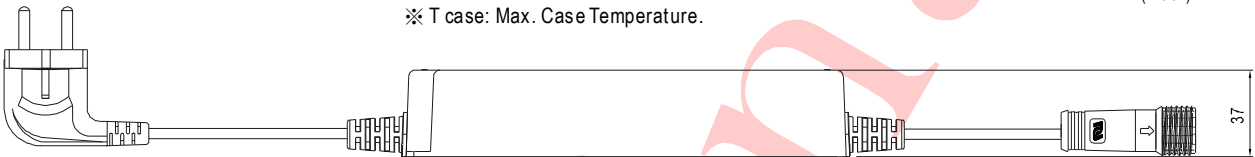
■ Mechanical Specification

Unit:mm

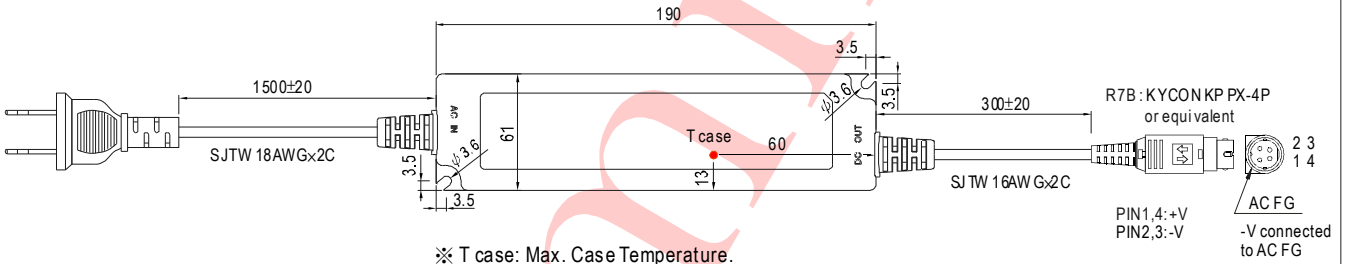
OWA-120E



※ T case: Max. Case Temperature.



OWA-120U

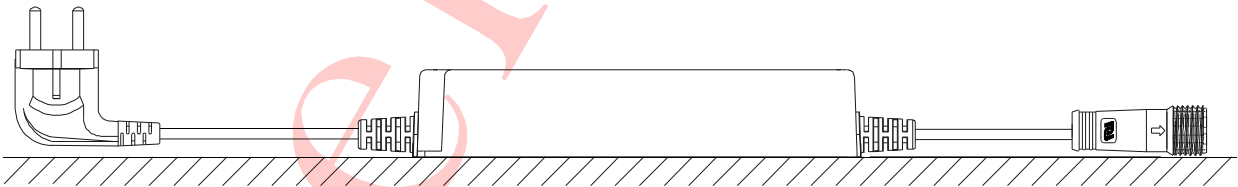


※ T case: Max. Case Temperature.



■ Recommend Mounting Direction

OWA-120E



OWA-120U



■ Installation Manual

Please refer to : <http://www.meanwell.com/webnet/search/InstallationSearch.html>