



## ■ Features

- Universal AC input / Full range
- High efficiency up to 91%
- No load power consumption <0.15W
- Comply with EU ErP and CoC Version 5
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Class II power unit, no FG
- Fully isolated plastic case
- Fanless design, cooling by free air convection
- 5 years warranty

## ■ Applications

- Robotic lawn mower
- Household appliance
- Battery charging
- General electronic products in dusty or humid environment

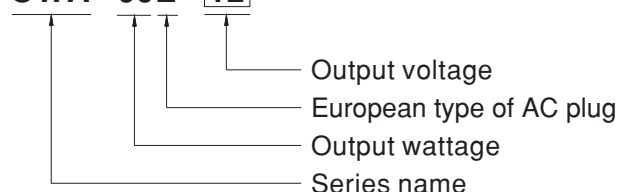
## ■ Description

OWA-60E is a 60W AC/DC, class II (no FG) external power supply series pinpointing the moistureproof feature. The fully-potted silicone inside the plastic enclosure enhances the heat dissipation; it also benefits that the power body of OWA-60E achieves IP67 level so that this series specializes the application in which the damp, humidity or dust resistance is needed for the external power supply. OWA-60E follows the latest energy efficiency demand, and is compliant with EU ErP and meets Code of Conduct(CoC) Version 5; the no load power consumption is less than 0.15W. It is certified with EN 61558-2-16; moreover, the compliance to EN 60335-1 for selected models can greatly simplify the system design such as household appliances.

OWA-60E adopts the universal input range from 90VAC to 264VAC. With the working efficiency up to 91%, OWA-60E is cooled by free air convection; the working temperature ranges from -35°C to +70°C.

## ■ Model Encoding

**OWA - 60E - 12**



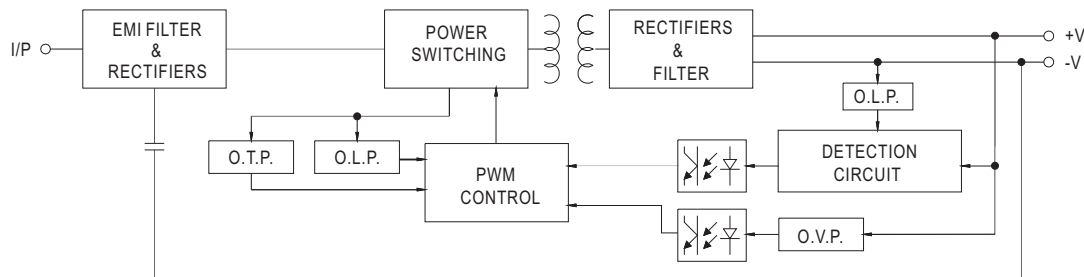


## SPECIFICATION

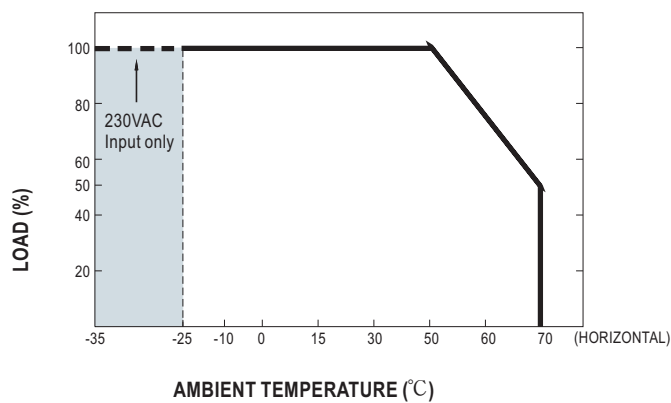
MODEL		OWA-60E-12	OWA-60E-15	OWA-60E-20	OWA-60E-24	OWA-60E-30	OWA-60E-36	OWA-60E-42	OWA-60E-48	OWA-60E-54
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	RATED CURRENT	5A	4A	3A	2.5A	2A	1.67A	1.5A	1.25A	1.12A
	RATED POWER	60W	60W	60W	60W	60W	60.12W	63W	60W	60.48W
	RIPPLE & NOISE (max.) <small>Note.2</small>	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	250mVp-p	250mVp-p	350mVp-p
	VOLTAGE TOLERANCE <small>Note.3</small>	±4.0%	±4.0%	±4.0%	±3.0%	±3.0%	±2.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LOAD REGULATION	±1.5%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME <small>Note.4</small>	500ms, 80ms/230VAC    1000ms, 80ms/115VAC at 95% load								
	HOLD UP TIME (Typ.)	10ms at full load    115VAC / 230VAC								
INPUT	VOLTAGE RANGE	90 ~ 264VAC        127 ~ 370VDC								
	FREQUENCY RANGE	47 ~ 63Hz								
	EFFICIENCY (Typ.)	88%	89%	89%	90%	90%	90%	90%	91%	91%
	AC CURRENT (Typ.)	1.2A / 115VAC        0.7A / 230VAC								
	INRUSH CURRENT (Typ.)	COLD START 65A(twidth=750μs measured at 50% Ipeak) at 230VAC								
	LEAKAGE CURRENT	<0.25mA / 240VAC								
PROTECTION	OVERLOAD	105 ~ 115% Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	14 ~ 16V	17.5 ~ 23V	23 ~ 27V	28 ~ 34V	34 ~ 40V	41 ~ 50V	46 ~ 54V	53 ~ 62V	58 ~ 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.	-35 ~ +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	EN61558-1,-2-16 listed; EN60335-1 listed(except for OWA-60E-48,54); IP67 approved for power body								
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC								
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C/ 70% RH								
	EMC EMISSION	Compliance to EN55022 (CISPR22) Class B, EN55014-1, EN61000-3-2 class A,EN61000-3-3								
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN55014-2, light industry level (surge L- N : 2KV), criteria A								
OTHERS	MTBF	292.8K hrs min.    MIL-HDBK-217F (25°C)								
	DIMENSION	130*53*35mm								
	PACKING	0.41Kg; 16pcs/6.8Kg/0.85CUFT								
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C 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.									

### ■ Block Diagram

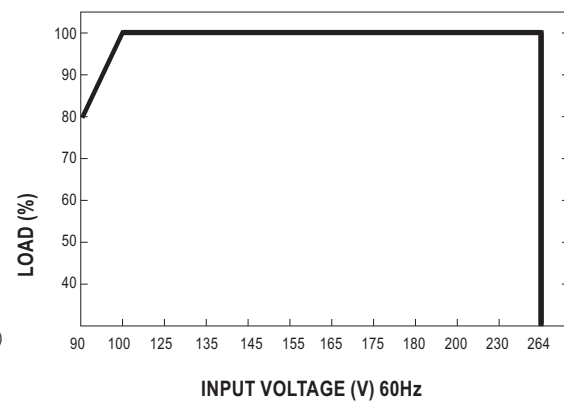
PWM fosc : 25~67KHz



### ■ Derating Curve

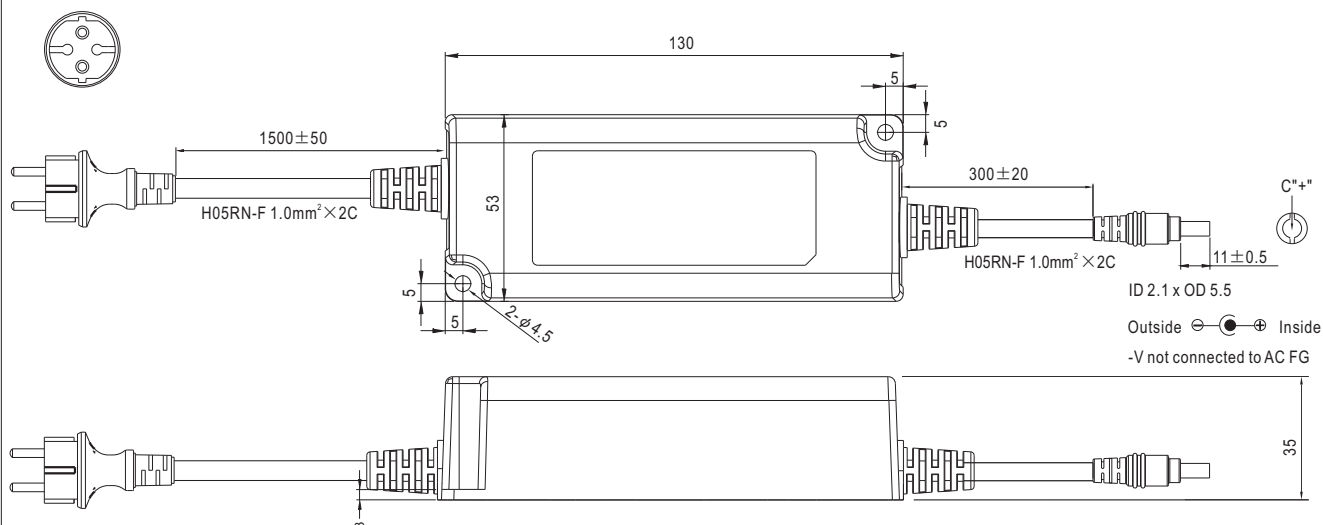


### ■ Static Characteristics



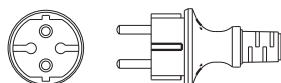
### Mechanical Specification

CASE NO.: OWA-60 Unit:mm

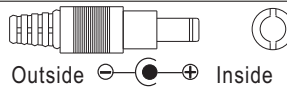
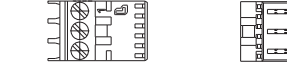
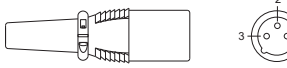
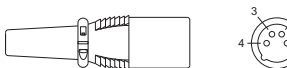
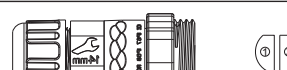




### Input Plug Type

All standard models : CEE 7/7



### Output Plug Assignment

Model Category	Plug Description	Plug Picture	PIN NO.	OUTPUT
For standard model	2.1φ x 5.5φ x 11 mm, center +, tuning fork type		CENTER	+V
For optional model	Lumberg 3611 03, or equivalent		1 2 3	+V floated -V
For optional model	XLR 3P, NEUTRIK NC3MX, or equivalent		1 2,3	+V -V
For optional model	XLR 4P, NEUTRIK NC4MX, or equivalent		1,2 3,4	+V -V
For optional model	CHOGORI 22002411-01 or equivalent		1 2	+V -V
For optional model	Unicable UT-D170F4-2P or equivalent		1 2	+V -V
For optional model	Unicable UT-D224-2P or equivalent		1 2	+V -V

※ For details, please contact MEAN WELL.

### Installation Manual

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

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[OWA-60E-54](#)