



120W Single Output Moistureproof Adaptor

OWA-120E series

User's Manual



■ Features

- Input range 180~264VAC
- 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 EU ErP
- Compliance to IEC/BS EN/EN61558-1,-2-16 and IEC/BS EN/EN60335-1 (except for OWA-120E-48,54) for household appliance
- Fanless design, cooling by free air convection
- Protections: Short circuit/Overload/Overvoltage/Overtemperature
- 5 years warranty

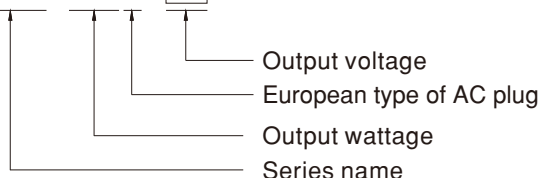
■ Description

OWA-120E is a 120W 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-120E 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-120E follows the latest energy efficiency demand with the no load power consumption less than 0.15W. It is certified with BS EN/EN61558-2-16; moreover, the compliance to BS EN/EN60335-1 for selected models can greatly simplify the system design such as household appliances.

OWA-120E adopts the input range from 180VAC to 264VAC and incorporates a built-in PFC function. With the working efficiency up to 90.5%, OWA-120E is cooled by free air convection; the working temperature ranges from -40°C to +70°C.

■ Model Encoding

OWA - 120E - 12



■ Applications

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

■ GTIN CODE

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

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SPECIFICATION

| MODEL | | OWA-120E-12 | OWA-120E-15 | OWA-120E-20 | OWA-120E-24 | OWA-120E-30 | OWA-120E-36 | OWA-120E-42 | OWA-120E-48 | OWA-120E-54 | |
|---------------------|--|---|-------------|-----------------|-------------|----------------------|-------------|-------------|-------------|-------------|--|
| OUTPUT | DC VOLTAGE | 12V | 15V | 20V | 24V | 30V | 36V | 42V | 48V | 54V | |
| | RATED CURRENT | 9.6A | 8A | 6A | 5A | 4A | 3.4A | 2.9A | 2.5A | 2.3A | |
| | RATED POWER | 115.2W | 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 | | | | | | | | | |
| HOLD UP TIME (Typ.) | 16ms at full load 230VAC | | | | | | | | | | |
| INPUT | VOLTAGE RANGE | 180 ~ 264VAC | | 254 ~ 370VDC | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | | | |
| | POWER FACTOR (Typ.) | PF>0.96/230VAC at full load | | | | | | | | | |
| | EFFICIENCY (Typ.) | 87.5% | 89% | 90% | 90.5% | 90% | 90% | 90.5% | 90.5% | 90.5% | |
| | AC CURRENT (Typ.) | 0.65A / 230VAC | | | | | | | | | |
| | INRUSH CURRENT (Typ.) | COLD START 60A(twidth=520μs 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 | 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°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 ~ 40°C) | | | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes | | | | | | | | | |
| SAFETY & EMC | SAFETY STANDARDS | DEKRA BS EN/EN61558-1,-2-16; DEKRA BS EN/EN60335-1 (except for OWA-120E-48,54); EAC TP TC 004, IP67 (for power body) approved | | | | | | | | | |
| | 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 BS EN/EN55032 (CISPR32) Class B, BS EN/EN55014-1, BS EN/EN61000-3-2,-3;EAC TP TC 020 | | | | | | | | | |
| EMC IMMUNITY | Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55014-2, BS EN/EN55024, light industry level (surge L-N : 2KV), EAC TP TC 020 | | | | | | | | | | |
| OTHERS | MTBF | 2902.2K hrs min. Telcordia SR-332 (Bellcore) | | 294.4K hrs min. | | MIL-HDBK-217F (25°C) | | | | | |
| | DIMENSION | 191*63*37.5mm | | | | | | | | | |
| | PACKING | 1.15Kg; 12pcs/14.8Kg/0.89CUFT | | | | | | | | | |
| NOTE | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>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.</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p> | | | | | | | | | | |

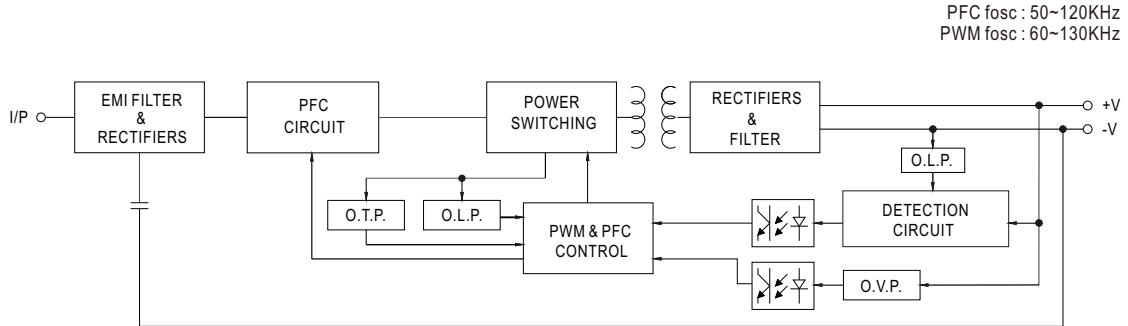
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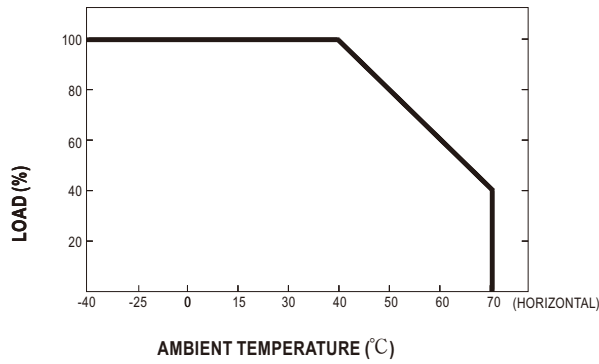
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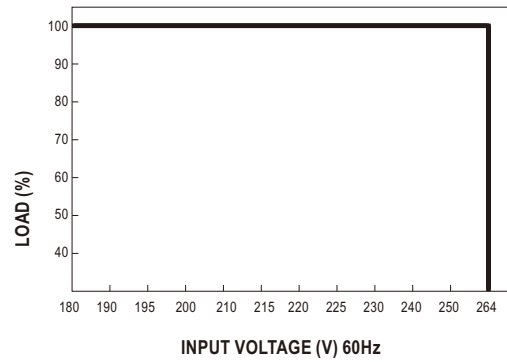
■ Block Diagram



■ Derating Curve



■ Static Characteristics



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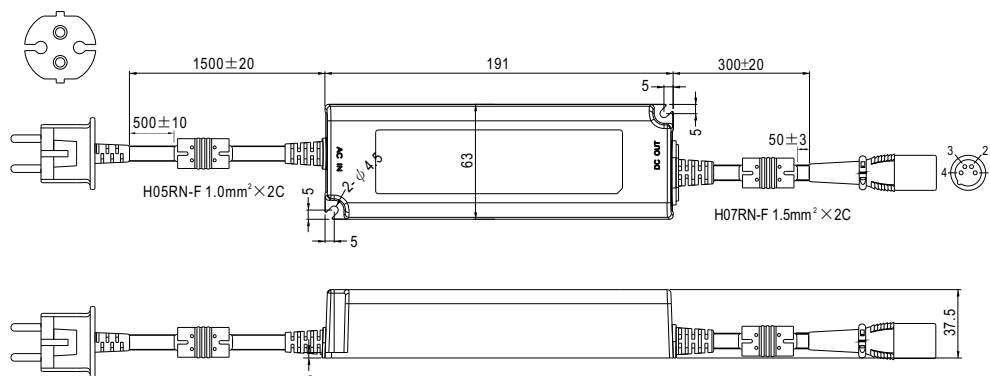


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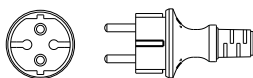
■ Mechanical Specification

Case No. PWM-120 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 | XLR 4P, NEUTRIK NC4MX, or equivalent | | 1,2 | +V |
| | | | 3,4 | -V |
| For optional model | Lumberg 3611 03, or equivalent | | 1 | +V |
| | | | 2 | float |
| | | | 3 | -V |
| For optional model | XLR 3P, NEUTRIK NC3MX, or equivalent | | 1 | +V |
| | | | 2,3 | -V |
| For optional model | CHOGORI 22002411-01 or equivalent | | 1 | +V |
| | | | 2 | -V |
| For optional model | CHOGORI 23002411-01 or equivalent | | 1 | +V |
| | | | 2 | -V |
| For optional model | Unicable UT-D170F4-2P or equivalent | | 1 | +V |
| | | | 2 | -V |
| For optional model | Unicable UT-D224-2P or equivalent | | 1 | +V |
| | | | 2 | -V |
| For optional model | 2.1φ x 5.5φ x 11 mm, center +, tuning fork type | Outside ⊖ ⊕ Inside | CENTER | +V |

※ For details, please contact MEAN WELL.

■ Installation Manual

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

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We are here for you. Addresses and Contacts.

Headquarter Switzerland:

Angst+Pfister Sensors and Power AG
Thurgauerstrasse 66
CH-8050 Zurich
Phone +41 44 877 35 00
sensorsandpower@angst-pfister.com

Office Germany:

Angst+Pfister Sensors and Power Deutschland GmbH
Edisonstraße 16
D-85716 Unterschleißheim
Phone +49 89 374 288 87 00
sensorsandpower.de@angst-pfister.com

Scan here and get an overview of personal contacts!



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