# 60W Single Output with Battery Charger(UPS Function) PSC-60 series







## Features :

- Universal AC input / Full range
- Models with **L-Bracket and cover available (PSC-60x-C, x=A,B)**
- Protections: Short circuit / Overload / Over voltage
- Battery low protection / Battery reverse polarity protection by fuse
- Alarm signal for AC OK and Battery reverse low
- Cooling by free air convection
- 100% full load burn-in test
- 2 years warranty

UL62368-1 BS EN/EN62368-1 TPTC004 IEC62368-1

## GTIN CODE

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

## SPECIFICATION

PSC-60A [-C] [ ] =Blank,-C ; Blank=PCB only, -C=Enclosed type

| MODEL | | PSC-60A [ ] | | PSC-60B [ ] | |
|---|---|---|---|---|---|
| OUTPUT | OUTPUT NUMBER | CH1 | CH2 | CH1 | CH2 |
| | DC VOLTAGE | 13.8V | 13.8V | 27.6V | 27.6V |
| | RATED CURRENT | 2.8A | 1.5A | 1.4A | 0.75A |
| | CURRENT RANGE | 0 ~ 4.3A | ------ | 0 ~ 2.15A | ------ |
| | RATED POWER | 59.34W | | 59.34W | |
| | RIPPLE & NOISE (max.) Note.2 | 120mVp-p | ------ | 240mVp-p | ------ |
| | VOLTAGE ADJ. RANGE | CH1: 12 ~ 15V | | CH1: 24 ~ 29V | |
| | VOLTAGE TOLERANCE Note.3 | ±1.0% | ------ | ±1.0% | ------ |
| | LINE REGULATION | ±0.5% | ------ | ±0.5% | ------ |
| | LOAD REGULATION | ±0.5% | ------ | ±0.5% | ------ |
| | SETUP, RISE TIME Note.4 | 800ms, 50ms/230VAC 1600ms, 50ms/115VAC at full load | | | |
| | HOLD UP TIME (Typ.) | 50ms/230VAC 10ms/115VAC at full load | | | |
| INPUT | VOLTAGE RANGE | 90 ~ 264VAC 127 ~ 370VDC | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | |
| | EFFICIENCY (Typ.) | 84% | | 84% | |
| | AC CURRENT (Typ.) | 1.6A/115VAC 1A/230VAC | | | |
| | INRUSH CURRENT (Typ.) | COLD START 30A/115VAC 60A/230VAC | | | |
| | LEAKAGE CURRENT | <1mA / 240VAC | | | |
| PROTECTION | OVERLOAD | 105 ~ 150% rated output power | | | |
| | | Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | |
| | OVER VOLTAGE | CH1:14.49 ~ 18.63V | | CH1:28.98 ~ 37.26V | |
| | | Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | |
| | BATTERY CUT OFF | 10.5±0.5V | | 21±1V | |
| FUNCTION | AC OK | TTL open collector output, ON : AC OK ; OFF : AC Fail ; Ice : max. 30mA@ 50VDC | | | |
| | BATTERY LOW | TTL open collector output, ON : Battery Low ; OFF : Battery OK ; Ice : max. 30mA@ 50VDC | | | |
| | | Battery low voltage : < 11V | | Battery low voltage : < 22V | |
| ENVIRONMENT | WORKING TEMP. | -20 ~ +70℃ (Refer to "Derating Curve") | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | |
| | STORAGE TEMP., HUMIDITY | -20 ~ +85℃, 10 ~ 95% RH | | | |
| | TEMP. COEFFICIENT | ±0.03%/℃ (0~50℃) on CH1 output | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | |
| SAFETY & EMC (Note 7) | SAFETY STANDARDS | UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004 approved | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC | | | |
| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH | | | |
| | EMC EMISSION | Compliance to BS EN/EN55032 (CISPR32) Class B, 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/EN55035, light industry level, EAC TP TC 020 | | | |
| OTHERS | MTBF | 3681.4K hrs min. Telcordia SR-332 (Bellcore) ; 589.7K hrs min. MIL-HDBK-217F (25℃) | | | |
| | DIMENSION | PCB:101.6*50.8*29mm (L*W*H) ; Enclosed type:103.4*62*37mm (L*W*H) | | | |
| | PACKING | PCB:0.13Kg; 96pcs/13.5Kg/1.39CUFT ; Enclosed type:0.29Kg; 45pcs/14Kg/0.63CUFT | | | |

NOTE

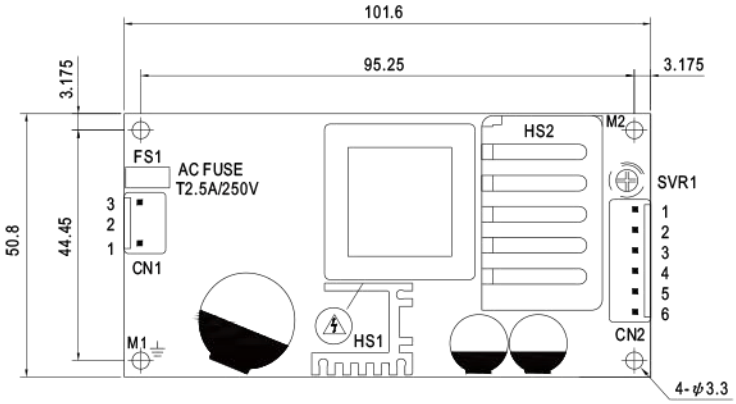
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.
5. Heat sink HS1,HS2 can not be shorted.
6. Heat sink HS1 must have safety isolation distance with system case.
7. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf )
8. 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).

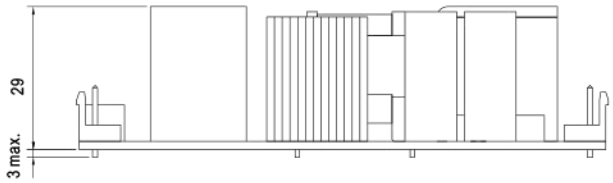
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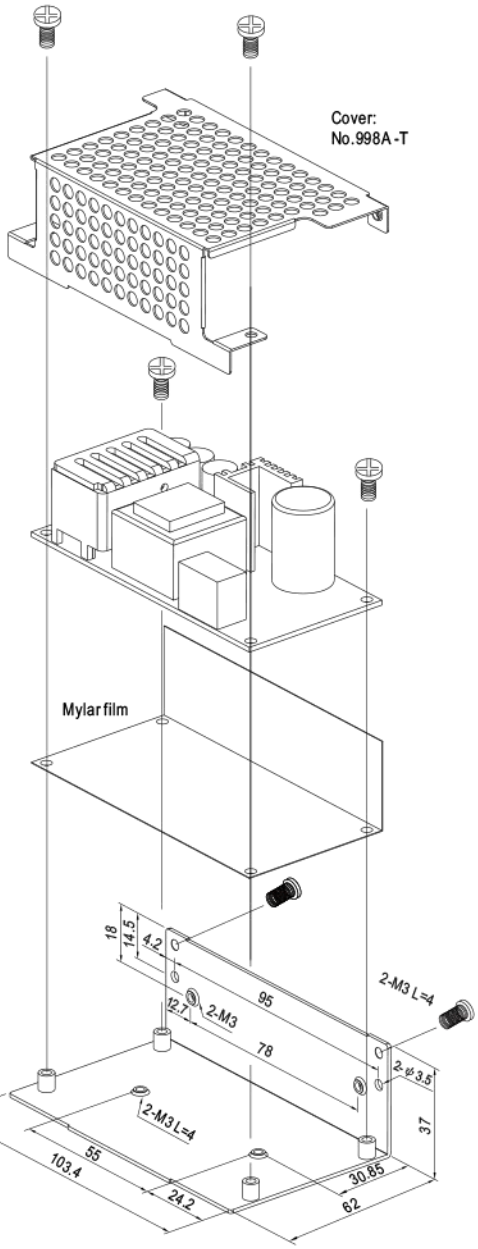
## ■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

Unit:mm




⚠

1.HS1,HS2 can not be shorted.
2.HS1 must have safety isolation distance with system case.
3.M1 is safety ground. For better EMC performance,Please secure an electrical connection between M1,M2 and chassis grounding.

AC Input Connector (CN1) : JST B3P-VH or equivalent

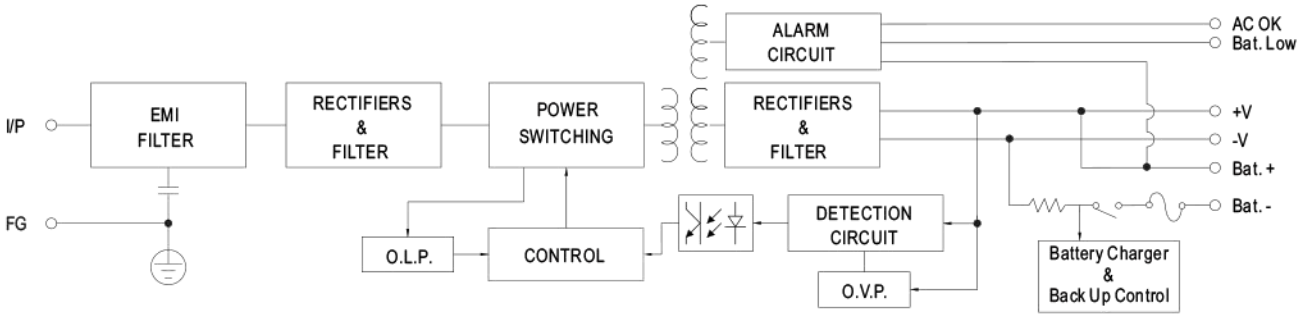
| Pin No. | Assignment | Mating Housing | Terminal |
|---|---|---|---|
| 1 | AC/N | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2 | No Pin | | |
| 3 | AC/L | | |

DC Output Connector (CN2) : JST B6P-VH or equivalent

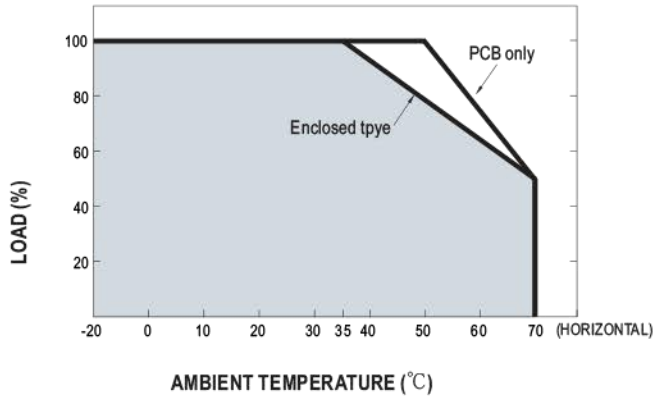
| Pin No. | Assignment | Pin No. | Assignment | Mating Housing | Terminal |
|---|---|---|---|---|---|
| 1 | Bat. Low | 4 | Battery + | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2 | AC OK | 5 | DC Output + | | |
| 3 | Battery - | 6 | DC Output COM | | |

⏚ : Grounding Required

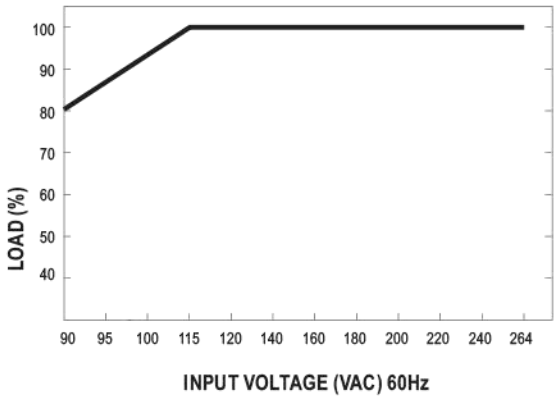
## ■ Block Diagram



## ■ Output Derating




## ■ Output Derating VS Input Voltage




## ■ Suggested Application

**1.Backup connection for AC interruption**

(1) Please refer to the Fig1.1 for suggested connection.

The power supply charges the battery and provides energy to the load at the same time when the AC main is OK.

The battery starts to supply power to the load when the AC mains fails.

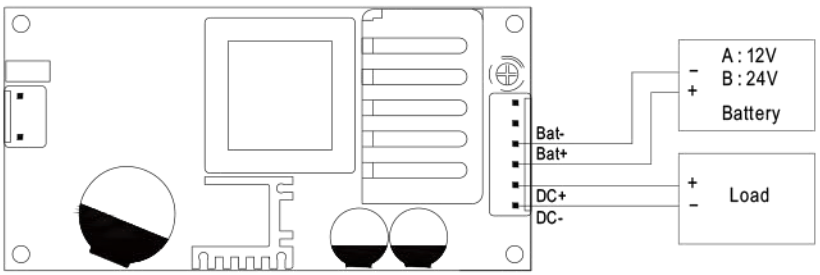



Fig 1.1 Suggested system connection

**2.Alarm Signal for AC OK and Battery Low**

(1) Alarm Signal is sent out through "AC OK" & "Battery Low" pins.

(2) An external voltage source is required for this function. The maximum applied voltage is 50V and the maximum sink current is 30mA.

(3) Table2.1 explains the alarm function built in the power supply

| Function | Description | Output of alarm |
|---|---|---|
| AC OK | The signal is "Low" when the power supply turns on | Low (0.3V max. at 30mA) |
| | The signal turns to be "High" when the power supply turns OFF | High or open(External applied voltage 50V max.) |
| Battery Low | The signal is "Low" when the voltage of battery is under A:11V, B:22V | Low (0.3V max. at 30mA) |
| | The signal is "High" when the voltage of battery is above A:11V, B:22V | High or open(External applied voltage 50V max.) |

Table 2.1 Explanation of Alarm Signal

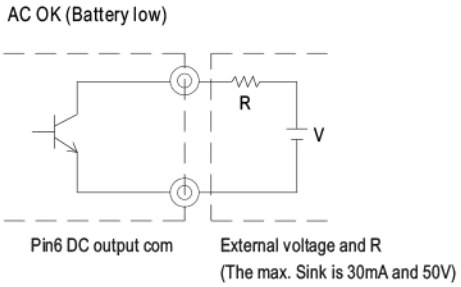



Fig 2.2 Internal circuit of AC OK (Battery Low)