



160W Single Output with Battery Charger(UPS Function) **PSC-160** series



■ Features

- Universal AC input / Full range
- Built-in active PFC function
- 6"x3" compact PCB size
- Models with L-Bracket and cover available (PSC-160x-C, x=A,B)
- Protections: Short circuit / Overload / Over voltage
- Battery low protection / Battery reverse polarity protection by fuse
- Relay contact signal output for AC OK and Battery Low
- Cooling by free air convection
- 100% full load burn-in test
- 2 years warranty

■ Applications

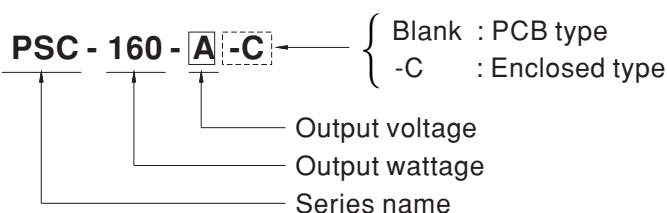
- Security system
- Emergency lighting system
- Alarm system
- UPS system
- Central monitoring system
- Access systems

■ Description

PSC-160 series is a 160W AC/DC security power supply, allowing the universal input range between 90VAC and 264VAC and incorporating the built-in PFC function. In addition to the primary output, there is a charger output, with the smaller rated current, that provides the backup power supply application the security access systems require.

PSC-160 delivers an efficiency up to 90%; it can operate with air convection under -20°C through 70°C. This series is designed with thorough alarm features, including AC OK and battery low signaling; moreover, the relay contact is provided to facilitate users' system designs. PSC-160 is available in the PCB type or the enclosed type with L-Bracket and cover.

■ Model Encoding





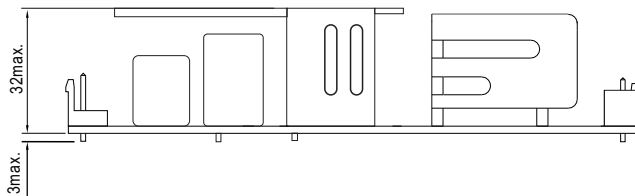
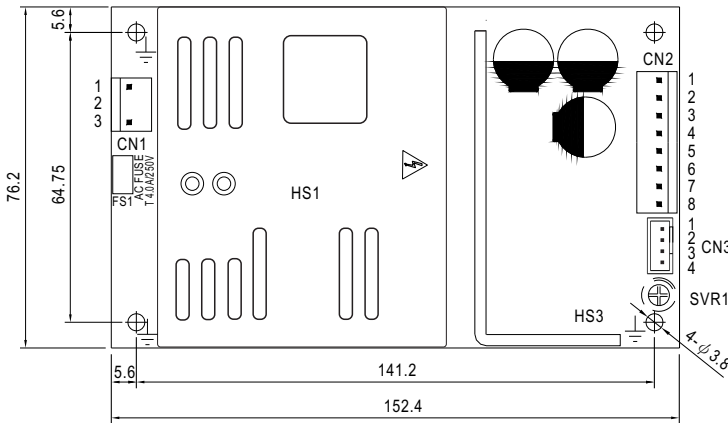
160W Single Output with Battery Charger(UPS Function) PSC-160 series

PSC-160A-□ □ =Blank,-C ; Blank=PCB only, -C=Enclosed type

SPECIFICATION

| MODEL | | PSC-160A □ | | PSC-160B □ | |
|-----------------------|--|---|-------------------------------|---|-------|
| OUTPUT | OUTPUT NUMBER | CH1 | CH2 | CH1 | CH2 |
| | DC VOLTAGE | 13.8V | 13.8V | 27.6V | 27.6V |
| | RATED CURRENT | 7.6A | 4A | 3.8A | 2A |
| | CURRENT RANGE | 0 ~ 11.6A | ----- | 0 ~ 5.8A | ----- |
| | RATED POWER | 160W | | 160W | |
| | RIPPLE & NOISE (max.) Note.2 | 150mVp-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 | 2000ms, 30ms/230VAC | | 2000ms, 30ms/115VAC at full load | |
| HOLD UP TIME (Typ.) | 40ms/230VAC | 40ms/115VAC at full load | | | |
| INPUT | VOLTAGE RANGE | 90 ~ 264VAC | 127 ~ 370VDC | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | |
| | POWER FACTOR (Typ.) | PF ≥ 0.95/230VAC | PF ≥ 0.98/115VAC at full load | | |
| | EFFICIENCY (Typ.) | 88% | | 90% | |
| | AC CURRENT (Typ.) | 2.5A/115VAC | 1.5A/230VAC | | |
| | INRUSH CURRENT (Typ.) | COLD START 35A/115VAC | 70A/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 : Shut down o/p voltage, re-power on to recover | |
| | BATTERY CUT OFF | 10±0.5V | | 20±1V | |
| ALARM FUNCTION | AC OK Note.5 | Relay contact output, ON : AC OK ; OFF : AC Fail ; Max. rating : 30V / 1A | | | |
| | BATTERY LOW | Relay contact output, OFF : Battery OK ; ON : Battery Low ; Max. rating : 30V / 1A Battery low voltage : < 11V | | Battery low voltage : < 22V | |
| ENVIRONMENT | WORKING TEMP. | -20 ~ +70°C (Refer to "Derating Curve") | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | |
| | STORAGE TEMP., HUMIDITY | -20 ~ +85°C, 10 ~ 95% RH | | | |
| | TEMP. COEFFICIENT | ±0.03%/°C (0~45°C) on CH1 output | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS | UL62368-1, TUV EN62368-1, EAC TP TC 004 approved | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3KVAC I/P-FG:2.0KVAC O/P-FG:0.5KVAC | | | |
| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH | | | |
| | EMC EMISSION | Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3, EAC TP TC 020 | | | |
| | EMC IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, light industry level, criteria A, EAC TP TC 020 | | | |
| OTHERS | MTBF | 257K hrs min. MIL-HDBK-217F (25°C) | | | |
| | DIMENSION | PCB:152.4*76.2*32mm (L*W*H) ; Enclosed type:155.4*85*37mm (L*W*H) | | | |
| | PACKING | PCB:0.35Kg;42pcs/15.7Kg/1.22CUFT ; Enclosed type: 0.45Kg;32pcs/15.4Kg/0.94CUFT | | | |
| 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 0.1uf & 47uf parallel capacitor. Tolerance : includes set up tolerance, line regulation and load regulation. 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. Please refer to suggested Application 2.(2) 、(3) in page 3. The power supply is considered a component which will be installed into a final equipment. 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 http://www.meanwell.com) The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). | | | | |

Mechanical Specification



- 1.HS1,HS3 can not be shorted.
- 2.HS1,HS3 must have safety isolation distance with system case.

⏏ :Grounding required

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

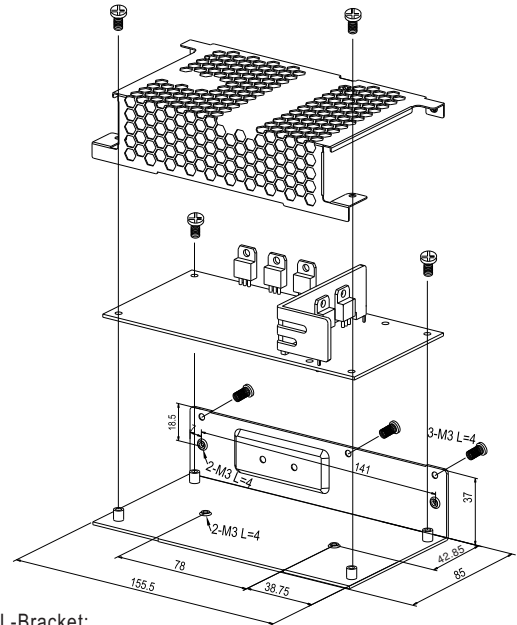
| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|-----------------------|--------------------------------|
| 1 | AC/N | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2 | No Pin | | |
| 3 | AC/L | | |

DC Output Connector (CN2) : JST B8P-VH or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|-----------------------|--------------------------------|
| 1,2 | -V | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 3,4 | +V | | |
| 5,6 | Bat+ | | |
| 7,8 | Bat- | | |

Cover:
No.231A-T

Unit:mm



L-Bracket:
No.231A-D

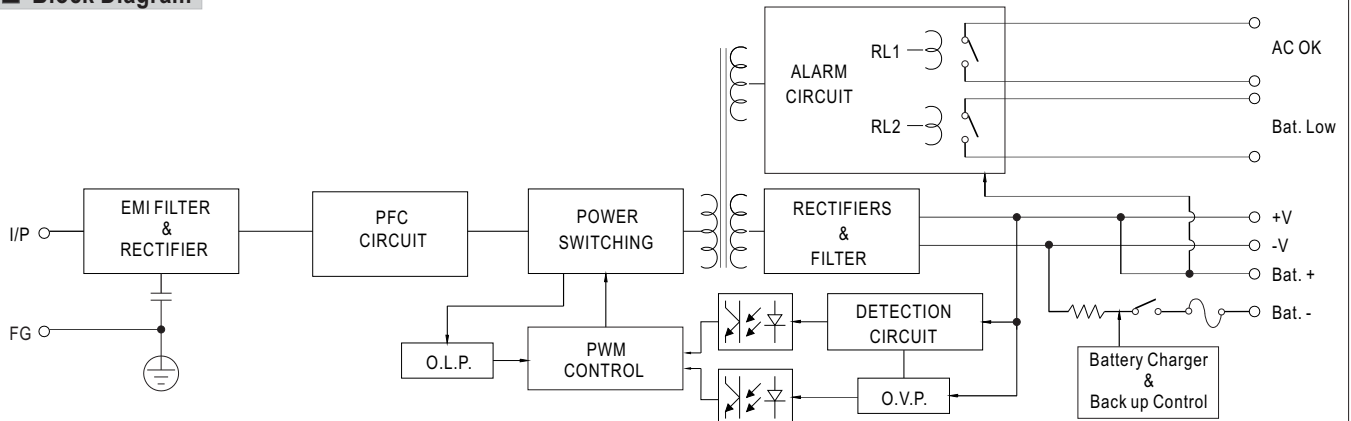
Alarm Output Connector(CN3) : JST B4B-XH or equivalent

| Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|-----------------------|---------------------------------|
| 1 2 | AC OK | JST XHP or equivalent | JST SXH-001T-P0.6 or equivalent |
| 3 4 | Bat. Low | | |

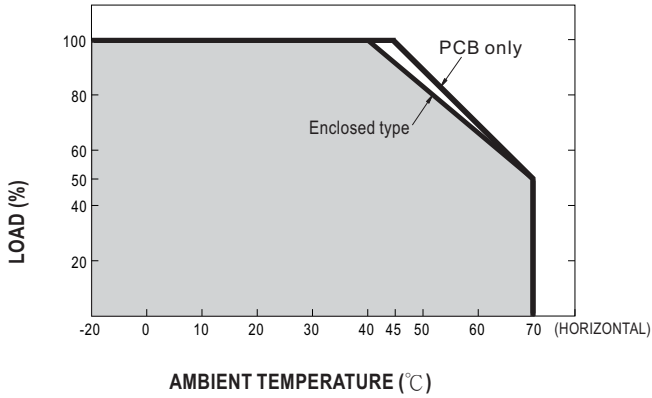


1.-V and Bat- can not be shorted.

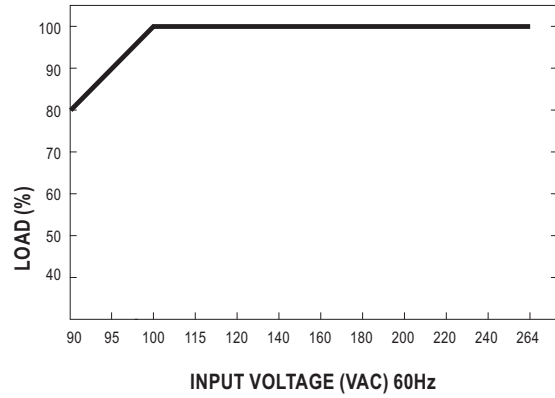
Block Diagram



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.

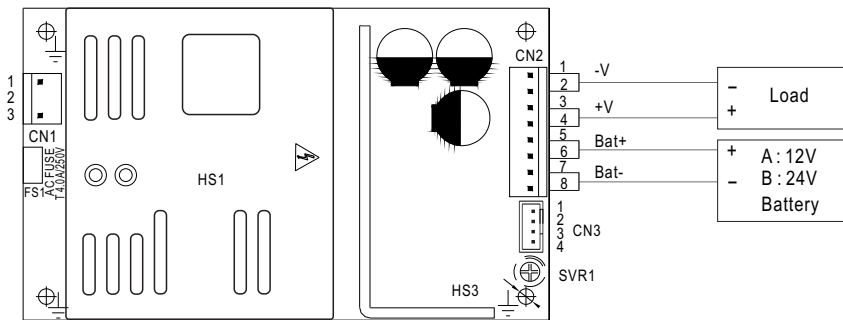


Fig 1.1 Suggested system connection

2.Alarm signal for AC OK and Battery Low

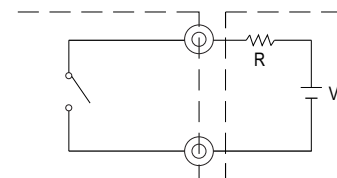
- Alarm signal is sent out through "AC OK" & "Battery Low" pins.(relay contact type)
- An external voltage source is required for this function. The maximum applied voltage is 30V and the maximum sink current is 1A.
- Table2.1 explains the alarm function built in the power supply

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

Table 2.1 Explanation of Alarm Signal

AC OK (Battery low)

CN3 Pin1(Pin3)



CN3 Pin2(Pin4)

External voltage source (V) and resistor (R)
(The max. Sink is 1A and 30V)

Fig 2.2 Internal circuit of AC OK (Battery Low)

- RL1 (AC OK)signal will go into hiccup mode when the overload protection is activating.

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