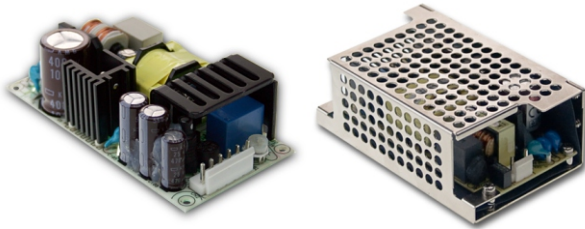




60W Single Output with Battery Charger(UPS Function)

**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

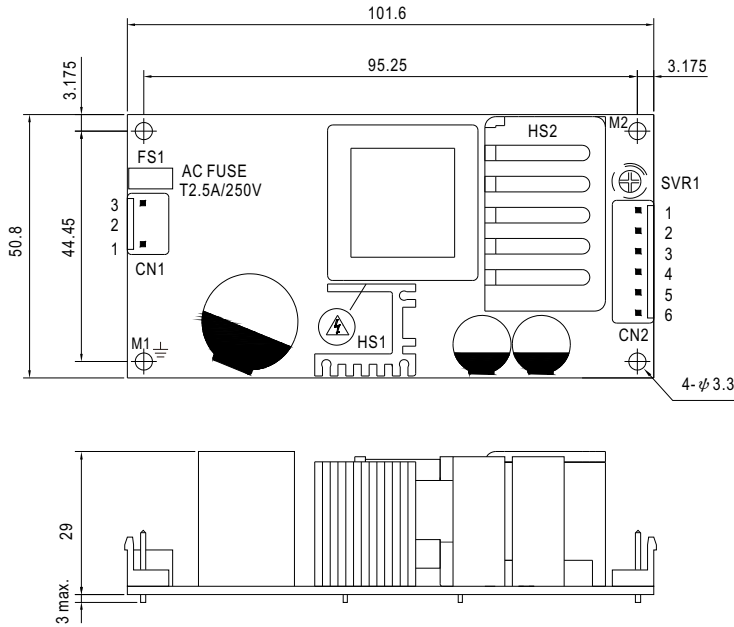


**SPECIFICATION**

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

| MODEL                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | PSC-60A <input type="checkbox"/>                                                                                        |                                  | PSC-60B <input type="checkbox"/>                                                                             |       |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------|-------|
| 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<br>Protection type : Hiccup mode, recovers automatically after fault condition is removed |                                  |                                                                                                              |       |
|                         | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CH1:14.49 ~ 18.63V                                                                                                      |                                  | CH1:28.98 ~ 37.26V<br>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<br>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 (0~50°C) 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°C / 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/EN55024, light industry level, criteria A, EAC TP TC 020            |                                  |                                                                                                              |       |
| OTHERS                  | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 589.7K hrs min. MIL-HDBK-217F (25°C)                                                                                    |                                  |                                                                                                              |       |
|                         | 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°C of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>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.<br>5. Heat sink HS1,HS2 can not be shorted.<br>6. Heat sink HS1 must have safety isolation distance with system case.<br>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 http://www.meanwell.com)<br>8. 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)<br>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx |                                                                                                                         |                                  |                                                                                                              |       |

**Mechanical Specification**



- ⚠
- 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

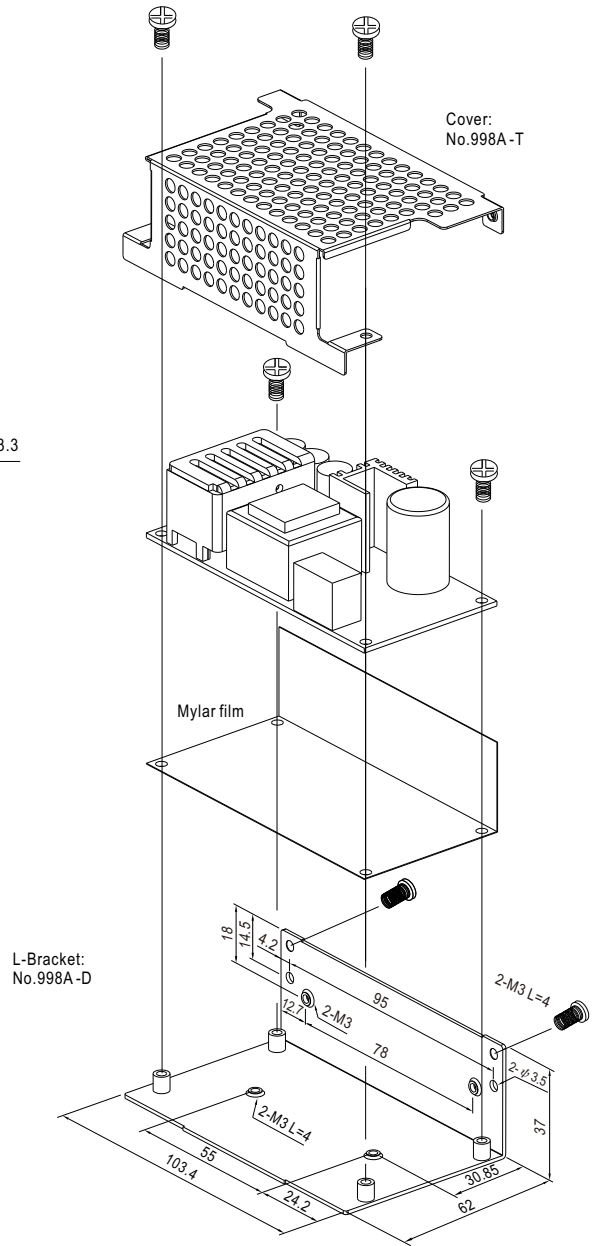
| Pin No. | Assignment | Mating Housing        | Terminal                       |
|---------|------------|-----------------------|--------------------------------|
| 1       | AC/N       | JST VHR or equivalent | JST SVH-21T-P1.1 or equivalent |
| 2       | No Pin     |                       |      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

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

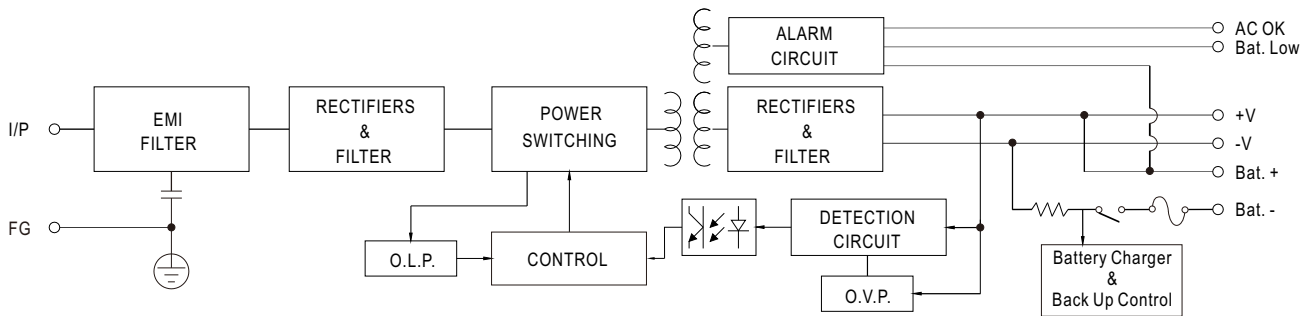
| Pin No. | Assignment | Pin No. | Assignment    | Mating Housing        | Terminal                       |
|---------|------------|---------|---------------|-----------------------|--------------------------------|
| 1       | Bat. Low   | 4       | Battery +     | JST VHR or equivalent | JST SVH-21T-P1.1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

⚡ : Grounding Required

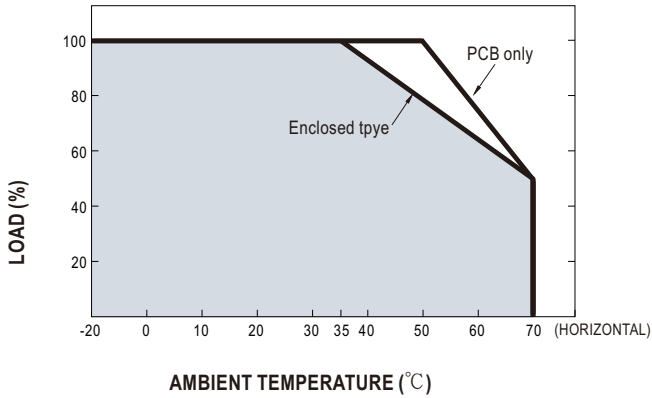
Unit:mm



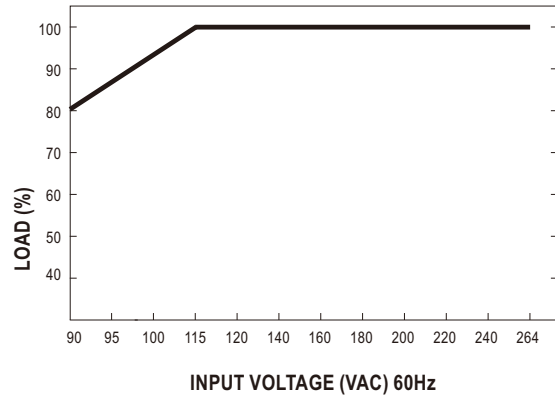
**Block Diagram**



■ 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.

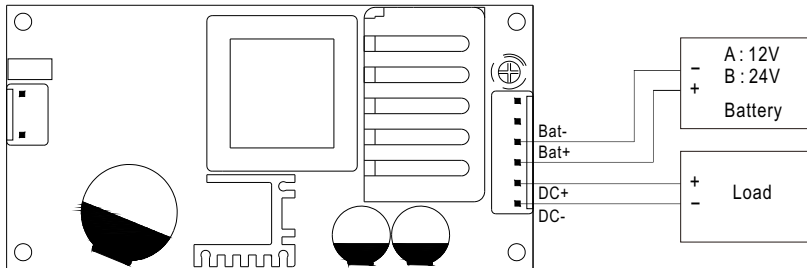


Fig 1.1 Suggested system connection

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

AC OK (Battery low)

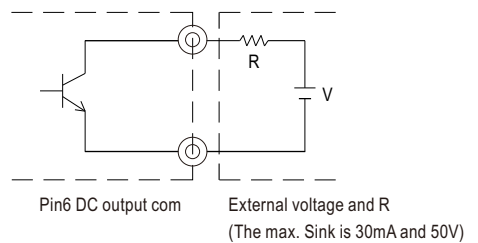


Fig 2.2 Internal circuit of AC OK (Battery Low)