



## ■ Features

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage
- Battery low protection / Battery reverse polarity protection by fuse
- Can be installed on DIN rail TS-35/7.5 or 15
- Alarm signal for AC OK and Battery low (via relay)
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- 3 years warranty

## ■ Applications

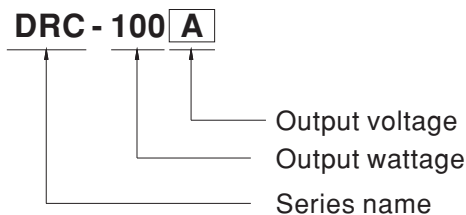
- Security system
- Emergency lighting system
- Alarm system
- DC UPS system
- Central monitoring system
- Access systems

## ■ Description

DRC-100 is a 96W AC/DC DIN rail type security power supply series. In addition to the primary output, there is a charger output with a smaller rated current, enabling the backup power supply application the security access systems require. DRC-100 accepts the universal input between 90VAC and 264VAC, and supplies 13.8VDC and 27.6VDC at output, respectively. With the efficiency up to 89%, it can operate with air convection cooling under -30°C through 70°C. In addition to the key protection features such as overload protection, over voltage protection, battery low cut off, and battery reverse polarity protection (by fuse), the alarm signal for AC OK and battery low signaling is provided, via relay contact output, to facilitate the system design.

## ■ Model Encoding

**DRC - 100 A**

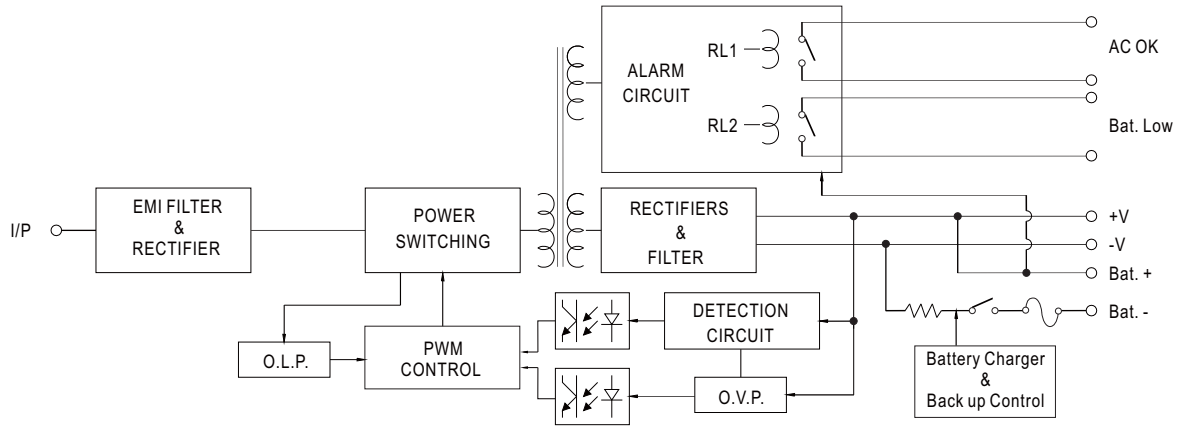




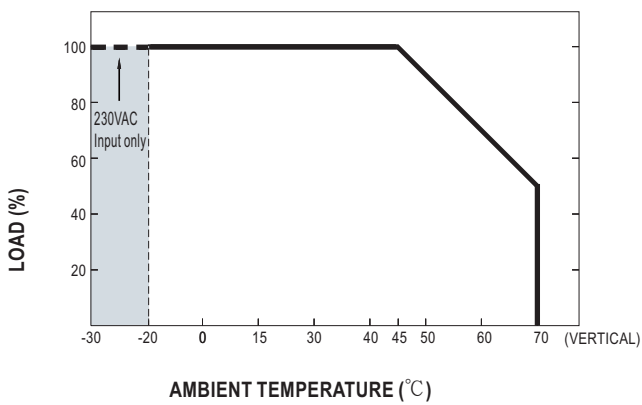
**SPECIFICATION**

| MODEL                 |  | DRC-100A  |              | DRC-100B  |       |
|-----------------------|--|---|--------------|---|-------|
| OUTPUT                | OUTPUT NUMBER  | CH1   | CH2          | CH1   | CH2   |
|                       | DC VOLTAGE   | 13.8V   | 13.8V        | 27.6V   | 27.6V |
|                       | RATED CURRENT  | 4.5A  | 2.5A         | 2.25A   | 1.25A |
|                       | CURRENT RANGE  | 0 ~ 7A  | -----        | 0 ~ 3.5A  | ----- |
|                       | RATED POWER  | 96.6W   |              | 96.6W   |       |
|                       | RIPPLE & NOISE (max.) Note.2   | 120mVp-p  | -----        | 240mVp-p  | ----- |
|                       | VOLTAGE ADJ. RANGE   | CH1:12 ~ 15V  |              | CH1:24 ~ 30V  |       |
|                       | 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  | 2400ms, 50ms/230VAC   |              | 2400ms, 50ms/115VAC at full load  |       |
| HOLD UP TIME (Typ.)   | 50ms/230VAC  | 10ms/115VAC at full load  |              |   |       |
| INPUT                 | VOLTAGE RANGE  | 90 ~ 264VAC   | 127 ~ 370VDC | [DC input operation possible by connecting AC/L(+), AC/N(-)]                          |       |
|                       | FREQUENCY RANGE  | 47 ~ 63Hz   |              |   |       |
|                       | EFFICIENCY (Typ.)  | 87%   |              | 89%   |       |
|                       | AC CURRENT (Typ.)  | 1.8A/115VAC   | 1.1A/230VAC  |   |       |
|                       | INRUSH CURRENT (Typ.)  | COLD START 30A/115VAC   |              | 60A/230VAC  |       |
| 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 : Shut down o/p voltage, re-power on to recover |       |
|                       | BATTERY CUT OFF  | 10±0.5V   |              | 20±1V   |       |
| FUNCTION              | AC OK  | 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<br>Battery low voltage : < 11V   |              | Battery low voltage : < 22V   |       |
| ENVIRONMENT           | WORKING TEMP.  | -30 ~ +70°C (Refer to "Derating Curve")   |              |   |       |
|                       | WORKING HUMIDITY   | 20 ~ 90% RH non-condensing  |              |   |       |
|                       | STORAGE TEMP., HUMIDITY  | -40 ~ +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 5) | SAFETY STANDARDS   | UL60950-1, TUV EN60950-1, 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 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, EN61204-3, light industry level, criteria A, EAC TP TC 020 ; meet EN54-4 for fire detection and fire alarm systems |              |   |       |
| OTHERS                | MTBF   | 410.1K hrs min. MIL-HDBK-217F (25°C)  |              |   |       |
|                       | DIMENSION  | 55*90*100mm (W*H*D)   |              |   |       |
|                       | PACKING  | 0.37Kg; 30pcs/12.1Kg/0.82CUFT   |              |   |       |
| NOTE                  | <ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>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.</li> <li>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 <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</li> <li>Installation clearances : 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source, 15mm clearance is recommended.</li> <li>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).</li> </ol> |   |              |   |       |

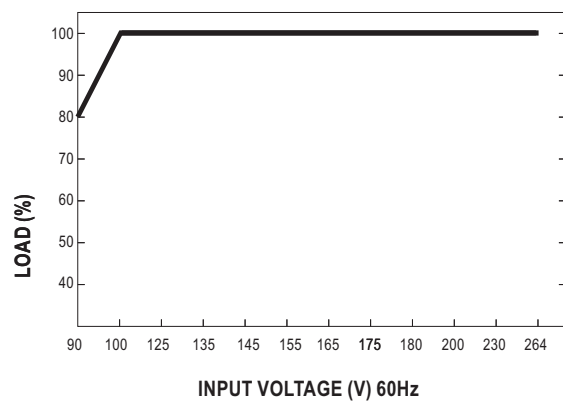
■ Block Diagram



■ Derating Curve



■ Static Characteristics



**Suggested Application**

**1.Backup connection for AC interruption**

(1) Please refer to Fig 1.1 for suggested connection.

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

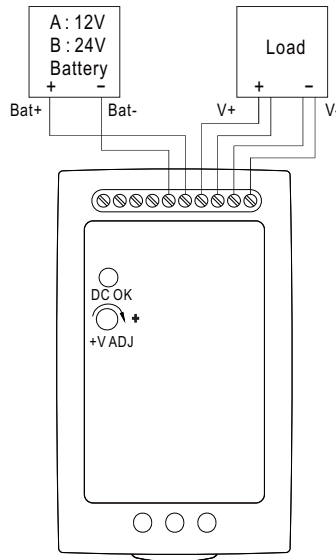


Fig 1.1 Suggested system connection

**2.Alarm signal for AC OK and battery low**

- (1) Alarm signal is sent out through "AC OK " & " Battery Low " pins via relay contact.
- (2) An external voltage source is required for this function. The maximum applied voltage is 30V and the maximum sink current is 1A. Please refer to Fig 2.2.
- (3) Table 2.1 explains the alarm function built in the power supply
- (4) AC OK signal (RL1, referring to Block Diagram) will go into hiccup mode when the overload protection is activated.

| 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)

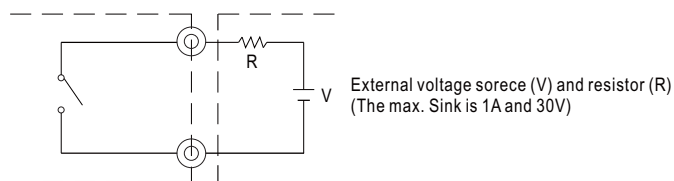
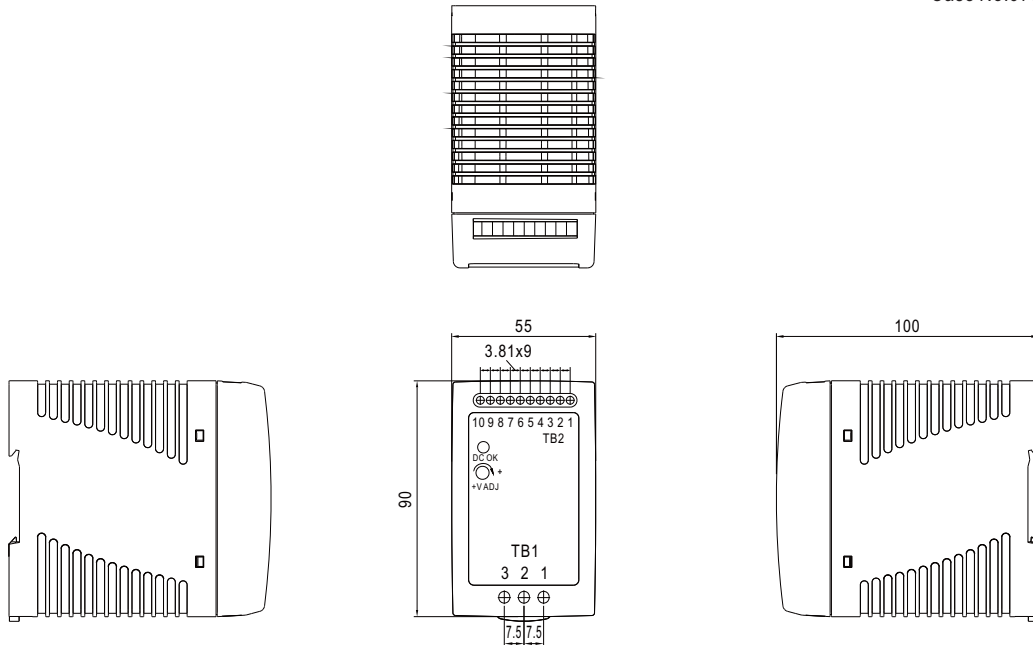


Fig 2.2 Internal circuit of AC OK (Battery Low), via relay contact

## Mechanical Specification

Case No.973A Unit:mm



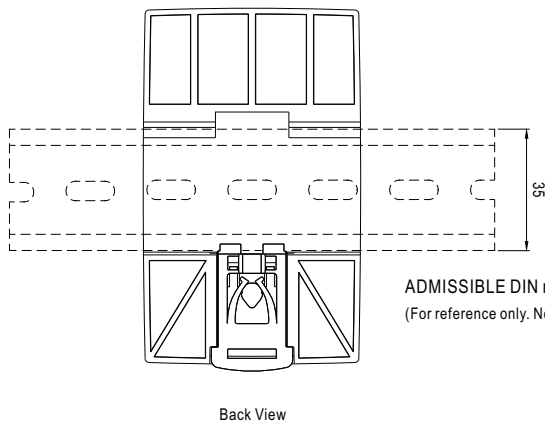
Terminal Pin No. Assignment (TB1):

| Pin No. | Assignment  |
|---------|-------------|
| 1       | AC/L or DC+ |
| 2       | AC/N or DC- |
| 3       | FG $\perp$  |

Terminal Pin No. Assignment (TB2):

| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|------------|
| 1,2     | -V         | 6       | Bat. -     |
| 3,4     | +V         | 7,8     | AC OK      |
| 5       | Bat. +     | 9,10    | Bat. Low   |

## Installation Instruction



Back View

This series fits DIN rail TS35/7.5 or TS35/15.  
For installation details, please refer to the Instruction manual.

ADMISSIBLE DIN rail: TS35/7.5 OR TS35/15  
(For reference only. Not included with unit.)

## Installation Manual

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