



## 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 TTL open collector, optional via relay)
- Cooling by free air convection
- Pass LPS
- LED indicator for power on
- 100% full load burn-in test
- 3 years warranty

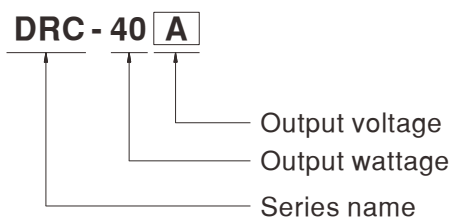
## Applications

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

## Description

DRC-40 is a 40W 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-40 accepts the universal input between 90VAC and 264VAC, and supplies 13.8VDC and 27.6VDC at output, respectively. With the efficiency up to 87%, 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 TTL open collector output for the standard model ( via relay contact output as the optional model), to facilitate the system design.

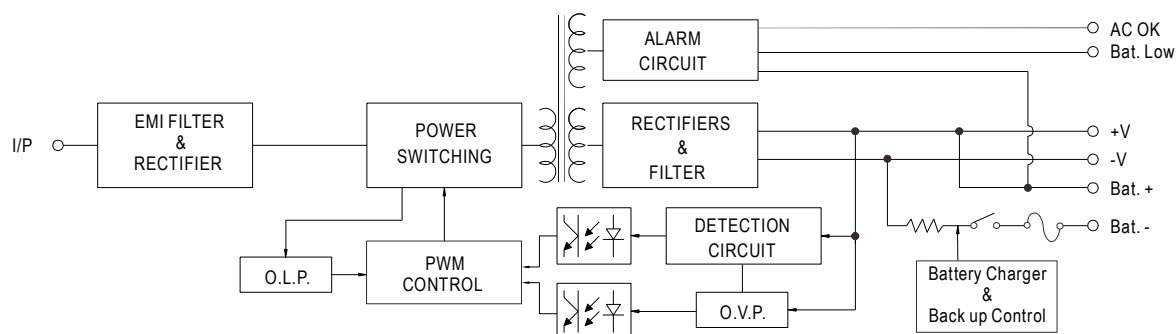
## Model Encoding



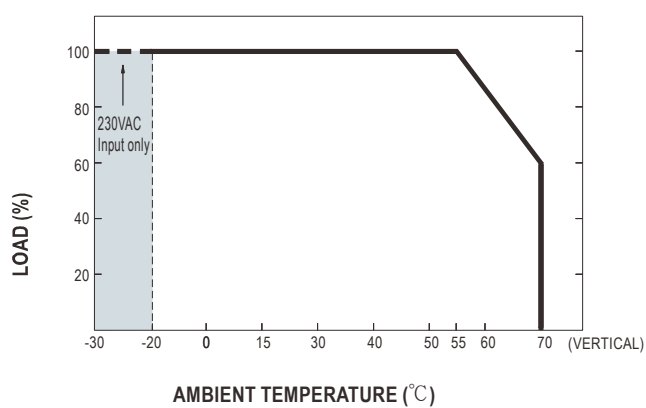
**SPECIFICATION**

| MODEL                 |   | DRC-40A   |   | DRC-40B   |       |
|-----------------------|---|---|---|---|-------|
| OUTPUT                | OUTPUT NUMBER   | CH1   | CH2   | CH1   | CH2   |
|                       | DC VOLTAGE  | 13.8V   | 13.8V   | 27.6V   | 27.6V |
|                       | RATED CURRENT   | 1.9A  | 1A  | 0.95A   | 0.5A  |
|                       | CURRENT RANGE   | 0 ~ 2.9A  | -----   | 0 ~ 1.45A   | ----- |
|                       | RATED POWER   | 40.02W  |   | 40.02W  |       |
|                       | RIPPLE & NOISE (max.) Note.2  | 120mVp-p  | -----   | 200mVp-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   | 400ms, 50ms/230VAC      800ms, 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.)   | 86%   |   | 87%   |       |
|                       | AC CURRENT (Typ.)   | 0.8A/115VAC      0.6A/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   | Open collector output, CONTACT : AC OK ; CUT OFF : AC Fail ; max. rating : 50V/30mA |   |       |
| BATTERY LOW           |   | Open collector output, CUT OFF : Battery ; CONTACT : Battery Low ; max. rating : 50V/30mA<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 ~ 55°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 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 EN55022 (CISPR22) Class B, EN61000-3-2,-3   |   |   |       |
|                       | EMC IMMUNITY  | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61204-3, light industry level, criteria A  |   |   |       |
| OTHERS                | MTBF  | 536.6K hrs min.    MIL-HDBK-217F (25°C)   |   |   |       |
|                       | DIMENSION   | 40*90*100mm (W*H*D)   |   |   |       |
|                       | PACKING   | 0.3Kg; 42pcs/13.6Kg/0.82CUFT  |   |   |       |
| 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 cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.<br>5. 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> )<br>6. 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. |   |   |   |       |

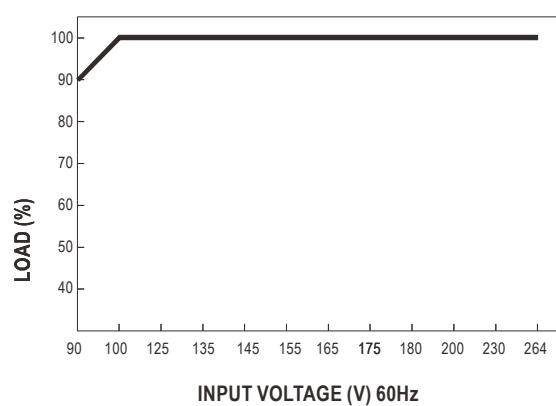
## ■ Block Diagram



## ■ 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.

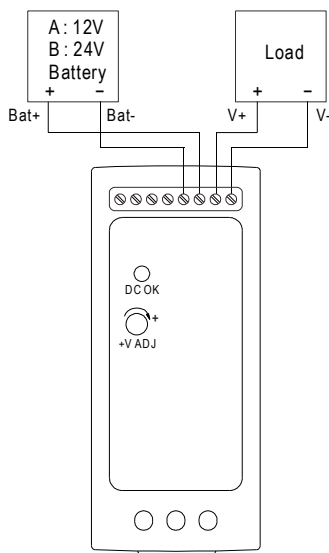


Fig 1.1 Suggested system connection

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

(1) Alarm signal is sent out through "AC OK " & " Battery Low " pins.(TTL open collector output is provided for standard model, and relay contact output is provided as optional model.)

(2) An external voltage source is required for this function. The maximum applied voltage is 50V and the maximum sink current is 30mA. Please refer to Fig 2.2.

(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)

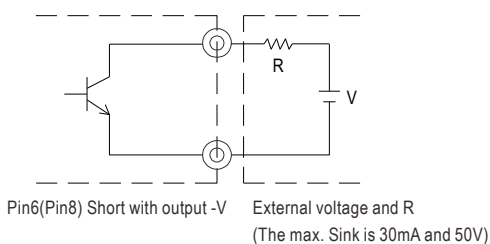
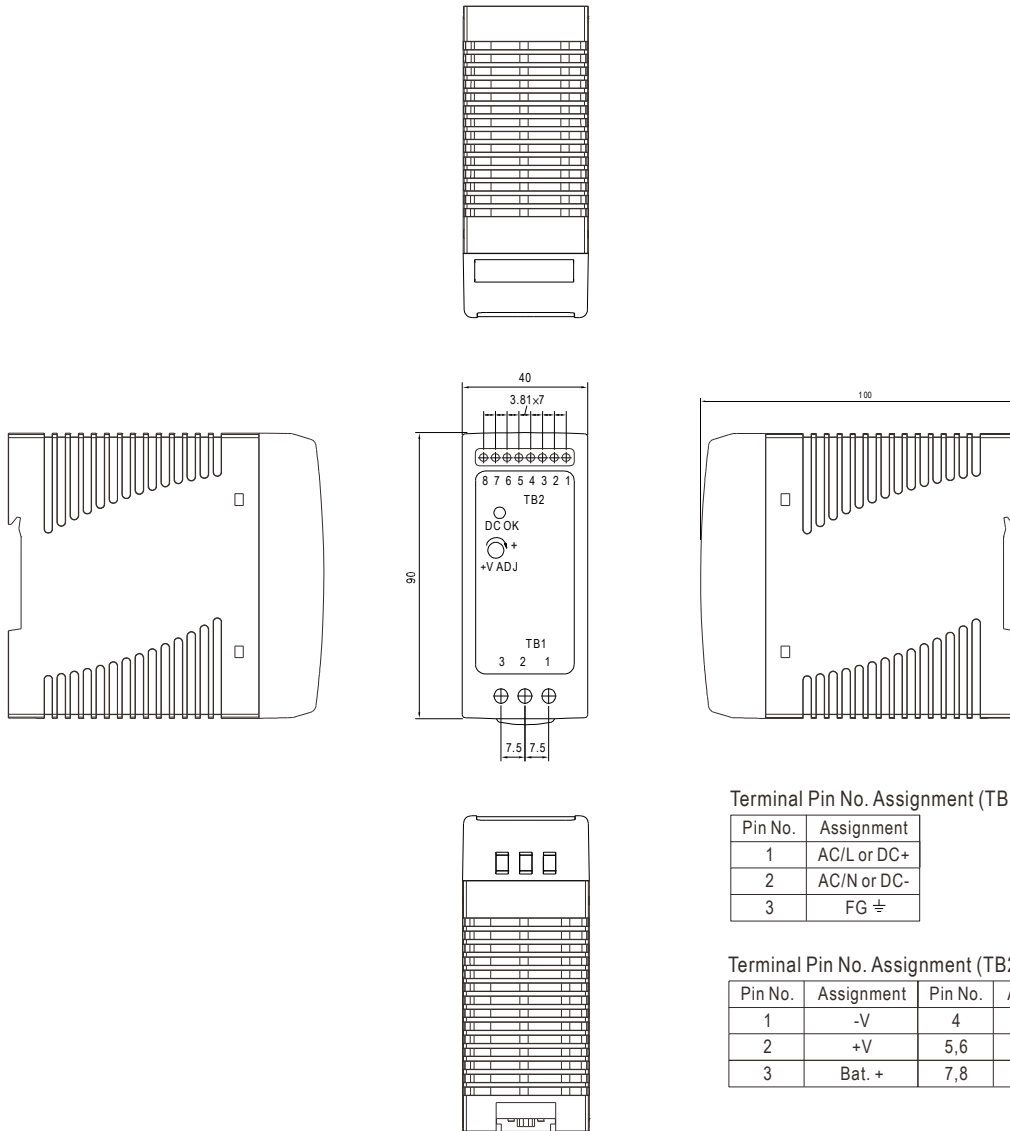


Fig 2.2 Internal circuit of AC OK (Battery Low), via TTL open collector

## Mechanical Specification

Case No.962A Unit:mm



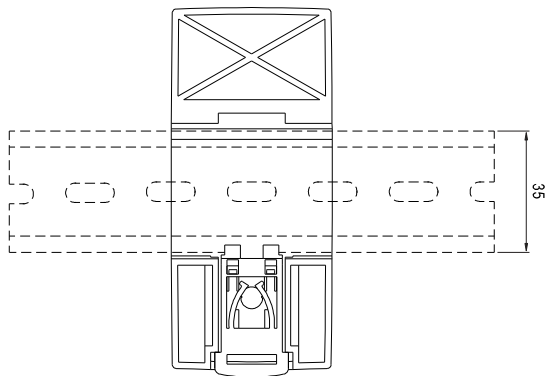
Terminal Pin No. Assignment (TB1):

| 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       | -V         | 4       | Bat. -     |
| 2       | +V         | 5,6     | AC OK      |
| 3       | Bat. +     | 7,8     | Bat. Low   |

## Installation Instruction



Back View

This series fits DIN rail TS35/7.5 or TS35/15.  
(This diagram is for reference. The rail is not included with unit.)