

DRC-60 Series

60W Single Output with Battery Charger (UPS Function)



Features

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



Specification

| | | | | | |
|-------------------------|---------------------------------|--|--|---|------------|
| | Voltage | 90V ~ 264VAC 127 ~ 370VDC (DC input operation possible by connecting AC/L (+), AC/N (-)) | | | |
| | Frequency | 47 ~ 63 Hz | | | |
| INPUT | Efficiency | 86% | | 88% | |
| | AC Current (Typ.) | 1.3A/115VAC | | 0.8A/230VAC | |
| | Inrush Current (Typ.) | Cold Start 30A/115VAC | | 60A/230VAC | |
| | MODEL No. | DRC-60A | | DRC-60B | |
| | Output Number | CH1 | CH2 | CH1 | CH2 |
| | 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. | 120mVp-p | ~ | 200mVp-p | ~ |
| OUTPUT | Voltage Adjustment Range | CH1:12~15V | | CH1: 24~30V | |
| | Voltage Tolerance | ± 1.0% | | ± 1.0% | |
| | Line Regulation | ± 0.5% | | ± 0.5% | |
| | Load Regulation | ± 0.5% | | ± 0.5% | |
| | Setup Rise Time | 400ms, 50ms / 230VAC | | 800ms, 50ms / 115VAC at full load | |
| | Holdup Time (Typ.) | 50ms / 230VAC | | 10ms / 115VAC at full load | |
| | | Over Load | 105~150% rated output power Protection Type: Hiccup mode, recovers automatically after fault condition is removed | | |
| PROTECTION | Over Voltage | CH1: 14.49 ~ 18.63 | | CH1: 28.98 ~ 37.26V Protection Type: Shut down o/p voltage, re-power on to recover | |
| | Battery Cut off | 10.5±0.5V | | 21±1V | |
| | | AC OK | Relay connect output, ON: AC OK; OFF: AC Fail; max: 30V/1A | | |
| FUNCTION | Battery Low | Relay connect output, OFF: Battery OK; ON: Battery Low; max. rating: 20V/1A Battery low voltage: <11V Battery low voltage: <22V | | | |
| | | Working Temp | -30 ~ +70°C (Refer to "Derating Curve") | | |
| ENVIRONMENT | Working Humidity | 20~90% RH non-condensing | | | |
| | Storage Temp., Humidity | -40 ~ +85°C, 10 ~ 95%RH | | | |
| | Temp. Co-efficient | ±0.03% / °C (0~50°C) on CH1 output | | | |
| | Vibration | 10~500Hz, 2G 10min./1cycle, 60 min. each along X, Y, Z axes | | | |
| SAFETY & EMC | 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 | M.T.B.F. | 422.8K hrs min. MIL-HDBK-217F (25°C) | | | |
| | Packaging | 0.3Kg, 42pcs/13.6Kg/0.82CUFT | | | |

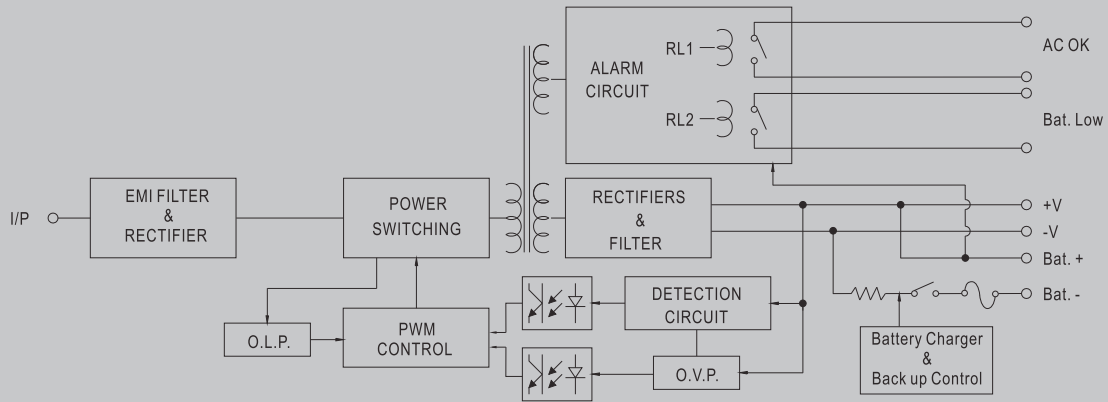
1. All parameters NOT specially mentioned are measure at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple and noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance: includes set up tolerance, line regulation and load regulation.
4. Length of setup time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
5. The power supply is considered as a component that will be operated in combination with final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

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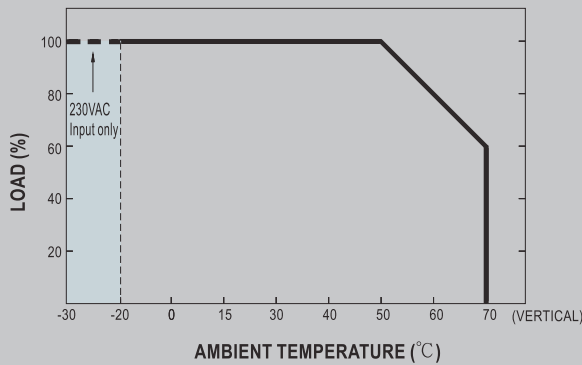
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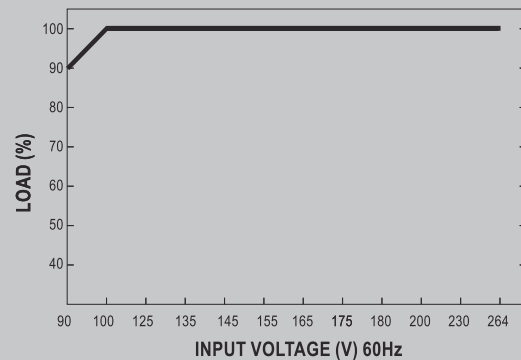
Block Diagram



Derating Curve



Static Characteristics



Suggested Application

1. Back up connection for AC interruption

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

The power supply charge the battery and provide energy to the load in the same time when the AC main is OK.

The battery start to supply power to the load when the AC main fails.

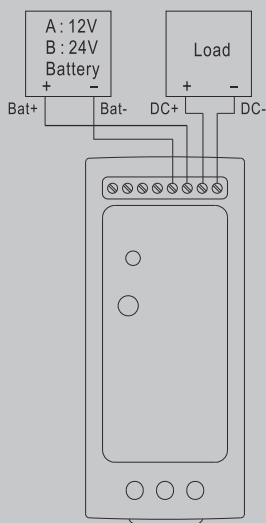


Fig 1.1 Suggested system connection

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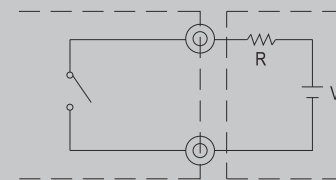
2. Alarm signal for AC OK and Battery Low

- (1) Alarm signal is sent out through "AC OK" & "Battery Low" pins. (relay contact type)
- (2) An external voltage source is required for this function. The maximum applied voltage is 30V and the maximum sink current is 1A.
- (3) Table 2.1 explain 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)

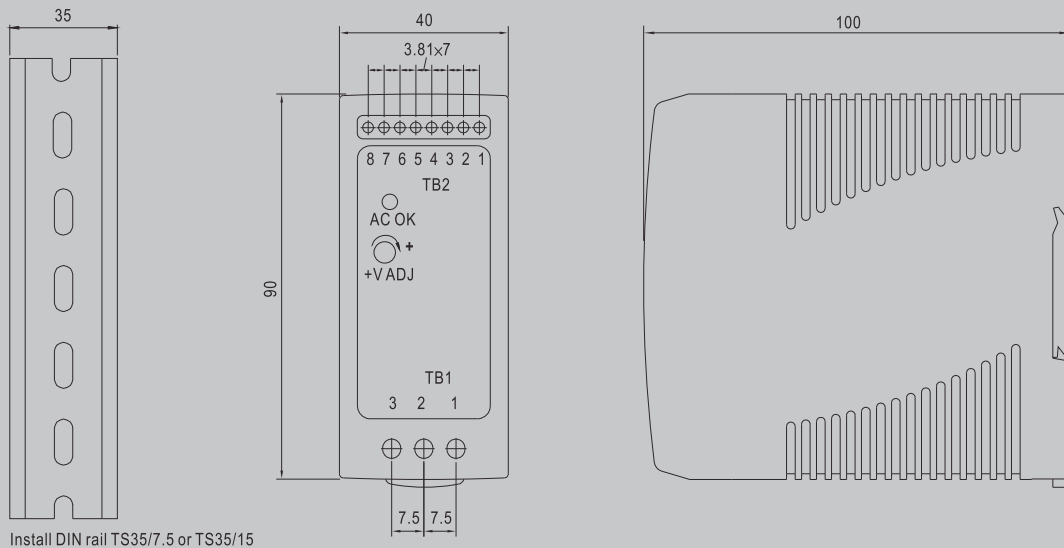


External voltage source (V) and resistor (R)
(The max. Sink is 1A and 30V)

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

Fig 2.2 Internal circuit of AC OK (Battery Low)

Mechanical Diagram



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 |