

# DRC-100 Series

## 100W Single Output with Battery Charger (UPS Function)



### Features

- Universal AC input / Full range
- Battery low protection / Battery reverse 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 (via relay)
- Cooling by free air convection
- LED indicator for power on
- 100% full load burn-in test
- 3 years warranty



### Specification

INPUT	<b>Voltage</b>	90V ~ 264VAC 127 ~ 370VDC (DC input operation possible by connecting AC/L (+), AC/N (-))			
	<b>Frequency</b>	47 ~ 63 Hz			
	<b>Efficiency</b>	87%	89%		
	<b>AC Current (Typ.)</b>	1.8A/115VAC 1.1A/230VAC			
	<b>Inrush Current (Typ.)</b>	Cold Start 30A/115VAC 60A/230VAC			
OUTPUT	<b>MODEL No.</b>	<b>DRC-100A</b>		<b>DRC-100B</b>	
	<b>Output Number</b>	<b>CH1</b>	<b>CH2</b>	<b>CH1</b> <b>CH2</b>	
	<b>Voltage</b>	13.8V	13.8V	27.6V 27.6V	
	<b>Rated Current</b>	4.5A	2.5A	2.25A 1.25A	
	<b>Current Range</b>	0~7A	~	0~0.35A ~	
	<b>Rated Power</b>	96.6W	~	96.6W ~	
	<b>Ripple Noise MAX.</b>	120mVp-p	~	240mVp-p ~	
	<b>Voltage Adjustment Range</b>	CH1:12~15V ~		CH1: 24~30V ~	
	<b>Voltage Tolerance</b>	± 1.0% ~		± 1.0% ~	
	<b>Line Regulation</b>	± 0.5% ~		± 0.5% ~	
	<b>Load Regulation</b>	± 0.5% ~		± 0.5% ~	
	<b>Setup Rise Time</b>	2400ms, 50ms / 230VAC 2400ms, 50ms / 115VAC at full load			
	<b>Holdup Time (Typ.)</b>	50ms / 230VAC 10ms / 115VAC at full load			
PROTECTION	<b>Over Load</b>	105~150% rated output power Protection Type: Hiccup mode, recovers automatically after fault condition is removed			
	<b>Over Voltage</b>	CH1: 14.49 ~ 18.63 Protection Type: Shut down o/p voltage, re-power on to recover	CH1: 28.98 ~ 37.26V		
	<b>Battery Cut off</b>	10±0.5V	20±1V		
FUNCTION	<b>AC OK</b>	Relay contact output, ON: AC OK; OFF: AC Fail; max: 30V/1A			
	<b>Battery Low</b>	Relay contact output, OFF: Battery OK; ON: Battery Low; max. rating: 30V/1A Battery low voltage: <11V Battery low voltage: <22V			
ENVIRONMENT	<b>Working Temp</b>	-30 ~ +70°C (Refer to "Derating Curve")			
	<b>Working Humidity</b>	20~90% RH non-condensing			
	<b>Storage Temp., Humidity</b>	-40 ~ +85°C, 10 ~ 95%RH			
	<b>Temp. Co-efficient</b>	±0.03% / °C (0~50°C) on CH1 output			
	<b>Vibration</b>	10~500Hz, 2G 10min./1cycle, 60 min. each along X, Y, Z axes			
SAFETY & EMC	<b>Safety Standards</b>	UL60950-1, TUV EN60950-1 approved			
	<b>Withstand Voltage</b>	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC			
	<b>Isolation Resistance</b>	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500Vdc/25°C/70% RH			
	<b>EMC Emission</b>	Compliance to EN55032 (CISPR32) Class B, EN61000-3-2,-3			
	<b>EMC Immunity</b>	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61204-3, light industry level, criteria A			
OTHERS	<b>M.T.B.F.</b>	410.1K hrs min. MIL-HDBK-217F (25°C)			
	<b>Packaging</b>	0.37Kg; 30pcs/12.1Kg/0.82CUFT			

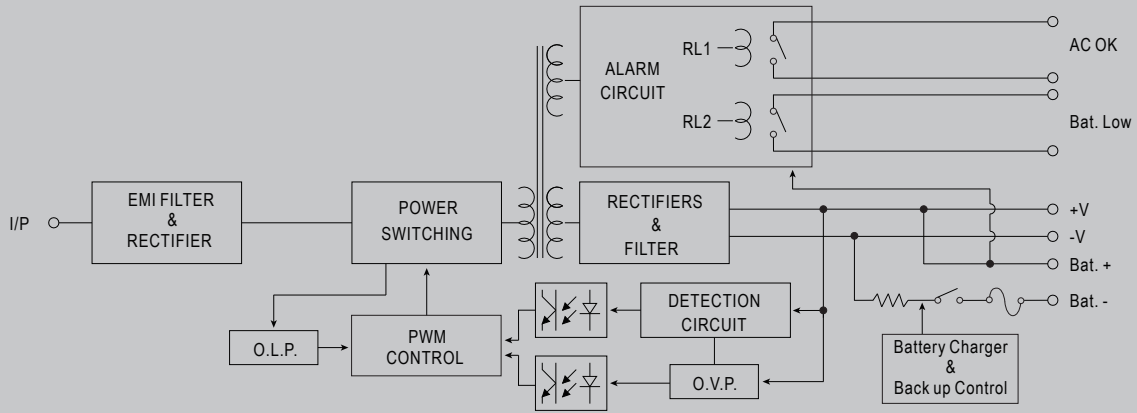
1. All parameters NOT specially mentioned are measure at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple and noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance: includes set up tolerance, line regulation 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.
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.

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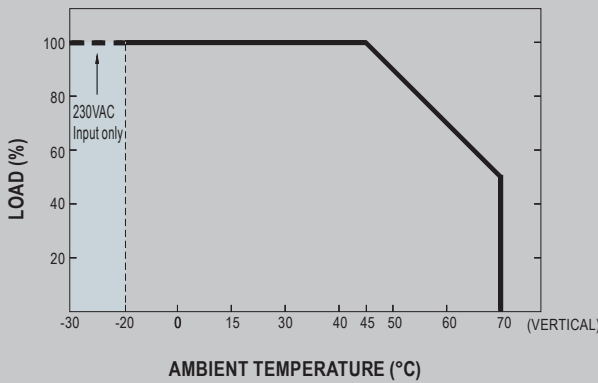
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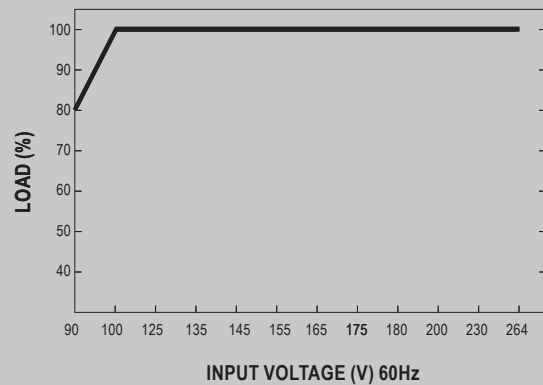
## Block Diagram



## Derating Curve



## Static Characteristics



## Suggested Application

Backup connection for AC interruption

1. Please refer to diagram 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.

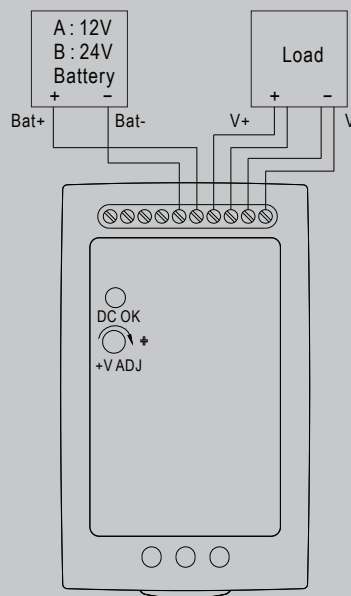


Fig 1.1 Suggested system connection

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### Alarm signal for AC interruption

1. Alarm signal is sent 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

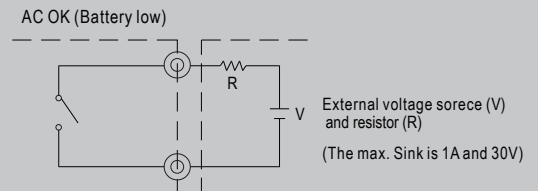
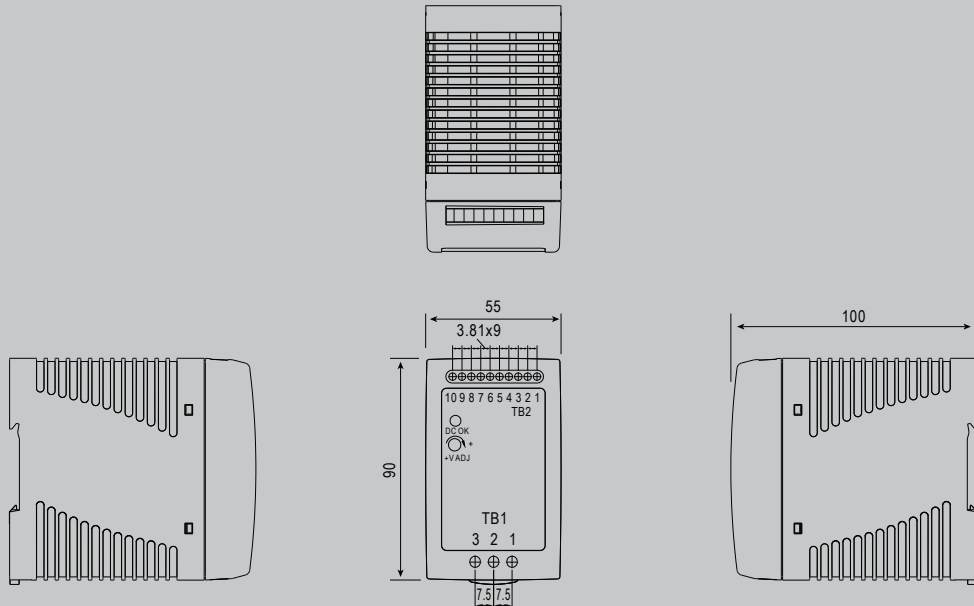


Fig 2.2 Internal circuit of AC OK (Battery Low), via relay contact

### Mechanical Diagram



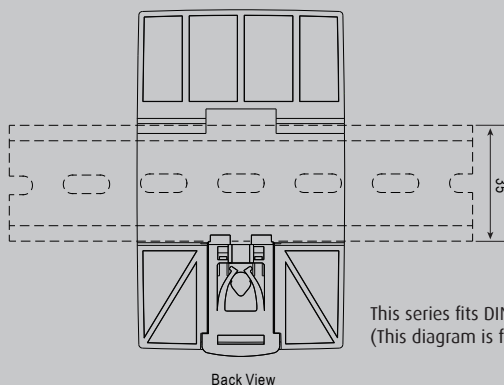
Terminal Pin No. Assignment (TB1):

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

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 TS 35/15  
(This diagram is for reference. The rail is not included with the unit.)