



## USER GUIDE

The leader in rugged fiber optic technology.

✓ Unconditional Lifetime Warranty

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# RLH DIN Rail 24V Power Supply with UPS Battery Backup System

Provide backup battery power to 24VDC industrial equipment

## Overview

RLH 24VDC DIN rail mount power supplies with battery backup are compact units designed to provide uninterrupted power in the event of a power outage.

The system is comprised of a RLH DIN mount switching power supply that can accept either AC or DC input, battery charge controller unit, and a 24V battery pack.

**FLEX - POWER:**  
**AC/DC & DC/DC**

Battery packs are sized according to the power supply used, and may be wall mounted. In addition to connection terminals on the bottom, each battery pack has an external replaceable fuse. The batteries are sealed and maintenance free, and are field replaceable.

The charge controller continuously maintains the correct charge level on the battery and ensures a seamless power transition to battery power when needed for a complete UPS power supply solution.



Battery Pack Terminals and fuse



RLH-D-ACDC-75-24-BU-01 75 Watt/24VDC Battery Backup

### Standard Features

Complete UPS system with Power Supply, Charge Controller and Sealed Backup Battery Pack

Power supply and charge controller are installed on DIN Rail TS35 / 7.5 or 15

Includes DIN mount circuit breaker

DIN rail and mounting hardware is included

Power supplies have low output ripple along with short circuit, overvoltage and overload protection

Switching power supplies accept AC or DC (110/240VAC or 120~330VDC) input

Sealed battery design, field replaceable

Suitable for 24V systems up to 40A

Built-in battery test function

Battery polarity protection

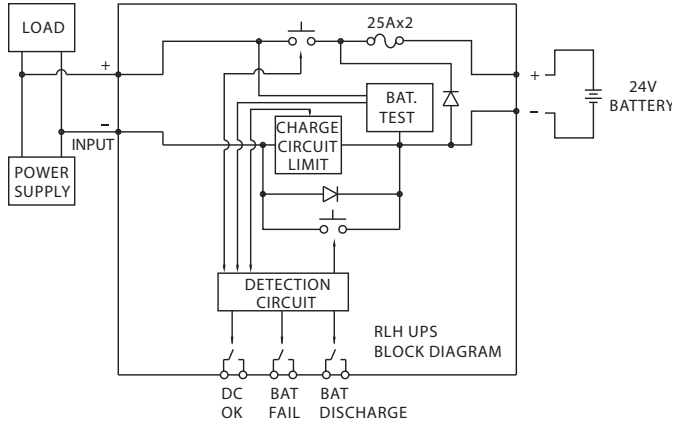
Relay contact signal output and LED indicator for DC BUS OK, Battery Fail, and Battery Discharge

Cooling by free air convection

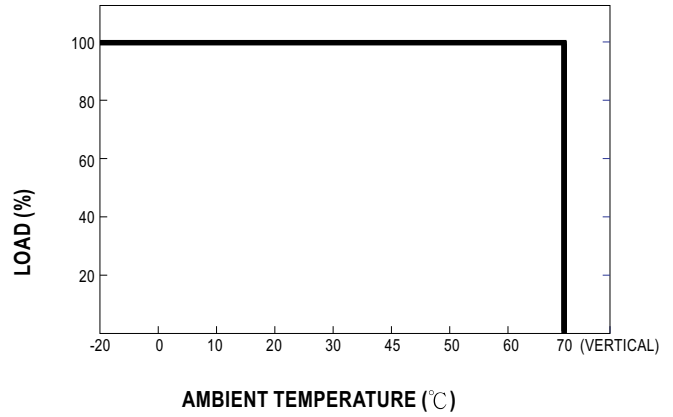
Convenient screw down terminals

Power supply and Charge Controller are covered by our **exclusive unconditional lifetime warranty**

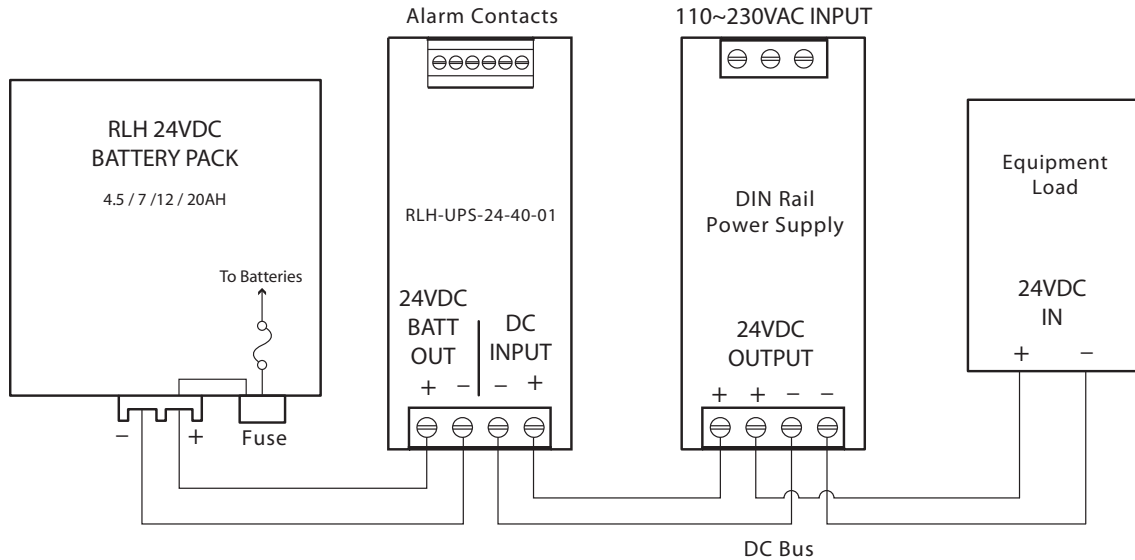
### UPS Block Diagram



### Charge Controller Derating Curve



### Connection Diagram



**Note:** No DC voltage can be measured at the DC INPUT or the UPS unit without first having a working DC power source connected to the DC INPUT UPS terminals. The UPS unit employs a protective relay that allows voltage to only travel in one direction when it is connected to both the battery and power source.

### Wiring Information

System Output	Recommended Wire Gauge	Min. Wire Gauge	Max. Wire Gauge
3A / 5A / 10A	12 AWG	14 AWG	8 AWG
20A	10 AWG	12 AWG	8 AWG

## Product Information



Circuit Breaker



75W Power Supply



120W Power Supply



240W Power Supply



500W Power Supply



20AH Battery Pack

## Ordering Information

Description	Power Supply	Circuit Breaker	Input	Output	Backup Battery	Part Number
75 Watt w/ 24VDC Battery Backup	75W	3A	110-240AC/120-330VDC	24VDC/3A	4.5AH	RLH-D-ACDC-75-24-BU-01
120 Watt w/ 24VDC Battery Backup	120W	4A	110-240AC/120-330VDC	24VDC/5A	7AH	RLH-D-ACDC-120-24-BU-01
240 Watt w/ 24VDC Battery Backup	240W	5A	110-240AC/120-330VDC	24VDC/10A	12AH	RLH-D-ACDC-240-24-BU-01
240 Watt w/ 24VDC Battery Backup	240W	5A	110-240AC/120-330VDC	24VDC/10A	20AH	RLH-D-ACDC-240-24-BU-02
500 Watt w/ 24VDC Battery Backup	500W	10A	110-240AC/120-330VDC	24VDC/20A	20AH	RLH-D-ACDC-500-24-BU-01

- ▶ Please contact your RLH sales representative for pricing and delivery information
- ▶ For additional information, refer to the [DIN power supply](#), [UPS charge controller](#) and [battery pack](#) pages on our web site, or contact your RLH sales representative
- ▶ Circuit breaker is 1.5 x input rating of the power supply

## Spares Information

Description	Size	Fuse Rating	Part Number
4.5AH 24V Backup Battery Pack	L9.5in. x W4.75in. x D4in. (241mm x 121mm x 102mm)	6A	8806-1205-01BP
7AH 24V Backup Battery Pack	L8.25in. x W8.25in. x D4.5in. (216mm x 216mm x 114mm)	6A	8806-1206-03BP
12AH 24V Backup Battery Pack	H11in. x W9in. x D6in. (279mm x 229mm x 152mm)	6A	8806-1207-06BP
20AH 24V Backup Battery Pack	H11in. x W10in. x D7.5in. (279mm x 254mm x 191mm)	6A	8806-1250-06BP

Description	Batteries per Set	Part Number
4.5AH 24V Sealed Replacement Battery Set	2	8806-1205-01RB
7AH 24V Sealed Replacement Battery Set	2	8806-1207-03RB
12AH 24V Sealed Replacement Battery Set	2	8806-1250-03RB
20AH 24V Sealed Replacement Battery Set	2	8806-1250-06RB

## Charge Controller Specifications

<b>DC INPUT / DC BUS</b>	DC VOLTAGE (Typ.)	24 ~ 29V
	RATED CURRENT	40A
<b>BATTERY INPUT / OUTPUT</b>	VOLTAGE RANGE (Typ.)	21 ~ 29V
	CURRENT RANGE	0 ~ 40A
	CHARGE CURRENT (Typ.)	2A
	EXTERNAL BATTERY (Typ.)	4 / 7 / 12 / 20AH / 24V
<b>FUNCTION</b>	RELAY CONTACT RATING	30VDC, 1A (max.)
	DC BUS OK	Relay contact : Short when DC voltage between 21~29V( 3%), relay contacts LED (Green) ON : DC BUS OK; LED (Green) OFF : DC BUS failure
	BATTERY FAIL See Note 2	Relay contact : Short when battery failure is observed through the battery test function, relay contacts LED (Red) ON : Battery over-discharge warning or battery malfunction LED (Red) OFF : Battery OK
	BATTERY DISCHARGE	Relay contact : Short when battery in discharge condition, relay contacts LED (Yellow) ON : Battery discharging LED (Yellow) OFF : Battery is not discharging or discharging current <2.0A
<b>ENVIRONMENT</b>	WORKING TEMP.	-20 ~ +70
	WORKING HUMIDITY	20 ~ 90% RH
	STORAGE TEMP., HUMIDITY	-20 ~ +85° C, 10 ~ 95% RH
	VIBRATION	Component : 10 ~ 500Hz, 2G 10min./1 cycle, 60min. each X,Y,Z axes ; Mounting : Compliance to IEC600068-2-6
<b>SAFETY &amp; EMC</b>	WITHSTAND VOLTAGE	Terminal-Chassis :0.5KVAC, Relay Contacts-Terminal :0.5KVAC
	ISOLATION RESISTANCE	Terminal-Chassis :>100M Ohms/500VDC 25 70%RH
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8, ENV50204, heavy industry level, criteria A
<b>OTHER</b>	MTBF	161.9Khrs min. MIL-HDBK-217F (25° C)
<b>NOTE</b>	1. All parameters NOT specially mentioned are measured at rated load and 25°C of ambient temperature. 2. Every 25 seconds, unit will send out test signal through "Battery Fail" relay contact and LED indicator once the battery has failed.	



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Specifications subject to change without notice.