90W AC/DC 24V+12V Dual Output Power Supply

Dual-Output, Compact, DIN or Wall mountable, with Universal Input

Introduction

RLH Industries power supplies are commonly used in communications and industrial control environments. The dual output can provide reliable power to a wide range of industrial equipment.

The RLH 90 Watt AC/DC 24V +12V Dual DC Output Power Supply features a universal input of 100-240VAC or 120-370VDC. Designed for industrial use and operates over a wide temperature range. Includes a powder coated steel housing that can be DIN or wall mounted.

90W AC/DC 24V+12V Dual Output Power Supply

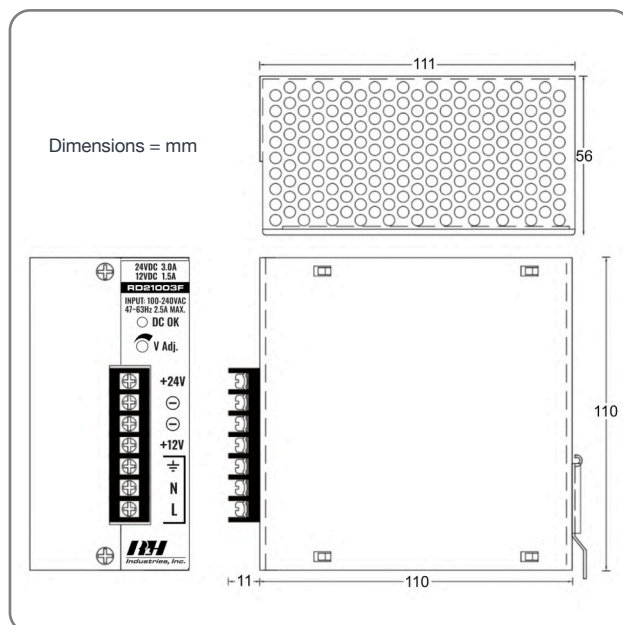| Features |
|---|
| Dual Independent 24V and 12V DC Outputs |
| Universal Input Range 100-240VAC/120-370VDC |
| Wide operating temperature range, -40° to +158°F |
| Short circuit, overload, and over voltage protection |
| DIN Rail or Wall Mountable |
| Cooling by free air convention |
| 100% full load burn in testing |

Dimensions

Ordering Information

Description	Part Number
90W AC/DC Dual Output Power, 24V/3.0A + 12V/1.5A, DIN or Wall Mountable	RD21003F

General Safety Practices

Intended Audience

This guide is intended for use by knowledgeable installation, operation and repair personnel. Every effort has been made to ensure the accuracy of the information in this guide. However, due to constant product improvement, specifications and information contained in this document are subject to change without notice.

Conventions

Symbols for notes, attention, and caution are used throughout this manual to provide readers with additional information, advice when special attention is needed, and caution to prevent injury or equipment damage.

The equipment discussed in this document may require tools designed for the purpose being described. RLH recommends that service personnel be familiar with the correct handling and use of any installation equipment used, and follow all safety precautions including the use of protective personal equipment as required.

Caution - Severe Shock Hazard

- Never install during a lightning storm or where unsafe high voltages are present.
- Output terminals are energized whenever input power is applied.
- Do not open the enclosure, there are no user serviceable parts.
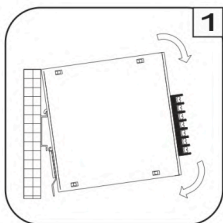
Installation

Prior to Installation

Check for shipping damage:
- Check the contents to ensure correct model and fiber type
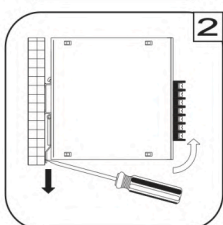- Have a clean, dry, installation environment ready

Required for installation:
- 100~240VAC power source
- T35 DIN rail or suitable wall mount location
- A weatherproof enclosure is required of outdoor use
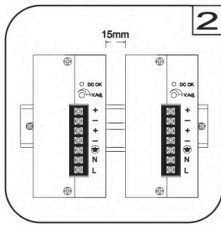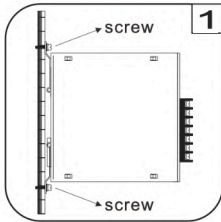
DIN Rail Mounting

Place the top of the RD21003F rail mount over the top of the DIN rail. Tilt the bottom of the RD21003F toward the DIN rail until it snaps into place.

To remove the RD21003F from the DIN rail, use a flathead screwdriver to pull down the bottom of the rail mount and tilt it away from the DIN rail.
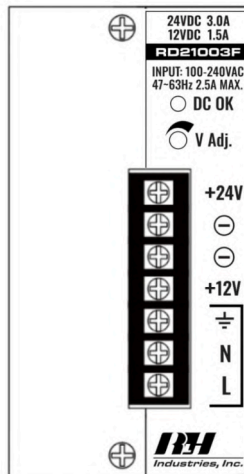
Wall Mounting

To install RD21003F on wall/plate, loosen the set screw on mounting bracket, fully extend the bracket, then tighten the set screw. Next attach the additional bracket included in the packaging to the opposed side.

The left housing of RD21003F is designed as a heat sink, please keeping a minimum distance of 15mm from each other.

Power Connections

Designator	Description
DC OK	Green LED Indicator
V Adj.	24V O/P Voltage Adjustment
+24V	24V Output Positive
⊖	Output Negative
⊖	Output Negative
+12V	12V Output Positive
⏚	Ground
N	Input Nuetral
L	Input Line

Derating Curve
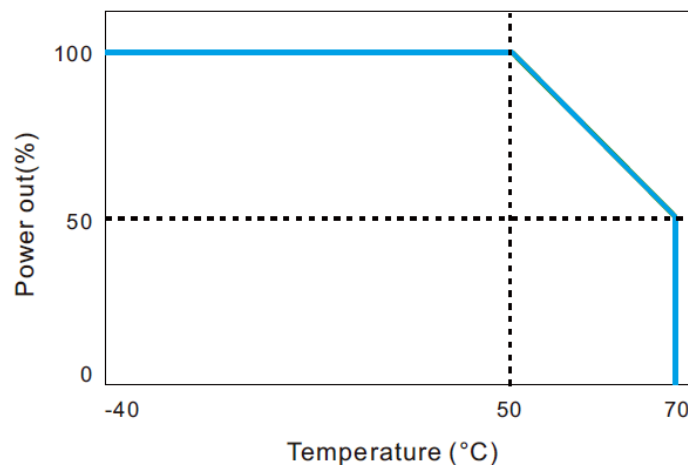
General Specifications

Switching Frequency	85kHz		
Isolation Voltage	Input-Output: Input-FG: Output-FG:	3000VAC /4242VDC 1500VAC/2121VDC 500VAC/ 710VDC	
Isolation Resistance	100MΩ when Input-Output @500VDC		
Operating Temperature	-40°C~70°C		
Derating	2.5% per degree from 50°C to 70°C		
Storage Temperature	-40°C to +85°C		
Relative Humidity	5%~95% RH, Non-condensing		
Temperature Coefficient	±0.04% of output voltage per °C		
MTBF	60,000hrs Min. Per MIL-HDBK-217F, 25°C GB		
Attitude During Operation	2000m		
Installation Position	Vertical		
Vibration	Random Vibration, 10~500Hz. 3 axis		
Warranty	3 Years - Visit www.fiberoptic.com for warranty information and coverage details		

EMC Standards

EN55011	Class B
EN55022	Class B
EN61000-4-2	Level 3
EN61000-4-3	Level 3
EN61000-4-4	Level 3
EN61000-4-5	Level 3
EN61000-4-6	Level 3
EN61000-4-8	Level 3
EN61000-4-11	Level 3

CE

EN 60950

Input Specifications

Input Voltage	100~240VAC/120~370VDC
Input Frequency	47~63Hz
Inrush Current Cold Start	22A/115VAC 44A/230VAC
Rated Input Current	2.5A Max., Vi=100~240VAC
Leakage Current	Input-output 0.25mA, Inout-FG 3.5mA, Vi=250VAC

Output Specifications

Output Voltage Accuracy	±1%
Minimum Load	0%
Line Regulation	±1%, measuring from low line to high line rated load
Load Regulation	±2%, measuring from 20% to 100% of rated load 230VAC input
Voltage Trim Range	±10% (24V output)
Rated Continuous Loading	3.0A@24VDC (72 Watts) 1.5A@12VDC (18 Watts)
Hold Up Time	30mS Min., Full load@230VAC.
Turn On Time	1300mS
Rise Time	13mS
Fall Time	25mS
Transient Response	Recovery Time:　2mS, Load change 50% to 100% Voltage Deviation:　5%, Load change 50% to 100%
Efficiency	80%
Ripple and Noise	24V: 240mVp-p / 12V: 120mVp-p (measured by using 0.1μF metallized capacitor and 47μF electrolytic capacitor in parallel at rated load and 230VAC input)

Protection Specifications

Input Fuse	3.15A/250V
Input Surge Load Protection	Varistor, IEC6100-4-5
Degree of Protection	IP20
Short Circuit Protection	Autorecovery
Over Voltage Protection	Autorecovery
Rated Over Load Protection	160~200%
Overload Protection	Power limited

Contact

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