

120-960W, 24V Output DIN Rail Mount Power Supplies

Features

- ◆ Very Compact Size
- ◆ High Efficiency (Up to 95%)
- ◆ 150% Peak Power Capability for 4s
- ◆ ErP Compliant Design
- ◆ Low Standby Power Draw
- ◆ Remote On/Off
- ◆ Remote Voltage Adjustment
- ◆ Hazardous Location Option (/HL)



Key Market Segments & Applications



Specifications					
Model		DRF120	DRF240	DRF480	DRF960
Input Voltage Range ⁽¹⁾	V	85 - 264VAC, 125 - 370VDC*			180 - 264VAC
Input Frequency	Hz	47 - 63Hz			
Inrush Current (typ) (Cold Start)	A	20			
Power Factor (115/230VAC) (Meets EN61000-3-2)	-	0.98 / 0.95	0.98 / 0.95	0.98 / 0.92	- / 0.98
Input Current (115/230VAC)	A	1.2 / 0.6	2.4 / 1.2	4.7 / 2.5	- / 4.5
Line Regulation	mV	<96mV			
Load Regulation	mV	<240mV			
Ripple & Noise ⁽²⁾	mV	<240mV			
Overcurrent Protection	-	>101% of peak current rating. Shutdown after 4 seconds			
Overvoltage Protection	-	30 - 35.5V, (31.5 - 34V for DRF960). Cycle input voltage or remote on/off to reset			
Hold Up Time (230VAC input)	ms	> 20ms			>10ms
Efficiency (115 / 230VAC)	%	89 / 91	92.5 / 94	92.5 / 94	- / 95
Standby Power Draw	W	<0.5W	<0.5W	<0.75W	<1W
LED Indicators	-	Green LED = DC is OK (>80% Nom). Red LED = Peak Load Operation			
DC OK relay	-	Relay contact 30V/1A			
Remote On / Off	-	When signal is low, the output is On			
Remote Voltage Adjust	-	5 - 6V voltage programs output from 24 - 28V			
Operating Temperature	°C	-25 to +70°C. Start up at -40°C. Derate linearly to 75% load above 60°C (50°C for DRF960)			
Storage Temperature	°C	-40 to +85°C			
Operating Humidity (non condensing)	%RH	5 - 95%RH			
Parallel Operation	-	Droop Mode - Refer to Installation Manual			
Series Operation	-	Possible			
Cooling	-	Convection			
Withstand Voltage (For 1 minute)	VAC	Input to Output 3kVAC, Input to GND 1.5kVAC, Output to GND 500VDC (960W : 500VAC)			
Isolation Resistance	MΩ	>100MΩ at 25°C, 70%RH & 500VDC			
Vibration (Non operating)	-	10-55Hz (sweep for 1 min); 19.6m/s ² (2G) Constant; X,Y,Z each 1 hour			
Shock	-	<196m/s ²			
Safety Agency Certifications ⁽³⁾	-	UL508 Listed, IEC/UL/CSA/EN62368-1 (DRF120-480 only), IEC/UL/CSA/EN61010 (DRF960 only - contact sales), IEC/UL/CSA/EN60950-1, CE Mark, ATEX, IEC Ex. Class 1 Div 2, Group A, B, C, D (DRF120-480)			
Conducted & Radiated EMI	-	EN55032-B Radiated & Conducted			
Immunity	-	EN61000-4-2 (contact lvl 2, air lvl 3), -3 (lvl 3), -4 (lvl 3) -5 (norm mode lvl 3, com mode lvl 4), -6 (lvl 3), -8 (lvl 4), -11			
Line Dips	-	SEMI-F47 (200VAC input, 120-480W only)			
Weight (Typ)	g	600	900	1300	1735
Size (WxHxD)	in	1.44 x 4.86 x 4.53	1.93 x 4.86 x 4.53	3.23 x 4.86 x 4.53	4.33 x 4.86 x 5.47
Mounts on TS-35/7.5 or -35/15 rail	mm	36.5 x 123.4 x 115	49 x 123.4 x 115	82 x 123.4 x 115	110 x 123.4 x 139
Case material	-	Metal			
Warranty	yrs	Five years			

(1) Withstands 300VAC for 5s (2) See installation manual (3) See options table

*Safety certified for AC input only

(4) Operating period at peak output current is 4 sec, max duty cycle <35% & < rated output power

Model	Output Voltage	Adjust Range	Max Current	Max Power	Peak Output Current ⁽⁴⁾	Peak Output Power ⁽⁴⁾
DRF120-24-1	24V	24 - 28V	5A	120W	7.5A	180W
DRF240-24-1	24V	24 - 28V	10A	240W	15A	360W
DRF480-24-1	24V	24 - 28V	20A	480W	30A	720W
DRF960-24-1	24V	24 - 28V	40A	960W	60A	1440W

Figure 1: Dimensions of the DRF120-24-1. The figure includes four views: a top view, a front view, a side view, and a rear view. The top view shows a rectangular unit with a signal connector on the left, a name plate in the center, and a DIN rail bracket on the right. The front view shows the output voltage adjustment potentiometer, output voltage and DC OK indicators, a green LED, a peak indicator, and a red LED. The side view shows the unit's profile with a DIN rail bracket. The rear view shows the unit's back with a signal connector and a name plate. Dimensions are provided in millimeters (mm) and inches (in).

Figure 1: Dimensions of the DRF240-24-1

The figure shows four views of the DRF240-24-1 device with the following dimensions and labels:

- Top View:**
 - Overall width: 175.4 (4.45)
 - Overall height: 116.25 (2.95)
 - Signal connector: 15.25 (3.91)
 - Mounting hole spacing: 15.25 (3.91)
- Front View:**
 - Overall width: 175.4 (4.45)
 - Overall height: 116.25 (2.95)
 - Mounting hole spacing: 15.25 (3.91)
 - Label: TDK-Lambda DRF240-24-1
 - Label: NAME PLATE
- Rear View:**
 - Overall width: 175.4 (4.45)
 - Overall height: 116.25 (2.95)
 - Mounting hole spacing: 15.25 (3.91)
 - Label: TDK-Lambda
 - Label: DRF240-24-1
 - Label: NAME PLATE
- Side View:**
 - Overall width: 175.4 (4.45)
 - Overall height: 116.25 (2.95)
 - Mounting hole spacing: 15.25 (3.91)
 - Label: TDK-Lambda
 - Label: DRF240-24-1
 - Label: NAME PLATE
 - Label: DIN RAIL BRACKET
 - Label: SIGNAL CONNECTOR
 - Label: OUTPUT VOLTAGE ADJUSTMENT DC OR INDICATOR (GREEN LED)
 - Label: PEAK INDICATOR (RED LED)
 - Label: FRONT SEAL

Figure 1: Dimensions of the DRF480-24-1. The figure consists of five views: a front view (top left) showing the front panel with a central display and four status LEDs; a top view (top right) showing the top panel with a signal connector and a name plate; a bottom view (bottom left) showing the bottom panel with a signal connector and a name plate; a side view (middle left) showing the side panel with a signal connector and a name plate; and a rear view (middle right) showing the rear panel with a signal connector, a name plate, and a front seal.

Suffix	Description
ATEX, IEC EX Certification (Incl pcb coating)	



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