

DR-75 Series

Low Cost, Industrial 75W, DIN Rail Mount AC/DC Power Supplies



New Industrial Supplies!!

Key Features:

- 75W Output Power
- DIN Rail Mountable
- Universal AC Input
- UL 508 Approved
- Safety Approved
- 12, 24 & 48 VDC Outputs
- Cond./Rad. EMI Class B
- >120 kHz MTBF
- **LOW COST!**



RoHS Compliant

MicroPower Direct

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Electrical Specifications

Specifications typical @ +25°C, nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Range		85		264	VAC
		120		370	VDC
Input Frequency Range		47		63	Hz
Inrush Current	230 VAC, Cold Start		40		A
	115 VAC, Cold Start		20		
Leakage Current	240 VAC			1.0	mA

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Tolerance	Note 1		±1.0		%
Voltage Adjustment Range	12 VDC Output	12		14	VDC
	24 VDC Output	24		28	
	48 VDC Output	48		53	
Line Regulation			±0.5		%
Load Regulation	I _{out} = 10% to 100%		±1.0		%
Set Up Time	230 VAC, Full Load		1,000		mSec
	115 VAC, Full Load		1,800		
Rise Time	At Full Load		60		mSec
Hold Time	230 VAC, Full Load		60		mSec
	115 VAC, Full Load		12		
Ripple & Noise (Note 2)	12 VDC Output			100	mV Pk-Pk
	24 VDC Output			150	
	48 VDC Output			240	
Output Power Protection	Note 3	105		150	%
Over Voltage Protection (Note 4)	12 VDC Output	15		16.5	VDC
	24 VDC Output	30		36	
	48 VDC Output	54		60	
Over Temperature Protection	Note 5	80	85	90	°C
Temperature Coefficient	0°C to 50°C		±0.03		%/°C
Switching Frequency	Fixed		50		kHz

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	Input - Output	3,000			VAC
	Input - FG (Frame Ground)	1,500			
	Output - FG (Frame Ground)	500			
Isolation Resistance (Note 6)	500 VDC	100			MΩ

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-10	+25	+60	°C
Storage Temperature Range		-20		+85	°C
Operating Humidity	RH, Non-condensing	20		90	%
Storage Humidity	RH, Non-condensing	10		95	%
Vibration	10 ~ 500 Hz; 2G 10 min./1 Cycle; X, Y, Z axis each 1 hour				

Physical

Case Size	2.18 x 4.93 x 3.94 Inches (55.5 x 125.5 x 100.0 mm)
Case Material	Aluminum
Connection	Screw Terminal
Weight	21 Oz (0.6 kg)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	123.1			kHours
Safety Standards					UL 508, UL 60950, EN 60950-1
Safety Approvals					UL, cUL, TUV
EMI Compliance					Compliance to EN55011, EN55022 (CISPR22) Class B
Harmonic Current Compliance					Compliance to EN6100-3-2,-3
EMS Immunity Compliance					EN6100-4-2,3,4,5,6,8,11; ENV50204;EN6100-6-2(EN50082-2) Heavy Ind. Level, criteria A

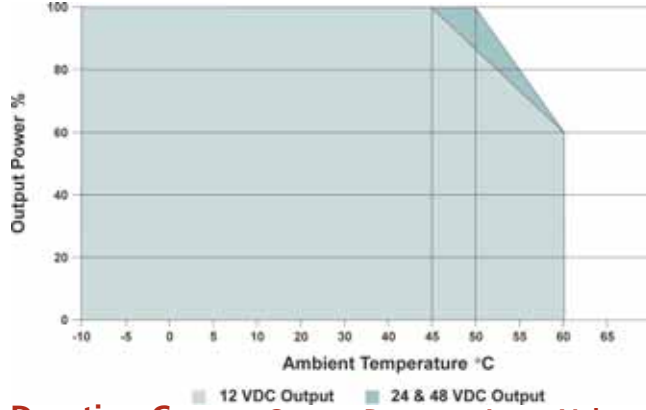
Model Selection Guide

Model Number	Rated Power (W)	Input			Output			Efficiency (% Typ)	Fuse Rating Slow-Blow (A)
		Voltage (VAC)	Current (A)		Voltage (VDC)	Current (A) Max	Current (A) Range		
			Range	115 VAC					
DR-75-12	76	85 - 264	1.6	0.96	12	6.3	0 ~ 6.3	76	5.0
DR-75-24	76.8	85 - 264	1.6	0.96	24	3.2	0 ~ 3.2	80	5.0
DR-75-48	76.8	85 - 264	1.6	0.96	48	1.6	0 ~ 1.6	81	5.0

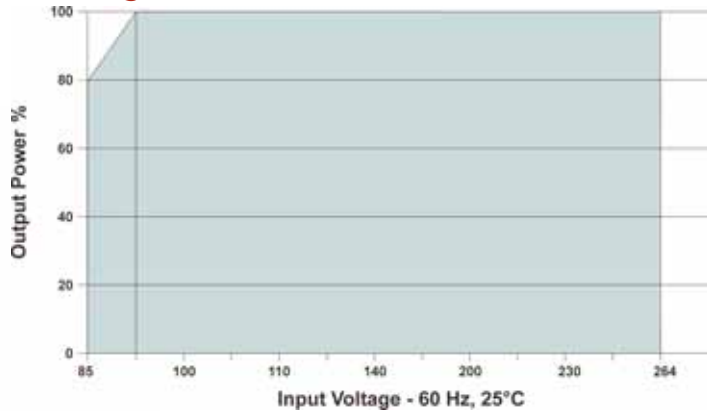
Notes:

- Output voltage tolerance includes set-up tolerance, line regulation and load regulation. For the 12V output model, tolerance is $\pm 2.0\%$.
- Ripple & noise is measured using equipment with 20 Mhz of bandwidth. Connection to the unit under test is made with a 12 inch length of "twisted pair" wires terminated with a set of 1.0 μF & 4.7 μF capacitors connected in parallel.
- Overload protection is foldback current limiting. The unit recovers automatically when the fault is removed.
- Over voltage protection is a clamp type. The power to the unit must be manually reset to recover.
- Over temperature protection shuts down the output. The unit recovers automatically when the temperature goes down. The thermal detector is mounted on the heat sink of the power semiconductor.
- Isolation resistance is given for Input/Output; Input/FG and Output/FG.
- To mount the unit to the DIN rail, tilt the unit rearwards from the top, fitting the mount over the top of the rail. Press back on the bottom front of the unit until it locks in place on the rail. To remove the unit from the rail, pull the removal clip at the bottom rear of the unit downward with a screw driver. With the clip down, lift up on the unit from the bottom front until it clears the rail. Before installation or removal all wiring should be disconnected and the main power to the system shut off.
- When wiring the supply, all lines should be as thick and short as possible. AWG 14 wire is recommended for the DR-75 series.
- The units should be mounted so they are vertically orientated. Air flow (if it is provided) would optimally flow from the bottom to the top of the unit.
- It is recommended that a fuse be used on the input of a power supply for protection. See the table above for the correct rating.

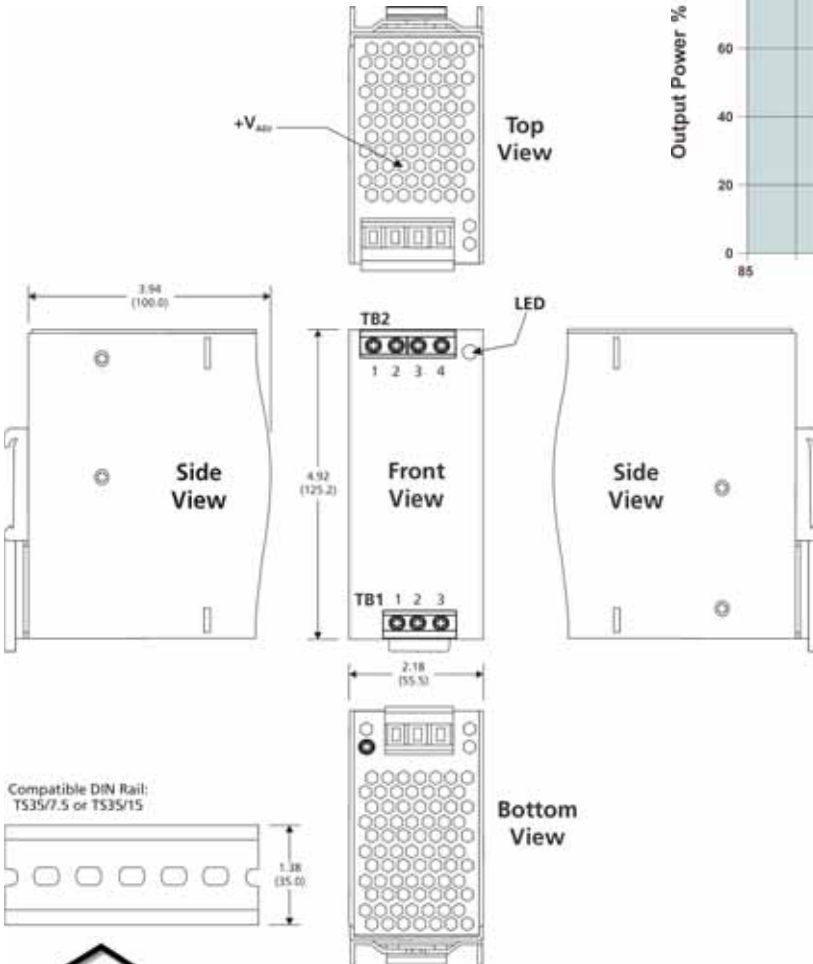
Derating Curve - Output Power vs Ambient Temperature



Derating Curve - Output Power vs Input Voltage



Mechanical Dimensions



Terminal Connections - TB1

Pin	Function
1	Frame Ground (FG)
2	AC/Neutral (DC+)
3	AC/Live (DC-)

Terminal Connections - TB2

Pin	Function
1,2	DC Output (+V)
3,4	DC Output (-V)

Mechanical Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ± 0.01 (± 0.25)



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