

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 | | | | | | |
|---------------|------------|---|------|------|-------|--|
| Parameter | Conditions | Min. | Typ. | Max. | Units | |
| 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, TÜV | | | | |
| 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 | | | | | |

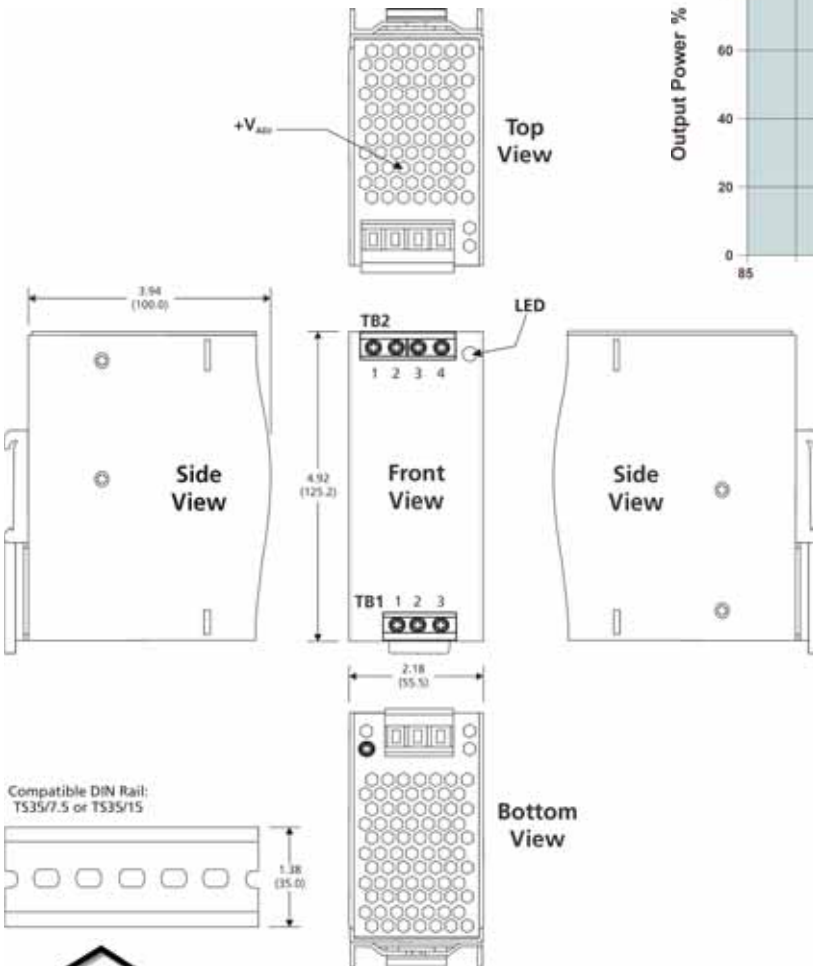
Model Selection Guide

| 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 |

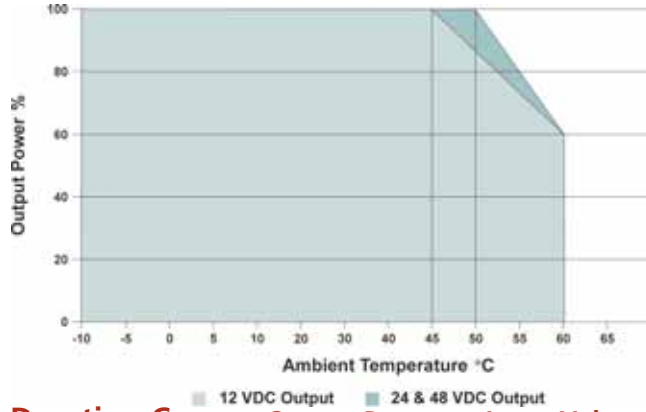
Notes:

- 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.

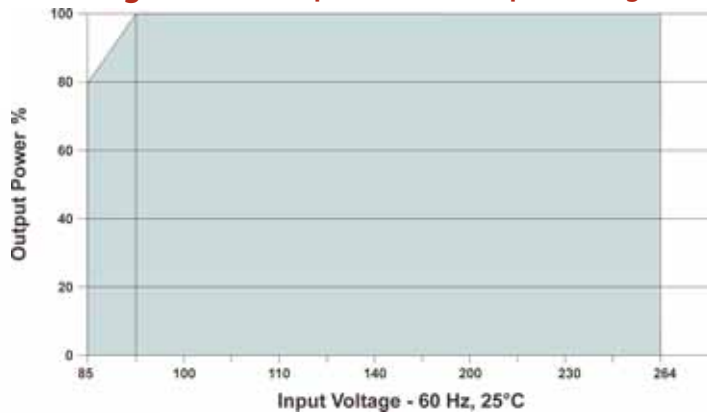
Mechanical Dimensions



Derating Curve - Output Power vs Ambient Temperature



Derating Curve - Output Power vs Input Voltage



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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