**MDR-72S**

Compact, 72W DIN Rail Mount AC/DC Power Supply

### Key Features:
- 72W Output Power
- Compact, DIN Rail Case
- 165-264 VAC Input
- Low Standby Power
- TS-35/7.5 or TS-35/15 Rails
- Meets EN 55022 B
- High Efficiency
- >250 kHour MTBF

### Electrical Specifications
Specifications typical @ +25°C, 230 VAC input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

#### Input
- **Parameter** | **Conditions** | **Min.** | **Typ.** | **Max.** | **Units**
- Input Voltage Range | | 165 | 180 | 370 | VAC
- Input Frequency | | 47 | 63 | Hz
- Input Current | See Model Selection Guide | | | |
- Inrush Current, See Note 1 | | 230 VAC | 50 | A Pk
- Standby Power Consumption | | | 0.5 | W

#### Output
- **Parameter** | **Conditions** | **Min.** | **Typ.** | **Max.** | **Units**
- Output Voltage | See Model Selection Guide | | | |
- Output Current | See Model Selection Guide | | | |
- Output Voltage Accuracy | ±3.0 | % |
- Output Voltage Adjust | ±5.0 | % |
- Line Regulation | VOUT = Min to Max | ±0.5 | % |
- Load Regulation | IOUT = 10% to 100% | ±2.0 | % |
- Ripple & Noise (20 MHz) | | 150 | mVP-P |
- Hold-Up Time | | 60.0 | mS |
- Temperature Coefficient | | ±0.02 | ℃ |
- Over Voltage Protection | See Note 2 | | | |
- Short Circuit Protection, See Note 3 | Continuous (Auto-Recovery) | | | |
- Overload Protection, See Note 4 | Auto-Recovery | 110 | 150 | %OUT |

#### General
- **Parameter** | **Conditions** | **Min.** | **Typ.** | **Max.** | **Units**
- Isolation Voltage, 60S | Input to Output | 4,000 | | VAC |
- | Input to Output | 1,500 | | |
- | Output to | 500 | |
- | | 100 | MΩ |
- Isolation Resistance | | | | |
- Switching Frequency | | 100 | kHz |

#### EMI Characteristics, See Note 5
- **Parameter** | **Standard** | **Criteria** | **Level**
- Radiated Emissions | EN 55024 | Class B |
- Conducted Emissions | EN 55022 | Class B |
- ESD | EN 61000-4-2 | B | ±8 kV Air |
- | | | ±6 kV Contact |
- RS | EN 61000-4-3 | A | 10V/m |
- EFT | EN 61000-4-4 | B | ±4 kV |
- Surge | EN 61000-4-5 | B | ±2 kV/±4 kV |
- CS | EN 61000-4-6 | A | 10Vrms |
- PFM | EN 61000-4-8 | A | 10A/m |
- Voltage Dips, Interruptions | EN 61000-4-11 | B | 0% - 70% |

#### Environmental
- **Parameter** | **Conditions** | **Min.** | **Typ.** | **Max.** | **Units**
- Operating Temperature Range | Ambient | -40 | +25 | +70 | ℃ |
- Storage Temperature Range | | -40 | +85 | | ℃ |
- Cooling | Free Air Convection (See Derating Curve on Page 2) | | | |
- Humidity | RH, Non-condensing | | | 95 | % |

#### Physical
- **Parameter** | **Conditions** | **Min.** | **Typ.** | **Max.** | **Units**
- Case Size | See Mechanical Diagram (Page 2) | | | |
- Case Material | Heat Resistant Plastic (UL94-V0) and Metal | | | |
- Weight | | | 11.53 Oz (340g) |

#### Reliability Specifications
- **Parameter** | **Conditions** | **Min.** | **Typ.** | **Max.** | **Units**
- MTBF | MIL HDBK 217F, 25°C, Gnd Benign | 250 | | kHours |
- Safety Class | Class I | | | |
Model Selection Guide

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Input Current (A Max)</th>
<th>Voltage (VDC)</th>
<th>Output Current (A)</th>
<th>Efficiency (% Typ)</th>
<th>Capacitive Load (µF Max)</th>
<th>Fuse Rating Slow-Blow (A/V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDR-72S-24</td>
<td>1.0</td>
<td>24.0</td>
<td>3.0</td>
<td>0.3</td>
<td>86</td>
<td>2,000</td>
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</tbody>
</table>

Notes:
1. Inrush current is given for a cold start at 25°C.
2. Over voltage protection is provided by a zener diode clamp.
3. Output short circuit protection is provided by a “hiccup mode” circuit. The unit recovers automatically when the fault condition is removed.
4. Output overload protection is provided by a fold back current limiting circuit with auto-recovery. A long-term overload could damage the unit.
5. EMI characteristics are specified without external components.
6. Operation at no-load will not damage these units. However, they may not meet all specifications.
7. The MDR-72S is designed for mounting on a standard 35 mm DIN rail (TS35).
8. It is recommended that an external slow blow fuse also be used on the input for protection. See the table above for the correct rating.

Other outputs may be available Contact the factory for details at: sales@micropowerdirect.com

Mechanical Dimensions

Notes:
- All dimensions are typical in inches (mm)
- Wire Range is: 26 - 10 AWG, Strip length is 0.32 (8.0)
- Tolerance x.xx = ±0.02 (±0.5)

Wire Connections

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
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<tbody>
<tr>
<td>1</td>
<td>+VOUT</td>
</tr>
<tr>
<td>2</td>
<td>+VOUT</td>
</tr>
<tr>
<td>3</td>
<td>-VOUT</td>
</tr>
<tr>
<td>4</td>
<td>-VOUT</td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>AC-Neutral</td>
</tr>
<tr>
<td>7</td>
<td>AC-Line</td>
</tr>
</tbody>
</table>

Derating Curve, Temperature

Derating Curve, Input Voltage

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