

Product Description

The MDR-20-24 series power supply units are for use with the KBC WESII and MeshII wireless units. They are designed for use in a wide range of operating temperatures in non-environmentally conditioned, industrial applications. The units provide 24W at 24Vdc.

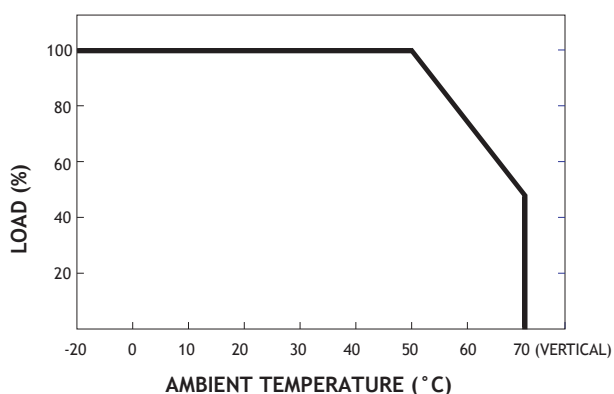
The series is available in a DIN rail configuration.



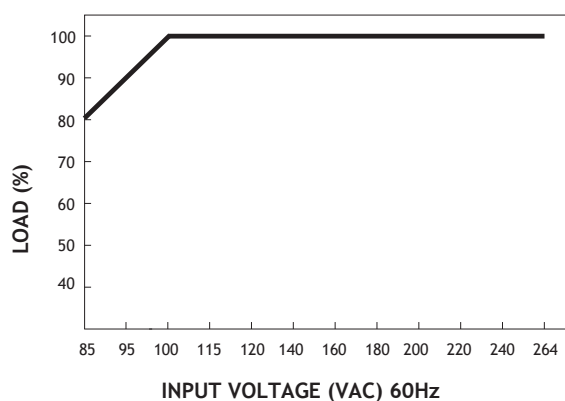
Product Features

- Universal AC input / Full range
- Short circuit, overload & over voltage protection
- Free air convection cooling
- Can be installed on DIN rail TS-35/7.5 or 15
- Built-in DC ok active signal
- Power on LED indicator
- Power consumption for no load <0.75W
- 100% full load burn-in test
- 3 year warranty

De-rating Curve



Output De-rating vs Input Voltage



Specifications

Output

DC Voltage	24V
Rated Current	1A
Current Range	0-1A
Rated Power	24W
Ripple & Noise (max) ⁽¹⁾	150mVp-p
Voltage Adj. Range	21.6-26.4V
Voltage Tolerance ⁽²⁾	±1.0%
Line Regulation	±1.0%
Load Regulation	±1.0%
Setup, Rise Time ⁽³⁾	500ms, 30ms/230Vac 1000ms, 30ms/115Vac at full load
Hold Up Time (typ.)	50ms / 230Vac 20ms / 115Vac at full load

Input

Voltage Range	85-264Vac 120-370Vdc
Frequency Range	47-63Hz
Efficiency (typ)	84%
AC Current (typ)	0.55A/115Vac 0.35A/230Vac
Inrush Current (typ)	Cold start 20A/115Vac 40A/230Vac
Leakage Current	<1mA/240Vac

Protection

Overload	105 ~ 160% rated output power Protection type: constant current limiting, recovers automatically after fault condition is removed
Over Voltage	27.6-32.4V Protection type: shut down output voltage, re-power on to recover

Function

Dc ok active signal (max)	18-27V/20mA
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Mechanical

Dimensions (WxHxD)	22.5 x 90mm x 100mm (0.89" x 3.54" x 3.94")
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Environmental

Operating Temperature ⁽⁴⁾	-20° ~ +70°C / -4° ~ 158°F Please see de-rating curve
Operating Humidity	20 ~ 90% RH non-condensing
Storage Temperature	-40° ~ +85°C / -40° ~ 185°F
Storage Humidity	10 ~ 95% RH
Temp Coefficient	±0.03%/°C (0 ~ 50°C)
Vibration	Component: 10-500Hz, 2G 10min / 1 cycle, 60min each along X,Y,Z axes; mounting compliance to IEC60068-2-6
Mean Time Between Failure (MTBF)	236 900 hours min MIL-HDBK-217F (25°C)

Approvals

Safety	UL508, TUV EN60950-1 approved
EMC Emmission	EN55011, EN55022 (CISPR22), EN61204-3 Class B, EN61000-3-2,3
EMC Immunity	EN61000-4-2,3,4,5,6,8,11, EN55024, EN61000-6-1, EN61204-3, light industry level, criteria A

Safety

Withstand Voltage	I/P-O/P:3kVac I/P-F/G:2kVac O/P-F/G:0.5kVac
Isolation Resistance	I/P-O/P, I/P-F/G, O/P-FG :100MΩ / 500Vdc / 25°C / 70% RH

Part Number

MDR-20-24

For use with the KBC WESII and MeshII wireless units - see separate specification sheets for further information

All parameters not specifically mentioned are measured at 230Vac input rated load and 25°C ambient temperature.
The power supply is considered to be a component which will be installed with the final equipment. The final equipment must be re-confirmed so that it still meets the EMC directives.

1. Ripple & noise are measured at 20MHz of bandwidth by using 12" twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor
2. Tolerance: includes setup tolerance, line regulation and load regulation
3. Length of setup time is measured at cold first start. Turning on / off the power supply may increase the setup time

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