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MINT1180

180W Single Output
Medical Series

- 3” x 5” x 1.3” Package
- 180W Convection Cooled Power
- Ideal for 1U Applications
- Class I and Class II versions
- Universal Input 90-264 VAC
- Approved to CSA/EN/IEC/UL60601-1, 3rd Edition, 2 x MOPP Isolation
- Approved to CSA/EN/IEC/UL60950-1 2nd Edition
- Efficiency 90% typical
- 3 Year Warranty
- RoHS Compliant

Description

The MINT1180 product family is the most cost-effective medically approved supply in the market with 180 watts of convection cooled output power in 3”X5” footprint. The series comes in eight different models ranging from 12 to 48V and has been approved to IEC60601-1 3rd Edition, rated for 2 MOPP (Means of Patient Protection) isolation. This new single output power supply family has both Class I and II input versions and accepts wide input range of 90 to 264Vac. The typical 90% efficiency and convection cooled make this supply an excellent solution for HomeCare applications where the use of fans is not desired.

Model Selection

Model Number	Volts	Output Current*	Minimum Load	Ripple & Noise**	Total Regulation	OVP Threshold
MINT1180A1275K01	12V	15.0A	0A	120mV pk-pk	±3%	14.0 ± 1.1V
MINT1180A1575K01	15V	12.0A	0A	150mV pk-pk	±3%	18.5 ± 1.2V
MINT1180A1875K01	18V	10.0A	0A	180mV pk-pk	±3%	21.5 ± 2.0V
MINT1180A2475K01	24V	7.50A	0A	240mV pk-pk	±3%	29.0 ± 2.5V
MINT1180A2875K01	28V	6.40A	0A	280mV pk-pk	±3%	33.5 ± 2.5V
MINT1180A3275K01	32V	5.62A	0A	320mV pk-pk	±3%	36.0 ± 3.0V
MINT1180A4875K01	48V	3.75A	0A	480mV pk-pk	±3%	56.0 ± 3.0V

Notes: * Total convection power is 180 Watts.
** Measured with noise probe directly across output terminals, and load terminated with 0.1µF ceramic and 10µF low ESR capacitors.

General Specifications

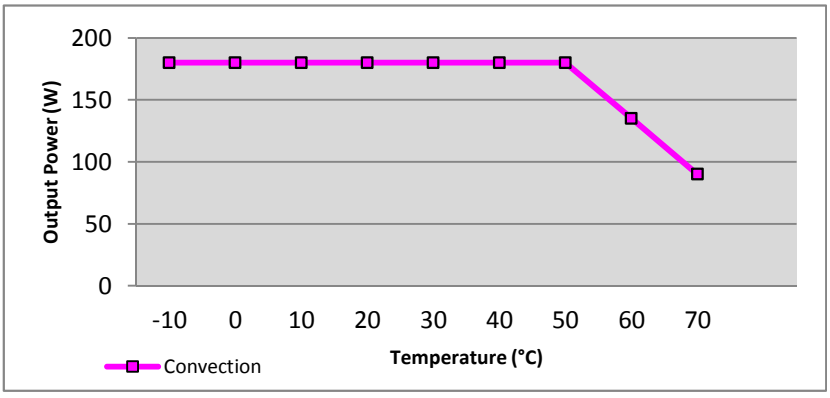
AC Input	100-240Vac, ±10%, 47-63Hz, 1∅ 120–370Vdc	Turn On Time	Less than 3 sec. @115Vac & Full Load
Input Current	115Vac: 1.8A, 230Vac: 0.9A	Hold-up Time	>16mS at 180W, 120Vac

General Specifications (continued)

Inrush Current	264Vac, cold start: will not exceed 55A	**Signals**	N/A
Input Fuses	F1, F2: 4.00A, 250VAC fuses provided on all models	**Overload Protection**	120%-150% of rating, Hiccup Mode
Earth Leakage Current	<275µA@264Vac, 60Hz, NC; <400µA SFC	**Short Circuit Protection**	Provided - no damage will occur if the output is shorted, auto recovery
Efficiency	88% typical	**Overvoltage Protection**	OVP latch at 110%-130% of rated output voltage.
Output Power	180W convection cooled	**Switching Frequency**	PFC: Fixed, 65kHz Main Converter: Variable 35-200kHz, 65-70kHz at full load.
Transient Response	500µS typ. for return to within 0.5% of nominal, 50% load step. Δi/Δt <0.2A/µS. Max Volt Deviation = 3%	**Isolation**	Input-Output: 4000Vac, 2 x MOPP Input-Ground: 1800Vac, 1 x MOPP Output-Ground: 1500Vac
Ripple and Noise	See chart	**Operating Temperature**	-10℃ to +70℃ Start Up at -40℃, full load
Output Voltage	See chart	**Temperature Derating**	Derate output power linearly above 50℃ to 50% at 70℃
Voltage Adjustability	Fixed output	**Storage Temperature**	-40℃ to +85℃
Minimum Load	Not required	**Altitude**	Operating: -500 to 10,000 ft. Non-operating: -500 to 40,000 ft.
Total Regulation	+/- 3% combined line, load and initial setting.	**Relative Humidity**	5% to 95%, non-condensing
Vibration	Operating: 0.003g²/Hz, 1.5grms overall, 3 axes, 10 min/axis Non-Operating: 0.026g²/Hz, 5.0grms overall, 3 axes, 1 hr/axis	**Shock**	Operating: Half-sine, 20gpk, 10ms, 3 axes, 6 shocks total Non-Operating: Half-sine, 40 gpk, 10 ms, 3 axes, 6 shocks total
Dimensions	W: 3.0” x L: 5.0” x H: 1.3”	**Safety Standards**	EN/CSA/UL/IEC 60601-1, 3rd Edition EN/CSA/UL/IEC 60950-1, 2nd Edition
Weight	325g	**MTBF**	214,194 hours, 25°C, 110Vac

Output vs. Temperature Derating Curve

180W convection cooled, derate output power to 50% at 70°C.

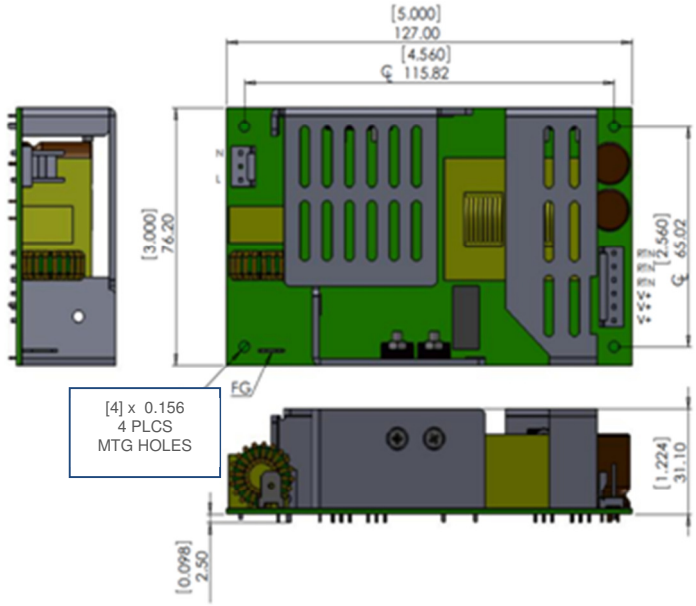


EMI/EMC Compliance

Conducted Emissions	EN55011/22 Class B, FCC Part 15, Subpart B, Class B
Radiated Emissions	EN55011/22; FCC Part 15, Class A with 6dB Margin
Static Discharge Immunity	EN61000-4-2, Criteria A, 6kV Contact Discharge, 8kV air discharge
Radiated RF Immunity	EN61000-4-3, 3V/m. Criteria A.
EFT/Burst Immunity	EN61000-4-4, 2kV/5kHz, Criteria A
Line Surge Immunity	EN61000-4-5, 1kV differential, 2kV common-mode, Criteria A
Conducted RF Immunity	EN61000-4-6, 3Vrms, Criteria A
Power Frequency Magnetic Field Immunity	EN61000-4-8, 3A/m, Criteria A
Voltage Dip Immunity	EN61000-4-11, 5% Vnom: 0.5cycle; 40% Vnom: 5 cycles, 70% Vnom: 25 cycles, Criteria A
Line Harmonic Emissions	EN61000-3-2, Class A, B, C, & D
Flicker Test	EN61000-3-3, Complies (dmax<6%)

Mechanical Drawing

Notes:
1. All dimensions in inches (mm), tolerance is +/-0.000".
2. Mounting holes should be grounded for EMI purposes.
3. FG is safety ground connection.
4. The power supply requires mounting on metal standoffs 0.20" (5mm) in height, min.



Connector Information

Input Connector J100	Ground (FG)	DC Output Connector J300	
PIN 1) AC LINE PIN 2) EMPTY PIN 3) AC NEUTRAL	0.25" FASTON TAB	Term. 1,2,3: RTN Term. 4,5,6: +Vout	
Mating Connector: AMP 640250-3 Pins: 640252-2	Mating Connector: Molex 190020001	Mating Connector: AMP 640250-6 Pins: 640252-2	