

MINT1175

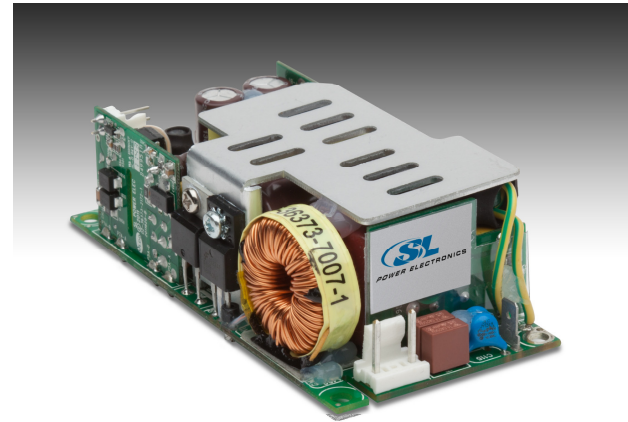
175W Single Output Series

Medical Power Supply



3 Year Warranty

- 2" x 4" x 1.3" Package
- For 1U Applications and Class I or Class II construction
- 175W w/air, 120W convection cooled
- Universal Input 90-264 VAC
- Average Efficiency meets Level V Requirements
- Approved to CSA/EN/IEC/UL60601-1, 3rd Edition 2 MOPP
- 12V fan output
- Efficiency 90% typical at Full Load
- **CE** Compliant (LVD, RoHS)



International Safety Agency Approvals



Specifications

All Specifications are typical at nominal input, full load at 25°C unless otherwise stated.

AC Input	100-240Vac +/- 10%, 47-63 Hz single phase 120-370 Vdc	Turn On Time	Less than 2 sec. @115Vac (inversely proportional to input voltage and thermistor temperature)
Input Current	115Vac: 2A, 230Vac: 1A	Hold-up Time	16mSec typical at 120W output load
Inrush Current	264Vac, cold start: will not exceed 50A	Signals	AC Power Fail, DC OK, and Inhibit
Input Fuses	F1, F2: 4A, 250VAC fuses provided on all models	Overload Protection	Hiccup Mode Type
Earth Leakage Current	<200µA@264Vac 60Hz for NC, <400 uA SFC	Short Circuit Protection	Provided – No damage to unit
Efficiency	90% typical at 115V	Switching Frequency	PFC: 65kHz typical
Output Power	175W continuous, with 200 lfm airflow, 120W convection cooled – See chart for specific voltage model ratings	Overvoltage Protection	OVP firing reduces output voltage to <50% of nominal in <50ms. See chart for trip range
Transient Response	50% load step. $\Delta i/\Delta t < 0.2A/\mu S$ Max Volt Deviation = 3%	Isolation	Input-Output: 4000Vac Input-Ground: 1800Vac, Output-Ground: 1500Vac
Ripple and Noise	See chart	Operating Temperature	-10 to +70°C Start Up at -40C and full load Derate output power to 50% at 70°C
Output Voltage	See chart	Storage Temperature	-40 to +85°C
Voltage Adjustability	+/-5% from nominal	Operating Altitude	-500 to 10,000 ft.
Minimum Load	Not required	Non-operating Altitude	-500 to 40,000 ft.
Total Regulation	+/- 3%. See chart	Relative Humidity	5% to 95%, non-condensing
Vibration	Operating: 0.003g ² /Hz, 1.5g _{rms} overall, 3 axes, 10 min/axis Non-Operating: 0.026 g ² /Hz, 5.0g _{rms} overall, 3 axes, 1 hr/axis	Shock	Operating: Half-sine, 20 g _{pk} , 10 ms, 3 axes, 6 shocks total Non-Operating: Half-sine, 40 g _{pk} , 10 ms, 3 axes, 6 shocks total
Dimensions	W: 2.0" x L: 4.0" x H: 1.3". Weight: 210 g	ITE Safety Standards	EN/CSA/UL/IEC 60601-1, 3 rd Edition

Auxiliary Signals

AC Power Fail:	During normal operation, stays HIGH. Signal goes LOW with 5mSec warning before loss of output from AC failure	DC OK:	Open collector logic signal goes and stays HIGH 100mSec to 500 mSec after main output reaches regulation
Inhibit:	Connect to inhibit pin to output common to inhibit the DC output		

Model Number Key

MINT 1 175 A 12 06 K 01

Model:	"01" = Standard Model, 02 and higher indicates a modified model.
Input Connector:	"K" = Class I input; "C" = Class II Input
Output Connector:	"06" = 6 pin header for output connector. Other options available, consult factory.
Output Voltage:	"12" = 12V, "24" = 24V, etc.
Configuration:	"A" = First Generation
Output Power:	"175" = 175W
# of Outputs:	"1" = Single output
Product Family:	"M" = Medical, "I" = Internal, "NT" = New Technology

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Output Parameters

Model Number	Volts (V)	Output Current Convection	Output Current with 200LFM	Fan Output (see Note 1)	Ripple & Noise (see Note 2)	Total Regulation	OVP Threshold (see note 3)
MINT1175A1206K01	12 V	11.7 A	14.6 A	12V/0.4A	0.5%RMS, 1.2% pk-pk	±3%	14.0 ± 1.1V
MINT1175A1506K01	15 V	9.3 A	11.7 A	12V/0.4A	0.5%RMS, 1% pk-pk	±3%	18.5 ± 1.5V
MINT1175A2406K01	24 V	5.8 A	7.3 A	12V/0.4A	0.5%RMS, 1% pk-pk	±3%	28.0 ± 2.5V
MINT1175A4806K01	48 V	2.9 A	3.6 A	12V/0.4A	0.5%RMS, 1% pk-pk	±3%	55.0 ± 4.0V
MINT1175A5606K01	56 V	2.5 A	3.1 A	12V/0.4A	0.5%RMS, 1% pk-pk	±3%	59.0 ± 1.0V

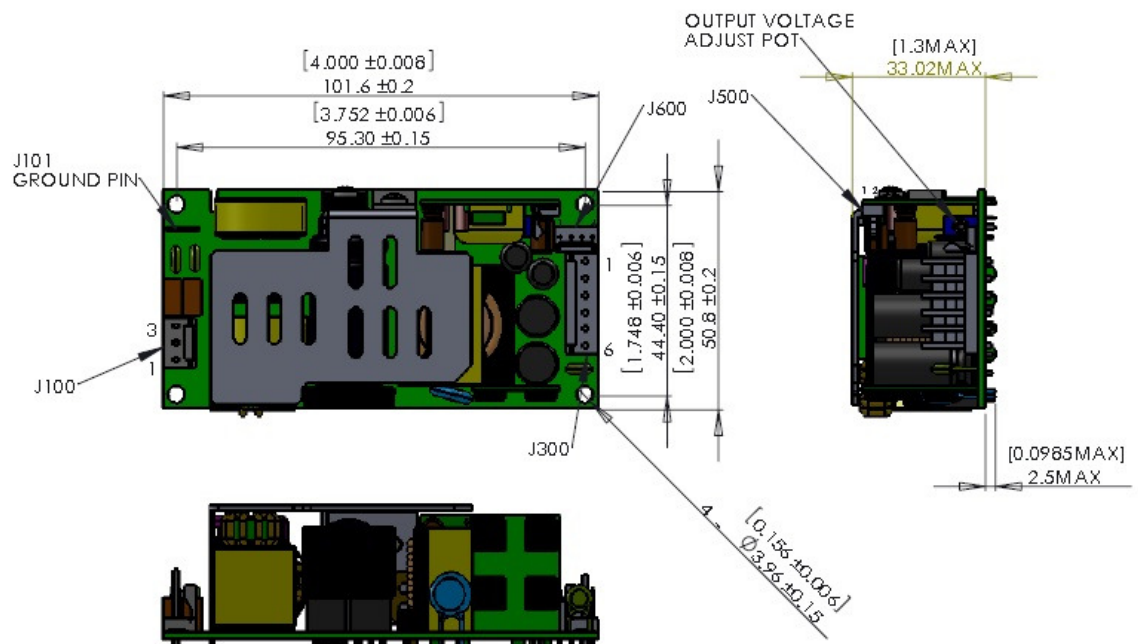
- Notes:
- Total convection power is 120 Watts.
 - Measured with noise probe directly across output terminals, and load terminated with 0.1µF ceramic and 10µF low ESR capacitors.
 - Output adjustment on 56V model will not exceed 56.2 volts.

EMI/EMC Compliance

Conducted Emissions	EN55011/22 Class B, FCC Part 15, Subpart B, Class B
Radiated Emissions	EN55011/22 Class B, FCC Part 15, Subpart B, Class A w/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,) 0% Vnominal, 0.5cycle, 40% Vnominal, 5 cycles, 70% Vnominal, 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 and Connector Information

INPUT CONNECTOR (J100):	
PIN 1)	AC LINE
PIN 2)	EMPTY
PIN 3)	AC NEUTRAL
Mating Conn:	Molex 09-50-3031, pins = 08-52-0072
GROUND (J101)	
FG	0.187" FASTON TAB
Mating Conn:	Molex 01-90020009
DC OUTPUT CONNECTOR (J300):	
PIN 1)	+Vout
PIN 2)	+Vout
PIN 3)	+Vout
PIN 4)	-Vout
PIN 5)	-Vout
PIN 6)	-Vout
Mating Conn:	AMP 640250-6, pins = 640252-1
FAN OUTPUT CONNECTOR (J500):	
PIN 1)	12V Fan
PIN 2)	RTN
Mating Conn:	Molex 1375820-2, pins = 1375819
SIGNAL CONNECTOR (J600):	
PIN 1)	Inhibit
PIN 2)	PF/DC OK
PIN 3)	Common
PIN 4)	Common
Mating Conn:	Molex 1375820-4, pins = 1375819



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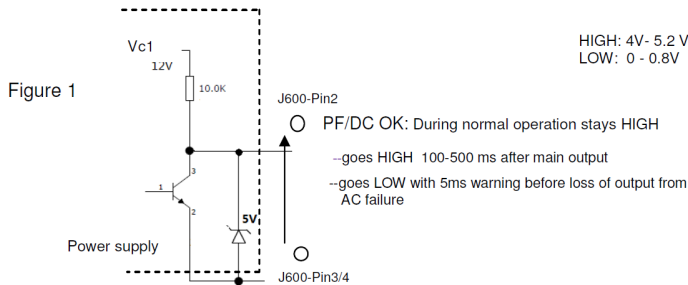
Auxiliary Signal Description and Functionality

Fan Output – J500:

J500 provides a 12V@0.4mA output to support a system cooling fan. The fan output is always available when AC input is present, so it also can be used for a 12V standby output is so desired.

AC Power Failure/DC OK And Inhibit Signals – J600:

AC Power Failure/DC OK

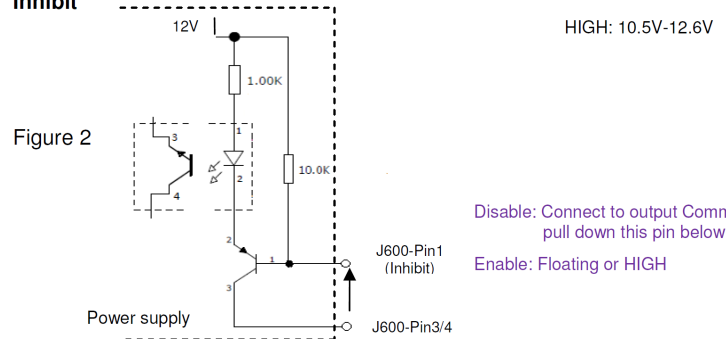


AC Power failure and DC OK signals use the same pin ,so the signals can be used as follows:

DC OK: Pin2 = HIGH & Pin1 = HIGH

AC Power Failure: Pin2 = LOW & Pin1 = LOW

Inhibit



Timing sequence

