

# 200 Watt Medical



## Features

- 5.0 x 3.0 x 1.5 inches form factor
- 200 W with forced air cooling
- High efficiency > 88%
- 12 V fan output
- 5 V standby output
- Remote sense
- Output voltage adjustability

## Electrical Specifications

Input Voltage	90–264 VAC/120–390 VDC, Universal	
Input Frequency	47–63 Hz	
Input Current	120 VAC: 2.4 A max.	230 VAC: 1.2 A max.
Inrush Current	120 VAC: 35 A max.	230 VAC: 65 A max.
Leakage Current	120 VAC: < 150 $\mu$ A	230 VAC: < 300 $\mu$ A
Efficiency	120 VAC: 84% typical	230 VAC: 86% typical
Hold-up Time	120 VAC: 10 ms	230 VAC: 10 ms
Power Factor	120 VAC: 0.99	230 VAC: 0.95
Output Power	160 to 200 W	
Peak Power	250 W for 0.2 s	
Line Regulation	+/-0.5%	
Load Regulation	+/-2.0%	
Transient Response	< 10%, 50% to 100% load change, 50 Hz, 50% duty cycle, 0.1 A/ $\mu$ s, recovery time < 5 ms	
Rise Time	< 100 ms	
Set Point Tolerance	+/-1%	
Output Adjustability	+/-3.0%	
Over Current Protection	110% typical above rating	
Over Voltage Protection	110 to 150%	
Short Circuit Protection	Short term, auto recovery	
Switching Frequency	PFC converter: Variable, 35–250 kHz; 90 kHz typical Resonant converter: Variable, 35–250 kHz; 90 kHz typical	
Operating Temperature	–20 to +70°C, refer derating curve –20 to 0°C, start-up is guaranteed	
Storage Temperature	–40 to +70°C	
Relative Humidity	95% Rh, non condensing	
Altitude	Operating: 10,000 ft.; Non-operating: 40,000 ft.	
MTBF	> 200 kh, Bellcore TR332	
Isolation Voltage	Min. 5900 VDC between input to output	
Cooling	Convection: 130 W; 300 LFM: 175 W (5 V model) Convection: 160 W; 300 LFM: 200 W (Other model)	

Model Number	Description	Voltage	Max. Load <sup>1</sup> (Convection)	Max. Load <sup>1</sup> (300 LFM)	Min. Load	Ripple <sup>2</sup>
LFMWLT200-1000	Class 1 with Screw Terminal	5 V	26.0 A	35.0 A	0.0 A	1%
LFMWLT200-1000-2	Class 2 with Screw Terminal					
LFMWLT200-1300	Class 1 with JST Connector	5 V	26.0 A	26.0 A	0.0 A	1%
LFMWLT200-1300-2	Class 2 with JST Connector					
LFMWLT200-1001	Class 1 with Screw Terminal	12 V	13.33 A	16.67 A	0.0 A	1%
LFMWLT200-1001-2	Class 2 with Screw Terminal					
LFMWLT200-1301	Class 1 with JST Connector	12 V	13.33 A	16.67 A	0.0 A	1%
LFMWLT200-1301-2	Class 2 with JST Connector					
LFMWLT200-1002	Class 1 with Screw Terminal	15 V	10.66 A	13.33 A	0.0 A	1%
LFMWLT200-1002-2	Class 2 with Screw Terminal					
LFMWLT200-1302	Class 1 with JST Connector	15 V	10.66 A	13.33 A	0.0 A	1%
LFMWLT200-1302-2	Class 2 with JST Connector					
LFMWLT200-1003	Class 1 with Screw Terminal	24 V	6.66 A	8.33 A	0.0 A	1%
LFMWLT200-1003-2	Class 2 with Screw Terminal					
LFMWLT200-1303	Class 1 with ST Connector	24 V	6.66 A	8.33 A	0.0 A	1%
LFMWLT200-1303-2	Class 2 with JST Connector					
LFMWLT200-1004	Class 1 with Screw Terminal	48 V	3.33 A	4.17 A	0.0 A	1%
LFMWLT200-1004-2	Class 2 with Screw Terminal					
LFMWLT200-1304	Class 1 with JST Connector	48 V	3.33 A	4.17 A	0.0 A	1%
LFMWLT200-1304-2	Class 2 with JST Connector					
LFMWLT200-1005	Class 1 with Screw Terminal	30 V	5.33 A	6.67 A	0.0 A	1%
LFMWLT200-1005-2	Class 2 with Screw Terminal					
LFMWLT200-1305	Class 1 with JST Connector	30 V	5.33 A	6.67 A	0.0 A	1%
LFMWLT200-1305-2	Class 2 with JST Connector					
LFWLT200-CK metal cover kit accessory						

## Notes

1. Combined output power from V1, VSTBY and VFAN should not exceed the total output power rating.
2. Ripple is 2% up to 20% load and < 1% above 20% load. Ripple is peak to peak with 20 MHz bandwidth and 10  $\mu$ F (Tantalum capacitor) in parallel with a 0.1  $\mu$ F capacitor at rated line voltage and load ranges.
3. Fan output voltage tolerance is +/-20%. During V1 full load, VFAN needs min. 20 mA load to be within regulation band.
4. Peak current for fan output is 1 A.
5. Class 1 products have an Earthing tab and class 2 products (-2 suffix) have no Earthing tab.
6. Specifications are for nominal input voltage, 25°C and max. load unless otherwise stated.
7. PSU is supplied with J3 housing, pin-4 and pin-6 shorted to enable main output without remote on-off feature.
8. Derate output power linearly to 80% from 90 VAC to 80 VAC input.

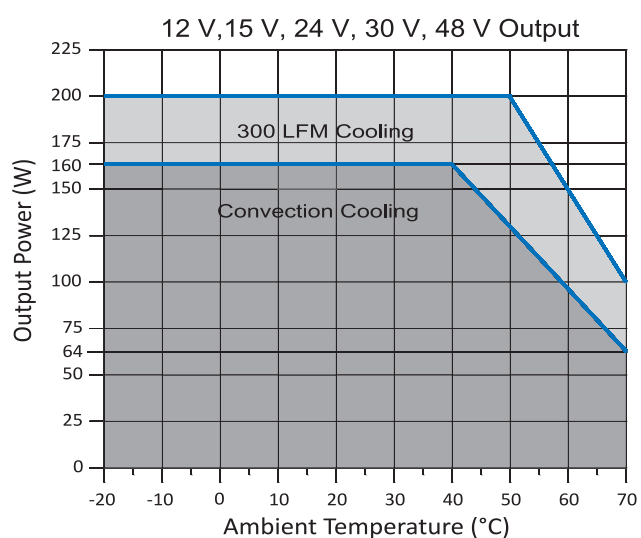
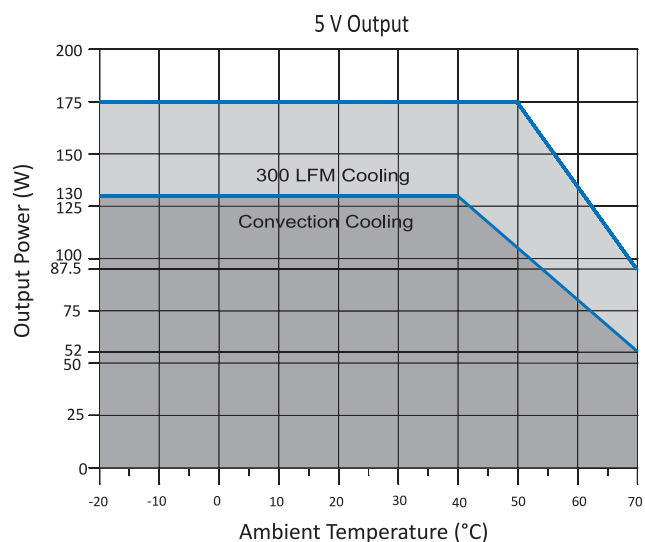


Connectors		
J1	Pin 1	AC NEUTRAL
	Pin 2	AC LINE
Spade Connector (J4) (Class 1 product only)		EARTH
J2	Pin 1, 2, 3	RTN
	Pin 4, 5, 6	V1

Connectors		
J3	Pin 1	+VE REMOTE SENSE
	Pin 2	VFAN (12 V/0.5 A)
	Pin 3	-VE REMOTE SENSE
	Pin 4	REMOTE ON/OFF
	Pin 5	VSTBY (5 V/1 A, +/-5%)
	Pin 6	RTN
	Pin 7	POWER FAIL
	Pin 8	POWER GOOD

Mechanical Specifications	
AC Input Connector (J1)	Molex: 26-60-4030 or equivalent Mating: 09-50-3031; Pins: 08-50-0106
EARTH (J4)	Molex: 19705-4301 or equivalent Mating: 190030001
DC Output Connector (J2)	Option 1: Tyco: 2-1776112-3 or equivalent Mating: 13 AWG wire Option 2: JST: B6P-VH-B (LF) (SN) or B6P-VH (LF) (SN) or equivalent Mating: VHR-6M; Pins: SVH-41T-P1.1
Signal Connector (J3)	Molex: 22-23-2081 or equivalent Mating: 22-01-2087, Pins: 08-50-0113
Dimensions	5.0 x 3.0 x 1.5 inches (127 x 76.2 x 38.1 mm)
Weight	325 g
EMC	
CE Mark	Complies with LVD Directive
Conducted Emissions	EN55022-B, CISPR22-B, FCC PART15 CLASS-B, EN60601-1-2
Static Discharge	EN61000-4-2, Level-3
RF Field Susceptibility	EN61000-4-3, Level-3
Fast Transients/Bursts	EN61000-4-4, Level-3
Radiated Emissions	EN55022-B, CISPR22-B, FCC PART15-B To be controlled in end system
Surge Susceptibility	EN61000-4-5, Level-3
Harmonic Current	EN61000-3-2, Class D
Safety	
Safety Standard(s)	EN60601-1, IEC60601-1 (ed.3), UL60601-1 (1st Edition), CSA C22.2 No. 601.1
Approval Agency	Nemko, UL, C-UL
Safety File Number(s)	Nemko: P11213837/38; UL: E173812

## Derating Curve



## Mechanical Drawing

