

120W Single Output Medical Grade





FEATURES AND BENEFITS



CE vrous

2" x 4" x 1.25" Package, Ideal for 1U Applications

Designed to Meet New IEC 60601-1-2 4th Edition EMC Requirements

100 Watts Convection Cooled

Class B Conducted and Radiated EMI Performance

BF Isolation Type Rated

Class I and Class II Input Versions Available

10-Year Life Design with Premium E-Caps

2 x MOPP Isolation

< 0.5 W Standby Power

3 Year Warranty

Certified to UL/CSA/ IEC/ EN60601-1 3rd Edition

MODEL SELECTION

	Volts	Output Current			Ripple &	Initial Set	Total Load	
Model Number ²		200 LFM Airflow	Convection	Efficiency ⁴	Noise ⁵	Point	Regulation	OVP Threshold
MB120S12K01	12V	10.0A	8.3A	92%	1%	±2%	±1%	14.4V ±1.2V
MB120S15K01	15V	8.0A	6.6A	93%	1%	±2%	±1%	18V ±1.5V
MB120S18K01	18V	6.6A	5.5A	94%	1%	±2%	±1%	21.6V ±1.8V
MB120S24K01	24V	5.0A	4.1A	94%	1%	±2%	±1%	28.8V ±2.4V
MB120S12C01	12V	10.0A	8.3A	92%	1%	±2%	±1%	14.4V ±1.2V
MB120S15C01	15V	8.0A	6.6A	93%	1%	±2%	±1%	18V ±1.5V
MB120S18C01	18V	6.6A	5.5A	94%	1%	±2%	±1%	21.6V ±1.8V
MB120S24C01	24V	5.0A	4.1A	94%	1%	±2%	±1%	28.8V ±2.4V

Notes:

- 1. Power supply is tested according to Table 9–Test Specification for Enclosure Port Immunity for Professional and Home Health Care.
- 2. Replace the "K" in the part number to "C" for Class II input.
- 3. Efficiency, typical at 230VAC, 25°C. See charts below for load conditions.
- 4. Measured at 25°C using 6 inch twisted pair wires with noise probe directly across output terminals, and load terminated with 0.1μF ceramic and 10μF low ESR capacitors.

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INPUT

AC Input	80VAC-264VAC, single phase, 47Hz-63Hz. (Safety Approved to 90VAC-264VAC). Start up voltage for full power is 90VAC, power derates at 85VAC, see table below.
Input Current	2.0A at 115VAC, 1A at 230VAC
Inrush Current	40 Arms Maximum within a half line cycle, cold start at 25°C, 230VAC. See application note.
Input Fuses	3.15A, 250VAC, line and neutral inputs
Earth Leakage Current	<150 μA@264VAC, 60Hz input, NC <300 μA@264VAC, 60Hz input, SFC
Patient Leakage Current (Output to Earth)	<90 μA@264VAC, 60 Hz input, NC, also suitable for BF rating
Efficiency	92%-94% typical at 120VAC/240VAC, 25°C. See chart for additional details.
No Load Input Power	<0.5W

ISOLATION

Isolation	Input-Output: 4000VAC, 2 x MOPP Input-Ground: 1500VAC, 1 x MOPP (Class I only)
	Output-Ground: 1500VAC, 1 x MOPP (Class I only)

RELIABILITY

MTBF	572,500 hours @ 115VAC/230VAC, 25°C Telcordia, Issue 3, Ground Benign
E-Cap Life	>10 years in use condition of 40°C ambient, at 12 hours/day, 261 days/year. Additional information on other use profiles available on request.

OUTPUT

Output Voltage 12V to 24VDC. See models chart for part numbering. Output Power 120W with 200 LFM airflow cooling, 100W convection cooling, -10°C to 50°C ambient. Power derates by 50% from 50°C to 70°C. See chart below. Turn On Time 1 second at 115VAC Hold-up Time 20mS min. from loss of AC input , full load, 25°C Rise Time <30mS, Typical (Load dependent) Ripple and Noise 1% pk-pk Total Load Regulation ±1.0% for all models Minimum Load Not required Turn-On & Operating Temperature -10°C to +70°C. Turn on Temperature = -20°C at >=115VAC, allowing 30 seconds with 50%−100% load for stabilization. Transcient Response 500µS typ. response time for return to within 1% of final value for 25%−75%−25% load change Voltage Adjustment Range No voltage adjust potentiometer for higher reliability IPC 610 Class II				
Output Power convection cooling, -10°C to 50°C ambient. Power derates by 50% from 50°C to 70°C. See chart below. Turn On Time 1 second at 115VAC Hold-up Time 20mS min. from loss of AC input , full load, 25°C Rise Time <30mS, Typical (Load dependent) Ripple and Noise 1% pk-pk Total Load Regulation ±1.0% for all models Minimum Load Not required Turn-On & Operating Temperature -10°C to +70°C. Turn on Temperature = -20°C at >=115VAC, allowing 30 seconds with 50%−100% load for stabilization. Transcient Response 500µS typ. response time for return to within 1% of final value for 25%−75%−25% load change Voltage Adjustment Range No voltage adjust potentiometer for higher reliability	Output Voltage	121 (0 211 0 0)		
Hold-up Time 20mS min. from loss of AC input , full load, 25°C Rise Time <30mS, Typical (Load dependent) Ripple and Noise 1% pk-pk Total Load Regulation ±1.0% for all models Minimum Load Not required Turn-On & -10°C to +70°C. Turn on Temperature = -20°C at >=115VAC, allowing 30 seconds with 50%—100% load for stabilization. Transcient Response 500µS typ. response time for return to within 1% of final value for 25%—75%—25% load change Voltage Adjustment Range No voltage adjust potentiometer for higher reliability	Output Power	convection cooling, -10°C to 50°C ambient. Power derates by 50% from 50°C to 70°C.		
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Operating TemperatureTurn on Temperature = -20°C at >=115VAC, allowing 30 seconds with 50%-100% load for stabilization.Transcient Response500μS typ. response time for return to within 1% of final value for 25%-75%-25% load changeVoltage Adjustment RangeNo voltage adjust potentiometer for higher reliability	Minimum Load	Not required		
Voltage Adjustment Range 1% of final value for 25%-75%-25% load change No voltage adjust potentiometer for higher reliability	Operating	Turn on Temperature = -20°C at >=115VAC, allowing		
Range reliability	Transcient Response			
IPC 610 Class II	_ ,	, , ,		
	IPC 610	Class II		

SAFETY

Safety Standards

PROTECTION

Overvoltage Protection	Latches off when output voltage is with range as shown in table. Requires AC Power cycle to reset.
Short Circuit Protection	Short across the output terminals will not cause damage to the unit. Hiccup Mode, Auto-recovery.
Overtemperature Protection	Power shuts down at temperature of 70°C (typical) at full load, without forced air. Hiccup Mode, Auto-recovery.
Overload Protection	115%–180% of rated output current value. Hiccup Mode, Auto-recovery.
Output Reverse Voltage Protection	Outputs protected against momentary reverse current less than 20A peak for less than 10mS with 0.5A average. Sustained reverse current at high levels may damage unit.



ENVIRONMENT

Relative Humidity	5% to 95%, non-condensing		
Weight	225g, typical		
Dimensions	W: 2.0" x L: 4.0" x H: 1.25" W: 50.8mm x L: 101.6mm x H: 31.8mm		
Altitude	Operating: -500m to 3000m Non-operating: -500 feet to 40,000 feet		
Storage Temperature	-40°C to +85°C		
Vibration	Operating: Sinusoidal Frequency: 10–500Hz, Impact Acceleration: 1g, Sweep rate: 1 octave/min Cycles: 10 times per axis in X, Y, Z direction Random Vibration: Operating: 0.003 g2/Hz, 1.224 grams overall, 3 axes, 10 min/axis, 1Hz–500Hz. Non-Operating: 0.02g2/Hz, 3.1 grams overall, 3 axes, 1 hour/axis, 20Hz–500Hz		
Shock (IEC 60068-2-27)	Operating: Half-sine shock waveform. Impact Acceleration: 20g, Pulse duration: 11mS. Cycles: 3 times per axis in X,Y, Z direction Non-Operating: Half-sine shock waveform. Impact Acceleration: 40g, Pulse duration: 6mS Cycles: 3 times per direction on 3 axes (X,Y. Z)		

Notes:

Performance criteria are based on EN55024. According to the standards, performance criteria are defined as following:

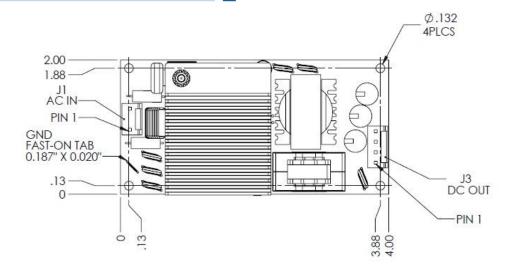
- A Normal performance during and after the test
- B Temporary degradation, self-recoverable
- C Temporary degradation, operator intervention required to recover the operation
- D Permanent damage

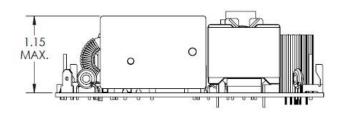
EMI/EMC COMPLIANCE

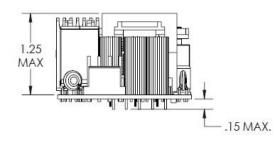
	I		
Conducted Emissions	EN55011/22: Class B, FCC Part 15. Class B: 6db margin typical		
Radiated Emissions	EN55011/22: Class B, FCC Part 15. Class B: 3db margin typical		
Harmonic Current Emissions	IEC61000-3-2: Class A		
Voltage Fluctuations & Flicker	IEC 61000-3-3		
Electro Static Discharge Immunity	IEC61000-4-2: Level 4, 8kV Contact Discharge, 15kV air discharge, Criteria A. Also meets proposed IEC60601-1-2 4 th Edition, Table 9		
Radiated RF EM Fields Susceptibility	IEC61000-4-3: Level 3, 10V/m, Criteria A. 80MHz-1000MHz and 3V/m 1.4Ghz to 2.7GHz. 80% AM at 1kHz. Also meets proposed IEC60601-1-2 4th Edition, Table 9		
Proximity Fields from RF wireless communications Equipment	IEC60601-1-2 4 th Edition, Table 9		
Rated Power Frequency magnetic fields	IEC61000-4-8 Level 5, 30A/m, 50/60Hz		
Electrical Fast Transients / Bursts	IEC61000-4-4: Level 3, 2KV, 100Khz rep rate, 40A (PS Output), Criteria A Also meets proposed IEC60601-1-2 4 th Edition standard, Table 5 & 6.		
Surges Line to Line (DM) and Line to Ground (CM)	IEC61000-4-5: Level 3, +/-1kV DM, +/-2kV CM, Criteria A Also meets proposed IEC60601-1-2 4th Edition standard, Table 5.		
Conducted Disturbances induced by RF Fields	IEC61000-4-6: 3V/m- 0.15 to 80Mhz and 6V/m in ISM bands between 0.15MHz and 80 MHz. 80% AM at 1KHz.		
Rated Power Frequency Magnetic Fields Test	IEC61000-4-8: Level 4 (30A/m), Criteria A Also meets proposed IEC60601-1-2 4 th Edition standard, Table 9 enclosure port.		
Voltage Dips	IEC61000-4-11: 100% dip for 10mS, at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°, Criteria A; 60% dip for 100mS, Criteria B; 30% dip for 500mS (25/30 cycles) 10, and 0° for 500mS, Criteria A. Also meets proposed IEC60601-1-2 4th Edition standard, Table 5.		
Enclosure Port Immunity to RF wireless communications equipment	IEC61000-4-3		



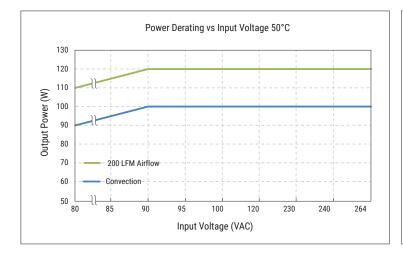


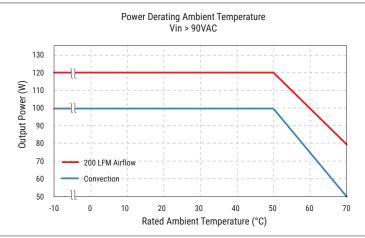






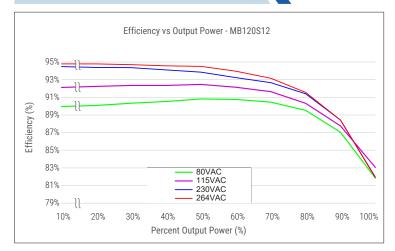
DERATING CURVES

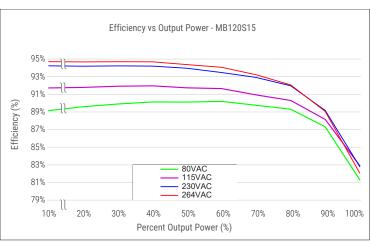


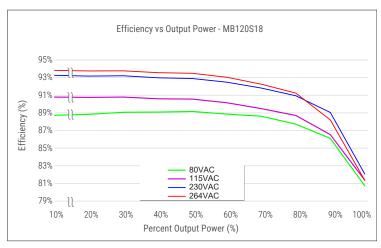


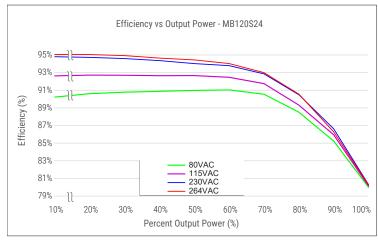


EFFICIENCY INFORMATION









Notes:

Above efficiency curves are typical at 25°C convection cooling, after 1 hour warm up time. Efficiency may vary with lower run time prior to measurement.

CONNECTOR INFORMATION

	CONN	PIN#	ASSIGNMENT	CONNECTOR	MATING CONNECTOR	MATING PIN
		1	LINE	TE 00111/50TH/FV/6/4007/4	T- 0011150T111171/4/10050	TE 00111/50TH/1TV/6400500
INPUT	J1	2	NEUTRAL	TE-CONNECTIVITY 641937-1	TE CONNECTIVITY 640250-3	TE CONNECTIVITY 640252-2
		1	DO OLITPLIT DETLIPM			
OUTPUT	J3	2	DC OUTPUT RETURN	TE-CONNECTIVITY 640445-4	TE CONNECTIVITY 640250-4	TE CONNECTIVITY 640252-2
		3	DC OUTPUT			
		4	DC OUTPUT			

Disclaimer: The information and specifications contained herein are believed to be correct at the time of publication. However, SL Power accepts no responsibility for consequences arising from reproduction errors or inaccuracies. Specifications are subject to change without notice.

ПОСТАВКА ЭЛЕКТРОННЫХ КОМПОНЕНТОВ

многоканальный

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001 Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

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