

### 10W-12W Single Output External Power Medical Grade





LPS (VI) AULT ( E WOHS CA



Meets UL/EN/IEC60601-1-2, 4th Edition for EMC\*

Approved to EN/IEC/UL60601-1, 3rd Edition Applications with Isolation Levels which Satisfy the 2 MOPP Requirements

Meets DoE Efficiency Level VI Requirements

- No Load Input Power
- Average Efficiency

Up to 12W of AC-DC Power

Universal Input 90 - 264VAC Input Range

■ Desktop and Wall-plug Versions

Meets EN55011/CISPR11, FCC Part 15.109 Class B Conducted & Radiated Emissions, with 6db Margin

E-Cap Life of >7 Years

>10,00,000 Hours MTBF

IP22 Rated Enclosure

3 Years Warranty

Note: \* Consult Factory for Table 9 compliance information. \* IP22 does not include interchangeable blade versions.

#### **MODEL SELECTION**

Model Number	Volts	Output Current	Output Power	Ripple & Noise <sup>1</sup>	Line Regulation	Load Regulation	Output Connector	Input Configuration
ME10A0503F01	5.0V	2.0A	10W	75mV pk-pk	±1%	±5%		Class I Desktop, IEC60320 C14 receptacle
ME10A0603F01	5.9V	1.6A	10W	75mV pk-pk	±1%	±5%		
ME10A0703F01	7.5V	1.3A	10W	75mV pk-pk	±1%	±5%	2.5 x 5.5 x 9.5mm	
ME10A0903F01	9.0V	1.1A	10W	90mV pk-pk	±1%	±5%	Straight barrel type,	
ME10A1203F01	12.0V	1.0A	12W	120mV pk-pk	±1%	±5%	Center positive	
ME10A1503F01	15.0V	0.8A	12W	150mV pk-pk	±1%	±5%		
ME10A2403F01	24.0V	0.5A	12W	240mV pk-pk	±1%	±5%		
ME10A0503N01	5.0V	2.0A	10W	75mV pk-pk	±1%	±5%	2.5 x 5.5 x 9.5mm Straight barrel type,	Class II Desktop, IEC60320 C8 receptacle
ME10A0603N01	5.9V	1.6A	10W	75mV pk-pk	±1%	±5%		
ME10A0703N01	7.5V	1.3A	10W	75mV pk-pk	±1%	±5%		
ME10A0903N01	9.0V	1.1A	10W	90mV pk-pk	±1%	±5%		
ME10A1203N01	12.0V	1.0A	12W	120mV pk-pk	±1%	±5%	Center positive	
ME10A1503N01	15.0V	0.8A	12W	150mV pk-pk	±1%	±5%		
ME10A2403N01	24.0V	0.5A	12W	240mV pk-pk	±1%	±5%		
ME10A0503Q01	5.0V	2.0A	10W	75mV pk-pk	±1%	±5%		Class II
ME10A0603Q01	5.9V	1.6A	10W	75mV pk-pk	±1%	±5%		
ME10A0703Q01	7.5V	1.3A	10W	75mV pk-pk	±1%	±5%	2.5 x 5.5 x 9.5mm Straight barrel type, Center positive	
ME10A0903Q01	9.0V	1.1A	10W	90mV pk-pk	±1%	±5%		Desktop, IEC60320 C18
ME10A1203Q01	12.0V	1.0A	12W	120mV pk-pk	±1%	±5%		receptacle
ME10A1503Q01	15.0V	0.8A	12W	150mV pk-pk	±1%	±5%		
ME10A2403Q01	24.0V	0.5A	12W	240mV pk-pk	±1%	±5%		

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#### **MODEL SELECTION**

Model Number	Volts	Output Current	Output Power	Ripple & Noise <sup>1</sup>	Line Regulation	Load Regulation	Output Connector	Input Configuration
ME10A0503B01	5.0V	2.0A	10W	75mV pk-pk	±1%	±5%		Class II Wall-plug,
ME10A0603B01	5.9V	1.6A	10W	75mV pk-pk	±1%	±5%	_	
ME10A0703B01	7.5V	1.3A	10W	75mV pk-pk	±1%	±5%	2.5 x 5.5 x 9.5mm	
ME10A0903B01	9.0V	1.1A	10W	90mV pk-pk	±1%	±5%	Straight barrel type,	Interchangeable blades (North
ME10A1203B01	12.0V	1.0A	12W	120mV pk-pk	±1%	±5%	Center positive	American blade
ME10A1503B01	15.0V	0.8A	12W	150mV pk-pk	±1%	±5%	- - -	included) <sup>2</sup>
ME10A2403B01	24.0V	0.5A	12W	240mV pk-pk	±1%	±5%		
ME10A0503C01	5.0V	2.0A	10W	75mV pk-pk	±1%	±5%		
ME10A0603C01	5.9V	1.6A	10W	75mV pk-pk	±1%	±5%		
ME10A0703C01	7.5V	1.3A	10W	75mV pk-pk	±1%	±5%	2.5 x 5.5 x 9.5mm	Class II
ME10A0903C01	9.0V	1.1A	10W	90mV pk-pk	±1%	±5%	Straight barrel type,	Wall-plug, Fixed North American
ME10A1203C01	12.0V	1.0A	12W	120mV pk-pk	±1%	±5%	Center positive	blades³
ME10A1503C01	15.0V	0.8A	12W	150mV pk-pk	±1%	±5%		
ME10A2403C01	24.0V	0.5A	12W	240mV pk-pk	±1%	±5%		

Note: 1. Measured at the output connector, with noise probe directly across output and load terminated with 0.1µF ceramic and 10µF low ESR capacitors. For 5V and 6V models, values listed are typical, 100mV pk-pk maximum with 0.1µF ceramic and 47µF low ESR capacitors used at measurement point.

- 2. Order blade kit KT-1027K for other blades (EU. UK, Australia).
- $3. \ For \ EU \ fixed \ blades, replace \ "C" \ in \ the \ model \ number \ with \ "M", for \ UK \ blades, replace \ "C" \ with \ "H".$
- 4. For Input Class I models: For AC GND connected to output common (-), insert a "B" in the part number where the "A" is located (ME10B0503F01).
- 5. All specifications are typical at nominal input, full load, at 25°C ambient unless noted.

#### **INPUT**

AC Input	100-240VAC, ±10%, 47-63Hz, 1Ø				
Input Current	115VAC: 0.45A, 230VAC: 0.22A				
Inrush Current	264VAC, cold start: will not exceed 40A				
Input Fuses	F1, F2: 3.15A, 250Vac fuses (line & neutral lines) provided on all models				
Earth Leakage Current (Input to Ground)	<500μA @ 264VAC, 60Hz, NC <1mA @ 264VAC, 60Hz, SFC				
Efficiency	>87%, Typical				
No Load Input Power	<0.1W per DoE Efficiency Level VI requirements				

#### **OUTPUT**

Hold-Up Time	20ms min at full load, 100VAC input				
Turn On Time	Less than 700ms @ 115VAC, Full load				
Patient Leakage Current (Output to Earth)	<100μA @ 264VAC, 60Hz, NC <500μA @ 264VAC, 60Hz, SFC				
Output Power	10 to 12W continuous - See models chart for specific voltage model ratings				
Output Voltage	See models chart				
Ripple and Noise	See models chart				
Transient Response	500µs response time for return to within 0.5% of final value for any 50% load step over the range of 5% to 100% of rated load, $\Delta i/\Delta t < 0.2A/\mu s$ Max voltage deviation is +/-3.5%				
Regulation	See models chart				



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#### **PROTECTION**

Overtemperature Protection	Will shutdown upon an overtemperature condition Auto-recovery				
Overload Protection	130 to 180% of rating, Hiccup mode				
Short Circuit Protection	Hiccup mode, Auto recovery				
Overvoltage Protection	130 to 150% of output voltage, Hiccup mode				
Drop Test	1.4m from table top to wooden platform, 6 faces				

#### **RELIABILITY**

MTBF	>1,000,000 hours, Full load, 110 & 220VAC input, 25°C amb per Telcordia 332 Issue 6, Stress method
E-cap Life	>10 years life based on calculations at 115VAC/60Hz & 230VAC/50Hz, ambient 25°C at 24 hrs per day, 365 days/year, 6 power up cycles per day

#### **ISOLATION SPECIFICATIONS**

Isolation	Input-Output: 2 MOPP Input-Ground: 1 MOPP Output-Ground: 1500VAC

#### **ENVIRONMENT**

Operating Temperature	-20°C to +70°C. See curve for derating				
StorageTemperature	-40°C to +85°C				
Altitude	Operating: to 5,000m Non-operating: -500 to 40,000 ft				
Relative Humidity	5% to 95%, Non-condensing				
Vibration	Operating: 0.003g/Hz, 1.5grms overall, 3 axes, 10 min/axis, 1-500Hz Non-operating: Random waveform, 3 min per axis, 3 axes and Sine waveform Vib. frequency/acceleration: 10-500Hz/1g, sweep rate of 1 oct/min., Vib. time of 10 sweeps / axes, 3 axes				

#### **SAFETY**

Safety Standards	EN/IEC/UL60601-1, 3rd edition			
Shock	Operating: Half-sine, 20gpk, 10ms, 3 axes, 6 shocks total Non-operating: Half-sine waveform Impact acceleration of 100G, Pulse duration of 6ms Number of shocks: 3 for each of the three axis			

#### **EMI/EMC COMPLIANCE**

Conducted Emissions	IEC60601-1-2/EN55011/CISPR11 Class B, FCC Part 15, Class B, 6db margin typ., at 115 and 230Vac
Radiated Emissions	IEC60601-1-2/EN55011/CISPR11 Class B, FCC Part 15, Class B, 3db margin typ., at 115 and 230Vac
Common Mode Noise	High frequency (100kHz-20MHz): <40mA pk-pk
Electro-Static Discharge (ESD) Immunity on Power Ports	EN55024/IEC61000-4-2, Level 4: +/- 8kV contact, +/- 15kV air, Criteria A IEC60601-1-2, 4th edition, Table 4
Radiated RF EM Fields Susceptibility	EN55022/EN61000-4-3, 10V/m, 80MHz-2.7GHz, 80% AM at 1kHz IEC60601-1-2, 4th edition, Table 4
Electrical Fast Transients (EFT)/Bursts	EN55024/IEC61000-4-4, Level 4, +/- 4.4kV, 100kHz rep rate, 40A, Criteria A IEC60601-1-2, 4th edition, Table 5
Surges, Line to Line (Diff Mode) and Line to GND (CMN Mode)	EN55024/IEC61000-4-5, Level 4, +/-2kV DM, +/-4kV CM, Criteria A Surpasses IEC60601-1-2, 4th edition requirements
Conducted Disturbances Induced by RF Fields	EN55022/IEC61000-4-6, 3.6V/m — Level 4, 0.15 to 80MHz; and 12V/m) in ISM and amateur radio bands between 0.15MHz and 80MHz, 80% AM at 1kHz IEC60601-1-2, 4th edition, Table 5
Rated Power Frequency Magnetic Fields	EN55024/IEC1000-4-8, Level 4: 30 A/m, 50/60Hz IEC60601-1-2, 4th Edition, Table 4
Voltage Interruptions, Dips, Sags & Surges	EN55024/IECEN61000-4-11:100% dip for 10 ms, at 0, 45, 90, 135, 180, 225, 270 and 315 degrees,100% dip for 20ms, 0 deg, Criteria A100% dip for 5000ms (250/300 cycles), Criteria B60% dip for 100ms, Criteria B30% dip for 500ms, Criteria A IEC60601-1-2, 4th Edition, Table 5
Harmonic Current Emissions	EN55011/EN61000-3-2, Class A
Flicker Test	EN61000-3-3

Note: All specifications are typical at nominal input, full load, at 25°C ambient unless noted.

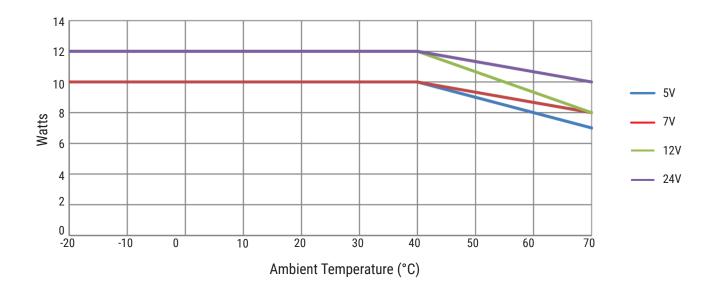
Consult factory for information regarding testing for or usage under special environments.

Performance criteria are based are defined as following:

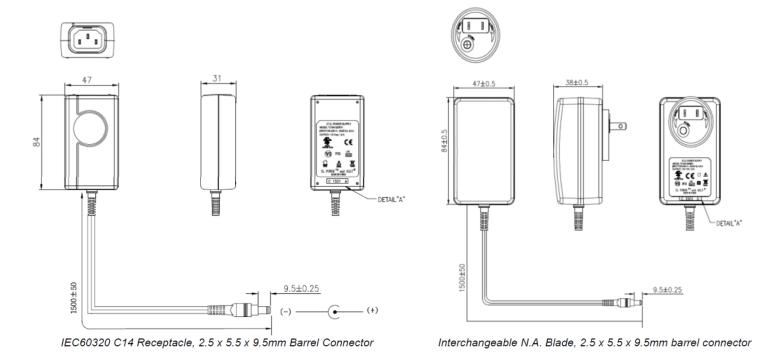
- A Normal performance during and after the test
- B Temporary degradation, self-recoverable
- C Temporary degradation, operator intervention required to recover the operation
- D Permanent damage



#### **DERATING CHART**



#### **MECHANICAL DRAWING**



Note: 1. All dimensions in mm.

- 2. Weight = 110g.
- 3. Interchangeable blade models come with North American blade fitted. For other blades (EU, UK, Aust.) order blade kit KT1027K.
- 4. The unit should not be covered or enclosed to protect against excessive case temperature rise.

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### **CONNECTOR INFORMATION**

Standard models include a 2.5 x 5.5 x 9.5mm straight barrel type connector (Ault #3), center positive. Other standard options are listed below. The "03" in the standard model number is replaced by the applicable digits below:

Connector No.	Description		Connector No.	Description	
02	2.1 x 5.5 x 9.5 mm straight barrel plug Center positive		45	2.5 x 5.5 x 9.5 mm straight barrel plug, locking Center positive	
03	2.5 x 5.5 x 9.5 mm straight barrel plug Center positive (Standard models)		48	3 pin Snap n Lock, Kycon Kpp-3P or equivalent (Pin 1 = (+), pin 2 =(-))	
12	5 pin DIN-180 male connector (Pins 3, 5 = (+), pins 1, 2, 4 = (-))		49	4 pin Snap n Lock, Kycon Kpp-4P or equivalent (Pins 1, 3 = (+), pins 2, 4 = (-))	
22	6 pin DIN male connector (Pins 1, 2 = (+), pins 4, 5 = (-))		51	6 pin Minifit - Molex 39-01-2060 or equivalent (Pins 1, 4 = (+), pins 3, 6 = (-))	
23	8 pin DIN male connector (Pins 3, 7 = (+), pins 1, 4, 6, 8 = (-), shell = FG)		65	Stripped and Tinned Leads	
32	9 pin "D" type, female (Pins 8 = (+), pins 5=(-), all others = NC)		70	2.1 x 5.5 x 11 mm right angle barrel plug (High retention) Center positive	
33	2.5 x 5.5 x 12.5 mm straight barrel plug Center positive		71	2.5 x 5.5 x 11 mm right angle barrel plug (High retention) Center positive	
40	2.1 x 5.5 x 9.5 mm right angle barrel plug (High retention) Center positive		72	2.1 x 5.5 x 9.5 mm straight barrel plug (High retention, No spark) Center positive	
41	2.5 x 5.5 x 9.5 mm right angle barrel plug (High retention) Center positive		73	2.5 x 5.5 x 9.5 mm straight barrel plug (High retention, No spark) Center positive	
42	2.1 x 5.5 x 11 mm straight barrel plug (High retention) Center positive		74	EIAJ#5 style connector - Central positive	
43	2.5 x 5.5 x 11 mm straight barrel plug (High retention) Center positive		99	Micro USB	
44	2.1 x 5.5 x 9.5 mm straight barrel plug, locking Center positive	-			

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.

### **Mouser Electronics**

**Authorized Distributor** 

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#### SL Power:

 ME10A0503B01
 ME10A1203B01
 ME10A1203F01
 ME10A0503F01
 ME10A2403F01
 ME10A0703F01

 ME10A0603C01
 ME10A0703N01
 ME10A0703Q01
 ME10A0603F01
 ME10A0703B01
 ME10A0703C01

 ME10A0603B01
 ME10A0603Q01
 ME10A0603N01
 ME10A1202N01
 ME10A0502Q01
 ME10A0602N01

 ME10A0602F01
 ME10A0702F01
 ME10A2402N01
 ME10A1202F01
 ME10A0702N01
 ME10A1202Q01

 ME10A2402Q01
 ME10A0602Q01
 ME10A0702Q01
 ME10A0502F01
 ME10A0502N01
 ME10A1202Q01

 ME10A0903B01
 ME10A0502R01
 ME10A0502R01
 ME10A0502R01
 ME10A1202Q01