



Medical

### FEATURES AND BENEFITS

Compact Size: 6.5" x 2.8" x 1.5"

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

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

Meets DoE Efficiency Level VI and EU CoC Version 5, Tier 2 Requirements

No Load Input Power

Average Efficiency

Up to 150W of AC-DC Power

Universal Input 85-264Vac Input Range

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

E-Cap Life of >10 years

>3M Hours MTBF

IP22 Rated Enclosure

3 Year Warranty\*\*



### MODEL SELECTION

Model Number	Volts	Output Current	Output Power	Ripple & Noise <sup>1</sup>	Line Regulation	Load Regulation	Output Connector	Input Configuration
ME150A1251F01	12.0V	12.5A	150W	120mV pk-pk	±1%	±5%	6 pin Molex Type2	Class I Desktop, IEC60320 C14 Receptacle
ME150A1551F01	15.0V	10.0A	150W	150mV pk-pk	±1%	±5%		
ME150A1851F01	18.0V	8.33A	150W	180mV pk-pk	±1%	±5%		
ME150A2451F01	24.0V	6.25A	150W	240mV pk-pk	±1%	±5%		
ME150A4851F01	48.0V	3.20A	150W	480mV pk-pk	±1%	±5%		
ME150A1251N01	12.0V	12.5A	150W	120mV pk-pk	±1%	±5%	6 pin Molex Type2	Class II Desktop, IEC60320 C8 Receptacle
ME150A1551N01	15.0V	10.0A	150W	150mV pk-pk	±1%	±5%		
ME150A1851N01	18.0V	8.33A	150W	180mV pk-pk	±1%	±5%		
ME150A2451N01	24.0V	6.25A	150W	240mV pk-pk	±1%	±5%		
ME150A4851N01	48.0V	3.20A	150W	480mV pk-pk	±1%	±5%		
ME150A1251Q01	12.0V	12.5A	150W	120mV pk-pk	±1%	±5%	6 pin Molex Type2	Class II Desktop, IEC60320 C18 Receptacle
ME150A1551Q01	15.0V	10.0A	150W	150mV pk-pk	±1%	±5%		
ME150A1851Q01	18.0V	8.33A	150W	180mV pk-pk	±1%	±5%		
ME150A2451Q01	24.0V	6.25A	150W	240mV pk-pk	±1%	±5%		
ME150A4851Q01	48.0V	3.20A	150W	480mV pk-pk	±1%	±5%		

#### Notes:

1. Measured at the output connector, with noise probe directly across output and load terminated with 0.1µF ceramic and 10µF low ESR capacitors.
2. Molex p/n 39-01-2060 or equivalent. See outline drawing for pinout information.
3. For Input Class I models: For AC GND connected to output return (-), insert a "B" in the part number where the "A" is located (ME150B1251F01).
4. All specifications are typical at nominal input, full load, at 25°C ambient unless noted.
5. Consult factory for availability of 48V model, and models with "Q01" (C18 input receptacle).



### INPUT

AC Input	100-240Vac, $\pm 10\%$ , 47-63Hz, 1 $\emptyset$
Input Current	115Vac: 2.2A, 230Vac: 1.1A
Inrush Current	264Vac, cold start: will not exceed 60A
Input Fuses	F1, F2: 3.15A, 250Vac fuses (line & neutral lines) provided on all models
Earth Leakage Current	Input-GND: <500 $\mu$ A@264Vac, 60Hz, NC Output-GND: <4mA@264Vac, 60Hz, NC
Efficiency	>88%, typical
No Load Input Power	<0.150W (meets DoE Efficiency Level VI and CoC Tier 2 Requirements)

### OUTPUT

Output Voltage	See models chart on pg 1.
Output Power	150W continuous – See models chart for specific voltage model ratings
Turn On Time	Less than 1 sec @115Vac, full load
Hold-up Time	20mS min., at full Load, 100Vac input
Ripple and Noise	See models chart on pg 1
Total Regulation	See models chart on pg 1
Transient Response	500 $\mu$ s 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 $\pm 3.5\%$ .

### PROTECTION

Overvoltage Protection	130 to 150% of output voltage, Hiccup mode
Short Circuit Protection	Hiccup Mode, auto recovery
Overtemperature Protection	Will shutdown upon an overtemperature condition, auto-recovery
Overload Protection	125 to 180% of rating, Hiccup Mode

### EMI/EMC COMPLIANCE

Conducted Emissions	EN55011/CISPR11 Class B, FCC Part 15.107, Class B: 6db margin typ, at 115 and 230Vac
Radiated Emissions	EN55011/CISPR11 Class B, FCC Part 15.109, 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, +/- 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, 3V/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 Field Immunity	EN55024/IEC1000-4-8, Level 4: 30A/m, 50/60 Hz IEC60601-1-2, 4th Edition, Table 4
Harmonic Current Emissions	EN55011/EN61000-3-2, Class A
Flicker Test	EN61000-3-3
Voltage Interruptions, Dips, Sags & Surges	EN55024/IECEN61000-4-11: <ul style="list-style-type: none"> <li>- 100% dip for 10 mS, at 0, 45, 90, 135, 180, 225, 270 and 315 degrees, Criteria A; 100% dip for 20mS, Criteria A</li> <li>- 100% dip for 5000mS (250/300 cycles), Criteria B</li> <li>- 60% dip for 100mS, Criteria B</li> <li>- 30% dip for 500mS, Criteria A IEC60601-1-2, 4th Edition, Table 5</li> </ul>



### RELIABILITY

MTBF	>250,000 hours, full load, 110 & 220Vac input, 25°C amb., per Telcordia 332 Issue 6
E-Cap Life	>7 year 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. (80% load on 5V, 12V model)

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

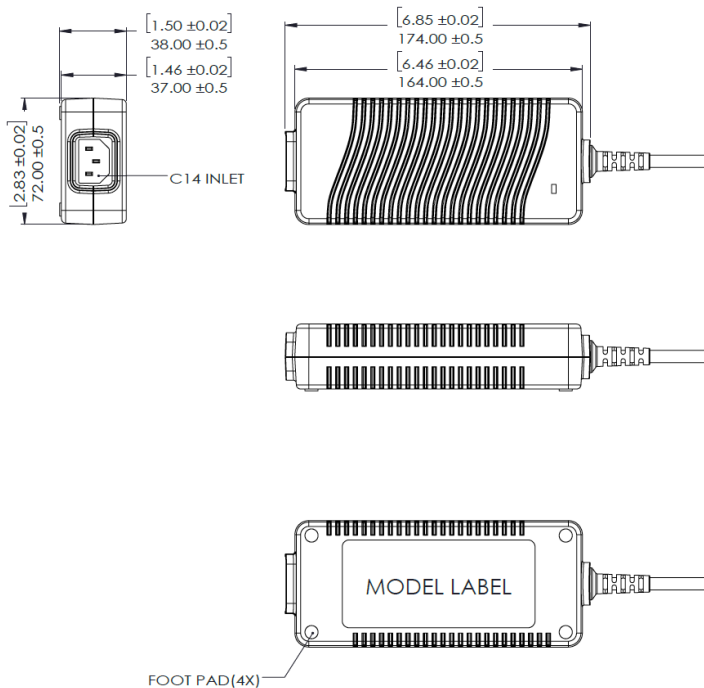
### ISOLATION

Isolation	Input-Output: 2 MOPP Input-Ground: 1 MOPP Output-Ground: 1 MOPP
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### SAFETY

Safety Standards	EN/IEC/UL60601-1, 3rd edition
Drop Test	1.4m from table top to wooden platform, 4 faces

### MECHANICAL DRAWING



### ENVIRONMENT

Operating Temperature	-20°C to +50°C. Derate above 40°C. Start Up at -40°C, full load, (warmup period before all parameters are within published specifications)
Relative Humidity	5% to 95%, non-condensing
Weight	700 grams
Dimensions	W: 2.83" x L: 6.5" x H: 1.46" W: 72mm x L: 165mm x H: 37mm
Temperature Derating	Derate output power above 40°C to TBD at 50°C
Altitude	Operating: to 5000m Non-operating: -500 to 40,000 ft.
Storage Temperature	-40°C to +85°C
Vibration	Operating: 0.003g/Hz, 1.5grms overall, 3 axes, 10 min/axis, 1-500Hz Non-Oper.: random waveform, 3 minutes per axis, 3 axes and Sine waveform, Vib. frequency/acceleration: 10-500Hz/1g, sweep rate of 1 octave / minutes, Vibration time of 10 sweeps / axes, 3 axes
Shock	Operating: Half-sine, 20gpk, 10mS, 3 axes, 6 shocks total Non-Operating: Half-sine waveform, impact acceleration of 50G, Pulse duration of 6 mS, Number of shocks: 3 for each of the three axis

#### Notes:

- All dimensions in mm.
- The unit should not be covered or enclosed to protect against excessive case temperature rise.



### CONNECTOR INFORMATION

Standard models include a Molex Minifit 39-01-2060 connector. Other standard options are listed below. The “51” in the standard model number is replaced by the applicable digits below. Consult factory for availability.

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