ME240

240W Single Output External Power
Medical Series

Features

- 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 Requirements
  - No load input power
  - Average Efficiency
- Up to 240W of AC-DC Power
- Universal Input 90-264Vac Input Range
- Desktop Style Package
- Meets EN55011/CISPR11, FCC Part 15.109 Class B Conducted & Radiated Emissions, with 6db margin
- E-cap life of >7 years
- 3 Year Warranty
- IP22 Rated Enclosure

Description

A high performance AC to DC external power supply family designed for medical applications. The ME240 Medical Series external AC-DC power supplies are approved to safety EN/IEC/UL60601-1, 3rd edition with isolation levels which satisfy the 2 MOPP requirements and designed to UL/EN/IEC60601-1-2, 4th edition for EMC*. The ME240 Series models will operate at universal input range of 90 to 264Vac over the wide temperature range of -20°C to +50°C, delivering full rated output power up to +40°C and applicable output power derating at 50°C. These models are available in desktop versions, include an IP22 rating per IEC60529 for the enclosure, and the output cable can be terminated at a variety of output connectors.

*Professional Equipment only. Consult Factory for Table 9 compliance information.

Model Selection

Model Number	Volts	Output Current	Output Power	Ripple & Noise[1]	Line Regulation	Load Regulation	Output Connector	Input Configuration
ME240A1251F01	12.0V	16.6A	200W	120mV pk-pk	±1%	±5%	6 pin Molex Type[2] 2.5 x 5.5 x 9.5mm Straight Barrel Type, center positive	Class I Desktop, IEC60320 C14 Receptacle
ME240A2451F01	24.0V	10.0A	240W	240mV pk-pk	±1%	±5%		
ME240A2851F01	28.0V	8.60A	240W	280mV pk-pk	±1%	±5%		
ME240A4851F01	48.0V	5.00A	240W	480mV pk-pk	±1%	±5%		
ME240A1251N01	12.0V	16.6A	200W	120mV pk-pk	±1%	±5%	6 pin Molex Type[2] 2.5 x 5.5 x 9.5mm Straight Barrel Type, center positive	Class II Desktop, IEC60320 C8 Receptacle
ME240A2451N01	24.0V	10.0A	240W	240mV pk-pk	±1%	±5%		
ME240A2851N01	28.0V	8.60A	240W	280mV pk-pk	±1%	±5%		
ME240A4851N01	48.0V	5.00A	240W	480mV pk-pk	±1%	±5%		
ME240A1251Q01	12.0V	16.6A	200W	120mV pk-pk	±1%	±5%	6 pin Molex Type[2] 2.5 x 5.5 x 9.5mm Straight Barrel Type, center positive	Class II Desktop, IEC60320 C18 Receptacle
ME240A2451Q01	24.0V	10.0A	240W	240mV pk-pk	±1%	±5%		
ME240A2851Q01	28.0V	8.60A	240W	280mV pk-pk	±1%	±5%		
ME240A4851Q01	48.0V	5.00A	240W	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 common (-), insert a "B" in the part number where the "A" is located (ME240B1251F01).

General Specifications

AC Input	100-240Vac, ±10%, 47-63Hz, 1∅	**Turn On Time**	Less than 1 sec @115Vac, full load
Input Current	115Vac: 2.4A, 230Vac: 1.2A	**Hold-up Time**	20mS min., at full Load, 100Vac input
Inrush Current	264Vac, cold start: will not exceed 60A	**Overtemperature Protection**	Will shutdown upon an overtemperature condition, auto-recovery.
Input Fuses	F1, F2: 3.15A, 250Vac fuses (line & neutral lines) provided on all models	**Overload Protection**	115 to 160% of rating, Hiccup Mode

General Specifications (CONTINUED)

Earth Leakage Current	Input-GND: <500µA@264Vac, 60Hz, NC Output-GND: <4mA@264Vac, 60Hz, NC	**Short Circuit Protection**	Hiccup Mode, auto recovery.
Efficiency	>88%, typical	**Overvoltage Protection**	110 to 130% of output voltage (max. 60V on 48V model), hiccup mode
Output Power	240W continuous – See models chart for specific voltage model ratings.	**Isolation**	Input-Output: 2 MOPP Input-Ground: 1 MOPP Output-Ground: 1 MOPP
No Load Input Power	<0.150W (exceeds DoE Efficiency Level VI Req'ts, meets EU CoC Tier 2 req'ts.)	**Safety Standards**	EN/IEC/UL60601-1-1, 3rd edition
Ripple and Noise	See models chart on pg 1.	**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).
Output Voltage	See models chart on pg 1.	**Temperature Derating**	See Derating Curves
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/µs. Max. voltage deviation is +/-3.5%.	**Storage Temperature**	-40°C to +85°C
Regulation	See models chart on pg 1.	**Altitude**	Operating: to 3000m. Non-operating: -500 to 40,000 ft.
Drop Test	1.4m from table top to wooden platform, 4 faces.	**Relative Humidity**	5% to 95%, non-condensing
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
Dimensions	W: 2.65" x L: 8.3" x H: 1.7" W: 67.3mm x L: 210.8mm x H: 43.2mm	**MTBF**	>250,000 hours, full load, 110 & 220Vac input, 25°C amb., per Telcordia 332 Issue 6.
Weight	700g	**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.

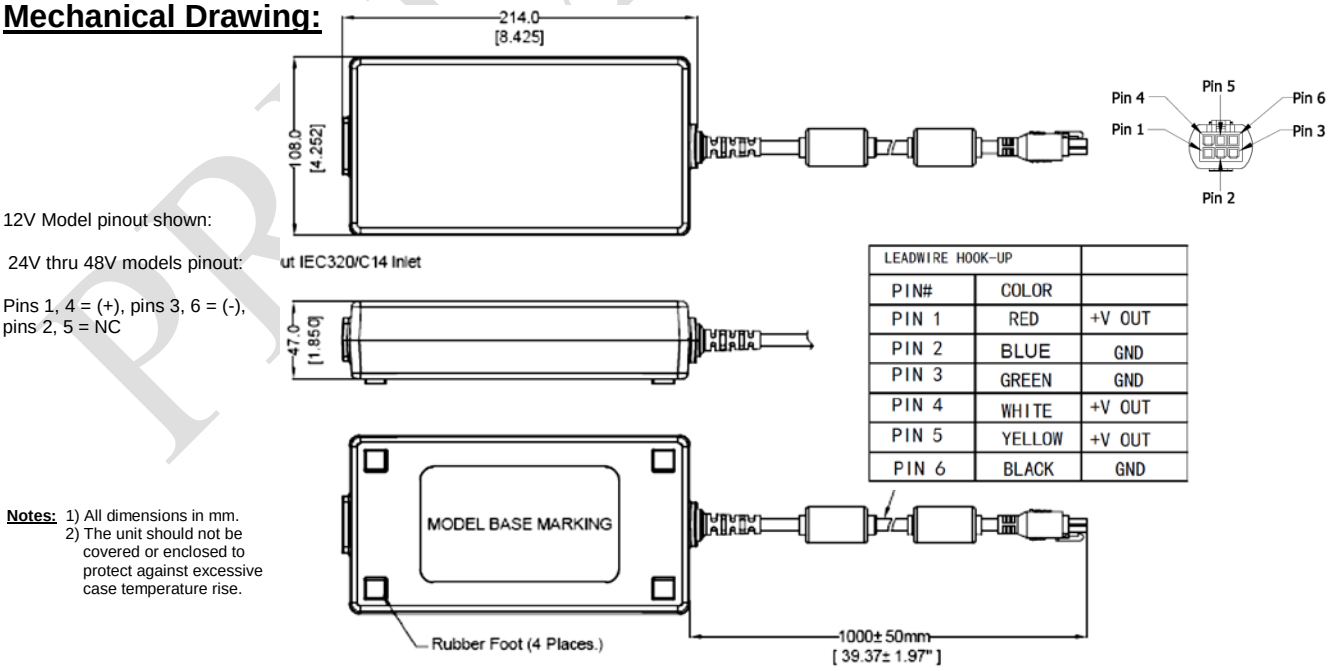
EMI/EMC Compliance

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	EN55024/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, 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: 30A/m, 50/60 Hz 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, Criteria A; 100% dip for 20mS, Criteria A --100% dip for 5000mS (250/300 cycles), Criteria B --60% dip for 100mS, Criteria B --30% 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

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.

Notes: 1. Consult Factory for Table 9 compliance information.
2. 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

Mechanical Drawing:



12V Model pinout shown:

24V thru 48V models pinout:

Pins 1, 4 = (+), pins 3, 6 = (-), pins 2, 5 = NC

LEADWIRE HOOK-UP		
PIN#	COLOR	
PIN 1	RED	+V OUT
PIN 2	BLUE	GND
PIN 3	GREEN	GND
PIN 4	WHITE	+V OUT
PIN 5	YELLOW	+V OUT
PIN 6	BLACK	GND

Notes: 1) All dimensions in mm.
2) The unit should not be covered or enclosed to protect against excessive case temperature rise.

Output Connector Options:

Note: These are the most common standard connectors. SL Power has the capability to incorporate any non-standard output connector. All output connectors are limited by wattage range and application type. The SL Power applications team is available to provide professional support and can be contacted here: info@slpower.com.