



Medical

FEATURES AND BENEFITS

Meets UL/EN/IEC60601-1-2 4 th Edition for EMC*	Universal Input Range 90VAC–264VAC
IP22 Rated Enclosure	Desktop Style Package
Up to 240W of AC-DC Power	E-Cap Life of >7 Years
3 Years Warranty	Meets EN55011/CISPR11, FCC Part 15.109 Class B Conducted & Radiated Emissions, with 6db Margin
Meets DoE Efficiency Level VI Requirements <ul style="list-style-type: none"> No Load Input Power Average Efficiency 	Approved to EN/IEC/UL60601-1 3 rd Edition with Isolation Levels which Satisfy the 2 x MOPP Requirements



Notes:

- * Professional equipment only. Consult factory for Table 9 compliance information.

MODEL SELECTION

Model Number	Volts	Output Current	Output Power	Ripple & Noise ¹	Line Regulation	Total Load Regulation	Output Connector	Input Configuration
ME240A1251F01	12V	16.6A	200W	120mV pk-pk	±1%	±5%	6 Pin Molex type ²	Class I Desktop, IEC60320 C14 receptacle
ME240A2451F01	24V	10.0A	240W	240mV pk-pk	±1%	±5%		
ME240A2851F01	28V	8.60A	240W	280mV pk-pk	±1%	±5%		
ME240A4851F01	48V	5.00A	240W	480mV pk-pk	±1%	±5%		

Notes:

- Measured at the output connector, with noise probe directly across output and load terminated with 0.1µF ceramic and 10µF low ESR capacitors.
- Molex p/n 39-01-2060 or equivalent. See outline drawing for pinout information.
- 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).

INPUT

Input Voltage and Frequency	100VAC–240VAC, ±10%, 47Hz–63Hz, 1Ø
Input Current	115VAC: 2.4A, 230VAC: 1.2A
Inrush Current	264VAC, cold start: will not exceed 60A
Input Fuses	F1, F2: 3.5A, 250VAC fuses (line & neutral lines) provided on all models
Earth Leakage Current (Input to Earth)	Input-GND: <500µA@264VAC, 60Hz, NC
Efficiency	>88%, typical
Power Factor	<0.210W (exceeds DoE efficiency Level VI requirements, meets EU CoC Tier 2 requirements)

OUTPUT

Output Voltage	See models chart
Turn On Time	Less than 1 sec @115VAC, full load
Hold-up Time	20mS at full load, 100VAC input
Output Power	240W continuous - See models chart for specific voltage model ratings
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%
Total Regulation	See models chart
Ripple and Noise	See models chart



ISOLATION

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

Safety Standards	EN/IEC/UL60601-1-1 3 rd Edition
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RELIABILITY

MTBF	>250,000 hours, full load, 110VAC & 220VAC input, 25°C amb., per Telcordia 332 Issue 6
E-Cap Life	>7 years life based on calculations at 115VAC/60Hz & 230VAC/50Hz, ambient 25°C at 24 hours/day, 365 days/year, 6 power up cycles/day

PROTECTION

Overtemperature Protection	Will shutdown upon an overtemperature condition, Auto-recovery
Overload Protection	115% to 160% of rating, Hiccup mode
Overvoltage Protection	110% to 130% of output voltage (max 60V on 48V model), Hiccup mode
Short circuit Protection	Hiccup mode, Auto-recovery

ENVIRONMENT

Relative Humidity	5% to 95%, non-condensing
Weight	700 grams
Dimensions	W: 8.4" x L: 4.25" x H: 1.85" W: 214mm x L: 108mm x H: 47mm
Altitude	Operating: to 3,000m Non-operating: -500 feet to 40,000 feet
Vibration	Operating: 0.003g/Hz, 1.5 grams overall, 3 axes, 10 min/axis, 5Hz-500Hz Non-operating: Random waveform, 3 min/axis, 3 axes and Sine waveform, Vib Frequency/Acceleration: 10Hz-500Hz/1g, sweep rate of 1 octave/min, 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 6ms Number of shocks: 3 for each of the 3 axis
Operating Temperature	-20°C to +70°C. Derate above 40°C. Start Up at -30°C. Full load, (warm-up period before all parameters are within published specifications)



EMI/EMC COMPLIANCE

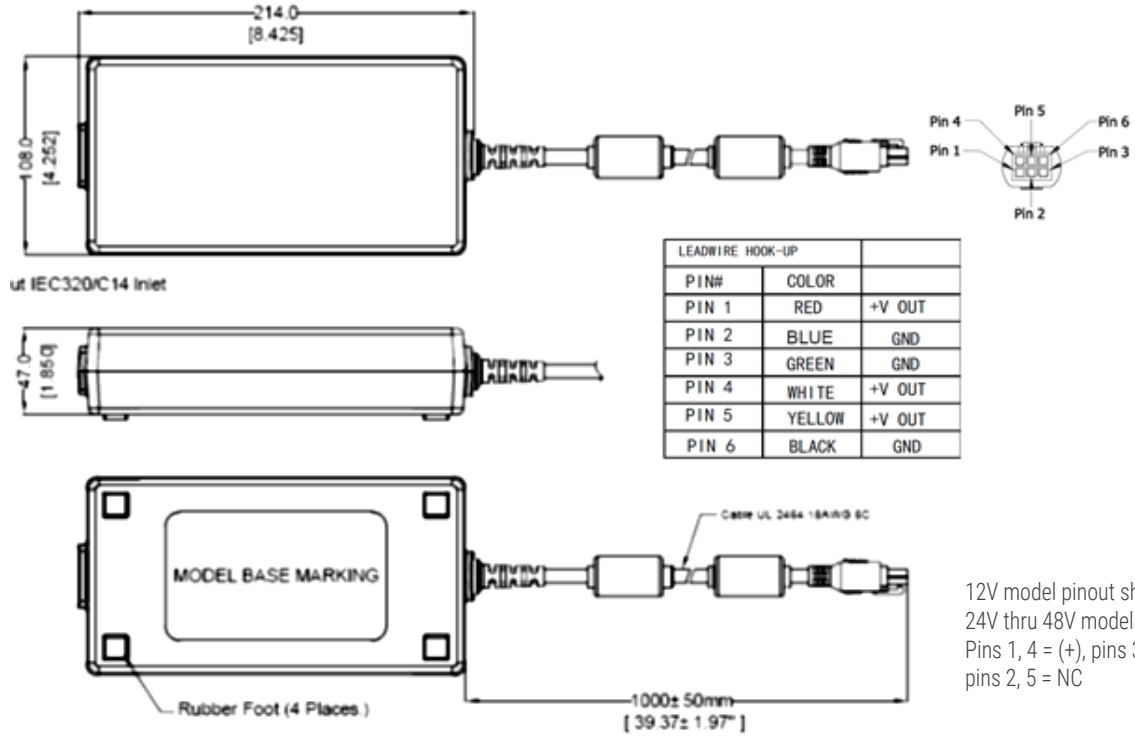
Conducted Emissions	EN55011/CISPR11 Class B, FCC Part 15.107, Class B: 6db margin type, at 115VAC and 230VAC
Radiated Emissions	EN55011/CISPR11 Class B, FCC Part 15.109, Class B: 3db margin type, at 115VAC and 230VAC
Electro Static Discharge (ESD) Immunity on Power Ports	EN55024/IEC61000-4-2, Level 4: +/- 8kV contact, +/- 15kV air, Criteria A IEC60601-1-2 4 th Edition, Table 4
Radiated RF EM Fields Susceptibility	EN55024/EN61000-4-3, 10V/m, 80MHz-2.7GHz, 80% AM at 1kHz IEC60601-1-2 4 th Edition, Table 4
Electrical Fast Transients (EFT)/Bursts	EN55024/IEC61000-4-4, Level 4, +/- 4kV, 100KHz rep rate, 40A, Criteria A IEC60601-1-2 4 th Edition, Table 5
Surges, Line to Line (DM) and Line to Ground (CM)	EN55024/IEC61000-4-5, Level 4, +/-2kV DM, +/-4kV CM, Criteria A Surpasses IEC60601-1-2 4 th Edition requirements
Conducted RF Immunity	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 4 th Edition, Table 5
Power Frequency Magnetic Field Immunity	EN55024/IEC1000-4-8, Level 4: 30A/m, 50Hz/60Hz IEC60601-1-2 4 th Edition, Table 4
Voltage Dip Immunity	EN55024/IECEN61000-4-11: --100% dip for 10mS, at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°, 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 4 th Edition, Table 5
Harmonic Current Emissions	EN55011/EN61000-3-2 Class A
Flicker Test	EN61000-3-3
Common Mode Noise	High frequency (100kHz–20MHz): <50mA pk-pk

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



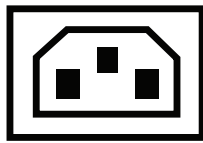
12V model pinout shown
24V thru 48V models pinout:
Pins 1, 4 = (+), pins 3, 6 = (-),
pins 2, 5 = NC

Notes:

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

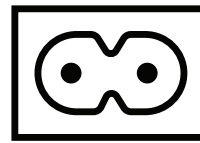
INPUT CONFIGURATION

Input Receptacle



IEC320 C14 - Class I
Grounded (F)

Input Receptacle



IEC320 C8 - Class II
Ungrounded (N)



CONNECTOR INFORMATION

Connector No.	Description	Connector No.	Description
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 v (Pins 1, 2 = (+), pins 4, 5 = (-))	51	6 pin Minifit - Molex 39-01-2060 or equivalent
23	8 pin DIN male connector (Pins 3, 7 = (+), pins 1, 4, 6, 8 = (-), shell = FG)	65	Stripped and Tinned Leads
48	3 pin Snap n Lock, Kycon Kpp-3P or equivalent (Pin 1 = (+), pin 2 = (-))		

Notes:

1. Check with SL Power for suitability of specific connectors with certain models. Other connector options or different pinouts will require a modified model.