

SL POWER ME60 Series

60 Watts Single Output External Power Adapter
Medical Grade



Medical

Advanced Energy's SL Power ME60 series of desktop AC-DC external power adapter comprises seven output models. All models feature medical safety approvals and accept a universal input of 90 to 264 VAC. ME60 series power adapters provide up to 60 Watts of output power with IP22 rated enclosure and are ideal for applications that are used in environments where AC mains power may be noisy or unstable and equipment shutdown is not an option.

AT A GLANCE

Total Power

60 Watts

Input Voltage

90 to 264 VAC

of Outputs

Single

SPECIAL FEATURES

- A high performance power supply designed for Medical applications
- Great EMI, EMC, and noise performance ensures easy integration into the end equipment
- Up to 60 W of AC-DC Power
- IP22 Rated Enclosure*
- Meets EN55011/CISPR11, FCC Part 15.109 Class B Conducted & Radiated Emissions, with 6db Margin
- Meets UL/EN/IEC60601-1-2, 4th edition for EMC
- >7 Years E-Cap Life
- >250,000 Hours MTBF
- 3 Years Warranty
- Meets DoE Efficiency Level VI Requirements
- RoHS Compliant

SAFETY

- IEC/EN/UL60601-1, 3rd edition
- CE Mark
- UKCA Mark



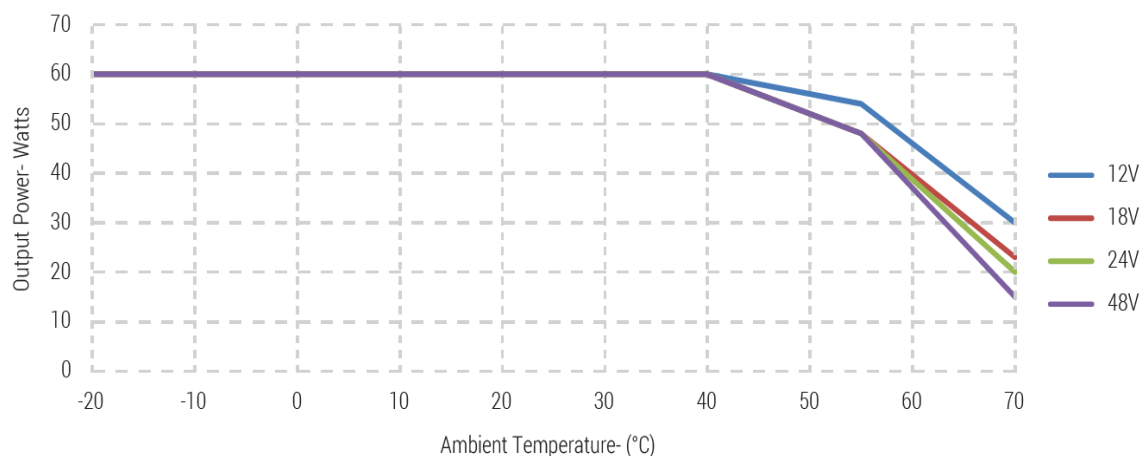
ELECTRICAL SPECIFICATIONS

| Input | |
|----------------------------|--|
| Input range | 100 to 240 VAC, $\pm 10\%$, 47 to 63 Hz, 1 ϕ |
| Input current | 1.5 A @ 115 VAC, 0.7 A @ 240 VAC |
| Inrush current | 40 A max, cold start @ 264 VAC input |
| Input fuses | F1, F2: 2 A, 250 VAC fuses (line & neutral lines) provided on all models |
| Leakage current | Input to GND <500 μ A @ 264 VAC, 60 Hz, NC |
| Efficiency | 88%, Typical |
| Common Mode Noise | High frequency (100kHz to 20MHz); <40mA pk-pk |
| No load input power | <0.21 W per DoE Efficiency Level VI Requirements |
| Output | |
| Output voltage | See models chart on page 5 |
| Output power | 60 W continuous - See models chart for specific voltage model ratings |
| Turn on time | Less than 1 sec @ 115 VAC, full load |
| Hold-up time | 20 mS min., at full load, 100 VAC input |
| Ripple and noise | See models chart on page 5 |
| Regulation | See models chart on page 5 |
| Reliability | |
| MTBF | >250,000 hours, full load, 110 VAC & 220 VAC input, 25°C amb., per Telcordia 332 Issue 6, Stress Method |
| E-cap Life | >7 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 |
| Protection | |
| Overtemperature protection | Will shutdown upon an overtemperature condition, auto-recovery |
| Overload protection | 130% to 180% of rating, hiccup mode |
| Overvoltage protection | 130% to 150% of output voltage(max. 60V on 48V model), hiccup mode |
| Short circuit protection | Hiccup mode, auto-recovery |
| Safety | |
| Safety standards | Approved to EN/IEC/UL60601-1, 3rd edition |
| Drop test | 1.4 m from table top to wooden platform, 4 faces |
| Isolation | |
| Isolation | Input to Output: 4000 VAC Input to Ground: 1500 VAC Output to Ground: 1500 VAC |

Note:

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

DERATING CHART



EMI/EMC COMPLIANCE

| | |
|--|--|
| Conducted emissions | IEC60601-1-2/EN55011/CISPR11 Class B, FCC Part 15, Class B, 6db margin typ., at 115 VAC and 230VAC |
| Radiated emissions | IEC60601-1-2/EN55011/CISPR11 Class B, FCC Part 15, Class B, 3db margin typ., at 115 VAC and 230VAC |
| Electro-static discharge (ESD) immunity on power ports | EN55024/IEC61000-4-2, Level 4: ±8 kV contact, ±15 kV air, Criteria A |
| Flicker test | EN61000-3-3 |

Note:

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

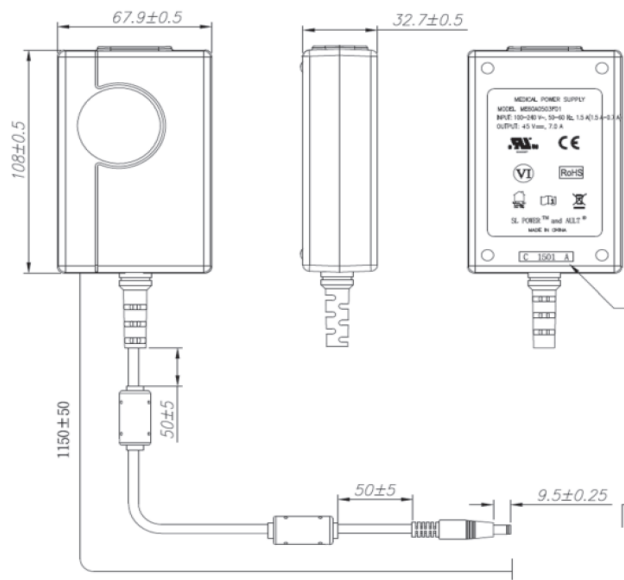
ENVIRONMENTAL SPECIFICATIONS

| | |
|-----------------------|--|
| Operating temperature | -20°C to +70°C Start up at -40°C, full load (warmup period before all parameters are within published specifications) |
| Storage temperature | -40°C to +85°C |
| Relative humidity | 5% to 95%, non-condensing |
| Weight | 400 grams |
| Temperature derating | See derating chart |
| Altitude | Operating: to 5000 m Non-operating: -500 ft to 40000 ft |
| Vibration | Operating: 0.003 g/Hz, 1.5 grams overall, 3 axes, 10 min/axis, 1 Hz to 500 Hz Non-Operating: random waveform, 3 minutes/axis, 3 axes and sine waveform, Vib. frequency/acceleration: 10Hz to 500 Hz/1g, sweep rate of 1 oct/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 100G, Pulse duration of 6ms Number of shocks: 3 for each of the three axis |

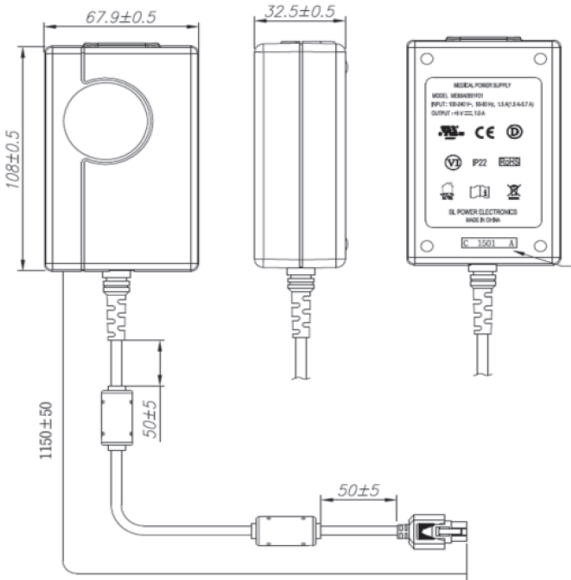
Note:

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

MECHANICAL DRAWING



9V through 48V Models: 2.5mm x 5.5mm x 9.5mm or equiv, Barrel Connector, center positive²



5V Models Output Connector: 6 pin Molex 39-01-2060 or equiv. Pins 1,4 = (+), Pins 3,6 = (-), Pins 2,5 = NC²

- Notes:
1. All dimensions in mm.
 2. Other options are available.
 3. Cable length on 12V through 48V models is 1500mm, nominal.
 4. Pins 4,5,6 are located closest to the locking tab.
 5. The unit should not be covered or enclosed to protect against excessive case temperature rise.

| LEADWIRE HOOK-UP | | |
|------------------|----------|-------|
| PIN # | FUNCTION | COLOR |
| 1 | +V | RED |
| 2 | NC | - |
| 3 | COMMON | BLACK |
| 4 | +V | WHITE |
| 5 | NC | - |
| 6 | COMMON | GREEN |
| | BRAID | FG4 |

ORDERING INFORMATION

| Model Number | Volts | Output Current | Output Power | Ripple & Noise ¹ | Line Regulation | Load Regulation | Output Connector | Output Cable | Input Configuration |
|--------------|--------|----------------|--------------|-----------------------------|-----------------|-----------------|---|---|---|
| ME60A0551F01 | 5.0 V | 7.00 A | 35 W | 75mV pk-pk | ± 1% | ± 5% | 6 Pin Molex Type ² 2.5 x 5.5 x 9.5mm Straight Barrel Type, Center Positive | 1150mm, #18AWG 9V:1150mm 18AWG All others: 1500mm, #18AWG | Class I Desktop, IEC60320 C14 Receptacle |
| ME60A0903F01 | 9.0 V | 6.00 A | 56 W | 90mV pk-pk | ± 1% | ± 5% | | | |
| ME60A1203F01 | 12.0 V | 5.00 A | 60 W | 120mV pk-pk | ± 1% | ± 5% | | | |
| ME60A1503F01 | 15.0 V | 4.00 A | 60 W | 150mV pk-pk | ± 1% | ± 5% | | | |
| ME60A1803F01 | 18.0 V | 3.30 A | 60 W | 180mV pk-pk | ± 1% | ± 5% | | | |
| ME60A2403F01 | 24.0 V | 2.70 A | 60 W | 240mV pk-pk | ± 1% | ± 5% | | | |
| ME60A4803F01 | 48.0 V | 1.35 A | 60 W | 480mV pk-pk | ± 1% | ± 5% | | | |
| ME60A0551N01 | 5.0 V | 7.00 A | 35 W | 75mV pk-pk | ± 1% | ± 5% | 6 Pin Molex Type ² 2.5 x 5.5 x 9.5mm Straight Barrel Type, Center Positive | 1150mm, #18AWG 9V:1150mm 18AWG All others: 1500mm, #18AWG | Class II Desktop, IEC60320 C8 Receptacle |
| ME60A0903N01 | 9.0 V | 6.00 A | 56 W | 90mV pk-pk | ± 1% | ± 5% | | | |
| ME60A1203N01 | 12.0 V | 5.00 A | 60 W | 120mV pk-pk | ± 1% | ± 5% | | | |
| ME60A1503N01 | 15.0 V | 4.00 A | 60 W | 150mV pk-pk | ± 1% | ± 5% | | | |
| ME60A1803N01 | 18.0 V | 3.30 A | 60 W | 180mV pk-pk | ± 1% | ± 5% | | | |
| ME60A2403N01 | 24.0 V | 2.70 A | 60 W | 240mV pk-pk | ± 1% | ± 5% | | | |
| ME60A4803N01 | 48.0 V | 1.35 A | 60 W | 480mV pk-pk | ± 1% | ± 5% | | | |
| ME60A0551Q01 | 5.0 V | 7.00 A | 35 W | 75mV pk-pk | ± 1% | ± 5% | 6 Pin Molex Type ² 2.5 x 5.5 x 9.5mm Straight Barrel Type, Center Positive | 1150mm, #18AWG 9V:1150mm 18AWG All others: 1500mm, #18AWG | Class II Desktop, IEC60320 C18 Receptacle |
| ME60A0903Q01 | 9.0 V | 6.00 A | 56 W | 90mV pk-pk | ± 1% | ± 5% | | | |
| ME60A1203Q01 | 12.0 V | 5.00 A | 60 W | 120mV pk-pk | ± 1% | ± 5% | | | |
| ME60A1503Q01 | 15.0 V | 4.00 A | 60 W | 150mV pk-pk | ± 1% | ± 5% | | | |
| ME60A1803Q01 | 18.0 V | 3.30 A | 60 W | 180mV pk-pk | ± 1% | ± 5% | | | |
| ME60A2403Q01 | 24.0 V | 2.70 A | 60 W | 240mV pk-pk | ± 1% | ± 5% | | | |
| ME60A4803Q01 | 48.0 V | 1.35 A | 60 W | 480mV pk-pk | ± 1% | ± 5% | | | |

Notes:

1. Measured at the output connector, with noise probe directly across output and load terminated with 0.1 μ F ceramic and 10 μ F low ESR capacitors. For 5 V models, values listed are typical 100 mV pk-pk maximum with 0.1 μ F ceramic and 47 μ F low ESR capacitors used at measurement point.
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 (ME60B1203F01).
4. All specifications are typical at nominal input, full load, at 25°C ambient unless noted.

CONNECTOR INFORMATION

Standard models include a 2.5mm x 5.5mm x 9.5mm straight barrel type connector (Ault #3), center positive (6-pin Molex type - #51 – on 5V models). 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 (Pin 8 = (+); pin 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 |  | | | |



For international contact information,
visit advancedenergy.com.

powersales@aei.com (Sales Support)
productsupport.ep@aei.com (Technical Support)
+1 888 412 7832

ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

PRECISION | POWER | PERFORMANCE | TRUST

Specifications are subject to change without notice. Not responsible for errors or omissions. ©2022 Advanced Energy Industries, Inc. All rights reserved. Advanced Energy®, and AE® are U.S. trademarks of Advanced Energy Industries, Inc.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[SL Power:](#)

[ME60A4803Q01](#) [ME60A2403N01](#) [ME60A1203Q01](#) [ME60A2403Q01](#) [ME60A1503Q01](#) [ME60A1803Q01](#)
[ME60A1203N01](#) [ME60A4803N01](#) [ME60A1803N01](#)