

# **SL POWER SLE65 SERIES**

65 Watts Single Output **External Power Adapters** 







Advanced Energy's SL Power SLE65 series AC-DC power adapters feature both medical and ITE safety approvals. It meets Department of Energy Level VI and European Code of Conduct V5 Tier 2 Directive efficiency standards.

#### **SPECIAL FEATURES**

- Medical and ITE safeties
- Suitable for medical equipment up to
- 2 x MOPP input to output isolation
- <0.15 W standby power
- Overvoltage, overcurrent and short circuit protection
- EU CoC V5 Tier 2 compliant
- DoE Efficiency level VI
- Low leakage current less than 100 μA
- Up to 5000 m operating altitude
- AC inlet IEC60320 C8 (class II) or C14 (class I) input

#### **SAFETY**

- CB Medical: IEC 60601-1 ANSI/AAMI ES 60601-1 ITE: IEC 62368-1, UL 62368-1
- UL Medical: CAN/CSA C22.2. No. 60601-1 ITE: CAN/CSA C22.2 No. 62368-1
- TUV Medical: EN 60601-1 ITE: EN 62368-1
- CCC China GB4943

#### **AT A GLANCE**

#### **Total Power**

65 Watts

#### **Input Voltage**

90 to 264 VAC

#### # of Outputs

Single



### **ELECTRICAL SPECIFICATIONS**

Input				
Input Voltage Range	90 to 264 VAC			
Frequency	47 to 63 Hz			
Input Current	2.0 A @ 90 VAC			
Inrush Current	120 A @ 240 VAC cold start			
Touch Leakage Current	≤ 100 μA @ 264 VAC			
Isolation Safety Rating	Input to output: 4,000 VAC (2 x MOPP)			
Dielectric Withstand Voltage	Input to output: 5,656 VDC			
Insulation Resistance	Input to output: 10 Mohms, 500 VDC			
Output				
Output Voltage	9.0 V, 12.0 V, 15.0 V, 18.0 V, 24.0 V, 48.0 V			
Voltage Regulation	±5%			
Start-up Delay	≤ 3 s			
Overvoltage Protection	120% to 200% rated output voltage, recycle input to reset			
Overload Protection	120% to 200% rated output power, auto-recovery			
Short Circuit Protection	Trip and restart, hiccup mode			

### **RELIABILITY**

MTBF > 100,000 hours MIL-HDBK-217 at 25°C	MTBF
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### **ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature	0 to +40°C ambient			
Storage Temperature	-20 to +60°C			
Operating Humidity	10% to 90% RH, non-condensing			
Storage Humidity	5% to 90% RH			
Operating Altitude	5,000 m			
Weight	340 g			
Dimension	124.6 x 62.0 x 34.0 mm			
Packing Quantity	16 Kg individual box: 40/carton			



### **EMC/EMI COMPLIANCE**

Conducted Emissions	Medical: IEC/EN 60601-1-2, CISPR 11 ITE: EN 55032, CISPR 22				
Radiated Emissions	Medical: IEC/EN 60601-1-2, CISPR 11 ITE: EN 55032, CISPR 22				
Immunity	Medical: IEC/EN 60601-1-2 ITE: EN 55024, CISPR 24				
Electro-Static Discharge (ESD) Immunity on Power Ports	EN 61000-4-2, ±15 kV air, ±8 kV contact				
Radiated RF EM Fields Susceptibility	EN 61000-4-3, 10 V/m, 3 V/m (80 MHz to 2700 MHz)				
Electrical Fast Transients (EFT) / Bursts	EN 61000-4-4, ±2 kV on AC port, ±1 kV on signal ports				
Surges, Line to Line (DM) and Line to Ground (CM)	EN 61000-4-5, ±1 kV line to line (diff mode)				
Conducted RF Immunity	EN 61000-4-6, 3 Vrms, 6 Vrms (0.15 MHz to 80 MHz)				
Power Frequency Magnetic Field Immunity	EN 61000-4-8, 30 A/m				
Voltage Dip Immunity	EN 61000-4-11, 0%, 70%, 0% of UT				
Harmonic Current Emissions	EN 61000-3-2, Class A				
Flicker Test	EN 61000-3-3				

### **ORDERING INFORMATION - SLE65 SERIES**

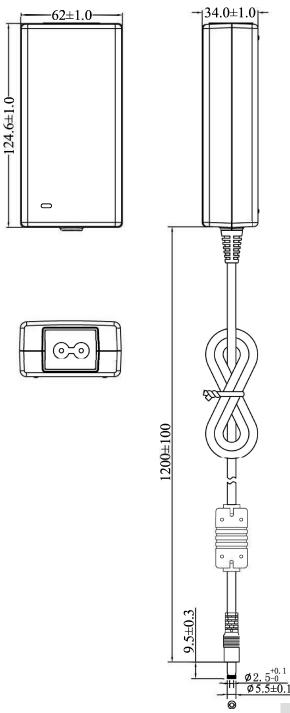
Model Number <sup>3,4,5</sup>	Maximum Power	Output Voltage¹	Maximum Load	Ripple & Noise <sup>2</sup>	Line Regulation	Load Regulation	Efficiency (Average)
SLE65S0903N01	48.78 W	9.0 V	5.4 A	200 mV pk-pk	± 1%	± 5%	89.0%
SLE65S1203N01	65.04 W	12.0 V	5.4 A	200 mV pk-pk	± 1%	± 5%	89.0%
SLE65S1503N01	64.5 W	15.0 V	4.3 A	200 mV pk-pk	± 1%	± 5%	89.0%
SLE65S1803N01	64.8 W	18.0 V	3.6 A	200 mV pk-pk	± 1%	± 5%	89.0%
SLE65S2403N01	64.8 W	24.0 V	2.7 A	240 mV pk-pk	± 1%	± 5%	89.0%
SLE65S4803N01	64.8 W	48.0 V	1.3 A	300 mV pk-pk	± 1%	± 5%	89.0%
SLE65S0903F01	48.78 W	9.0 V	5.4 A	200 mV pk-pk	± 1%	± 5%	89.0%
SLE65S1203F01	65.04 W	12.0 V	5.4 A	200 mV pk-pk	± 1%	± 5%	89.0%
SLE65S1503F01	64.5 W	15.0 V	4.3 A	200 mV pk-pk	± 1%	± 5%	89.0%
SLE65S1803F01	64.8 W	18.0 V	3.6 A	200 mV pk-pk	± 1%	± 5%	89.0%
SLE65S2403F01	64.8 W	24.0 V	2.7 A	240 mV pk-pk	± 1%	± 5%	89.0%
SLE65S4803F01	64.8 W	48.0 V	1.3 A	300 mV pk-pk	± 1%	± 5%	89.0%

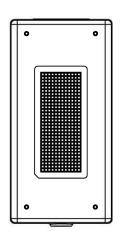
#### Note:

- $1. \ Other \ output \ voltages \ in \ the \ range \ of \ 9 \ V \ through \ 54 \ V \ are \ available, contact \ our \ sales \ reprentative \ for \ details.$
- 2. Measured at output connector with 20 MHz bandwidth and 0.1  $\mu F$  ceramic in parallel with 10  $\mu F$  electrolytic capacitors.
- 3. "N" in the model number (SLE65S2403N01) indicates IEC60320 C8 inlet (class II). "F" indicates C14 (class I). C6, (class I) and C18 (class II) inputs are available. Contact our sales representative for details.
- $4.\ "03" in the model number indicates \ 2.5 \times 5.5 \times 9.5 \ mm \ straight \ barrel \ type \ connector. Other output \ connector \ options \ are available, please \ contact \ our \ sales \ representative \ for \ details.$
- 5. Power supply is not provided with a line cord.
- 6. Power supplies are not medical equipment (applied parts), medical product manufacturers take responsibility for further evaluation of class B/BF/CF compliance of their end product.



### **MECHANICAL DRAWINGS**





DC Cable: UL1185 16AWG 1200 mm

Connector:  $2.5 \times 5.5 \times 9.5$  mm, fork type, center "+"

Interchangeable AC Plug Options









C8 (CI.II)

C6 (Cl.I)

C14 (Cl.I) C18 (Cl.II)





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#### **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.

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**Authorized Distributor** 

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### SL Power:

<u>SLE65S1203F01</u> <u>SLE65S1203N01</u> <u>SLE65S1503F01</u> <u>SLE65S1503N01</u> <u>SLE65S2403F01</u> <u>SLE65S2403N01</u> SLE65S0903F01 SLE65S0903N01 SLE65S4803F01 SLE65S4803N01