

# SL POWER GE30D SERIES

24 Watts Dual Output External  
Power Adapters



Medical



Industrial

Advanced Energy's SL Power GE30D series of desktop AC-DC external power adapters provide up to 24 Watts dual output power with IP20 rated enclosure. GE30D series power adapters meet industrial & medical safety approvals and accept a universal input of 90 to 264 VAC. These power adapters feature output overvoltage, overtemperature, overload and short-circuit protections.

## AT A GLANCE

### Total Power

24 Watts

### Input Voltage

90 to 264 VAC

### # of Outputs

Dual



## SPECIAL FEATURES

- Up to 24 Watts of AC-DC Power
- Universal Input 90 to 264 VAC
- Various DC Outputs plus USB A Port
- 2 MOPP Output to Output Isolation
- 1 MOPP Input to Output Isolation
- Meets EN55011/CISPR11, FCC Part 15.109
- Class B Conducted & Radiated Emissions
- Meets 4th Edition/Heavy Industrial EMC
- >250,000 Hours MTBF
- IP20 Rated Enclosure
- 3 Years Warranty

## SAFETY

- UL/CSA/IEC/IEC60601-1, 62368-1

**ELECTRICAL SPECIFICATIONS**

Input	
Input Range	100 to 240 VAC, ±10%, 47 to 63 Hz, 1, Class I
Input Current	0.55 A max at 115 VAC, 0.33 A max at 230 VAC
Inrush Current	60 A max., cold start @ 264 VAC input
Input Fuse	F1, F2: 2.0 A, 250 VAC fuses (line & neutral) provided on all models
Leakage Current	Input to GND: <500 µA @ 264 VAC, 60 Hz, NC Output to GND: <4 mA @ 264 VAC, 60 Hz, NC Input to Output: <90 uA @ 264 VAC, 60 Hz, NC
No Load Input Power	<1 W
Efficiency	>70% @ full load, typical
Isolation Voltage	Input to Ground: 1 MOPP Input to Output: 2 MOPP Output to Ground: 1 MOPP
Output	
Output Voltage	See "Ordering information" section
Output Power	24 W continuous, see "Ordering information" section for specific voltage model ratings
Ripple and Noise	See "Ordering information" section
Regulation	See "Ordering information" section
Turn on Time	Less than 1000 mS @ 115 VAC, full load
Hold-up Time	20 mS min., at full Load, 100 VAC input
Transient Response	500 µs 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, $\Delta i/\Delta t < 0.2 \text{ A}/\mu\text{s}$ . Max. voltage deviation is +/-5%
Reliability	
MTBF	>250,000 hours, full load, 110 & 220 VAC input, 25°C amb., per Telcordia 332 Issue 6.
Warranty	3 years
Protection	
Overvoltage Protection	V1: 115 to 155% of nominal, latch mode, requires AC recycle to reset. V2: 115% to 155% of nominal, USB has a "Cut-out switch" latch protection, requires AC recycle to reset.
Overload Protection	V1: 110 to 150% of rating, constant current, then hiccup mode, auto-recovery V2: 130 to 180% of rating, constant current, recovery
Short Circuit Protection	V1: Hiccup mode, auto-recovery. V2: Constant current, auto-recovery. If the second output is short circuited or overloaded, the first output will continue to operate normally. If the first output is short circuited or overloaded, it is not required that the second output continues to operate normally.
Overtemperature Protection	Will shutdown upon an over temperature condition, auto-recovery

**ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature	-20°C to +40°C
Storage Temperature	-40°C to +85°C
Case Temperature	71°C max at 40°C ambient, full load
Relative Humidity	5% to 95%, non-condensing
Altitude	Operating: 5000 m; Non-operating: -500 to 40,000 ft
Weight	300 g
Dimensions	W: 4" x L: 6" x H: 1.6"

## EMI/EMC COMPLIANCE

Conducted Emissions	EN55011/CISPR11 Class B, FCC Part 15.107, Class B: >6 db margin typ, at 115 and 230 VAC
Radiated Emissions	EN55022/CISPR11 Class B, FCC Part 15.109, Class B: >3 db margin typ, at 115 and 230 VAC
Common Mode Noise	High Frequency (100 kHz to 20 MHz): <40 mA pk-pk
Electro-Static Discharge (ESD) Immunity on Power Ports	EN55024/IEC61000-4-2, Level 4: +/- 8 kV contact, +/- 15 kV air, Criteria A IEC60601-1-2, 4th Edition, Table 4
Radiated RF EM Fields Susceptibility	EN55022/EN61000-4-3, 10 V/m, 80 MHz 2.7 GHz, 80% AM at 1 kHz IEC60601-1-2, 4th Edition, Table 4
Electrical Fast Transients (EFT)/Bursts	EN55024/IEC61000-4-4, Level 4, +/- 4 kV, 100 kHz rep rate, 40 A, Criteria A IEC60601-1-2, 4th Edition, Table 5
Surges, Line to Line (DM) and Line to Ground (CM)	EN55024/IEC61000-4-5, Level 4, +/-2 kV DM, +/-4 kV CM, Criteria A Surpasses IEC60601-1-2, 4th Edition requirements.
Conducted Disturbances induced by RF Fields	EN55022/IEC61000-4-6, 3.6 V/m – Level 4, 0.15 to 80 MHz; and 12 V/m in ISM and amateur radio bands between 0.15 MHz and 80 MHz, 80% AM at 1 kHz IEC60601-1-2, 4th Edition, Table 5.
Rated Power Frequency Magnetic Fields	EN55024/IEC1000-4-8, Level 4: 30 A/m, 50/60 Hz IEC60601-1-2, 4th Edition, Table 4
Voltage Interruptions, Dips, Sags & Surges	EN55024/IEC61000-4-11: 100% dip for 10 mS, at 0, 45, 90, 135, 180, 225, 270 and 315 degrees, 100% dip for 20 mS, 0 deg., Criteria A 100% dip for 5000 mS (250/300 cycles), Criteria B 60% dip for 100 mS, Criteria B 30% dip for 500 mS, Criteria A IEC60601-1-2, 4th Edition, Table 5
Harmonic Current Emissions	EN55011/EN61000-3-2, Class A
Flicker Test	EN61000-3-3

## SAFETY

Standards	EN/IEC/cUL60601-1-1, 3rd edition EN/IEC/cUL62368-1
Drop Test	1.4 m from table top to wooden platform, six faces.

## ORDERING INFORMATION

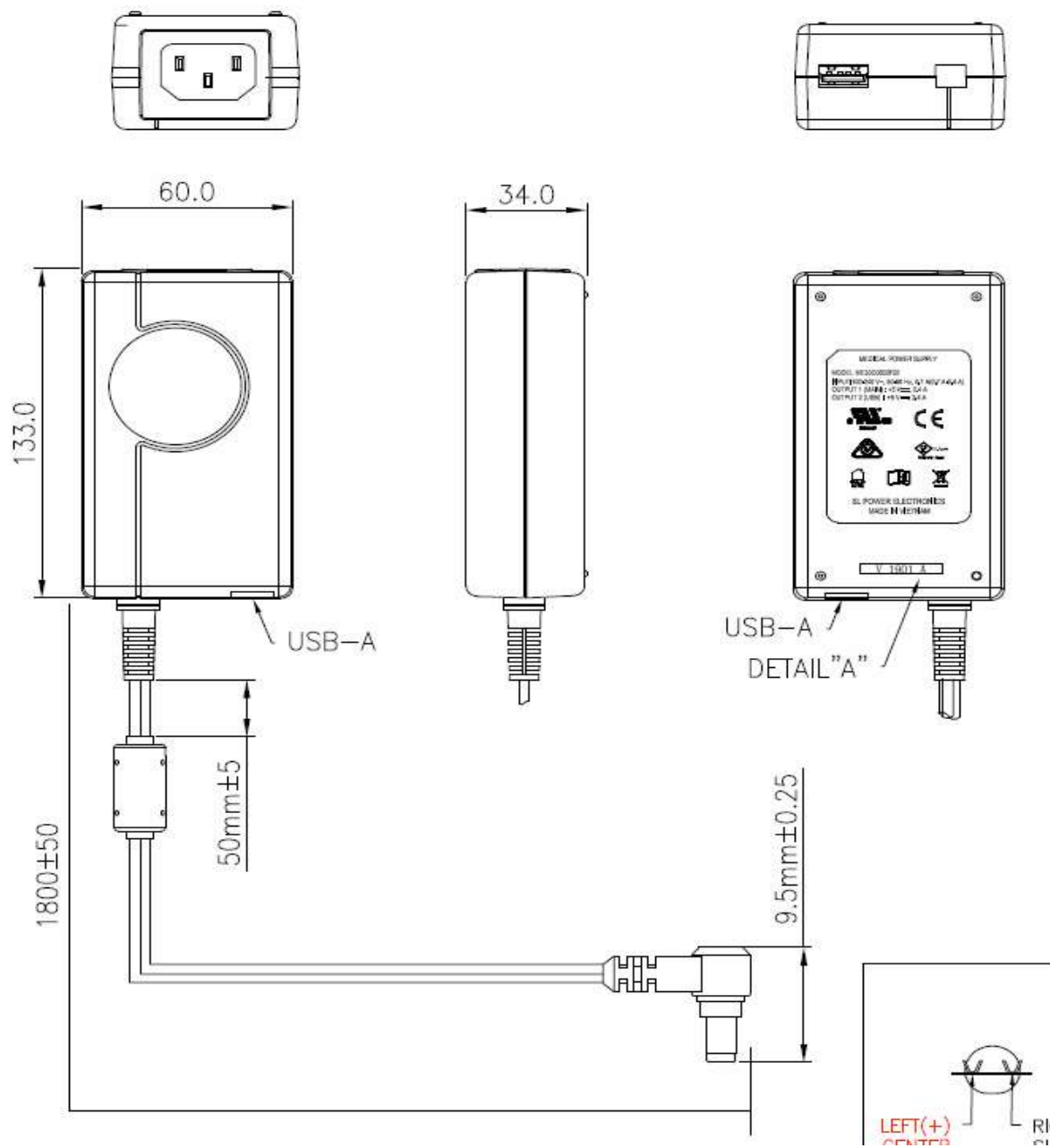
Model Number <sup>1</sup>	Output Voltage	Output Current	Output Power	Ripple & Noise <sup>2</sup>	Line Regulation	Load Regulation	Output Connector
GE30D0502F01	V1: 5.0 V V2: 5.0 V	2.4 A 2.4 A	12 W 12 W	75 mV pk-pk 50 mV pk-pk	±1% ±1%	±5% +2%, -4%	2.1 x 5.5 x 9.5 mm Straight Barrel Type, center positive for V1; USB "A" female port for V2

## Notes:

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

2. Measured at the output connector, with noise probe directly across output and load terminated with 0.1 µF ceramic and 10 µF low ESR capacitors.

MECHANICAL DRAWING



CONNECTOR INFORMATION

Standard models include a Molex Minifit 39-01-2060 connector. Other standard options are listed below. The “02” 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 (Pin 8 = (+); pin 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 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		71	2.5 x 5.5 x 11 mm 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	



For international contact information,  
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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.

PRECISION | POWER | PERFORMANCE | TRUST

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