



Medical



Industrial

FEATURES AND BENEFITS

Various DC outputs plus USB A port	UL/CSA/IEC/IEC60601-1, 62368-1 Approved
Up to 24W of AC-DC Power	Class B Conducted & Radiated Emissions
Universal Input 90-264Vac Input Range	Meets 4th Edition/Heavy Industrial EMC
2 MOPP output-output isolation	>250,000 hours MTBF
1 MOPP input-output isolation	IP20 Rated Enclosure
Meets EN55011/CISPR11, FCC Part 15.109	3 Years Warranty



MODEL SELECTION

Model Number	Volts	Output Current	Output Power	Ripple & Noise	Line Regulation	Load Regulation	Output Connector
GE30D0502F01	V1: 5.0V V2: 5.0V	2.4A 2.4A	12W 12W	75mV pk-pk 50mV pk-pk	±1% ±1%	±5% +2%, -4%	2.1x5.5x9.5mm Straight Barrel Type, center positive for V1; USB "A" female port for V2

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

INPUT

AC Input	100-240Vac, ±10%, 47-63Hz, 1, Class I
Input Current	115Vac: 0.55A, 230Vac: 0.33A
Inrush Current	264Vac, cold start: will not exceed 60A
Input Fuses	F1, F2: 2.0A, 250Vac fuses (line & neutral lines) provided on all models
Earth Leakage Current	Input-GND: <500µA@264Vac, 60Hz, NC Output-GND: <4mA@264Vac, 60Hz, NC Input-Output: <90µA@264Vac, 60 Hz, NC
Efficiency	>70% @ full load, typical
No Load Input Power	<1W

SAFETY

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

ISOLATION

Isolation	Input-Output: 2 MOPP Input-Ground: 1 MOPP Output-Ground: 1 MOPP
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OUTPUT

Output Power	24W continuous – See models chart for specific voltage model ratings
No Load Input Power	<1W
Ripple and Noise	See models chart on pg 1
Regulation	See models chart on pg 1
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 +/-5%

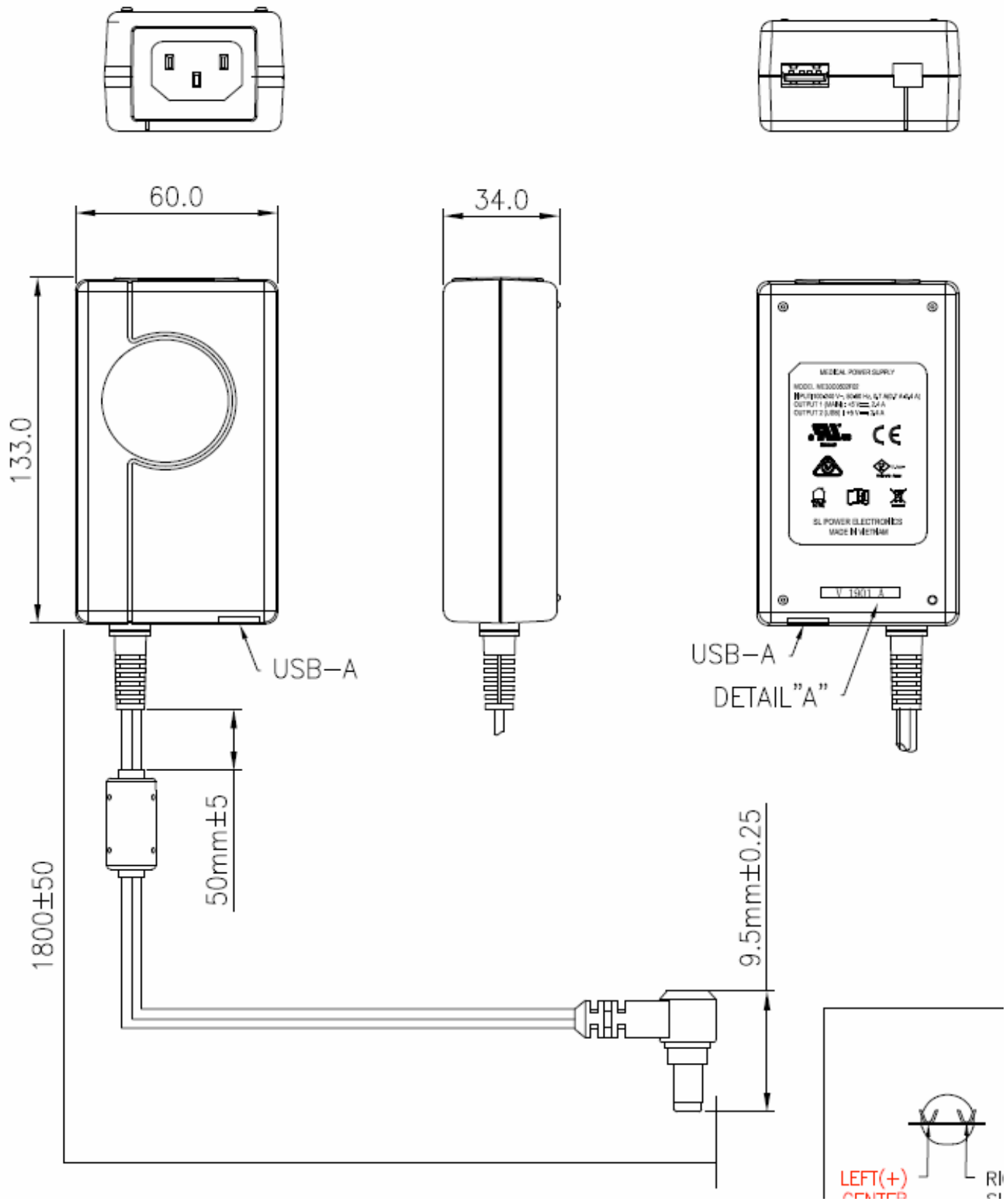
ENVIROMENT

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.
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 shall continue to operate normally. (Note: If the first output is short circuited or overloaded, it is not required that the second output shall continue to operate normally.)
Thermal Protection	Will shutdown upon an over temperature condition, auto-recovery
Overload Protection	V1: 110 to 150% of rating, Constant current, then Hiccup Mode, Auto Recovery V2: 130 to 180% of rating, Constant current, Recovery
Turn On Time	Less than 1000mS @115Vac, full load
Hold-up Time	20mS min., at full Load, 100Vac input
Operating Temperature	-20°C to +40°C
Case Temperature	71C max at 40C ambient, full load
Storage Temperature	-40°C to +85°C
Altitude	Operating: to 5000m. Non-operating: -500 to 40,000 ft.
Relative Humidity	5% to 95%, non-condensing
MTBF	>250,000 hours, full load, 110 & 220Vac input, 25°C amb., per Telcordia 332 Issue 6.
Unit Weight	300g
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: >6db margin typ, at 115 and 230Vac
Radiated Emissions	EN55022/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	EN55022/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, 100% dip for 20mS, 0 deg., Criteria A -- 100% dip for 5000mS (250/300cs), 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

OUTLINE DRAWING



CONNECTOR INFORMATION

Notes: Standard models include a Molex Minifit 39-01-2060 connector. Other standard options are listed below. The "51" 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 = (-); pins 5, 6 = NC)	
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 (Pins 8 = (+); pins 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 11mm 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 11mm 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	