ME30 Family

20W-30W Single Output External Power
Medical Grade

Medical

FEATURES AND BENEFITS

- Meets UL/EN/IEC60601-1-2, 4th edition for EMC*
- Approved to EN/IEC/UL60601-1, 3rd edition
- 2 MOPP input-output isolation
- Meets DoE Efficiency Level VI Requirements
  - No load input power
  - Average Efficiency
- Up to 30W of AC-DC Power
- Universal Input 90-264Vac Input Range
  - Desktop and Wall-Plug versions
- Meets EN55011/CISPR11, FCC Part 15.109 Class B Conducted & Radiated Emissions, with >6db margin
- E-cap life of >8 years
- >1,000,000 hours MTBF
- IP22 Rated Enclosure
- 3 Year Warranty

*Consult Factory for Table 9 compliance information.

MODEL SELECTION

Model Number	Volts	Output Current	Output Power	Ripple & Noise[1]	Line Regulation	Load Regulation	Overvoltage Trip Range	Output Connector	Input Configuration
ME30A0503F01	5.0V	4.00A	20W	75mV pk-pk	±1%	±5%	5.75V - 7.75V	2.5 x 5.5 x 9.5mm Straight Barrel Type, center positive	Class I Desktop, IEC60320 C14 Receptacle
ME30A0903F01	9.0V	3.00A	27W	90mV pk-pk	±1%	±5%	11.7V - 16.2V		
ME30A1203F01	12.0V	2.50A	30W	120mV pk-pk	±1%	±5%	14.4V - 16.8V		
ME30A1503F01	15.0V	2.00A	30W	150mV pk-pk	±1%	±5%	18.0V - 21.0V		
ME30A1803F01	18.0V	1.67A	30W	180mV pk-pk	±1%	±5%	21.6V - 25.2V		
ME30A2403F01	24.0V	1.33A	30W	240mV pk-pk	±1%	±5%	28.8V - 33.6V		
ME30A4803F01	48.0V	0.63A	30W	480mV pk-pk	±1%	±5%	55.0V - 60.0V		
ME30A0503N01	5.0V	4.00A	20W	75mV pk-pk	±1%	±5%	5.75V - 7.75V	2.5 x 5.5 x 9.5mm Straight Barrel Type, center positive	Class II Desktop, IEC60320 C8 Receptacle
ME30A0903N01	9.0V	3.00A	27W	90mV pk-pk	±1%	±5%	11.7V - 16.2V		
ME30A1203N01	12.0V	2.50A	30W	120mV pk-pk	±1%	±5%	14.4V - 16.8V		
ME30A1503N01	15.0V	2.00A	30W	150mV pk-pk	±1%	±5%	18.0V - 21.0V		
ME30A1803N01	18.0V	1.67A	30W	180mV pk-pk	±1%	±5%	21.6V - 25.2V		
ME30A2403N01	24.0V	1.33A	30W	240mV pk-pk	±1%	±5%	28.8V - 33.6V		
ME30A4803N01	48.0V	0.63A	30W	480mV pk-pk	±1%	±5%	55.0V - 60.0V		
ME30A0503Q01	5.0V	4.00A	20W	75mV pk-pk	±1%	±5%	5.75V - 7.75V	2.5 x 5.5 x 9.5mm Straight Barrel Type, center positive	Class II Desktop, IEC60320 C18 Receptacle
ME30A0903Q01	9.0V	3.00A	27W	90mV pk-pk	±1%	±5%	11.7V - 16.2V		
ME30A1203Q01	12.0V	2.50A	30W	120mV pk-pk	±1%	±5%	14.4V - 16.8V		
ME30A1503Q01	15.0V	2.00A	30W	150mV pk-pk	±1%	±5%	18.0V - 21.0V		
ME30A1803Q01	18.0V	1.67A	30W	180mV pk-pk	±1%	±5%	21.6V - 25.2V		
ME30A2403Q01	24.0V	1.33A	30W	240mV pk-pk	±1%	±5%	28.8V - 33.6V		
ME30A4803Q01	48.0V	0.63A	30W	480mV pk-pk	±1%	±5%	55.0V - 60.0V		

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MODEL SELECTION

Model Number	Volts	Output Current	Output Power	Ripple & Noise[1]	Line Regulation	Load Regulation	Overvoltage Trip Range	Output Connector	Input Configuration
ME30A0503B01	5.0V	4.00A	20W	75mV pk-pk	±1%	±5%	5.75V - 7.75V	2.5 x 5.5 x 9.5mm Straight Barrel Type, center positive	Class II Wall-Plug, Interchangeable Blades (North American Blade included)[2]
ME30A0903B01	9.0V	3.00A	27W	90mV pk-pk	±1%	±5%	11.7V - 16.2V		
ME30A1203B01	12.0V	2.50A	30W	120mV pk-pk	±1%	±5%	14.4V - 16.8V		
ME30A1503B01	15.0V	2.00A	30W	150mV pk-pk	±1%	±5%	18.0V - 21.0V		
ME30A1803B01	18.0V	1.67A	30W	180mV pk-pk	±1%	±5%	21.6V - 25.2V		
ME30A2403B01	24.0V	1.33A	30W	240mV pk-pk	±1%	±5%	28.8V - 33.6V		
ME30A4803B01	48.0V	0.63A	30W	480mV pk-pk	±1%	±5%	55.0V - 60.0V		
ME30A0503C01	5.0V	4.00A	20W	75mV pk-pk	±1%	±5%	5.75V - 7.75V	2.5 x 5.5 x 9.5mm Straight Barrel Type, center positive	Class II Wall-Plug, Fixed North American Blades[3]
ME30A0903C01	9.0V	3.00A	27W	90mV pk-pk	±1%	±5%	11.7V - 16.2V		
ME30A1203C01	12.0V	2.50A	30W	120mV pk-pk	±1%	±5%	14.4V - 16.8V		
ME30A1503C01	15.0V	2.00A	30W	150mV pk-pk	±1%	±5%	18.0V - 21.0V		
ME30A1803C01	18.0V	1.67A	30W	180mV pk-pk	±1%	±5%	21.6V - 25.2V		
ME30A2403C01	24.0V	1.33A	30W	240mV pk-pk	±1%	±5%	28.8V - 33.6V		
ME30A4803C01	48.0V	0.63A	30W	480mV pk-pk	±1%	±5%	55.0V - 60.0V		

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. For 5V and 6V models, values listed are typical, 100mV pk-pk maximum with 0.1µF ceramic and 47µF low ESR capacitors used at measurement point.
2. Order blade kit KT-1027K for other blades (EU. UK, Australia)
3. For EU fixed blades, replace "C" in the model number with "M", for UK blades, replace "C" with "G", for Australia blades, replace "C" with "H".
4. All specifications are typical at nominal input, full load, at 25°C ambient unless noted.
5. For Input Class I models: For AC GND connected to output common (-), insert a "B" in the part number where the "A" is located (ME30B1203F01).

INPUT

AC Input	100-240Vac, ±10%, 47-63Hz, 1Ø
Input Current	115Vac: 1.2A, 230Vac:0.6A
Inrush Current	264Vac, cold start: will not exceed 40A
Input Fuses	F1, F2: 2.0A, 250Vac fuses (line & neutral lines) provided on all models
Earth Leakage Current (Input to Ground)	<500µA@264Vac, 60Hz, NC <1mA@264Vac, 60Hz, SFC
Efficiency	>87%, typical
No Load Input Power	<0.1W per DoE Efficiency Level VI Requirements

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

OUTPUT

Turn On Time	Less than 700mS @115Vac, full load
Hold-Up Time	20mS min., at full Load, 100Vac input
Patient Leakage Current (Output to Earth)	<100µA@264Vac, 60Hz, NC <500µA@264Vac, 60Hz, SFC
Output Power	20 to 30W continuous – See models chart for specific voltage model ratings
Output Voltage	See models chart on pg 1
Ripple and Noise	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, Δi/Δt< 0.2A/µs. Max. voltage deviation is +/-3.5%
Regulation	See models chart on pg 1

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

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PROTECTION

Overtemperature Protection	Will shutdown upon an overtemperature condition, auto-recovery
Overload Protection	130 to 180% of rating, Hiccup Mode
Short Circuit Protection	Hiccup Mode, auto recovery
Overvoltage Protection	Hiccup mode, see models chart for trip ranges
Drop Test	1.4m from table top to wooden platform, 6 faces

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

RELIABILITY

MTBF	>1,000,000 hours, full load, 110 & 220Vac input, 25°C amb., per Telcordia 332 Issue 6
E-cap Life	>8 year 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

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

ISOLATION SPECIFICATIONS

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

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

ENVIRONMENT

Operating Temperature	-20°C to +70°C. See curve for derating
StorageTemperature	-40°C to +85°C
Altitude	Operating: to 5000m. Non-operating: -500 to 40,000 ft.
Relative Humidity	5% to 95%, non-condensing
Vibration	Operating: 0.003g/Hz, 1.5grms overall, 3 axes, 10 min/axis, 1-500Hz. Non-Oper.: random waveform, 3 minutes per axis, 3 axes and Sine waveform, Vib. frequency/acceleration: 10-500Hz/1g, sweep rate of 1 octave / minutes, Vibration time of 10 sweeps / axes, 3 axes
Dimensions	See outline drawings
Weight	250g

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

SAFETY

Safety Standards	EN/IEC/UL60601-1-1, 3rd edition
Shock	Operating: Half-sine, 20gpk, 10mS, 3 axes, 6 shocks total Non-Operating: Half-sine waveform, impact acceleration of 100G, Pulse duration of 6 mS, Number of shocks: 3 for each of the three axis

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

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 (250/300 cycles), 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

All specifications are typical at nominal input, full load, at 25°C ambient unless noted.
Consult factory for information regarding testing for or usage under special environments.

Notes : Performance criteria are based 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

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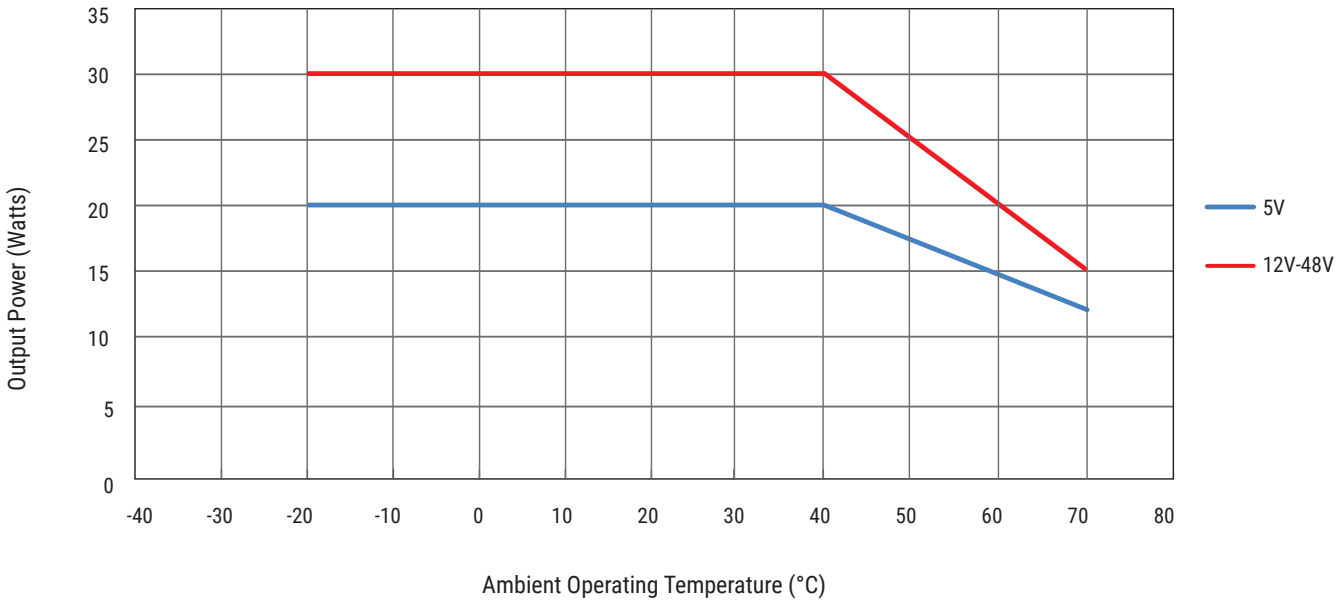
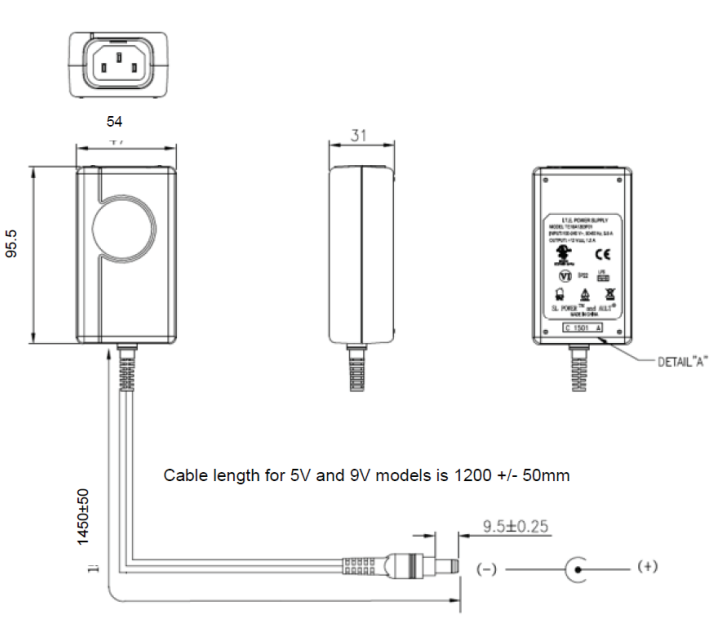
DERATING CHART

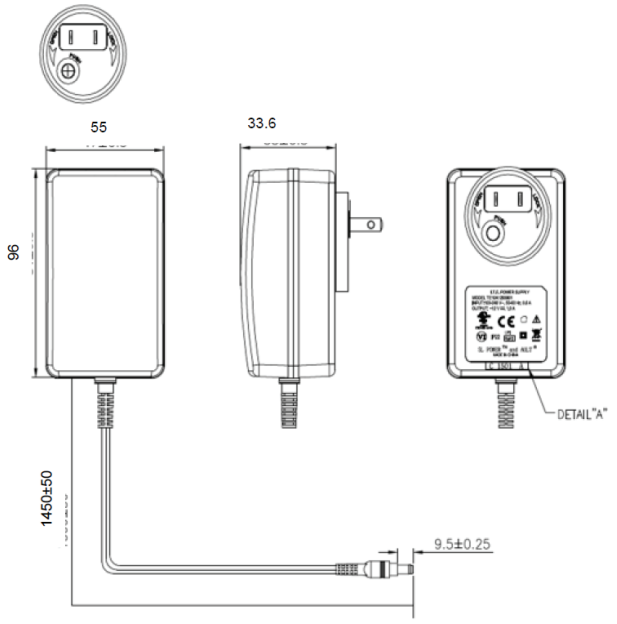
Output power is derated above 40°C as follows, for operation over the entire AC input range (90-264Vac).



MECHANICAL DRAWING



IEC60320 C14 Receptacle, 2.5 x 5.5 x 9.5mm Barrel Connector



Interchangeable N.A. Blade, 2.5 x 5.5 x 9.5mm barrel connector

Notes : 1. All dimensions in mm.
2. Interchangeable blade models come with North American blade fitted. For other blades (EU, UK, Aust.) order blade kit KT1027K.

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CONNECTOR INFORMATION

Standard models include a 2.5 x 5.5 x 9.5mm straight barrel type connector (Ault #3), center positive. 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		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 (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 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 x11 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	
99	Micro USB				

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