



Industrial



### FEATURES AND BENEFITS

Meets DoE efficiency level VI requirements

- No load input power
- Average efficiency

Up to 30W of AC-DC power

Universal input 90-264 VAC input range

- Desktop and Wall-plug versions

Meets "Heavy Industrial" levels of EN61000 EMC requirements

Meets EN55032/CISPR22 and FCC Part 15.109 Class B conducted & radiated emissions, with 6db margin

Approved to EN/IEC/UL60950-1, 2nd ed, Am. 2

E- cap life of >8 years

>10,00,000 hours MTBF

3 years warranty



### MODEL SELECTION

Model Number	Volts	Output Current	Output Power	Ripple & Noise <sup>1</sup>	Line Regulation	Load Regulation	Output Cable & Connector	Input Configuration
TE30A0503F01	5.0V	4.00	20W	75mV pk-pk	±1%	±5%	2.5 x 5.5 x 9.5mm Straight barrel type, Center positive	Class I Desktop, IEC60320 C14 receptacle
TE30A0903F01	9.0V	3.00	27W	90mV pk-pk	±1%	±5%		
TE30A1203F01	12.0V	2.50	30W	120mV pk-pk	±1%	±5%		
TE30A1503F01	15.0V	2.00A	30W	150mV pk-pk	±1%	±5%		
TE30A1803F01	18.0V	1.67	30W	180mV pk-pk	±1%	±5%		
TE30A2403F01	24.0V	1.33	30W	240mV pk-pk	±1%	±5%		
TE30A4803F01	48.0V	0.63	30W	480mV pk-pk	±1%	±5%	2.5 x 5.5 x 9.5mm Straight barrel type, Center positive	Class II Desktop, IEC60320 C8 receptacle
TE30A0503N01	5.0V	4.00A	20W	75mV pk-pk	±1%	±5%		
TE30A0903N01	9.0V	3.00	27W	90mV pk-pk	±1%	±5%		
TE30A1203N01	12.0V	2.50	30W	120mV pk-pk	±1%	±5%		
TE30A1503N01	15.0V	2.00	30W	150mV pk-pk	±1%	±5%		
TE30A1803N01	18.0V	1.67	30W	180mV pk-pk	±1%	±5%		
TE30A2403N01	24.0V	1.33	30W	240mV pk-pk	±1%	±5%	2.5 x 5.5 x 9.5mm Straight barrel type, Center positive	Class II Desktop, IEC60320 C18 receptacle
TE30A4803N01	48.0V	0.63A	30W	480mV pk-pk	±1%	±5%		
TE30A0503Q01	5.0V	4.00	20W	75mV pk-pk	±1%	±5%		
TE30A0903Q01	9.0V	3.00	27W	90mV pk-pk	±1%	±5%		
TE30A1203Q01	12.0V	2.50	30W	120mV pk-pk	±1%	±5%		
TE30A1503Q01	15.0V	2.00A	30W	150mV pk-pk	±1%	±5%		
TE30A1803Q01	18.0V	1.67	30W	180mV pk-pk	±1%	±5%		
TE30A2403Q01	24.0V	1.33	30W	240mV pk-pk	±1%	±5%		
TE30A4803Q01	48.0V	0.63	30W	480mV pk-pk	±1%	±5%		





### SAFETY

Safety Standards	EN/CSA/UL/IEC 60950-1, 2nd edition, Am 2
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

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

### RELIABILITY

MTBF	>10,00,000 hours, Full load, 110 & 220VAC input, 25°C amb., per Telcordia 332 Issue 6
E-Cap Life	>8 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

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

### ENVIRONMENT

Operating Temperature	-20°C to +70°C Start Up at -40°C, Full load, (warmup period before all parameters are within published specifications)
Temperature Derating	See derating charts below
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
Vibration	Operating: 0.003g/Hz, 1.5grms overall, 3 axes, 10 min/axis, 1-500Hz Non-Operating: 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
Weight	250g
Dimensions	See outline drawings

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

### ISOLATION SPECIFICATIONS

Isolation	Input-Output: 4,000VAC Input-Ground: 1,500VAC Output-Ground: 1,500VAC
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Notes: All specifications are typical at nominal input, full load, at 25°C ambient unless noted.

### 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 model chart above for trip ranges
Safety Drop Test	1.4m from table top to wooden platform, 4 faces

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

### EMI/EMC COMPLIANCE

Conducted Emissions	EN55032/CISPR22 Class B, FCC Part 15 Class B: 6db margin typ, at 115 and 230VAC
Radiated Emissions	EN55032/CISPR22 Class B, FCC Part 15 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
Radiated RF EM Fields Susceptibility	EN55022/EN61000-4-3, 10V/m, 80MHz-2.7GHz, 80% AM at 1kHz
Electrical Fast Transients (EFT)/Bursts	EN55024/IEC61000-4-4, Level 4, +/- 4.4kV, 100kHz rep rate, 40A, Criteria A
Surges, Line to Line (Diff Mode) and Line to GND (CMN Mode)	EN55024/IEC61000-4-5 Level 4, +/-2kV DM, +/-4kV CM, Criteria A
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
Rated Power frequency magnetic fields	EN55024/IEC1000-4-8, Level 4: 30 A/m, 50/60 Hz
Voltage Interruptions, Dips, Sags & Surges	EN55024/IECEN61000-4-11: --100% dip for 20ms, Criteria A --100% dip for 500ms (250/300 cycles), Criteria B --60% dip for 100ms, Criteria B --30% dip for 500ms, Criteria A
Harmonic Current Emissions	EN55011/EN61000-3-2, Class A
Flicker Test	EN61000-3-3

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





### 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 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	



## EFFICIENCY LEVEL VI INFORMATION

Single-Voltage External AC-DC Power Supply, Basic-Voltage		
Nameplate Output Power (P <sub>out</sub> )	Minimum Average Efficiency in Active Mode (expressed as a decimal)	Maximum Power in No-Load Mode [W]
P <sub>out</sub> ≤ 1 W	≥ 0.5 x P <sub>out</sub> + 0.16	≤ 0.100
1 W < P <sub>out</sub> ≤ 49 W	≥ 0.071 x ln(P <sub>out</sub> ) --- 0.0014 x P <sub>out</sub> + 0.67	≤ 0.100
49 W < P <sub>out</sub> ≤ 250 W	≥ 0.880	≤ 0.210
P <sub>out</sub> > 250 W	≥ 0.875	≤ 0.500
Single-Voltage External AC-DC Power Supply, Low-Voltage		
Nameplate Output Power (P <sub>out</sub> )	Minimum Average Efficiency in Active Mode (expressed as a decimal)	Maximum Power in No-Load Mode [W]
P <sub>out</sub> ≤ 1 W	≥ 0.517 x P <sub>out</sub> + 0.087	≤ 0.100
1 W < P <sub>out</sub> ≤ 49 W	≥ 0.0834 x ln(P <sub>out</sub> ) --- 0.0014 x P <sub>out</sub> + 0.609	≤ 0.100
49 W < P <sub>out</sub> ≤ 250 W	≥ 0.870	≤ 0.210
P <sub>out</sub> > 250 W	≥ 0.875	≤ 0.500

TE30A Series  
9V-48V models

TE30A Series  
5V models