

FEATURES

- 100 to 240V ac Input range
- High efficiency
- Over temperature protection
- 2-Wire C8 Input connector
- Medical approved

Desktop Power Supplies

RS Stock No.: 255-2117



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Product Description

The RS Pro Range of 36-watt AC/DC switch mode power supplies provide 36 watts of continuous output power in a high-quality compact enclosure, suitable for many general power applications.

General Specifications

Input Connector	2-Wire C8
Output Connection Type	2.5x5.5x11 mm Barrel Plug
Number of Outputs	1
Energy Efficiency Level	VI
Mounting Style	Desktop
MTBF	300,000hours at 25°C
Cable Length	1500mm 18AWG
Medical Approved	Yes

Electrical Specifications

Input Specifications	
Rated Input Voltage	100 to 240V ac
Full Input Voltage Range	90 – 264V ac
Rated Frequency	50/60Hz
Full Frequency Range	47/63Hz
Efficiency	87.4%
Input Current (RMS Max.)	1.0A
Inrush Current	70A at 230V ac input and Max load for a cold start at 25°C
Leakage Current (max.)	<100uA

Output Specification	
Ripple & Noise (max.)	120mVp-p
Voltage Tolerance	±5.0%
Regulation	11.40Vmin. ~ 12.00Vtyp. ~ 12.60Vmax.
Hold Up Time (Typ.)	5ms @ Full load & 100Vac/60Hz input turn off at worst case
Over Voltage Protection	V out *200% MAX., latch off.
Over Current Protection	I out *200% MAX., auto recovery.
Over Temperature Protection	Shut down o/p voltage, re-power on to recover
Short Circuit Protection	Yes

Mechanical Specifications

Housing Material	Fully Enclosed Plastic Case
Overall Dimensions	99 x 33 x 50mm
Overall Length	99mm
Overall Depth	33mm
Overall Width	50mm

Operation Environment Specifications

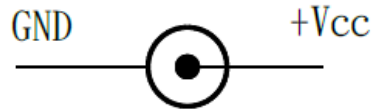
Operating Humidity	20% to 80% RH non-condensing
Storage Humidity	10% to 90% RH non-condensing
Cooling	Natural convection
Operating Temperature Range	-20 to 40°C
Storage Temperature Range	-20 to 80°C

Approvals

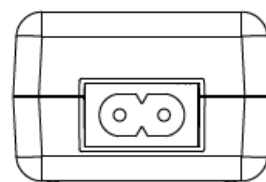
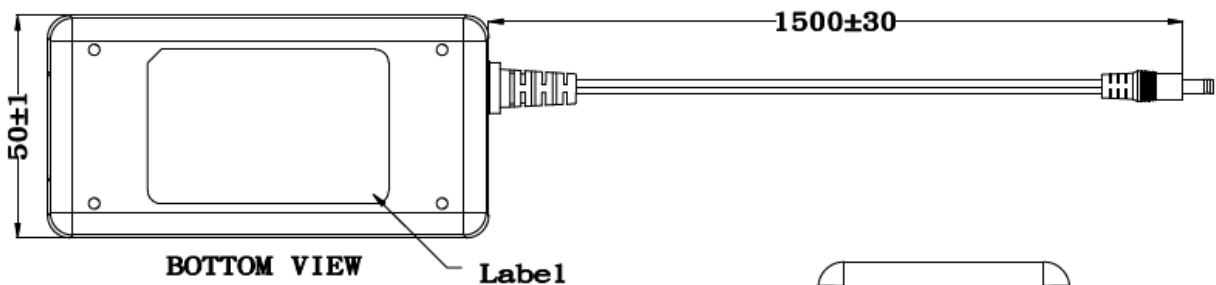
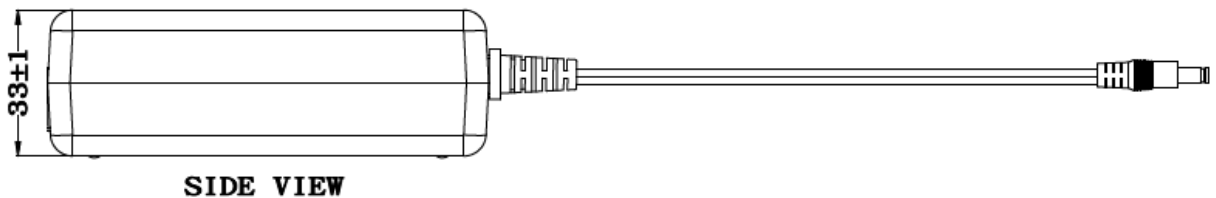
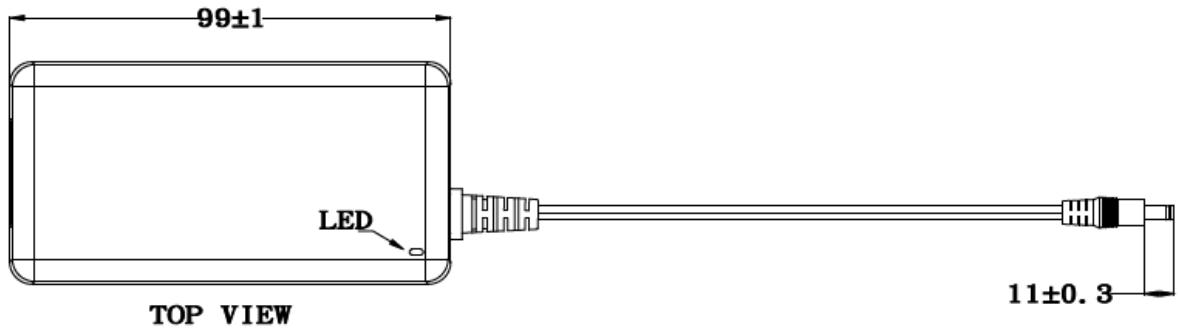
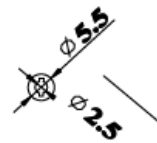
Safety Standard	IEC/EN/UL62368-1, AS/NZS 62368.1. ANSI/AAMI ES60601-1:2012
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Mechanical Drawing

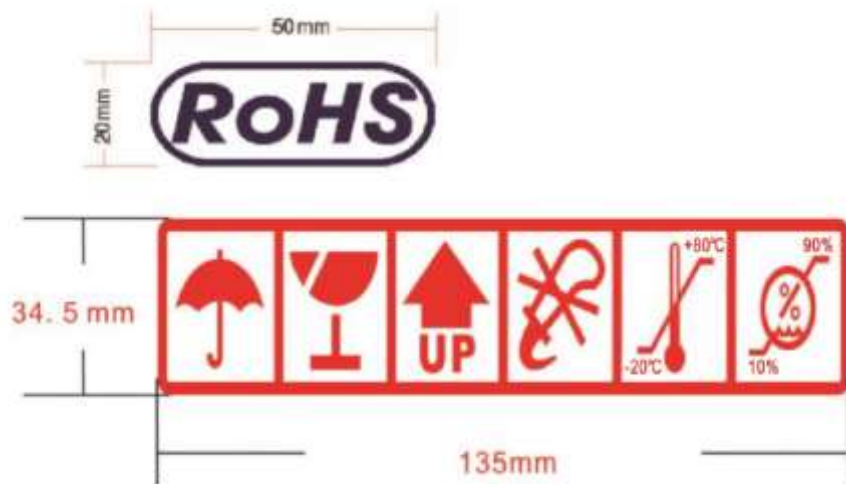
- 8.1 Weight : 210 g Typical
- 8.2 Cable Type : Black UL2468 18AWG
(Wire + Plug)
Plug : $\varnothing 5.5 \times \varnothing 2.5 \times 11\text{mm}$
(Tuning Fork & Cannelure)
- 8.3 Cable Length : 1500mm
- 8.4 Case Dimension : 99mm(L)*50mm(W)*33mm(H)
- 8.5 Material Flammability : UL 94V-0
- 8.6 External Apperance : As drawing below (Scale \rightarrow mm)



Output Cable Plug Pin Assignment



Label



Test results
A. Line Regulation Test
Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
90Vac / 50 % Load	11.40V ~ 12.60V	12.07 V	12.02 V	12.04 V
115Vac / 50 % Load	11.40V ~ 12.60V	12.07 V	12.02 V	12.04 V
132Vac / 50 % Load	11.40V ~ 12.60V	12.07 V	12.02 V	12.04 V
180Vac / 50 % Load	11.40V ~ 12.60V	12.07 V	12.02 V	12.04 V
230Vac / 50 % Load	11.40V ~ 12.60V	12.07 V	12.02 V	12.04 V
264Vac / 50 % Load	11.40V ~ 12.60V	12.07 V	12.02 V	12.04 V

B. Efficiency Test
Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac	87.403% Min.	88.13 %	88.26 %	88.14 %
230Vac	87.403% Min.	88.15 %	88.02 %	88.24 %
230Vac@10% load	78.303% Min	85.07 %	84.89 %	85.23 %

C. Load Regulation Test
Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 0 % Load	11.40V ~ 12.60V	12.24 V	12.19 V	11.21 V
115Vac / 50 % Load	11.40V ~ 12.60V	12.07 V	12.02 V	12.04 V
115Vac / 100 % Load	11.40V ~ 12.60V	11.90 V	11.84 V	11.87 V
230Vac / 0 % Load	11.40V ~ 12.60V	12.24 V	12.19 V	11.21 V
230Vac / 50 % Load	11.40V ~ 12.60V	12.07 V	12.02 V	12.04 V
230Vac / 100 % Load	11.40V ~ 12.60V	11.89 V	11.84 V	11.87 V

Test results
D. Ripple & Noise Test
Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	120mVpp Max.	57.8 mV	61.2 mV	44.3 mV
230Vac / 100 % Load	120mVpp Max.	49.2 mV	51.2 mV	32.2 mV

E. Inrush Current
Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230Vac / 100 % Load	70A Max	62.9 A	63.5 A	62.1 A

F. Over Current Protection
Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	I out *200% MAX	140 %	139 %	138 %
230Vac / 100 % Load	I out *200% MAX	146%	145 %	144 %

G. Short Circuit Protection
Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	Auto Recovery	OK	OK	OK
230Vac / 100 % Load	Auto Recovery	OK	OK	OK

H. Input Power Consumption(No Load)
Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230Vac / 0 % Load	≤ 0.1 W	0.07W	0.07W	0.07W

Test results

Efficiency Test Report

- A. Model Number : ATM036T-A120(12.0V/3.0A)
- B. DC Power Cord : UL1185 , 18AWG ,1.5M
- C. Efficiency :
LEVEL VI EFF(av) ≥ 87.403% & Eff ≥ 78.303% @10% Load
- D. NO Load Power Consumption :
LEVEL VI 0.1W max.
- E. Testing Dequpiment :
 - 1. AC Power Source : " Chroma 61605
 - 2. Electronic Load : " PRODIGIT " 3311F
 - 3. Power Meter : "YOKOGAWA " WT310
 - 4. Digital Meter : " FLUKE " 179
- F. AC Input Voltage : 115Vac/60Hz

Reported	Load Conditions					
	100%* I ₀	75%* I ₀	50%* I ₀	25%* I ₀	10%* I ₀	0%* I ₀
Rms Output Current(mA)	3000mA	2250mA	1500mA	750mA	300mA	0mA
Rms Output Voltage(V)	11.850V	11.939V	12.027V	12.114V	12.174V	12.201V
Active Output Power(W)	35.55W	26.86W	18.04W	9.09W	3.65W	0.00W
Rms Input Voltage(V)	115V	115V	115V	115V	115V	115V
Rms Input Current(A)	0.733A	0.594A	0.456A	0.310A	0.266A	0.199A
Rms Input Power(W)	40.86W	30.55W	20.33W	10.21W	4.20W	0.050W
Total Harmonic Distortion of the input current	162.00%	177.50%	194.32%	217.72%	239.97%	154.21%
True Power Factor	0.487	0.450	0.393	0.289	0.225	0.002
Power Consumed by UUT(W)	5.31W	3.69W	2.29W	1.12W	0.55W	0.05W
Efficiency	87.01%	87.93%	88.74%	88.99%	86.96%	*
Average Efficiency	88.17%					*

- G. AC Input Voltage : 230Vac/50Hz

Reported	Load Conditions					
	100%* I ₀	75%* I ₀	50%* I ₀	25%* I ₀	10%* I ₀	0%* I ₀
Rms Output Current(mA)	3000mA	2250mA	1500mA	750mA	300mA	0mA
Rms Output Voltage(V)	11.845V	11.935V	12.023V	12.112V	12.174V	12.201V
Active Output Power(W)	35.54W	26.85W	18.03W	9.08W	3.65W	0.00W
Rms Input Voltage(V)	230V	230V	230V	230V	230V	230V
Rms Input Current(A)	0.504A	0.419A	0.328A	0.235A	0.218A	0.184A
Rms Input Power(W)	40.82W	30.49W	20.40W	10.28W	4.32W	0.064W
Total Harmonic Distortion of the input current	223.85%	239.25%	253.31%	276.62%	365.71%	456.32%
True Power Factor	0.352	0.315	0.272	0.191	0.141	0.002
Power Consumed by UUT(W)	5.29W	3.64W	2.37W	1.20W	0.67W	0.06W
Efficiency	87.11%	88.15%	88.52%	88.60%	85.07%	*
Average Efficiency	88.10%					*

Installation Instruction

ATM036T-Ax (where x = 050, 075, 090, 120, 150, 180, 240) (Class II)

1. The switching power supply is intended used for medical electrical equipment.
The equipment has not been evaluated applied parts that suitable for direct patient contact! It shall be evaluated for the end system configuration.
2. Circuit diagrams, descriptions and component parts list will be made available only upon request when servicing is required. Please, contact the address below for related information.

3. Environmental conditions:

Environmental Conditions	Operation	Temperature (°C)	0 to +40°C
		Relative Humidity (%)	20 to 80%RH
		Atmospheric Pressure (kPa)	540 to 1060hPa
	Storage/Transportation	Temperature (°C)	-20 to +80°C
		Relative Humidity (%)	10 to 90%RH

4. Input Rating: AC 100-240Vac, 50-60Hz, 1.0-0.45A

5. The output load shall not exceed the rating:

Output:

Model	O/P Voltage	O/P Current
ATM036T-A050	5V	5A
ATM036T-A075	7.5	4A
ATM036T-A090	9V	4A
ATM036T-A120	12V	3A
ATM036T-A150	15V	2.4A
ATM036T-A180	18V	2A
ATM036T-A150	24V	1.5A


6. Any inspection and maintenance tasks must be carried out only by authorized by the manufacturer service personnel.

7. The classification of the equipment is:
 - Class II
 - The equipment has not been evaluated applied parts
 - Not AP or APG type
 - Not intended for use in the presence of flammability an aesthetic mixture with air or w oxygen or nitrous oxide
 - Intended for continuous operation
 - Protection class IPX0

8. The equipment provided with one fuses (F1), fuse rated T2AL or T4AL or T6.3AL, 250Vac, size 8.35 x 4.3 x 7.7 mm.

9. Expected service life of the power supply: 100,000 hours

10. WARNING: Do not modify this equipment without authorization of the manufacturer

11.  "Do not dispose this product in the household waste, please, follow the respective national law for proper disposal."

12. LED indicate: Green → Power On