

AC-DC Adapter

19.5V 120W / ADT-120A19AA M-A

ADT - 120A

Highlights & Features

- Meet DoE Level VI & CoC Tier 2
- No load power consumption < 0.15 W
- Universal AC input / Full range
- Fully enclosed plastic case
- Protection: short circuit / over voltage / overload/ over temperature



Standards



CB Certified for worldwide use

Model Number: ADT-120A19AA M-A
Unit Weight 0.34 kg (0.75 lb)
Dimensions (L×W x H): 138 x 68.5 x 24.5 mm
 (5.43 x 2.70 x 0.96 inch)

General Description

The ADT-120A19AA M-A external power supply comes with universal AC input at 90Vac to 264Vac. With the efficiency up to 91.5% and the extremely low no-load power consumption below 0.15W, The ADT-120A19AA M-A is compliant with DoE level VI and CoC Tier 2. It conforms to major international safety standards according to IEC/EN/UL 62368-1 and IEC/EN 60950-1 approval for ITE including BSMI, CCC, PSE and KC. In addition, it also meet the EMI approvals to EN 55032 Class B.

Model Information

Model Number	Input Voltage Range	Efficiency Level	Rated Output Voltage	Rated Output Current
ADT-120A19AA M-A	90-264Vac	DoE Level VI & CoC Tier 2	19.5V	6.15A

Model Numbering

ADT -	120	A	19	A	A	M -	A
Delta AC-DC Adapter	Max wattage	Family Code	Output Voltage 19 for 19.5V	A: Desktop	Input connector A:C6	Output Connector M - : Tuning fork O.D: 5.5 mm, I.D: 1.7 mm, Length: 11.0 mm	Standard

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Specifications

Input Ratings / Characteristics

Nominal Input Voltage	100-240Vac	
Input Voltage Range	90-264Vac	
Nominal Input Frequency	50-60Hz	
Input Frequency Range	47-63Hz	
Input Current (max)	115Vac	1.4 A max.
	230Vac	0.7 A max
Efficiency at 100% load (typ)	115Vac	90.0%
	230Vac	91.5%
Average Efficiency (min)	89% @ 115Vac & 230Vac	
Efficiency @ 10% load	79% @ 115Vac & 230Vac	
No Load Power Consumption (max)	0.15W @ 115Vac & 230Vac	
Power Factor (min)	0.9 @ 230Vac/ Rated output current	
Inrush Current	No damage	
Leakage Current (max)	0.1mA @ 240Vac/50Hz	

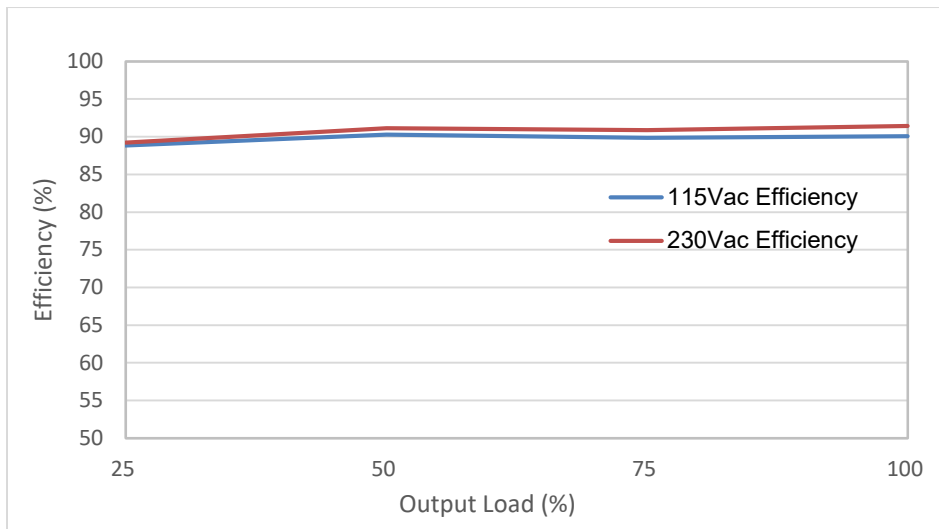


Figure 1. ADT-120A19AA M-A efficiency versus output load

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Output Ratings / Characteristics

Nominal Output Voltage	19.5V	
Output Current	6.15A	
Output Power	120W	
Line Regulation	± 0.5%	
Load Regulation	± 4.5%	
PARD* (20MHz)	0 to 40°C	380 mV pk-pk
	-10 to 0°C	760 mV pk-pk
Start-up Time (typ.)	1000 ms @ 115Vac 500 ms @ 230Vac	
Rise Time (max)	40ms @ nominal input, full load	
Hold-up Time (min)	20ms @ nominal input, full load	
Transient Responses	± 10% @ 10% -100% load change, Slew rate 1A/us , 100 to 5KHz, 50% Duty Cycle	
Capacitive Load (max)	470uF	

*PARD is measured with an AC coupling mode, and in parallel with 0.47uF ceramic capacitor & 47uF electrolytic capacitor.

Mechanical

Case	PC	
Dimensions (L × W × H)	138 x 68.5 x 24.5 mm (5.43 x 2.7 x 0.96 inch)	
Unit Weight	0.34 kg (0.75 lb)	
Indicator	N/A	
Cooling System	Convection	
Terminal	Input	Socket C6 type
	Output	Tuning fork (O.D: 5.5mm, I.D: 1.7mm, length: 11mm)
	Length	1800 mm

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Environment

Surrounding Temperature	Operating	-10°C to +60°C
	Storage	-40°C to +85°C
Power De-Rating	>40°C de-rated by 2.5%/°C	
Operating Humidity	5%-95% RH (non-condensing)	
Operating Altitude	5,000 meters (16400 feet)	
Ball Impact Test	Test height 130cm, 1 sample 1 time, Steel Ball 500g, Concrete floor	
Drop Test	Test height 100cm, 6 face for each sample, concrete floor Function test pass after drop test	
Shock Test (Non-Operating)	50G, 11ms, 1 shock for each direction	
Vibration (Non-Operating)	5-500Hz, 2.09Grms, 20mins, one cycle for each three axis	

Protections

Overvoltage (max)	29.25V, Latch
Overload / Overcurrent (max)	120-180% , Latch
Over Temperature	Latch
Short Circuit	Latch
Pollution Degree	2
Protection Against Shock	Class I

Reliability Data

MTBF	> 300,000 hrs. per Telcordia SR-332 at Input: 115Vac, Output: 100% load, Ta: 25°C
Expected Cap Life Time	5 years (50% load @ 25°C)

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Safety Standards / Directives

Electrical Safety	IEC/EN 60950-1 ; IEC/UL/EN 62368-1	
	BSMI CNS14336-1	
	CCC GB4943.1	
	PSE J62368-1	
	KC K60950-1	
CE	Comply with EMC Directive 2014/30/EU and the Low Voltage Directive 2014/35/EU	
Galvanic Isolation	I/P to O/P	3000Vac

EMC

EMC / Emissions		CISPR /EN 55032 Class B BSMI CNS13438 GB/T9254 KN32
Harmonic Current Emissions	IEC61000-3-2	Class D ; GB17625.1
Immunity to		EN 55024; KN35
Radiated and conducted Emissions		Conducted Emissions: EN55032 Class B Radiated Emissions: EN55032 Class B
Voltage Flicker	IEC61000-3-3	
Electrostatic Discharge	IEC61000-4-2	Level 4 Criteria A ¹⁾ Air Discharge: 15kV Contact Discharge:8kV
Radiated Field	IEC61000-4-3	Level 2 Criteria A ¹⁾ 80MHz-1GHz, 3V/m , 80% AM(1KHz)
Electrical Fast Transient / Burst	IEC61000-4-4	Level 2 Criteria A ¹⁾ : 1kV
Surge	IEC61000-4-5	Level 3 Criteria A ¹⁾ Common Mode ⁴⁾ : 2kV Differential Mode ⁵⁾ : 1kV
Conducted	IEC61000-4-6	Level 2 Criteria A ¹⁾ 150kHz-80MHz, 3Vrms, Sine Wave, 80%, AM modulation
Power Frequency Magnetic Fields	IEC61000-4-8	Level 2 Criteria A ¹⁾ Magnetic field strength 3A/m
Voltage Dips	IEC61000-4-11	Voltage dips 70% reduction/0.5 periods (Criterion A ¹⁾) 40% reduction/5 periods (Criterion B ²⁾) Voltage short interruptions 5% reduction/250 periods (Criterion B ²⁾)

1) Criteria A: Normal performance within the specification limits

2) Criteria B: Output out of regulation, or shuts down during test. Automatically restore to normal operation after test.

3) Criteria C: PSU shuts down during test, but need operator to reset.

4) Asymmetrical: Common mode (Line to earth)

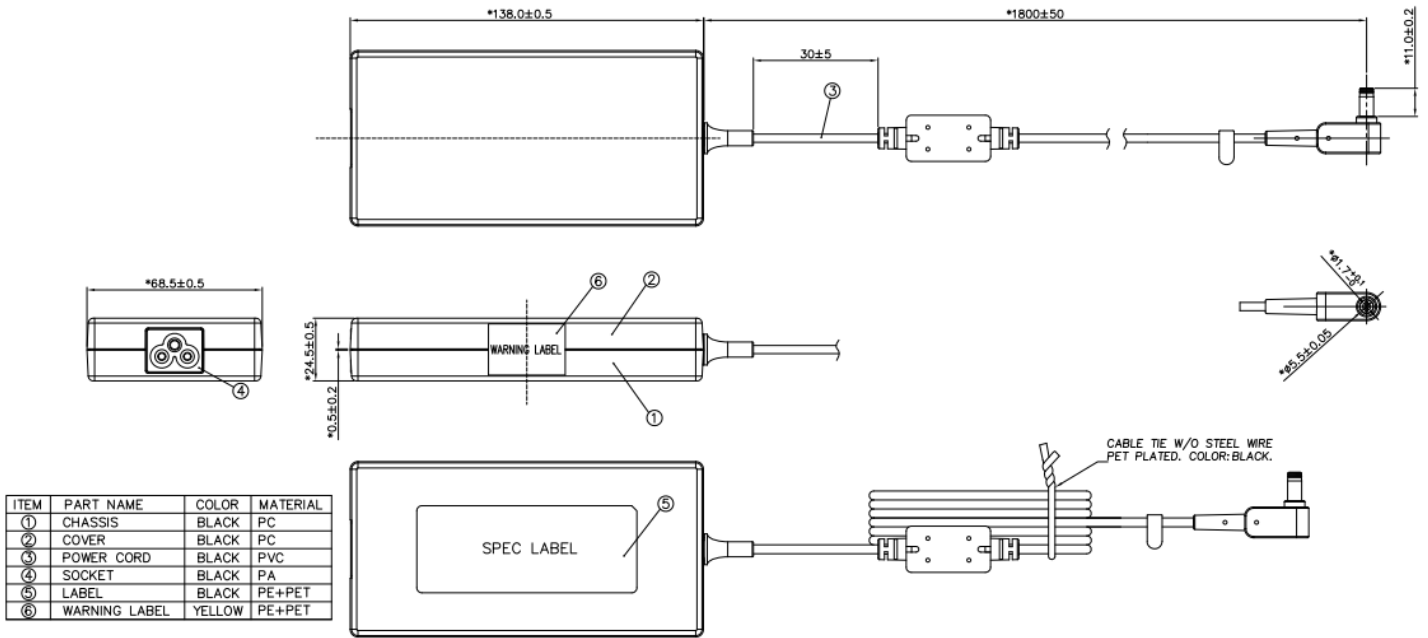
5) Symmetrical: Differential mode (Line to line)

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Dimensions

L x W x D: 138 x 68.5 x 24.5 mm (5.43 x 2.7 x 0.96 inch)



Engineering Data

Output Load De-rating V.S. Surrounding Air Temperature

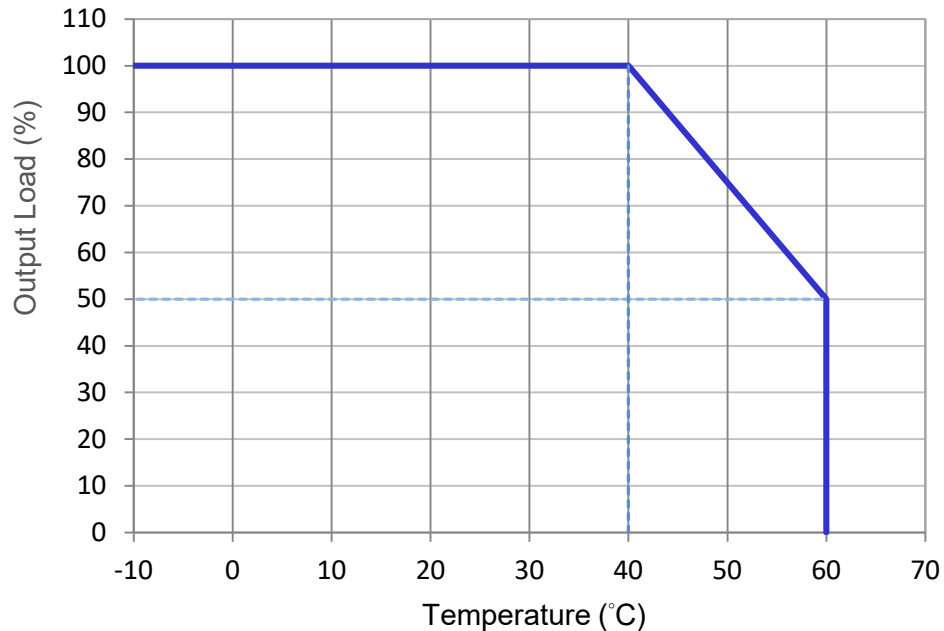


Fig. 1 De-rating for All Mounting Orientation
 > 40°C de-rate power by 2.5% / °C

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