

AC-DC Adapter

24 V 150 W / ADT-150A24AA

ADT-150A



Highlights & Features

- Meet efficiency 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

Safety Standards



CB Certified for worldwide use

Model Number: ADT-150A24AA □-A
Unit Weight: 405 ±10 grams (14.29 ±0.35 ounces)
Dimensions (L×W×H): 160 x 76.2 x 25.6 mm

General Description

The ADT Series of AC-DC desktop adapter in compact size. ADT-150A24AA meet the DoE Level VI and CoC Tier 2 energy efficiency requirements with levels up to 92% and the extremely low no-load power consumption below 0.15 W. The series conform to major international safety standards according to IEC/EN/UL 62368-1 and IEC/EN 60950-1 approval for ITE. In addition, they also meet the EMI approvals to EN/BS EN 55032 class B.

Model Information

Model Number	Input Voltage Range	Efficiency Level	Rated Output Voltage	Rated Output Current
ADT-150A24AA □-A	90-264 Vac	Level VI & CoC Tier2	24 V	6.25 A

Model Numbering

ADT -	150	A	24	A	A	□ -	A
Desktop Adapter for ITE application	Max wattage	Family Code	Output Voltage 24 for 24 V	A: Desktop	Input Connector A: C6	Output Connector H: Tuning fork O.D: 5.5 mm, I.D: 2.5 mm, length: 11.0 mm K: 4 Pin Din	Standard

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Specifications

Input Ratings / Characteristics

Nominal Input Voltage	100-240 Vac	
Input Voltage Range	90-264 Vac	
Nominal Input Frequency	50-60 Hz	
Input Frequency Range	47-63 Hz	
Input Current (max)	115 Vac	1.85 A
	230 Vac	1.0 A
Efficiency at 100% Load	115 Vac	91.0% typ.
	230 Vac	92.0% typ.
Average Efficiency (min)	89% @ 115 Vac & 230 Vac	
Efficiency @ 10% load	79% @ 115 Vac & 230 Vac	
No Load Power Consumption (max)	0.15 W @ 115 Vac & 230 Vac	
Power Factor @ 100% load (min)	0.9 @ 230 Vac	
Inrush Current	No damage	
Leakage Current @ 240 Vac/50 Hz (max)	250 uA	

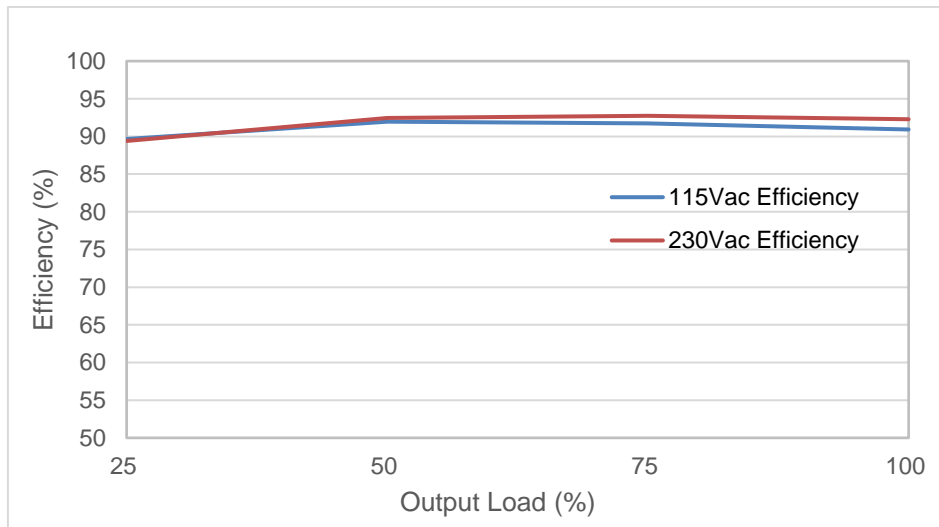


Fig 1. ADT-150A24AA Efficiency versus Output Load

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Output Ratings / Characteristics

Nominal Output Voltage	24 V	
Output Current	6.25 A	
Output Power	150 W	
Line Regulation	± 0.5%	
Load Regulation	± 3.0%	
PARD* (20 MHz)	0 to 40°C	240 mV pk-pk
	-10 to 0°C	480 mV pk-pk
Start-up Time	1000 ms typ. @ 115 Vac 500 ms typ. @ 230 Vac	
Rise Time (max)	40 ms @ nominal input, full load	
Hold-up Time (typ.)	30 ms @ 115 Vac, full load	
Transient Responses	± 5% @ 0.1 A -50% & 50% -100% load change, Slew rate 2.5 A/us, 100 to 10 KHz, 50% Duty Cycle	

*PARD is measured with an AC coupling mode, and in parallel with 0.1uF ceramic capacitor & 47uF electrolytic capacitor.

Mechanical

Case	PC	
Dimensions (L x W x H)	160 x 76.2 x 25.6 mm (6.3 x 3 x 1.00 inch)	
Unit Weight	405 ± 10 grams (14.29 ± 0.35 ounces)	
Indicator	N/A	
Cooling System	Convection	
Output Cable Specification	Connector	Tuning fork (O.D: 5.5 mm, I.D: 2.5 mm, length: 11 mm) / 4 Pin Din
	Length	#17AWG , 1800 mm
Input Socket	C6	

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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 (16,400 feet)	
Ball Impact Test	Test height 130 cm, 1 sample 1 time, Steel Ball 500 g, Concrete floor	
Drop Test	Test height 100 cm, 6 face for each sample, concrete floor Function test pass after drop test	
Shock Test (Non-Operating)	50 G, 11 ms, 1 shock for each direction	
Vibration (Non-Operating)	5-500 Hz, 2.09 Grms, 20 mins, one cycle for each three axis	

Protections

Overvoltage (max)	33 V, Latch mode
Overload / Overcurrent (max)	120-180% , Latch
Over Temperature	Latch Mode
Short Circuit	Latch Mode
Pollution Degree	2
Protection Against Shock	Class I

Reliability Data

MTBF	> 300,000 hrs. per Telcordia SR-332 at Input: 115 Vac, 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 CN S14336-1
		CCC GB 4943.1
		PSE J 60950-1 (H29)
		KC K 60950-1
CE		Comply with EMC Directive 2014/30/EU and the Low Voltage Directive 2014/35/EU
UKCA		In conformance with Electromagnetic Compatibility Regulations 2016 and Electrical Equipment (Safety) Regulations 2016
Galvanic Isolation	I/P to O/P	3000 Vac

EMC

EMC / Emissions		CISPR/EN/BS EN 55032 Class B BSMI CNS 13438 GB/T 9254.1 KN 32
Harmonic Current Emissions	IEC 61000-3-2	Class D; GB 17625.1
Immunity		EN/BS EN 55024; KN 35
Voltage Flicker	IEC 61000-3-3	
Electrostatic Discharge	IEC 61000-4-2	Level 4 Criteria A ¹⁾ Air Discharge: 15 kV Contact Discharge: 8 kV
Radiated Field	IEC 61000-4-3	Level 2 Criteria A ¹⁾ 80 MHz – 1 GHz, 3 V/m, 80% AM (1 KHz)
Electrical Fast Transient / Burst	IEC 61000-4-4	Level 2 Criteria A ¹⁾ : 1 kV
Surge	IEC 61000-4-5	Level 3 Criteria A ¹⁾ Common Mode ⁴⁾ : 2 kV Differential Mode ⁵⁾ : 1 kV
Conducted	IEC 61000-4-6	Level 2 Criteria A ¹⁾ 150 kHz – 80 MHz, 3 Vrms, Sine Wave, 80%, AM modulation
Power Frequency Magnetic Fields	IEC 61000-4-8	Level 1 Criteria A ¹⁾ Magnetic field strength 1 A/m
Voltage Dips	IEC 61000-4-11	Voltage dips 70% reduction/0.5 periods (Criterion B ²⁾) 40% reduction/5 periods (Criterion C ³⁾) Voltage short interruptions 5% reduction/250 periods (Criterion C ³⁾)

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)

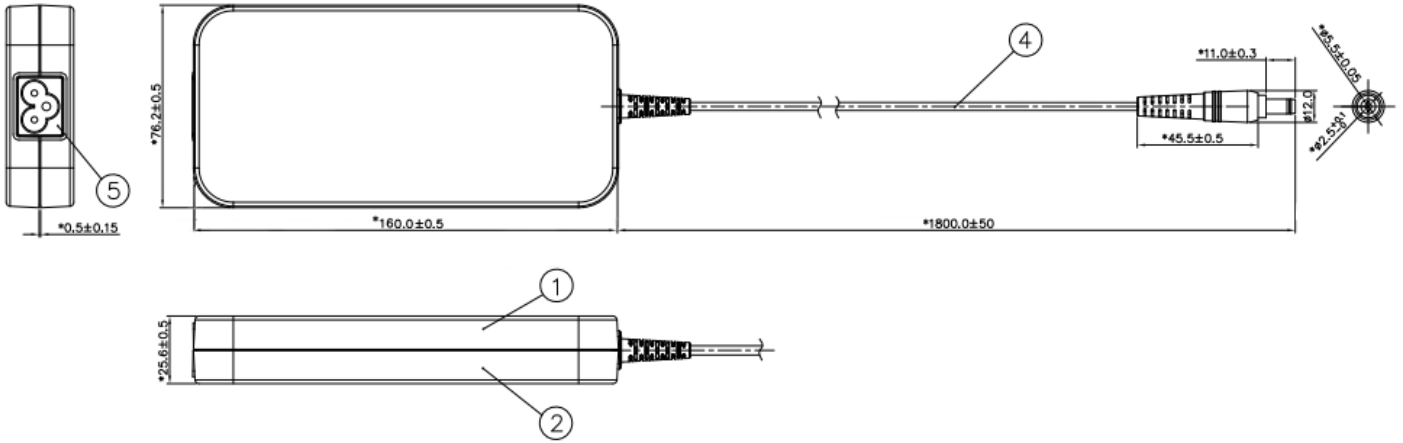
5) Symmetrical: Differential mode (Line to line)

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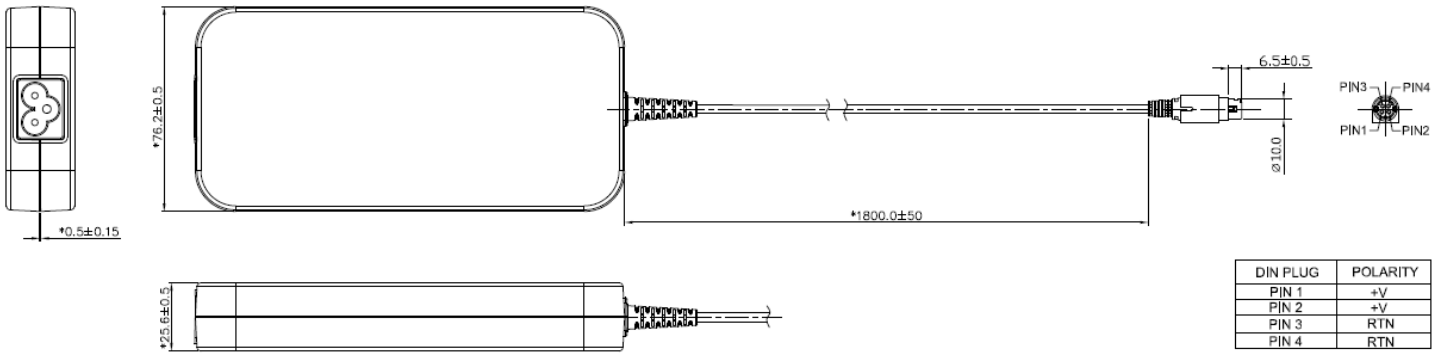
Dimensions (ADT-150A24AA H-A)

L x W x H: 160 x 76.2 x 25.6 mm (6.3 x 3.0 x 1.00 inch)



Dimensions (ADT-150A24AA K-A)

L x W x H: 160 x 76.2 x 25.6 mm (6.3 x 3.0 x 1.00 inch)



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Engineering Data

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

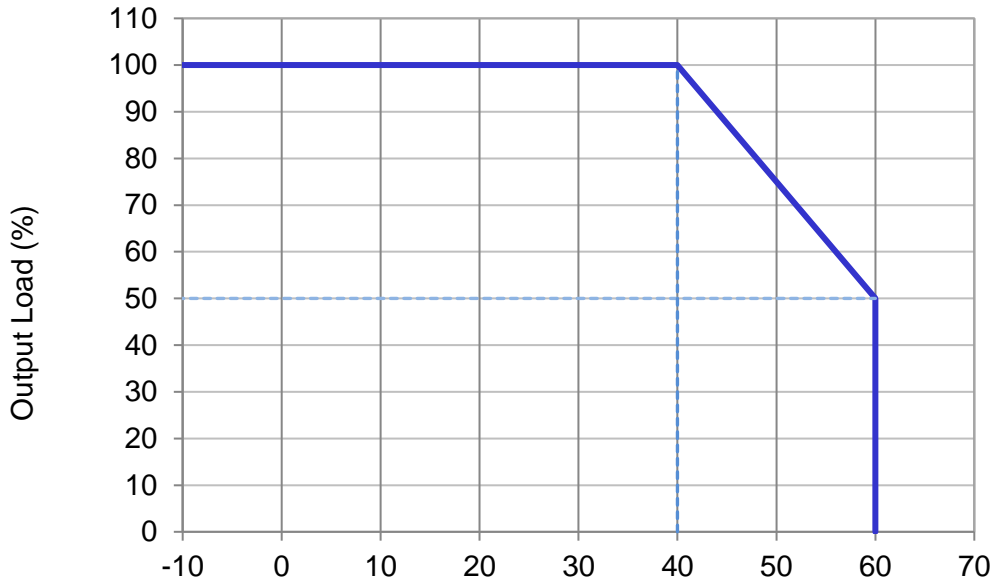


Fig. 2 De-rating for All Mounting Orientation
 > 40°C de-rate power by 2.5% / °C

Others

Attention

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Delta reserves the right to make changes to the information described in the datasheets without notice.

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