

# AC-DC Adapter

## 24V 150W / ADT-150A24AA H-A

# 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

<b>Model Number:</b>	ADT-150A24AA H-A
<b>Unit Weight</b>	405 ±10 grams (14.29±0.35 ounces)
<b>Dimensions (L×W×H):</b>	160 x 76.2 x 25.8 mm

### General Description

The ADT Series of AC-DC desktop adapter in compact size. ADT-150A24AA H-A 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 0.15W. The series conform to major international safety standards according to IEC/EN/UL 62368-1 and IEC/EN/UL 60950-1 approval for ITE. In addition, they 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-150A24AA H-A	90-264Vac	Level VI & CoC Tier2	24V	6.25A

### Model Numbering

ADT -	150	A	24	A	A	H -	A
Desktop Adapter for ITE application	Max wattage	Family Code	Output Voltage 24 for 24V	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	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	1.85 A
	230Vac	1.0 A
Efficiency at 100% Load	115Vac	91.0% typ.
	230Vac	92.0% typ.
Average Efficiency (min)	89% @ 115Vac & 230Vac	
Efficiency @ 10% load	79% @ 115Vac & 230Vac	
No Load Power Consumption (max)	0.15W @ 115Vac & 230Vac	
Power Factor @ 100% load (min)	0.9 @ 230Vac	
Inrush Current	No damage	
Leakage Current @ 240Vac/50Hz (max)	250uA	

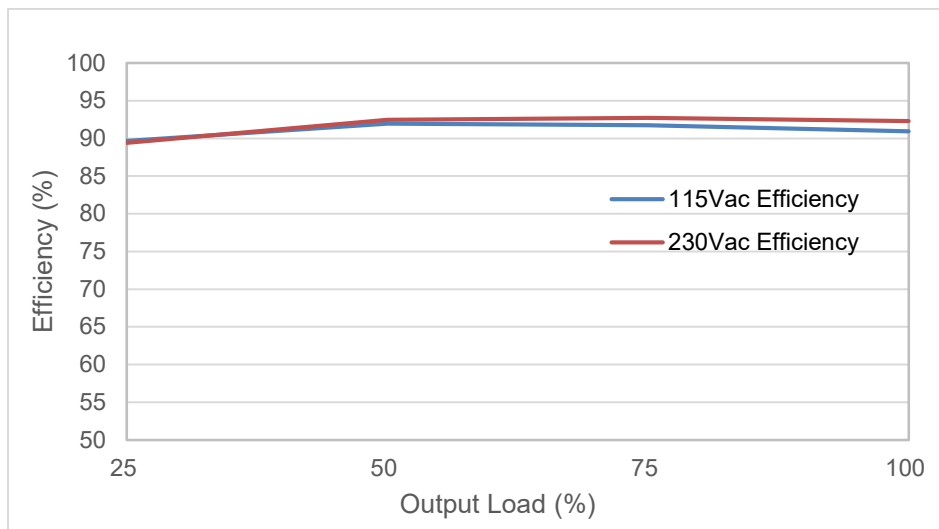


Fig 1. ADT-150A24AA H-A Efficiency versus Output Load

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### Output Ratings / Characteristics

Nominal Output Voltage	24V	
Output Current	6.25A	
Output Power	150W	
Line Regulation	± 0.5%	
Load Regulation	± 3.0%	
PARD* (20MHz)	0 to 40°C	240 mV pk-pk
	-10 to 0°C	480 mV pk-pk
Start-up Time	1000 ms typ. @ 115Vac 500 ms typ. @ 230Vac	
Rise Time (max)	40ms @ nominal input, full load	
Hold-up Time (typ.)	30ms @ 115Vac, full load	
Transient Responses	± 5% @ 0.1A -50% & 50% -100% load change, Slew rate 2.5A/us ,100 to 10KHz, 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 × W × H)	160 x 76.2 x 25.8 mm (6.3 x 3 x 1.02 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)
	Length	UL1571 #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 (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)	33V, 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: 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/UL/EN 60950-1 ; IEC/UL/EN 62368-1
		BSMI CNS14336-1
		CCC GB4943.1-2011
		PSE J60950-1 (H29)
		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/T9254-2008 KN32
Harmonic Current Emissions	IEC61000-3-2	Class D ; GB17625.1-2003
Immunity to		EN 55024; KN35
Voltage Flicker	IEC61000-3-3	
Electrostatic Discharge	IEC61000-4-2	Level 4 Criteria A <sup>1)</sup> Air Discharge: 15kV Contact Discharge:8kV
Radiated Field	IEC61000-4-3	Level 2 Criteria A <sup>1)</sup> 80MHz-1GHz, 3V/m , 80% AM(1KHz)
Electrical Fast Transient / Burst	IEC61000-4-4	Level 2 Criteria A <sup>1)</sup> : 1kV
Surge	IEC61000-4-5	Level 3 Criteria A <sup>1)</sup> Common Mode <sup>4)</sup> : 2kV Differential Mode <sup>5)</sup> : 1kV
Conducted	IEC61000-4-6	Level 2 Criteria A <sup>1)</sup> 150kHz-80MHz, 3Vrms, Sine Wave, 80%, AM modulation
Power Frequency Magnetic Fields	IEC61000-4-8	Level 1 Criteria A <sup>1)</sup> Magnetic field strength 1A/m
Voltage Dips	IEC61000-4-11	Voltage dips 70% reduction/0.5 periods (Criterion B <sup>2)</sup> ) 40% reduction/5 periods (Criterion C <sup>3)</sup> ) Voltage short interruptions 5% reduction/250 periods (Criterion C <sup>3)</sup> )

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)

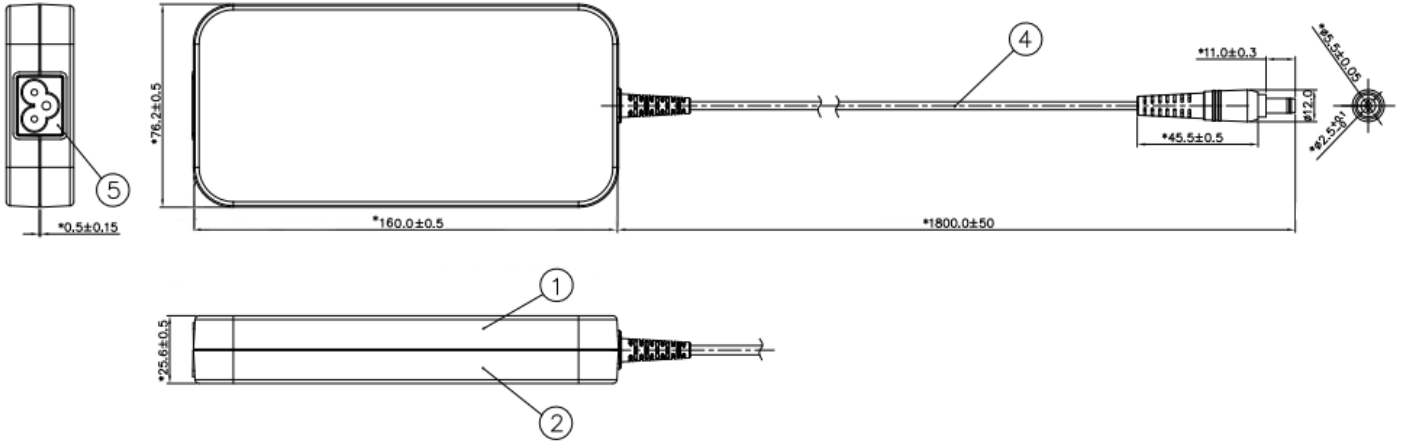
5) Symmetrical: Differential mode (Line to line)

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### Dimensions

L x W x H: 160 x 76.2 x 25.8 mm (6.3 x 3.0 x 1.02 inch)



### Engineering Data

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

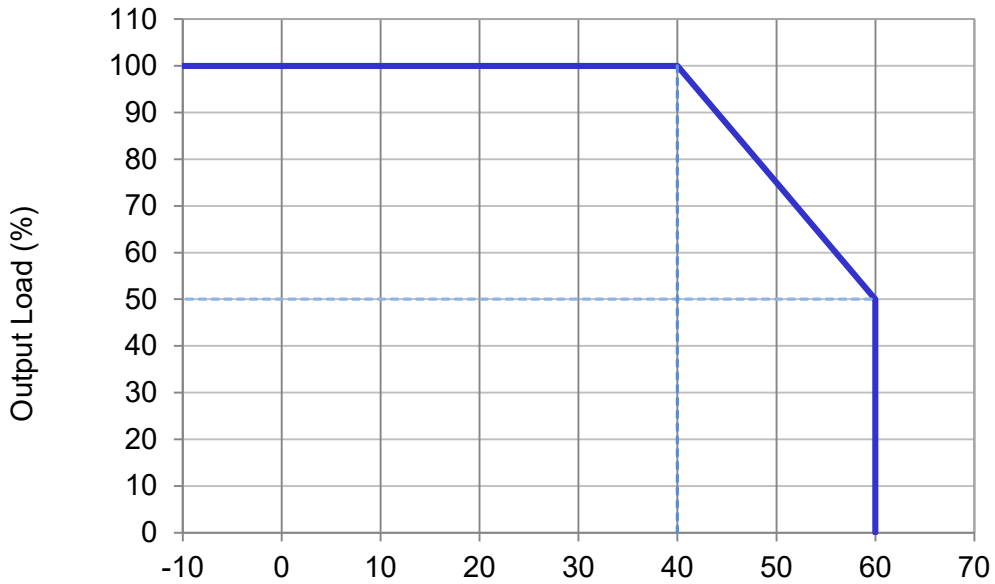


Fig. 1 De-rating for All Mounting Orientation  
 > 40°C de-rate power by 2.5% / °C

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### Others

#### Attention

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