

# AC-DC Adapter

## PD 240 W / ADP-240KB B

# ADP-240KB B

### Highlights & Features

- Meet efficiency DoE Level VI
- No load power consumption < 0.2 W
- AC-DC adapter
- Fully enclosed plastic case
- Protection: short circuit / over voltage / over current / over temperature



CB Certified for worldwide use

**Model Number:** ADP-240KB BA  
**Unit Weight:** 560g ± 10%  
**Dimensions (L×W×H):** 162 x 72 x 23 mm  
**Remark:** The AC cable is detachable.

### General Description

The ADP Series of AC-DC adapter in compact size. ADP-240KB BA meet the DoE Level VI energy efficiency requirements and the extremely low no-load power consumption below 0.2 W. The series conform to major international safety standards according to IEC/EN/UL 62368-1 / 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
ADP-240KB BA	90-264 Vac	Level VI	5V/3A ; 9V/3A ; 15V/3A 20V/5A ; 28V/5A ; 36V/5A ; 48V/5A

### Model Numbering

ADP -	240	K	B	B	A
Adapter or Charger	Wattage	Series Code	Adapter	AC Plug Type	

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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) @ 100 Vac / 240 Vac	3.5 A @ 100 Vac 2.5 A @ 240 Vac
Average Efficiency (min)	5V $\geq$ 81.39% ; 9V $\geq$ 86.62% ; 15V $\geq$ 87.73% ; 20V $\geq$ 88% 28V $\geq$ 88% ; 36V $\geq$ 88% ; 48V $\geq$ 88% @ 115 Vac & 230 Vac
No Load Power Consumption (max)	0.2 W @ 115 Vac & 230 Vac
Inrush Current @ Cold start	Fuse I <sup>2</sup> t < 22%
Leakage Current (max) @ 240 Vac/50 Hz	80 uA

#### Output Ratings / Characteristics

Nominal Output Voltage	5V/9V/15V/20V/28V/36V/48V	
Output Current	3A @ 5V/9V/15V ; 5A @ 20V/28V/36V/48V	
Output Power	240 W	
Line Regulation	$\pm$ 5%	
Load Regulation	$\pm$ 5%	
PARD* (20 MHz) @ 25°C	< 350 mV pk-pk (5V/9V/15V/20V) < 450 mV pk-pk (28V) < 500 mV pk-pk (36V) < 600 mV pk-pk (48V)	
Turn on delay Time	< 4 s @ 100~240 Vac, 5V only	
Rise Time	< 40 ms @ 100~240 Vac, 100% load, 5V only	
Hold-up Time	> 16 ms @ 100 Vac, 100% load	
Peak Load @ 25°C	> 4.5V @ 110% Load, 10ms, 100~240 Vac	
	> 4.5V @ 125% Load, 2ms, 100~240 Vac	(5V)
	> 4.5V @ 150% Load, 1ms, 100~240 Vac	
	> 8.1V @ 110% Load, 10ms, 100~240 Vac	
	> 8.1V @ 125% Load, 2ms, 100~240 Vac	(9V)
	> 8.1V @ 150% Load, 1ms, 100~240 Vac	
	> 13.5V @ 110% Load, 10ms, 100~240 Vac	
	> 13.5V @ 125% Load, 2ms, 100~240 Vac	(15V)
	> 13.5V @ 150% Load, 1ms, 100~240 Vac	
	> 18V @ 110% Load, 10ms, 100~240 Vac	
	> 18V @ 125% Load, 2ms, 100~240 Vac	(20V)
	> 18V @ 150% Load, 1ms, 100~240 Vac	
> 25.2V @ 110% Load, 10ms, 100~240 Vac		
> 25.2V @ 125% Load, 2ms, 100~240 Vac	(28V)	
> 25.2V @ 150% Load, 1ms, 100~240 Vac		
> 32.6V @ 110% Load, 10ms, 100~240 Vac		
> 32.6V @ 125% Load, 2ms, 100~240 Vac	(36V)	
> 32.6V @ 150% Load, 1ms, 100~240 Vac		
> 43.4V @ 110% Load, 10ms, 100~240 Vac		
> 43.4V @ 125% Load, 2ms, 100~240 Vac	(48V)	
> 43.4V @ 150% Load, 1ms, 100~240 Vac		

\*PARD is measured with an AC coupling mode, and in parallel with 0.1uF ceramic capacitor & 10uF electrolytic capacitor.

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### Mechanical

Case	PC	
Dimensions (L × W × H)	162 x 72 x 23 mm	
Unit Weight	560g ± 10%	
Indicator	N/A	
Cooling System	Convection	
Output Cable Specification	Connector	Type-C
	Length	1800±50mm
Input Socket	C6	

### Environment

Surrounding Temperature	Operating	0°C to +35°C
	Storage	-20°C to +80°C
Power De-Rating	N/A	
Operating Humidity	5%-90% RH (non-condensing)	
Operating Altitude	5,000 meters (16,400 feet)	
Ball Impact Test	Test height 130 cm, 1 sample 1 time, Steel Ball 540 g, Concrete Floor	
Drop Test	Test height 76 cm(operating) / 110 cm(Non-operating), 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)	<8V @ 5V ; <15V @ 9V ; <20V @ 15V ; <26V @ 20V, <37V @ 28V ; <46V @ 36V ; <60V @ 48V, Latch mode
Overload / Overcurrent (max)	<5.5A @ 5V/9V/15V <8A @ 20V/28V/36V/48V Latch mode
Over Temperature	Latch mode
Short Circuit	Latch mode
Pollution Degree	2
Protection Against Shock	Class I

### Reliability Data

MTBF	> 80,000 hrs. at Input: 100/240 Vac, Output: 100% load, Ta: 25°C
Expected Cap Life Time @ 35°C	13140hours (85% load, 100Vac & 240Vac)
Case Temperature Rise	< 60°C @ 100/240Vac, Output: 100% load, Ta: 35°C

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### Safety Standards / Directives

Electrical Safety		IEC/EN 62368-1, 60950
		BSMI CNS 13438, 14336-1, 15663
		PSE J62368-1, J55032, J3000
		UL 62368-1, CSA 62368-1
		PSB IEC 62368-1:2014, 60950-1:2005+A1:2009+A2:2013
CE/UKCA		Comply with EMC Directive 2014/30/EU, the Low Voltage Directive 2014/35/EU, RoHS Directive 2011/65/EU+ (EU) 2020/659 and Commission Regulation (EU) 2019/1782, ErP Directive
Galvanic Isolation	I/P to O/P	3000 Vac

### EMC

EMC / Emissions	EN 55032	Criteria Class B
Harmonic Current Emissions	IEC 61000-3-2	The power consumption of EUT is less than 75W and no limits apply
Voltage Flicker	IEC 61000-3-3	
Electrostatic Discharge	IEC 61000-4-2	Air Discharge performance criterion A: $\pm 12$ kV/ $\pm 15$ kV Contact Discharge performance criterion A: $\pm 6$ kV/ $\pm 8$ kV
Radio Frequency Electromagnetic Field	IEC 61000-4-3	Criteria A 80 MHz – 1 GHz, 3 V/m, 80% AM (1 KHz)
Electrical Fast Transient	IEC 61000-4-4	Level 3 Criteria A
Surge	IEC 61000-4-5	Level 3 Criteria C Common Mode: $\pm 2$ kV Differential Mode: $\pm 1$ kV
Radio Frequency Common Mode	IEC 61000-4-6	Criteria A 150 kHz – 10 MHz, 3 V, 80% AM (1 KHz) 10 MHz – 30 MHz, 3V-1V, 80% AM (1 KHz) 30 MHz – 80 MHz, 1V, 80% AM (1 KHz)
Power Frequency Magnetic Fields	IEC 61000-4-8	Criteria A 1 A/m, 50Hz
Voltage Dips	IEC 61000-4-11	Voltage dips 70% residual voltage, 25 periods (Criterion C) < 5% residual voltage, 0.5 periods (Criterion B)  Voltage short interruptions < 5% residual voltage, 250 periods (Criterion C)

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)

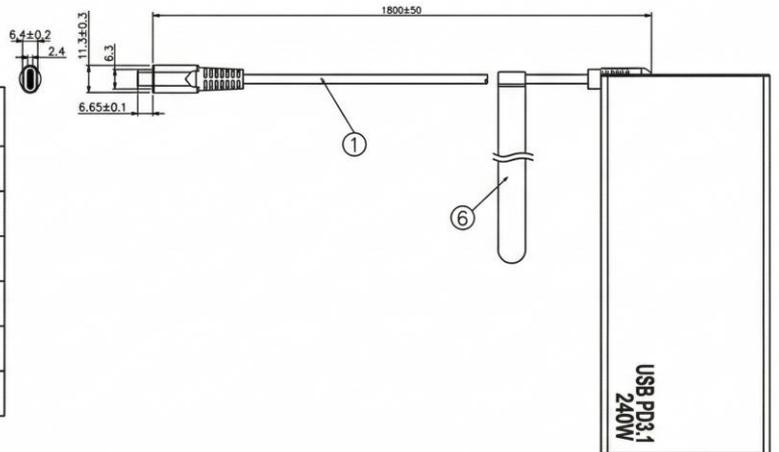
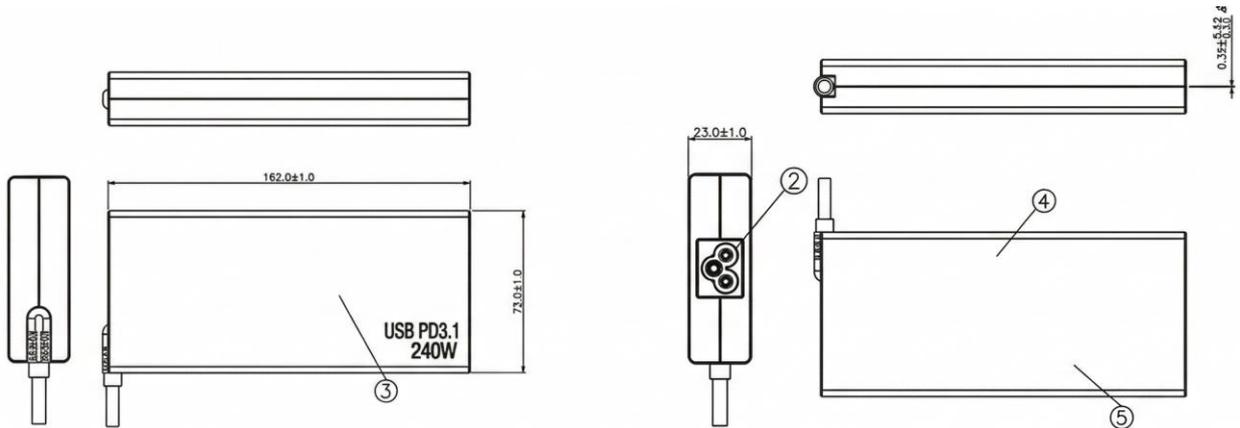
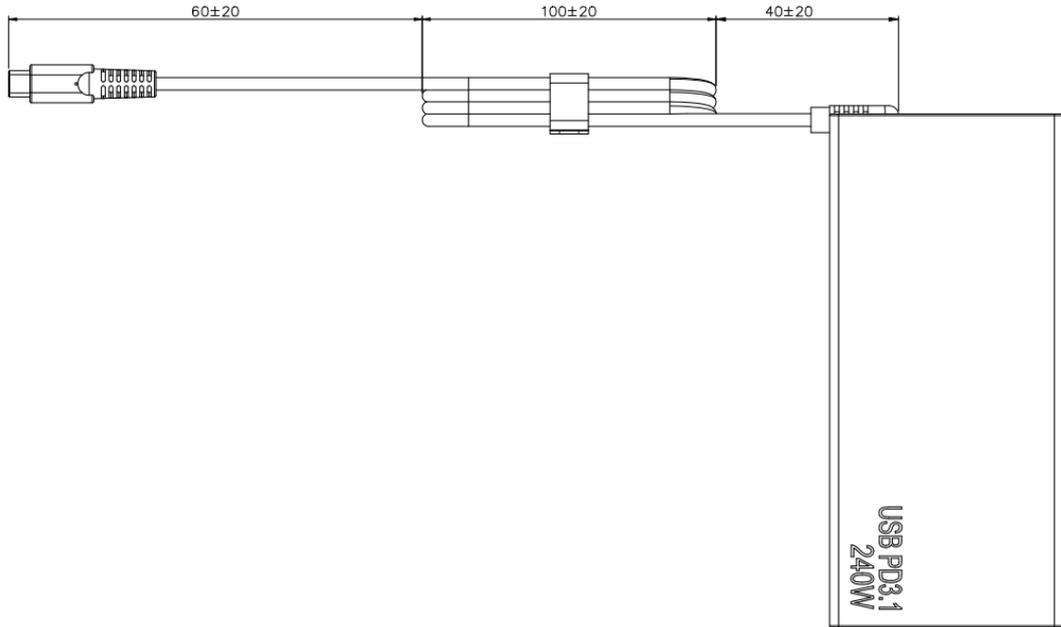
5) Symmetrical: Differential mode (Line to line)

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### Dimensions (ADP-240KB BA)

L x W x H: 162 x 72 x 23 mm



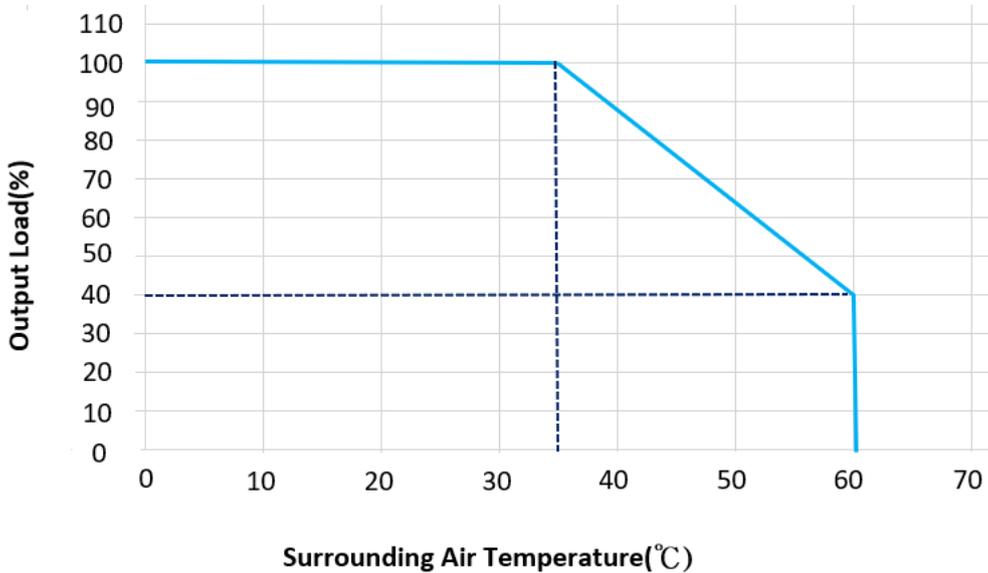
ITEM	PART NAME	REMARK
①	POWER CORD	BLACK
②	SOCKET	BLACK
③	COVER	BLACK
④	CHASSIS	BLACK
⑤	SPEC LABEL	—
⑥	VELCRO	BLACK

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### Engineering Data

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



### Others

#### Attention

Delta provides all information in the datasheets on an “AS IS” basis and does not offer any kind of warranty through the information for using the product. In the event of any discrepancy between the information in the catalog and datasheets, the datasheets shall prevail (please refer to [PSU.deltaww.com](http://PSU.deltaww.com) for the latest datasheets information). Delta shall have no liability of indemnification for any claim or action arising from any error for the provided information in the datasheets. Customer shall take its responsibility for evaluation of using the product before placing an order with Delta.

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

### Manufacturer and Authorized Representatives Information

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