

AC-DC Adapter

PD 45 W / ADP-45EW Z

ADP-45EW Z

Highlights & Features

- Meet efficiency DoE Level VI & CoC Tier 2
- No load power consumption < 0.075 W
- AC wall mount / Type-C output connector
- Fully enclosed plastic case
- Protection: short circuit / over voltage / over current / over temperature



Safety Standards



CB Certified for worldwide used

Model Number: ADP-45EW ZGA
Unit Weight: 180g ±2.5%
Dimensions (L×W×H): 53 x 53 x 28.5 mm

General Description

The ADP Series of AC-DC wall mount adapter in compact size. ADP-45EW ZGA meet the DoE Level VI and CoC Tier 2 energy efficiency requirements and the extremely low no-load power consumption below 0.075 W. The series conform to major international safety standards according to IEC/EN/UL 62368-1 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-45EW ZGA	90-264 Vac	Level VI & CoC Tier2	5V/3A ; 9V/3A ; 15V/3A ; 20V/2.25A

Model Numbering

ADP -	45	E	W	Z	GA
Adapter or Charger	Wattage	Series Code	Wall Mount	AC Plug Type Z : EU	

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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	1.2A
Average Efficiency (min)	5V \geq 81.84% ; 9V \geq 87.30% ; 15V \geq 88.85% ; 20V \geq 88.85% @ 115 Vac & 230 Vac
No Load Power Consumption (max)	0.075 W @ 115 Vac & 230 Vac, 5V only
Inrush Current @ Cold start	Fuse $I^2t < 22\%$
Leakage Current (max) @ 240 Vac/50 Hz	20 uA

Output Ratings / Characteristics

Nominal Output Voltage	5V/9V/15V/20V
Output Current	3A @ 5V/9V/15V ; 2.25A @ 20V
Output Power	45 W
Line Regulation	4.85~5.5V @ 5V ; $\pm 5\%$ @ 9V/15V/20V
Load Regulation	4.85~5.5V @ 5V ; $\pm 5\%$ @ 9V/15V/20V
PARD* (20 MHz) @ 25°C	< 180 mV pk-pk (5V)
	< 200 mV pk-pk (9V)
	< 300 mV pk-pk (15V/20V)
Turn on delay Time	< 3 S @ 100~240 Vac, 5V only
Rise Time	< 40 ms @ 100~240 Vac, 100% load, 5V only
Hold-up Time	> 5 ms @ 100 Vac, 80% load, 20V only
Peak Load @ 25°C	> 17.8V @ 200% Load, 2ms, 100~240 Vac, 20V only
	> 17.8V @ 225% Load, 250us, 100~240 Vac, 20V only
	> 13V @ 200% Load, 2ms, 100~240 Vac, 15V only > 13V @ 225% Load, 250us, 100~240 Vac, 15V only

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

Mechanical

Case	PC	
Dimensions (L x W x H)	53 x 53 x 28.5 mm	
Unit Weight	180g $\pm 2.5\%$	
Indicator	N/A	
Cooling System	Convection	
Output Cable Specification	Connector	Type-C
	Length	2000 $^{+100}_{-50}$ mm
Input Socket	Wall mount	

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Environment

Surrounding Temperature	Operating	0°C to +40°C
	Storage	-30°C to +80°C
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 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)	<7.5V @ 5V ; <13.5V @ 9V ; <20.25V @ 15V ; <27V @ 20V, Latch mode
Overload / Overcurrent (max)	<3.6A @ 5V ; <3.6A @ 9V ; <4.2A @ 15V ; <4.2A @ 20V, Latch mode
Over Temperature	Latch mode
Short Circuit	Latch mode
Pollution Degree	2
Protection Against Shock	Class I

Reliability Data

MTBF	> 150,000 hrs. at Input: 100Vac & 240Vac, Output: 100% load, Ta: 25°C
Expected Cap Life Time @ 25°C	13140hours (100% load, 100Vac & 240Vac)
Case Temperature Rise	< 40°C @ 100Vac & 240Vac, Output: 95% load, Ta: 40°C

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Safety Standards / Directives

Electrical Safety		IEC/EN 62368-1, 60950 PSB IEC 62368-1:2014, 60950-1:2005+A1:2009+A2:2013
CE		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: 15 kV, Criteria B Contact Discharge: 8 kV, Criteria A
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 B
Surge	IEC 61000-4-5	Level 3 Criteria no function error Common Mode: 2 kV Differential Mode: 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)

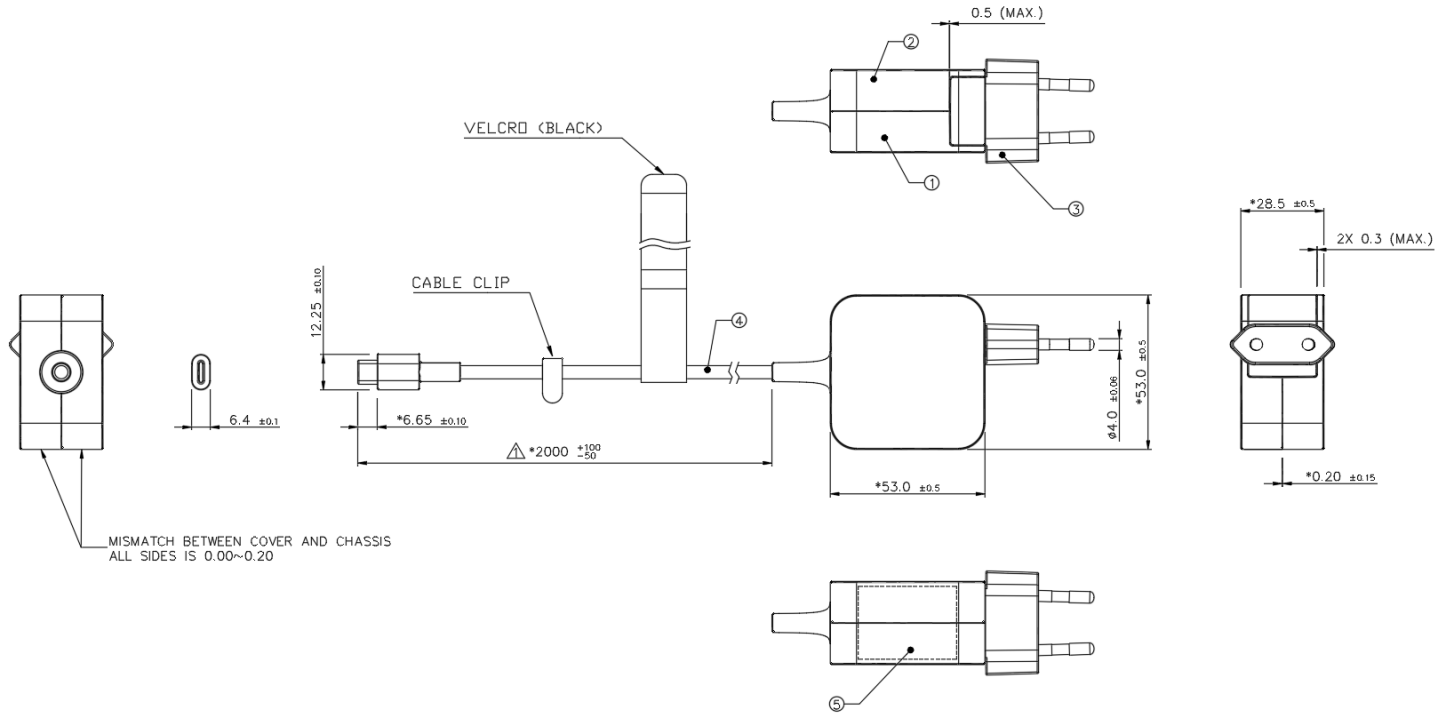
- 1) Criteria A: Normal performance within the specification limits
- 2) Criteria B: Output out of regulation, or shuts down during test. Automatically restore to normal operation after test.
- 3) Criteria C: PSU shuts down during test, but need operator to reset.
- 4) Asymmetrical: Common mode (Line to earth)
- 5) Symmetrical: Differential mode (Line to line)

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Dimensions (ADP-45EW ZGA)

L x W x H: 50 x 50 x 28.5 mm



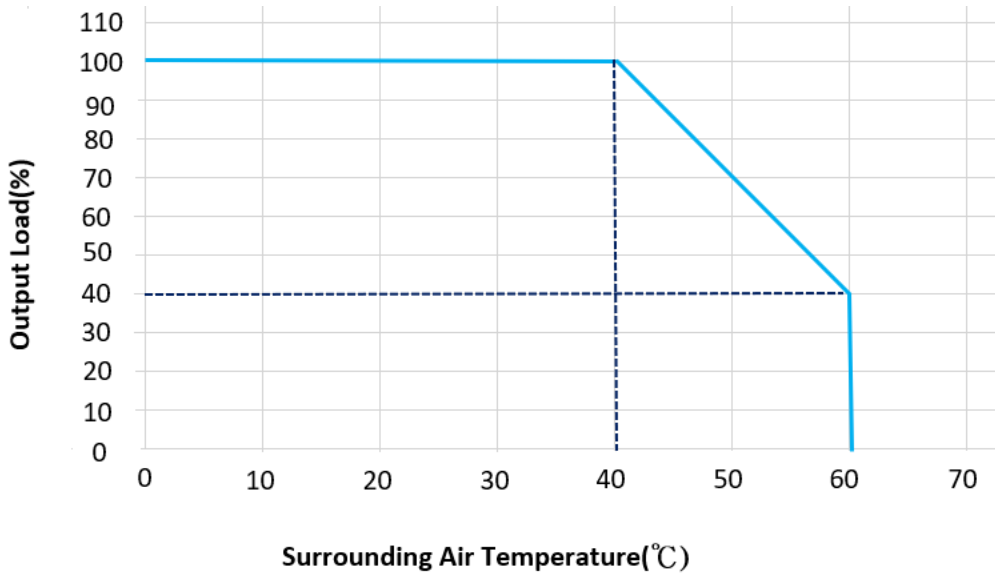
ITEM	PART NAME	COLOR
①	COVER	BLACK
②	CHASSIS	BLACK
③	AC PLUG	NATURAL
④	DC CABLE	BLACK
⑤	LASER ETCH	N/A

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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 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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