AC-DC Adapter
PD 140 W / ADP-140AB B

ADP-140AB B

Highlights & Features

- Meet efficiency DoE Level VI & CoC Tier 2
- No load power consumption < 0.15 W
- AC-DC adapter
- Fully enclosed plastic case
- Protection: short circuit / over voltage / over current / over temperature / output pins short

Safety Standards

CB Certified for worldwide use

Model Number:	ADP-140AB BC
Unit Weight:	345g ± 2.5%
Dimensions (L×W×H):	80 x 80 x 29.2 mm
Remark:	The AC cable is detachable.

General Description

The ADP Series of AC-DC adapter in compact size. ADP-140AB BC meet the DoE Level VI and CoC Tier 2 energy efficiency requirements 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 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-140AB BC	90-264 Vac	Level VI & CoC Tier2	5V/3A ; 9V/3A ; 15V/5A ; 20V/5A ; 28V/5A

Model Numbering

ADP -	140	A	B	B	C
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	2.5 A
Average Efficiency (min)	5V ≧ 80.4% ; 9V ≧ 85.6% ; 15V ≧ 86.7% ; 20V ≧ 87% 28V ≧ 90% @ 115 Vac & 230 Vac
No Load Power Consumption (max)	0.15 W @ 115 Vac & 230 Vac ; 5V only
Inrush Current @ Cold start	Fuse I^2t < 22%
Leakage Current (max) @ 240 Vac/50 Hz	100 uA

Output Ratings / Characteristics

Nominal Output Voltage	5V/9V/15V/20V/28V	
Output Current	3A @ 5V/9V ; 5A @ 15V/20V/28V	
Output Power	140 W	
Line Regulation	± 5%	
Load Regulation	± 5%	
PARD* (20 MHz) @ 25°C	< 380 mV pk-pk (5V/9V/15V/20V/28V)	
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	> 16 ms @ 100 Vac, 100% load	
Peak Load @ 25°C	> 18V @ 110% Load, 10ms, 100~240 Vac > 18V @ 200% Load, 1ms, 100~240 Vac > 18V @ 225% Load, 0.5ms, 100~240 Vac	(20V only)
	> 25.2V @ 150% Load, 10ms, 100~240 Vac > 25.2V @ 200% Load, 1ms, 100~240 Vac > 25.2V @ 225% Load, 0.5ms, 100~240 Vac	(28V 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 × W × H)		80 x 80 x 29.2 mm
Unit Weight		345g ± 2.5%
Indicator		N/A
Cooling System		Convection
Output Cable Specification	Connector	Type-C
	Length	1600±50mm
Input Socket		C6

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Environment

Surrounding Temperature	Operating	0°C to +35°C
	Storage	-30°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)	<7.5V @ 5V ; <13.5V @ 9V ; <20.25V @ 15V ; <27V @ 20V, <40.6V @ 28V, Latch mode
Overload / Overcurrent (max)	3.1~3.6A @ 5V ; 3.1~3.6A @ 9V ; 5.1~6.75A @ 15V ; 5.1~6.75A @ 20V, 5.1~6.75A @ 28V 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: 100/240 Vac, Output: 100% load, Ta: 25°C
Expected Cap Life Time @ 25°C	26280hours (100% load, 100Vac & 240Vac)
Case Temperature Rise	< 55°C @ 100/240Vac, Output: 100% load, Ta: 25°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 B: ±15 kV, Air Discharge performance criterion A: ±12 kV Contact Discharge performance criterion A: ±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 B
Surge	IEC 61000-4-5	Level 3 Criteria A 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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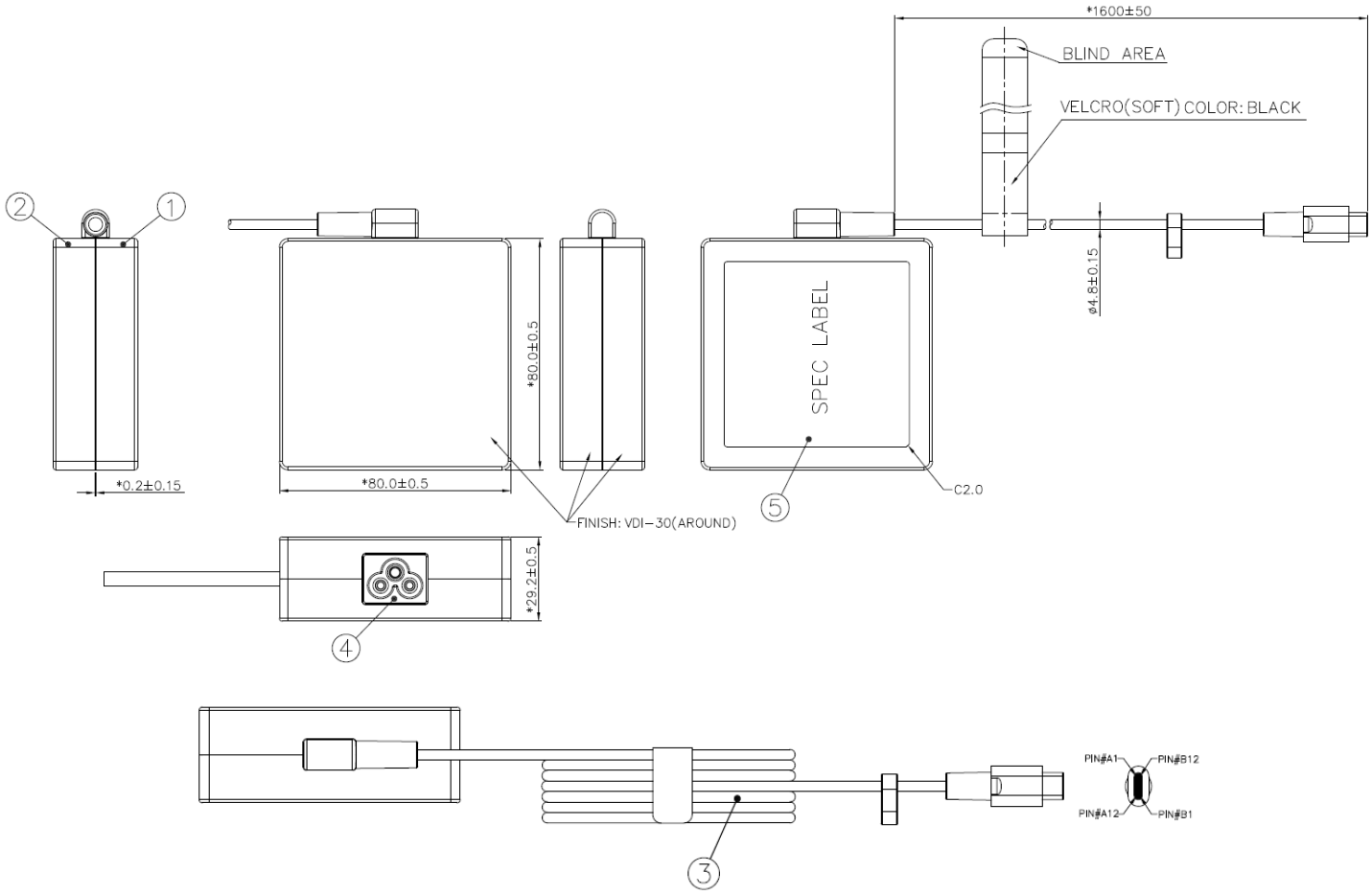
Dimensions (ADP-140AB BC)

L x W x H: 80 x 80 x 29.2 mm



ITEM	PART NAME	COLOR
①	COVER	BLACK
②	CHASSIS	BLACK
③	POWER CORD	BLACK
④	SOCKET	BLACK
⑤	SPEC LABEL	BLACK

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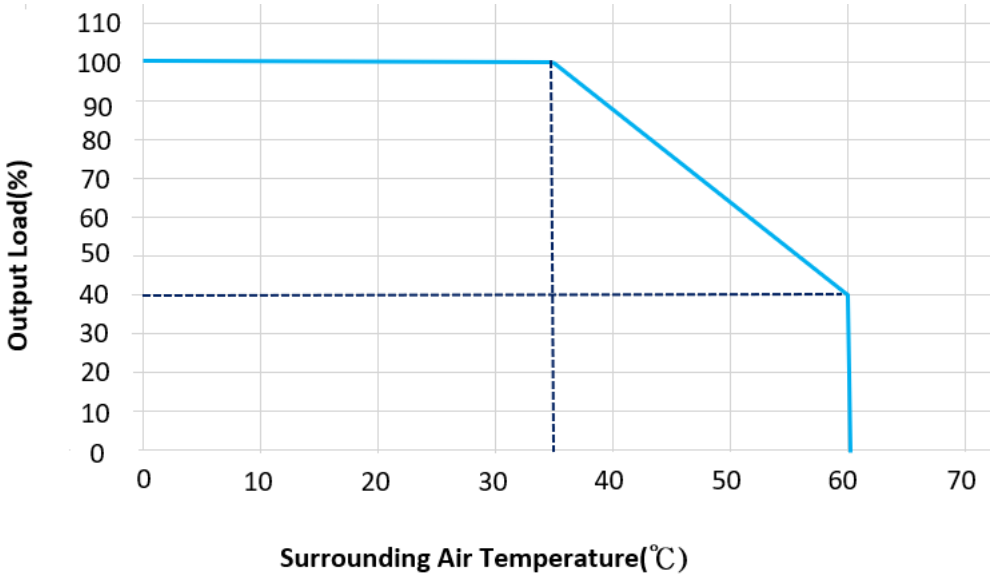
Engineering Data

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



Others

Attention

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Manufacturer and Authorized Representatives Information

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