



# MODEL LIST:

ADP-15WH AA/AB/AAA/AAB/AAC/AS/ASA/ASB/ASC/ASD

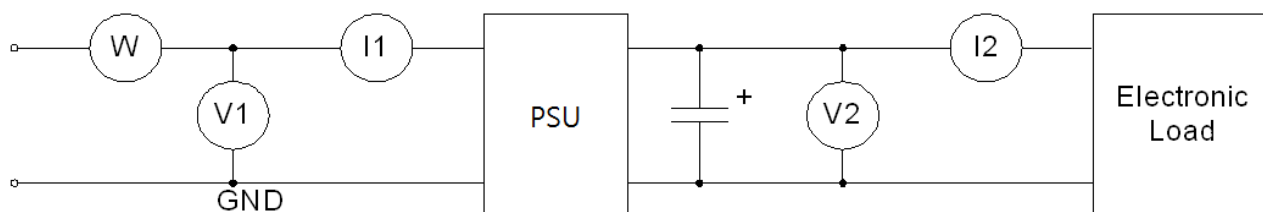
## 1. Specifications


### 1.1 Environmental Characteristics

	Item	Conditions	Specification
1	Temperature	Operating: The Adapter is capable to operate from 0 to 40°C.	0 to 40°C
2		Non- Operating: The Adapter is capable to be stored from -20 to 60°C.	-20 to 60°C
3	Humidity	Operating: The Adapter is capable to operate from 10 to 90% RH.	10 to 90% RH
4		Non- Operating: The Adapter is capable to be stored from 10 to 90% RH ( non-condensing )	10 to 90% RH

### 1.2 Electrical Characteristics

Applied 10uF/10V & 104pF capacitor across output connector terminals.



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	Item	Conditions	Specification
1	Rated input voltage		100 ~ 240 Va.c.
2	Rated frequency		50Hz or 60Hz
3	Input Voltage Range		90 ~ 276 Vac
4	Frequency Range		47Hz ~ 63Hz
5	Rated load output		5.1V / 2.8A
6	Max. load current	Input voltage: 90Vac~276Vac , Output current: 2.8A ~3.8A, 10 seconds 2.8A / 1second 3.8A	3.8A d.c.
7	No load output voltage	Input voltage: 90Vac~276Vac , Output current: 0A	5.4V ~ 5.5V
8	Output Voltage	Input voltage: 90Vac~276Vac , Output current: 2.8A (Rated load)	5.1V ~ 5.5V
9	Peak load output voltage	Input voltage: 90Vac~276Vac , Output current: 2.8A ~3.8A, 10 seconds 2.8A / 1second 3.8A	5.0V ~ 5.5V



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10	Ripple & Noise voltage	Input voltage: 90Vac~276Vac , Output current: 2.8A (Rated load)	$\leq 100\text{mVp-p}$
11	No load input current	Input voltage: 90Vac/100Vac , Output current: 0A Input voltage: 240Vac/276Vac , Output current: 0A	$\leq 10\text{mA}$ $\leq 20\text{mA}$
12	Rated load input current	Input voltage: 90Vac, Output current: 2.8A (Rated load) Input voltage: 100Vac, Output current: 2.8A (Rated load) Input voltage: 240Vac, Output current: 2.8A (Rated load) Input voltage: 276Vac, Output current: 2.8A (Rated load)	$\leq 400\text{mA}$ $\leq 350\text{mA}$ $\leq 200\text{mA}$ $\leq 190\text{mA}$
13	No load power consumption	Input voltage: 115Vac/230Vac , Output current: 0A	$\leq 75\text{mW}$
14	Rated load power consumption	Input voltage: 90Vac~276Vac , Output current: 2.8A (Rated load)	$\leq 20\text{W}$
15	Short circuit protection	Input voltage: 90Vac~276Vac , Protection mode: Auto recovery	
16	Over current protection	Input voltage: 90Vac~276Vac , Protection mode: Auto recovery	3.9A ~7.8A
17	Over voltage protection	Input voltage: 90Vac~276Vac , Output current: 0~2.8A , Protection mode: Latch off	$\leq 8\text{V}$
18	Rated load efficiency	Input voltage: 90Vac~276Vac , Output current:2.8A,	$\geq 75\%$
19	Average efficiency	Input voltage:115Vac/60Hz ,230Vac/50Hz, average efficiency at 25%, 50%, 75%, and full load.	$\geq 79.3\%$
20	Surface temperature rise	Output current: 2.8A (Full load) Output current: 2.0A (70% full load)	$\Delta t=35^{\circ}\text{C}$ $\Delta t=25^{\circ}\text{C}$



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21	Electromagnetic Interference (EMI)	Conducted Emissions: Conform to the “class B” requirement of CISPR 22(EN55022)	<-6dB, after burn in 5minute.
		Radiated Emissions: Conform to the “class B” requirement of CISPR 22(EN55022)	<-6dB
22	Leakage Current	Input voltage: 240 Vac, 60Hz.	< 100uA
23	Insulation resistance	Apply 500V dc for 1min, after which measurement shall be made between the input Plug (or power supply cord) and the dc plug or case	$\geq 100M\Omega$
24	Dielectric strength	Apply 3.64kV ac for 1min (verification), 3.64kV ac for 3sec. (products line), Between input Plug and DC plug.	< 5mA (cut off current)
25	Surge immunity	Input voltage $\pm 1$ KV ( L-N) Input voltage $\pm 2$ KV ( L-GND and N-GND)	No damage
26	ESD test	After applied $\pm 10$ kV air discharge and Adapter shall be normally operated. Total 5 shots by an interval of 3 seconds between each shot. After applied $\pm 12$ kV air discharge and Adapter is no part breakdown. Total 5 shots by an interval of 3 seconds between each shot.	10kV no function error. 12kV no damage.
27	AC noise	Rating input, Rating load Noise voltage:600V(no function error) 1000V(no damage)	

### 1.3 Safety info:

Max. Operating Altitude: 2000M

#### Safety application

PSE, UCS, CB, CE, KTL-EMC, EESS, BSMI, CCC, Erp Lot 7 4rd.LPS.

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## 2. Mechanical Dimension

2.1 Outline Dimension: 76.0\*46.0\*22.0 mm, Color: Black

2.2 AC Inlet type: Socket C8 type

2.3 DC Cable :

TYPE: UL 1571 20AWG

LENGTH : 1000 mm

2.4 DC Connector Dimension:

OD= 4.0mm

ID= 1.7 mm

LENGTH= 9.5 mm

2.5 DC jack: 4017J-1M00:



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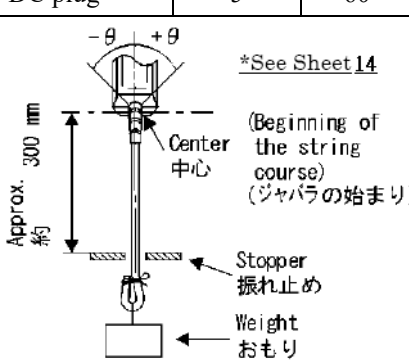
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### 3. Mechanical characteristics

	Item	Conditions						Specification
1	Mechanical strength of case	Load 100N by using define fixture (φ12 plastic head) on case surface						Electrical and mechanical function should meet spec.
2	AC inlet strength	1.150N push in by suitable plug 2.100N ; 5000times push in & pull out by suitable plug 3.4 direction 70N load on suitable plug (plug in)						Without damage in appearance on solder
3	Cord flexibility test		Load (N)	Angle(θ)	Short diameter direction	Arbitrary direction (cycle)	Cycles in every minute	Disconnection rate of the wire shall be 30% or less. Without damage to the insulations, etc.
		Case-d. c. cord	5	60°	-----	2000	40	
		DC plug	5	60°	-----	2000	40	
					*See Sheet 14 The test sample is hung by specified Weight it shall be bent through angles of specified degrees in one direction. Returned to its original position. Then bent specified degrees in the opposite direction. After which it shall be returned to its original position to complete two cycle. The rate flexing shall be specified cycle per min.			
4	Tensile strength of the cord	D.C. cord A static load of100 N shall be applied and sustained for 60s. (5 direction)						Excessive load shall not be applied to the contacts and the bushing shall not be detached.
5	Pressure Strength of the cord 2 Test Report	A cord shall be thrust at 2.5mm point from case until the cord bends. (The Maximum thrush strength shall be 60 N						Excessive load shall not be applied to the contacts and the bushing shall not be detached.



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6	Migration ( ■ Polystyrene ■ ABS)	This test is applicable to power supply cord, d.c. cords and plugs. Ambient temperature : 50±1°C Relative humidity: :Not specified Duration : 24 ± 1 h Load : 4.9 ± 0.25 N Refer to Delta General spec.: 10000-0010(Item 5-13) Detail show as below page	Visually inspected any staining of the area of the resin that was in contact with the test pieces shall be hardly recognized.
7	DC plug force	Test on defined jack (EIAJ TYPE-2)	0.3~2.0kgf (center shall around 1kg)
8	DC plug durable test	Test on defined jack (EIAJ TYPE-2) 5N ; 5000times (20 times or / every min)	Electrical characteristic shall be satisfied. Click feeling remain
9	Drop Test (Non-operating test)	Test height : 1 or (A)m for every surface (six sides) Test surface material : vinyl tile or (B) (A) : <u>1.0</u> m (B) : <u>concrete floor</u>	Without distinct damage in appearance. Electrical characteristic shall be satisfied.

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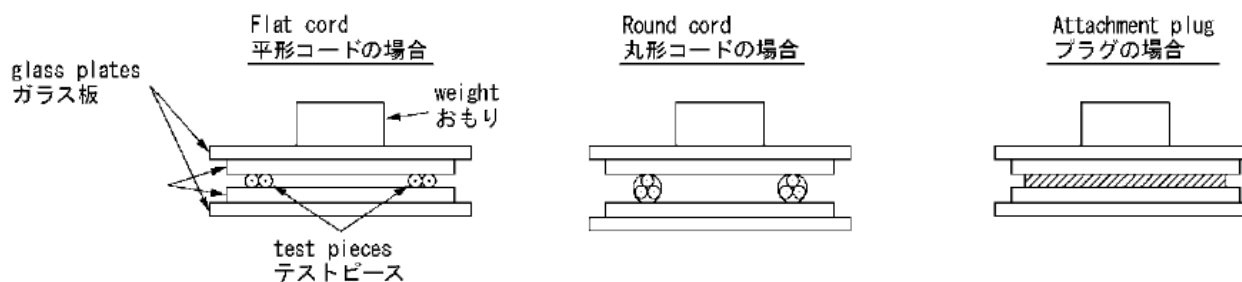
10	Package drop and vibration	<div>Follow packaging test spec rev.1</div> <div>After drop test, continue vibration test</div> <div>Drop test level 2</div> <table><tr><td></td><td>3 Faces</td><td>Other faces</td><td>3 corner/edge</td><td>Other corner/edge</td></tr><tr><td>Height</td><td>75cm</td><td>60cm</td><td>60cm</td><td>42cm</td></tr></table> <div>Vibration test:</div> <table><tr><td>5~50Hz</td></tr><tr><td>1.44m² / S³ (0.015g²/Hz)</td></tr><tr><td>8.1m/S²(0.83Gms)</td></tr><tr><td>X-axis 20 min</td></tr><tr><td>Y-axis 20 min</td></tr><tr><td>Z-axis 20 min</td></tr><tr><td>Free</td></tr></table>		3 Faces	Other faces	3 corner/edge	Other corner/edge	Height	75cm	60cm	60cm	42cm	5~50Hz	1.44m² / S³ (0.015g²/Hz)	8.1m/S²(0.83Gms)	X-axis 20 min	Y-axis 20 min	Z-axis 20 min	Free	No function error No abnormal for appearance
	3 Faces	Other faces	3 corner/edge	Other corner/edge																
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Free																				
11	High temperature storage	Master carton under 60°C 80%RH 96hrs then 25°C 2hrs	Electrical characteristic shall be satisfied.																	
12	Low temperature storage	Master carton under -20°C / 96hrs then 25°C / 2hrs	Electrical characteristic shall be satisfied.																	
13	Vibration	<div>Follow STM-1058 8-4 I-B random vibration</div> <div>X,Y,Z each axis 1hr</div> <table><tr><td></td><td colspan="2">a. Automobile</td></tr><tr><td>Power spectral density</td><td>10 to 50 Hz</td><td>4.1 m²/s³ {0.043 G²/Hz}</td></tr><tr><td></td><td>50 to 125 Hz</td><td>-15 dB/oct</td></tr><tr><td>Overall rms value</td><td colspan="2">14.7 m/s² {1.50 G}</td></tr><tr><td>Test time</td><td colspan="2">1 H</td></tr></table>		a. Automobile		Power spectral density	10 to 50 Hz	4.1 m²/s³ {0.043 G²/Hz}		50 to 125 Hz	-15 dB/oct	Overall rms value	14.7 m/s² {1.50 G}		Test time	1 H		Electrical and mechanical function should meet spec.		
	a. Automobile																			
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14	Shock	Peak acceleration : 100G Duration of pulse : 15ms 9 successive shocks shall be applied in X.Y.Z axis each ( total of 27 shocks).	Electrical and mechanical function should meet spec.
15	Adhesion of specification labels	1. Tape peeling test (see next page)  2. High temperature storage The AC adapter shall be stored at a temperature of $65 \pm 2^{\circ}\text{C}$ with relative humidity of 90% to 95% for 6 to 7 h.  3. Low temperature storage The AC adapter shall be stored at a temperature of $-20 \pm 3^{\circ}\text{C}$ for 6 to 7 h.  Detail show as below page	There shall be no blistering or peeling of the specification label.
16	Ball Impact	Steel ball, weight 0.54kg . Plastic tube, height 130cm(spec)	1. If case has any crack. The golden finger can't touch inside components. 2. Hi- Pot pass. ( AC 3300V/1min ) 3. Refer to UL 60950 regulation, height 130cm.


### Migration

Place test pieces between two resin plates. The place two glass plates on them and apply a specified weight.  
As shown figure below. The assembly shall be stored at a specified temperature for a specified time.  
Inspect visually any staining of the area of the resin that was in contact with test pieces.



### Resin plate

Material : Polystyrene(Hi-Impact)

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-Ps Japan Corp.  
Diarex HT-88 Natural color (Milk-white)  
-Aasahi Kasei Chemicals Corp.  
AGI 02 Natural color (Milk-white)

:ABS

-Ps Japan Corp.  
Acrylonitrile-butadiene-styrene TFX-410E  
Natural color (Milk-white)  
-Aasahi Kasei Chemicals Corp.  
121 Natural color (Milk-white)

Size :  $50 \times 50 \pm 10$   $t = 1_{-0.5}^{+3.0} mm$

Finish : The plate, produced 24h or more previously by compression molding or by extrusion. shall  
Have a flat surface (mirror surface) and have no scratches or other visible sign of deterioration.

Glass plate approx.  $60 \times 60 \times t$  2mm in dimension

#### Test piece

Flexible cord : 2 pieces approx. 60 mm in length. removed from the finished cord sets.

Moldings (attachment plug):

One plate from the same material as attachment plug or cord connector. It shall be round in  
Shape approx.  $\varnothing 50 \times t1$  mm.

#### Adhesion strength specification label (Tape peeling test)


Firmly apply pressure sensitive adhesive tape on the middle of the specification label to the lengthwise direction.

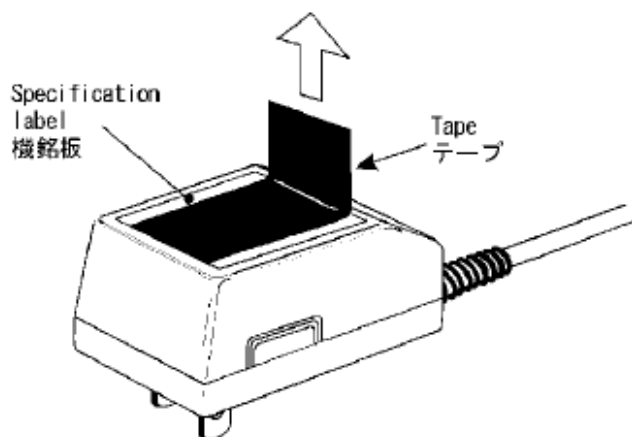
Pull the tape off quickly at a 90° angle to the surface of the label once.

<Specifications> There shall be no blistering or peeling of the specification label.

<Used adhesive tape> NIGHIBAN No. 405(18mm width)


3M No. 610(18mm width)

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Product Application: GAME

Product ingress protection (IP) rating: Not requirement

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