

規格書  
Electrical Specification

Model No : PA-1041-71

Product No:PA-1041-71TP-LF

Description : 12V 40W AC Adaptor

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## Contents

1. Description .....	4
2. Electrical.....	4
2.1    Input Voltage .....	4
2.2    Input Frequency .....	4
2.3    Input Current .....	4
2.4    Inrush Current .....	4
2.5    Hold-Up time .....	4
2.6    Input wattage.....	4
2.7    Efficiency.....	4
2.8    Safety Test .....	4
2.9    Output Voltage and Current.....	5
2.10   Ripple and Noise.....	5
2.11   Over-Shoot and under-shoot.....	5
2.12   Protection .....	5
2.13   LED Indication.....	5
2.14   Rise time .....	5
2.15   Turn on delay time.....	5
2.16   Temperature Coeffience .....	5
2.17   Transient Response .....	6
3. Environment .....	6
3.1    Temperature .....	6
3.2    Humidity .....	6
3.3    Altitude .....	6
4. EMC .....	6
4.1    EMS .....	6
4.2    EMI.....	7
5. Reliability.....	7
5.1    Life (E-cap.).....	7
5.2    M.T.B.F. ....	7
5.3    Temperature Rise.....	7
5.4    Burn-in .....	7
5.5    Vibration Test .....	7
5.6    Drop-Test.....	7
6. Mechanical .....	7

## 1. Description

This product is a AC to DC power transfer device, it can provide for a **40W** single dc output with constant voltage source.

## 2. Electrical

### 2.1 Input Voltage

- a. 100 - 240Vac Nominal.
- b. 90 - 264Vac Universal.

### 2.2 Input Frequency

47- 63Hz.

### 2.3 Input Current

**1.2 A** max. at 90Vac input & dc output full-loading.

### 2.4 Inrush Current

Inrush peak current and Joule integral will be measured at different line voltage at high ambient temperture.

Peak current is within specified limit and Joule integral well below fuse and bridge spec.

### 2.5 Hold-Up time

**10msec** min. at dc output full-loading and 115Vac input.

### 2.6 Input wattage

Less than **0.1W** at 230Vac input & no load condition.

### 2.7 Efficiency

Average efficiency **85.3%** minimum min. at 25%, 50%, 75% & 100% of full-loading and 115/230Vac input (After warm up 20 minutes).

### 2.8 Safety Test

- a. Leakage current less than **0.25 mA** at 254Vac, 50Hz.
- b. Hi-Pot test : **4242 Vdc**, 10mA, 1 – 3 Sec. between Primary to Secondary ground.
- c. Insulation resistance: at dc 500Vdc, 1 Sec. between Primary to Secondary circuit, IR shall  $\geq 20M\Omega$ .

## 2.9 Output Voltage and Current

Vout (V)	Range (V)	Iout (min., A)	Iout (max., A)	Peak (10S, A)
<b>12V</b>	<b>11.4 – 12.6</b>	<b>0</b>	<b>3.33</b>	<b>X</b>

## 2.10 Ripple and Noise

Low frequency ripple ( < 100KHz )  $\leq$  **300mVpp**, and Total composite Ripple and Noise. Less than **300mVp-p**, tested by dc loading side parallel with a 10uF/EC. and 0.1uF/Ceramic. Capacitors and Measured Band Width 20MHz.

## 2.11 Over-Shoot and under-shoot

Less than 10% of nominal Voltage value.

## 2.12 Protection

- a. SCP : Short circuit protection with auto. recovery function.
- b. OVP : Over voltage protection with shut down & latch off function.  
Tripped voltage will be less than **18Vdc**.  
(Notes: Peak over 18V could be accepted if under 250mS with a max of 20V)
- c. OCP : Over current protection with auto. recovery function,  
current limit : **6 A** (max.)
- d.OTP:The adapter shall provide Over Temperature Protection and if the temperature rises to set temperature point ,the PSU shall be latch-off.

## 2.13 LED Indication

Green light for Nominal operation.  
Blank or Flash for SCP mode.

## 2.14 Rise time

Rise time shall be less than **50msec.**, it should be measured from 10% to 90% of the output voltage.

## 2.15 Turn on delay time

The output voltage should turn on from **115Vac&230Vac** on to settle within regulation in less than **3.5sec.**

## 2.16 Temperature Coeffieence

Less than 0.2%/C

## 2.17 Transient Response

Dynamic loading condition.

DC output (V)	I1 (A)	I2 (A)	dVmax.(V)	Time-max.	dl/dT
12.0	0.00	0.83	+/- 1.0	10 msec.	>=50mA/usec.
12.0	0.83	1.66	+/- 1.0	10 msec.	>=50mA/usec.
12.0	1.66	3.33	+/- 1.0	10 msec.	>=50mA/usec.

50% of duty cycle.

## 3. Environment

### 3.1 Temperature

- Operation : 0 to 40 °C
- Storage : -40 to 70 °C

### 3.2 Humidity

- Operation : 20 to 80%
- Storage : 10 to 90%

### 3.3 Altitude

From sea level to **5000m** (operation).

## 4. EMC

### 4.1 EMS

Test Item	Test Specification	IEC Standards
ESD	Contact <b>+/- 8KV</b>	61000-4-2
ESD	Air <b>+/- 15KV</b>	61000-4-2
RS	FR: 26MHz-1.0GHz, Field Strength: 3V/M	61000-4-3
EFT	<b>+/- 1KV (DM) &amp; +/- 2KV (CM)</b>	61000-4-4
SURGE	<b>+/- 1KV (DM) &amp; +/- 2KV (CM)</b>	61000-4-5
CS	3V/M	61000-4-6
DIPS	0% 250Cy, 70% 25 Cy, 0% 0.5Cy	61000-4-11

## 4.2 EMI

Standards	Specification
FCC	<b>Part 15,class B</b>
VCCI	<b>Class B</b>
CISPR	<b>Part 22,class B</b>

The radiation shall be under **6dB** when input 110/230Vac with dummy load(3.33A).  
The conduction shall be under **6dB** when input 110/230Vac with dummy load(3.33A),after warm up 10 minutes.

## 5. Reliability

### 5.1 Life (E-cap.)

**30,000 hours** at DC output 80% rate load, AC 115/230 Vac input & ambient temperature 35°C.

### 5.2 M.T.B.F.

**50,000 Power On Hours** at 25°C.

### 5.3 Temperature Rise.

Less than **45°C** at nominal AC input / DC output full-loading and environment temperature 25+/-1°C on Top/Bottom of plastic case.

### 5.4 Burn-in

100% Burn-In with 80~100% full-loading & 35~45°C Environment temperature.

### 5.5 Vibration Test

a. Non operation vibration with shipping container shall be 2G'S peak/7-50Hz, 4G'S /50-500Hz, after test no abnormally to be found.

b. Operation vibration shall be 0.5G'S peak/10-60Hz, 3 AXES, after test no abnormally to be noted.

### 5.6 Drop-Test

Test height is 100cm, after drop test no function abnormally to be noted.

## 6. Mechanical

6.1 Plastic enclosure : **PC** material.

6.2 Physical Size : **108.5 mm ( L ) \* 48 mm ( W ) \* 30.5 mm ( H )**.

6.3 DC cord: **1500 mm, 20 AWG** wires.

6.4 Weight : **200g(+/-10%)**.