TEST DATA OF PDA600F-15

Regulated DC Power Supply
May 27, 2025

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Model	PDA600F-15
Item	Input Current (by Load Current)
Object	────────────

Temperature 25°C
Testing Circuitry Figure A

1.Graph

⎯⎯△⎯⎯ Input Volt. 100V
- - -▣- - - Input Volt. 200V
—·—◯—·— Input Volt. 230V

Load Current [A]

2.Values

Load Current [A]	Input Current [A]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	0.166	0.141	0.149
8.0	1.594	0.877	0.802
16.0	2.956	1.524	1.368
24.0	4.358	2.201	1.942
32.0	5.799	2.902	2.543
40.0	7.280	3.612	3.160
43.0	7.850	3.879	3.393
47.3	8.670	4.266	3.729
--	-	-	-
--	-	-	-
--	-	-	-

Note: Slanted line shows the range of the rated load current.

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Model	PDA600F-15
Item	Efficiency (by Load Current)
Object	

Temperature 25°C
Testing Circuitry Figure A

1.Graph

— △ — Input Volt. 100V
--- ☐ --- Input Volt. 200V
—·— ○ —·— Input Volt. 230V

Efficiency [%] vs Load Current [A]

Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Efficiency [%]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	-	-	-
8.0	78.5	79.6	79.6
16.0	83.3	84.7	84.8
24.0	84.4	86.0	86.2
32.0	84.4	86.3	86.4
40.0	84.0	86.1	86.4
43.0	83.7	86.1	86.3
47.3	83.4	86.0	86.2
--	-	-	-
--	-	-	-
--	-	-	-

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Model	PDA600F-15
Item	Power Factor (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph

——△—— Input Volt. 100V
---⊟--- Input Volt. 200V
—·—○—·— Input Volt. 230V

Power Factor vs Load Current [A]

2.Values

Load Current [A]	Power Factor		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	0.579	0.323	0.267
8.0	0.972	0.870	0.826
16.0	0.988	0.941	0.910
24.0	0.993	0.964	0.946
32.0	0.994	0.971	0.961
40.0	0.994	0.976	0.967
43.0	0.996	0.977	0.969
47.3	0.995	0.979	0.972
--	-	-	-
--	-	-	-
--	-	-	-

Note: Slanted line shows the range of the rated load current.

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Model	PDA600F-15
Item	Inrush Current
Object	————————

Temperature 25°C
Testing Circuitry Figure A

Input Current [20A/div]

Input Voltage [100V/div]

Time [100ms/div]

Input Voltage 100 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
15.0 A
Secondary inrush current :
18.6 A

Input Current [20A/div]

Input Voltage [200V/div]

Time [100ms/div]

Input Voltage 230 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
24.6 A
Secondary inrush current :
9.6 A

Primary inrush current   Secondary inrush current

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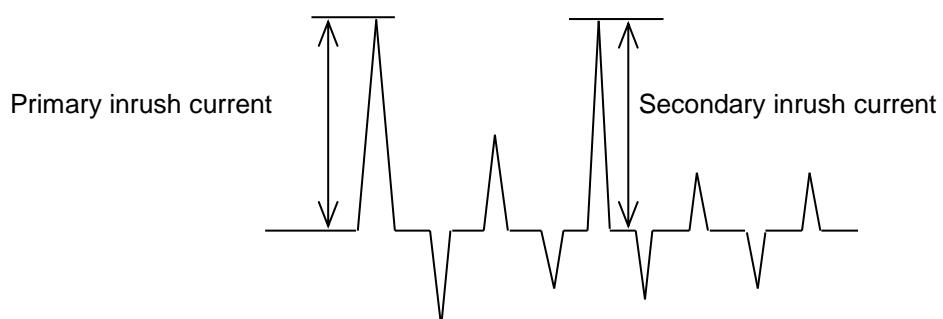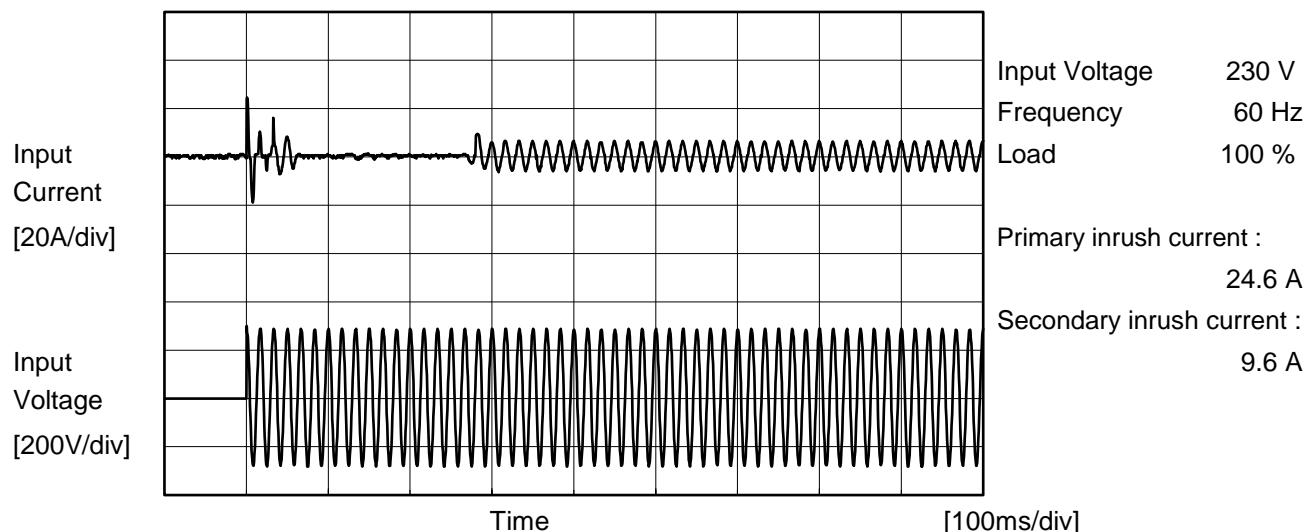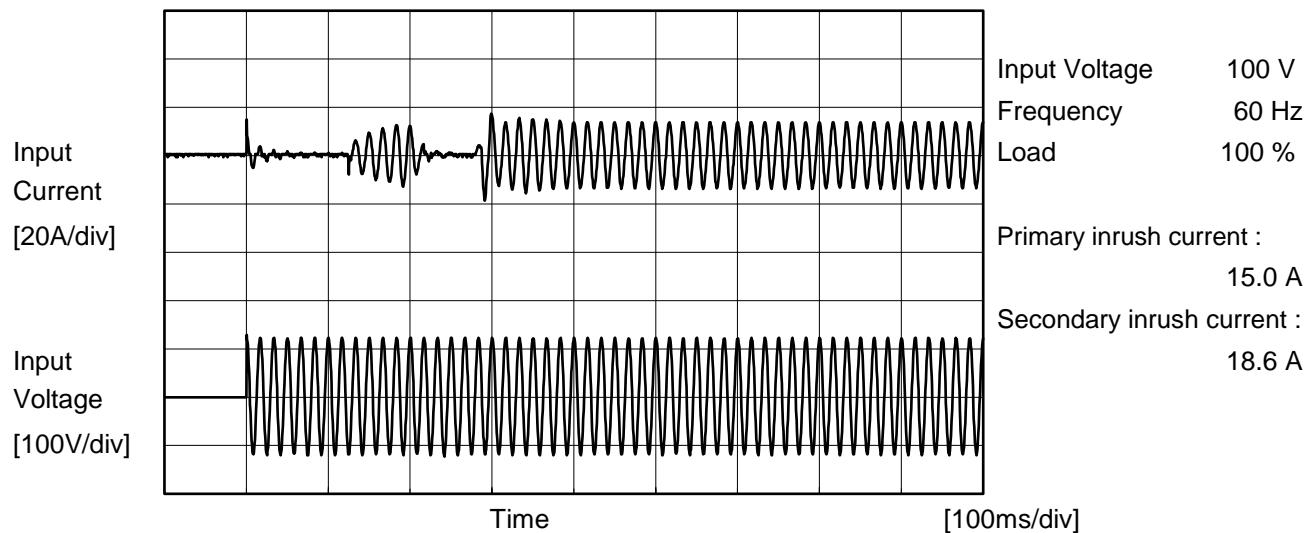
Model	PDA600F-15

Item	Leakage Current

Object	————————

Temperature 25°C
Testing Circuitry Figure C

1.Results

[mA]

Standards	Testing Circuitry	Measuring Method	Input Volt.			Note
			100 [V]	230 [V]	240 [V]	
DEN-AN	Figure C-1	Both phases	0.16	0.43	0.45	Operation
		One of phases	0.31	0.81	0.85	Stand by
IEC62368-1	Figure C-2	Both phases	0.16	0.42	0.45	Operation
		One of phases	0.31	0.80	0.84	Stand by
	Figure C-3	Both phases	0.16	0.42	0.44	Operation
		One of phases	0.31	0.79	0.83	Stand by

The value for "One of phases" is the reference value only.

2.Condition

Leakage current value is concluded after measuring both phases of
AC input and by choosing the larger one.

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Model	PDA600F-15
Item	Line Regulation
Object	+15V43A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

--- ⊟ --- Load 50%
—△— Load 100%

Note: Slanted line shows the range of the rated
input voltage.
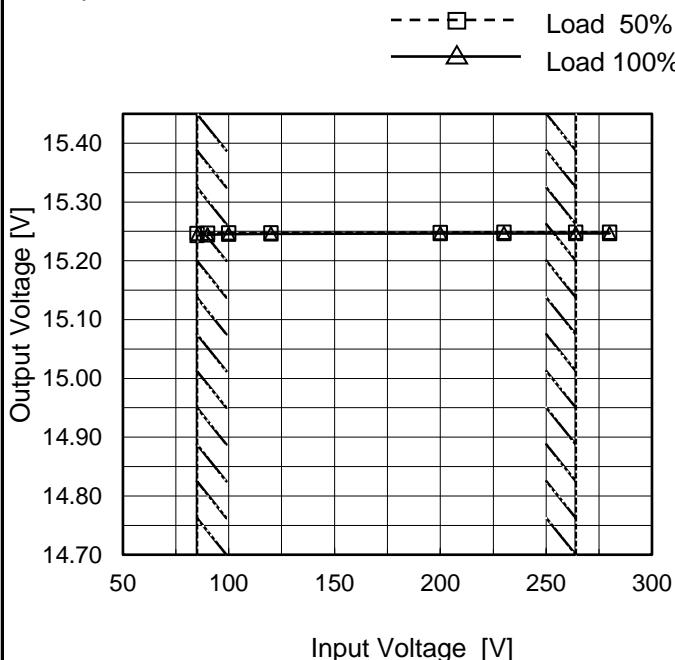
2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	15.246	15.243
90	15.247	15.245
100	15.247	15.245
120	15.248	15.246
200	15.248	15.246
230	15.248	15.247
264	15.248	15.247
280	15.249	15.247
--	-	-

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Model	PDA600F-15
Item	Load Regulation
Object	+15V43A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

——△—— Input Volt. 100V
---▣--- Input Volt. 200V
—·—◯—·— Input Volt. 230V

Output Voltage [V] vs Load Current [A]

Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	15.266	15.265	15.266
8.0	15.261	15.261	15.261
16.0	15.259	15.259	15.259
24.0	15.256	15.256	15.256
32.0	15.253	15.253	15.253
40.0	15.249	15.250	15.250
43.0	15.248	15.249	15.248
47.3	15.247	15.247	15.247
--	--	--	--
--	--	--	--
--	--	--	--

Item	Ripple-Noise
Object	+15V43A

Temperature 25°C
Testing Circuitry Figure B

1.Graph

Input Voltage 230V
Load 100%

20[mV/div]

4[μs/div]

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Model	PDA600F-15
Item	Dynamic Load Response
Object	+15V43A

Temperature 25℃
Testing Circuitry Figure A

Input Volt. 230 V Response. t1=t2=50μs. Typ
Cycle 1000 ms
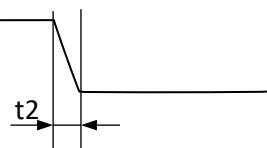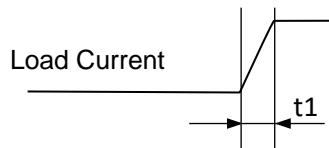
Load Current

t1   t2

Load 0%(0A) ←→
  Load 100%(43A)

500[mV/div]

20[ms/div]   20[ms/div]

Load 50%(21.5A) ←→
  Load 100%(43A)

500[mV/div]

20[ms/div]   20[ms/div]

Load %(0A) ←→
  Load 50%(21.5A)

500[mV/div]

20[ms/div]   20[ms/div]

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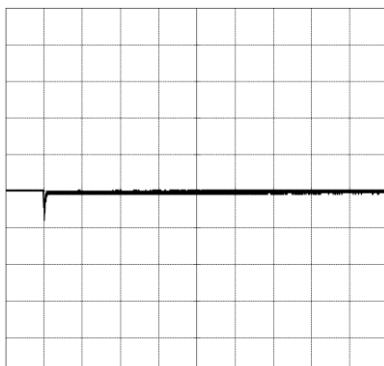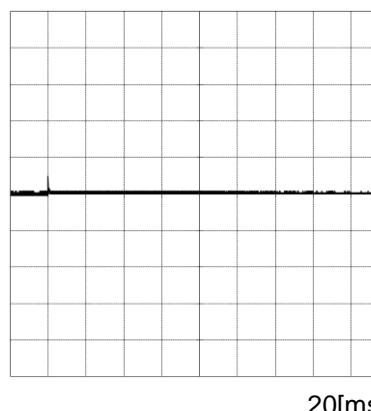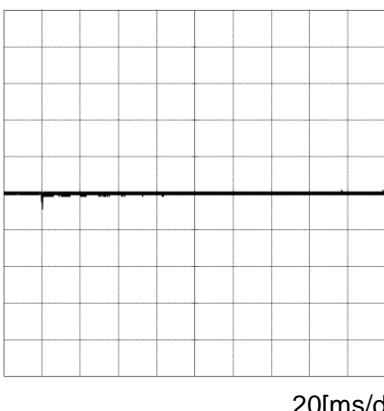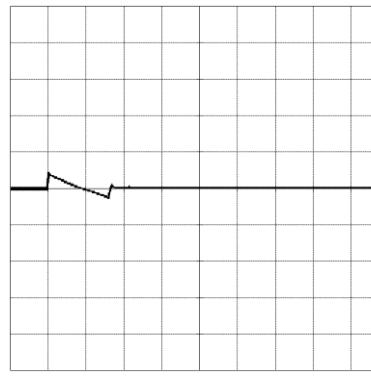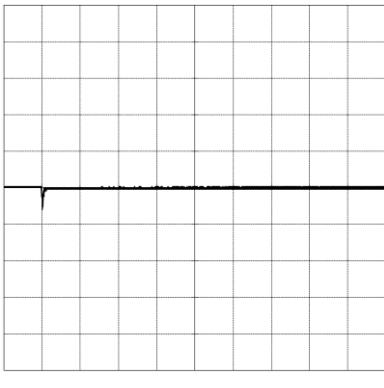
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Model	PDA600F-15
Item	Rise and Fall Time
Object	+15V43A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

Load 100%

Output Volt.

[2V/div]

0

Input Volt. 100 V

Load 100%

Output Volt.

[2V/div]

0

Input Volt. 230 V

Input Volt.

0

Time [100ms/div]

Time [50ms/div]
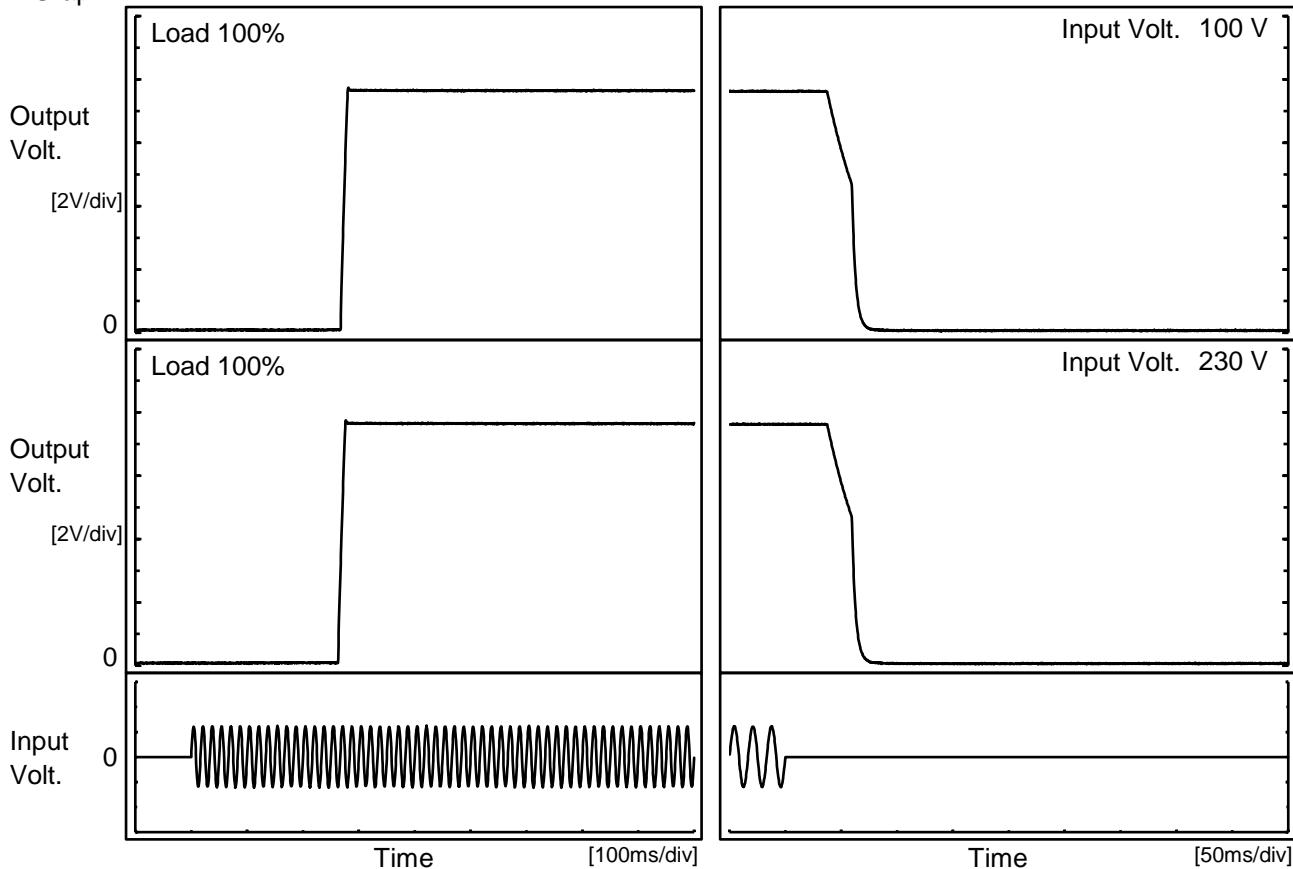
2.Values [ms]

Input Volt. \ Time	Td	Tr	Ts	Th	Tf
100 V	268.5	10.0	278.5	42.5	23.0
230 V	264.0	10.0	274.0	42.8	22.8

Output Volt.

90%

0V 10%

Input Volt. 0V

Td Tr

Th Tf

Ts

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Model	PDA600F-15
Item	Hold-Up Time
Object	+15V43A

Temperature 25℃
Testing Circuitry Figure A

1.Graph

2.Values

- - -⊟- - - Load 50%
———△——— Load 100%

Hold-Up Time [ms] vs Input Voltage [V]

Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
85	80	38
90	80	38
100	80	38
120	80	38
200	80	38
230	80	38
264	80	38
280	85	39
--	-	-

This duration covers from Shut-off of input
voltage to the moment when output voltage
descends to the rated range of voltage accuracy.
Note: Slanted line shows the range of the rated
input voltage.

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Model	PDA600F-15
Item	Instantaneous Interruption Compensation
Object	+15V43A

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

————△———— Input Volt. 100V
- - - ⊟- - - Input Volt. 200V
—·—○—·— Input Volt. 230V

Instantaneous Compensation Time [ms] vs Load Current [A]

Note: Slanted line shows the range of the rated load current.
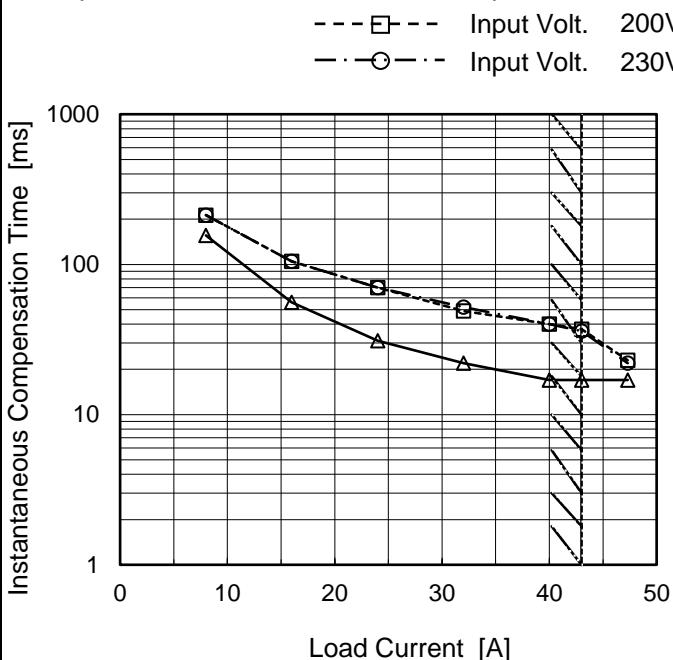
2.Values

Load Current [A]	Time [ms]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	-	-	-
8.0	156	213	213
16.0	56	105	105
24.0	31	70	70
32.0	22	49	52
40.0	17	40	40
43.0	17	37	36
47.3	17	23	22
--	-	-	-
--	-	-	-
--	-	-	-

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Model	PDA600F-15
Item	Overcurrent Protection
Object	+15V43A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

———— Input Volt. 100V
———— Input Volt. 230V
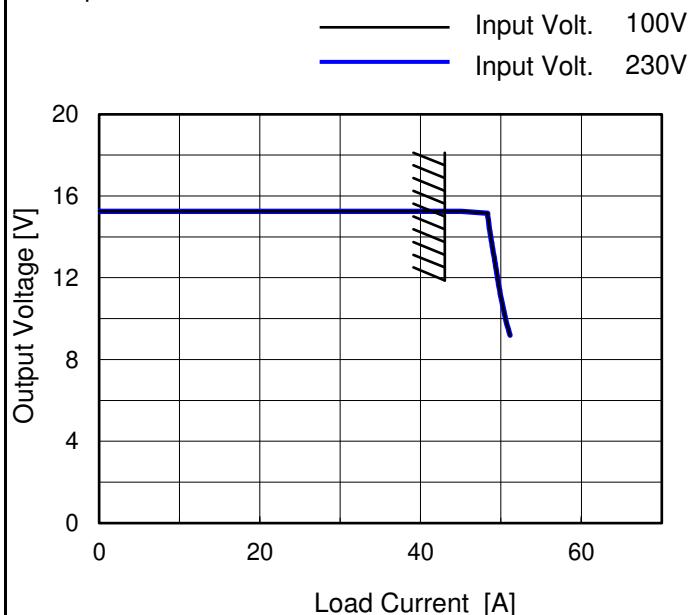
Note: Slanted line shows the range of the rated load current.

Intermittent operation occurs when the output voltage is from 9.00V to 0V.

2.Values

Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 230[V]
14.25	48.63	48.63
13.50	48.94	48.93
12.00	49.55	49.55
10.50	50.23	50.23
9.00	51.13	51.14
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

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Model	PDA600F-15	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	+15V43A	

1.Values   Load 100%

Ambient Temperature[°C]	Output Voltage [V]		
	Input Volt. 100V	Input Volt. 200V	Input Volt. 230V
-20	15.157	15.158	15.158
25	15.237	15.238	15.238
50	15.271	15.272	15.272

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+15V43A	

1.Values

Ambient Temperature[°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	67	68
25	67	68
50	67	68

Item	Overvoltage Protection	Testing Circuitry Figure A
Object	+15V43A	

1.Values   Load 0%

Ambient Temperature[°C]	Operating Point [V]	
	Input Volt. 100V	Input Volt. 230V
-20	21.56	21.56
25	21.68	21.68
50	21.68	21.68

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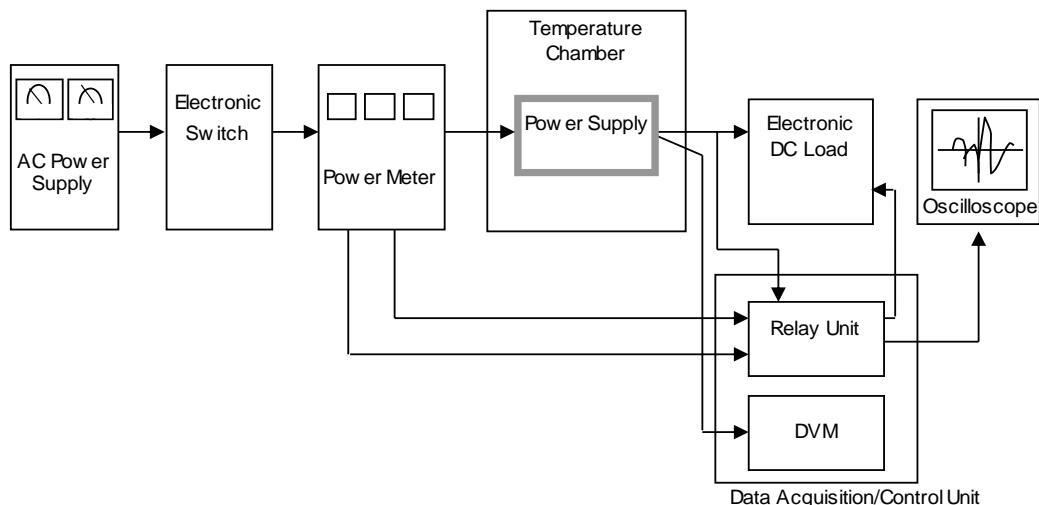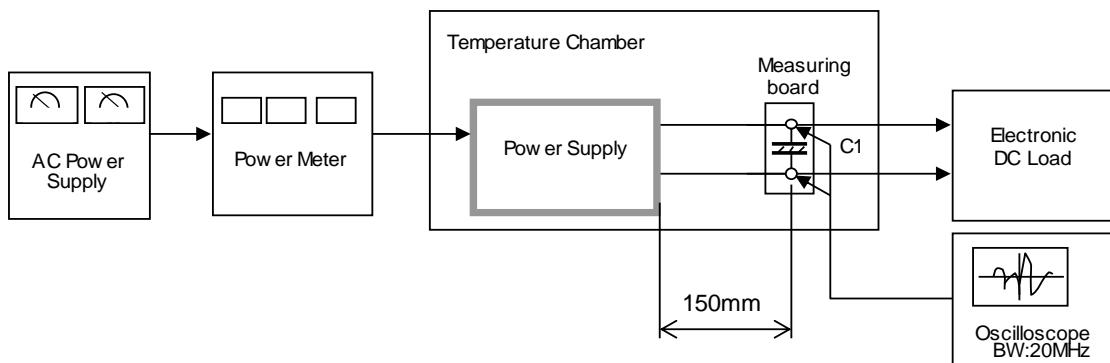
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Figure A

C1 =   22 μ F
   (Electrolytic capacitor)

Figure B

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AC Input Line → [AC Voltmeter] → [Power Supply] FG → [DC Ammeter] → [Adjustable Load]

[1kΩ]

[Effective value Voltmeter]

$$\text{Leakage Current Value[A]} = \frac{\text{Effective Value of Voltmeter[V]}}{1k\ [\Omega]}$$

Figure C-1 (DEN-AN)

AC Input Line → [AC Voltmeter] → [Power Supply] FG → [DC Ammeter] → [Adjustable Load]

[500Ω±0.1%] [1.5kΩ±0.1%]

[10kΩ±0.1%]

0.22µF±1.0%

0.022µF±1.0%

[Effective value Voltmeter]

$$\text{Leakage Current Value[A]} = \frac{\text{Effective Value of Voltmeter[V]}}{500\ [\Omega]}$$
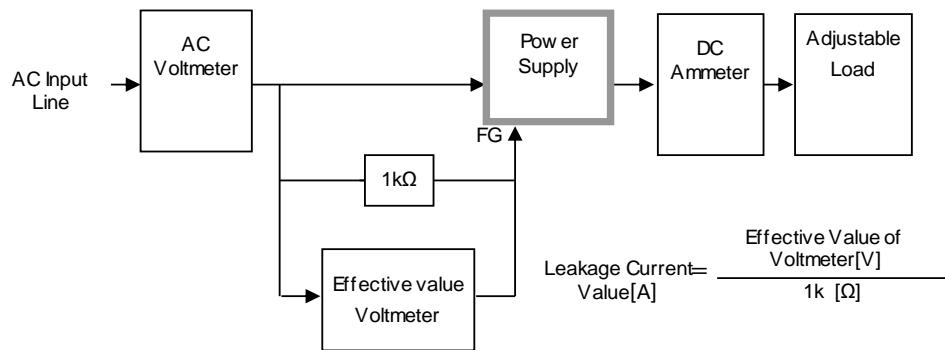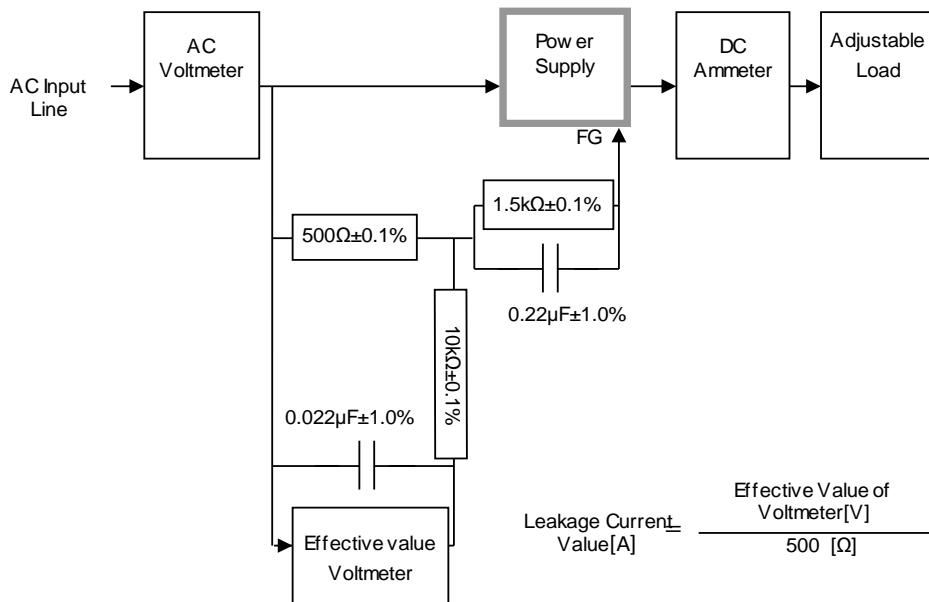
Figure C-2 (IEC62368-1 refer to IEC60990 Fig.4)

AC Input Line → [AC Voltmeter] → [Power Supply] FG → [DC Ammeter] → [Adjustable Load]

[500Ω±0.1%] [1.5kΩ±0.1%]

[10kΩ±0.1%]

0.22µF±1.0%

9100pF±1.0%

[20kΩ±0.1%] 6200pF±1.0%

[Effective value Voltmeter]

$$\text{Leakage Current Value[A]} = \frac{\text{Effective Value of Voltmeter[V]}}{500\ [\Omega]}$$
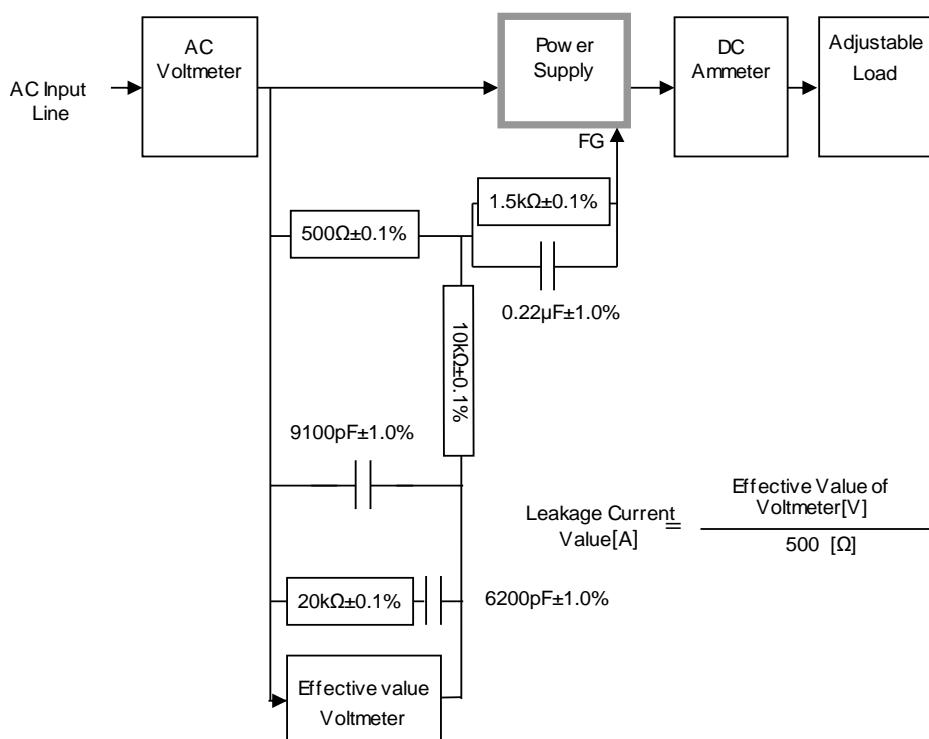
Figure C-3 (IEC62368-1 refer to IEC60990 Fig.5)

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