



TEST DATA OF LFP240F-30-Y

Regulated DC Power Supply
December 25, 2012

Approved by : Yoshiaki Simizu Design Manager

Prepared by : Soshi Nakamura Design Engineer

COSEL CO.,LTD.

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(Final Page 25)

Model		LFP240F-30-Y																																																				
Item		Input Current (by Load Current)																																																				
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1.Graph		2.Values																																																				
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Model

LFP240F-30-Y

Item

Input Power (by Load Current)

Object

1.Graph

—△—

Input Volt.

100V

---□---

Input Volt.

200V

---○---

Input Volt.

230V

Input Power [W]

500

400

300

200

100

0

0

3

6

9

12

Load Current [A]

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

Temperature

25°C

Testing Circuitry

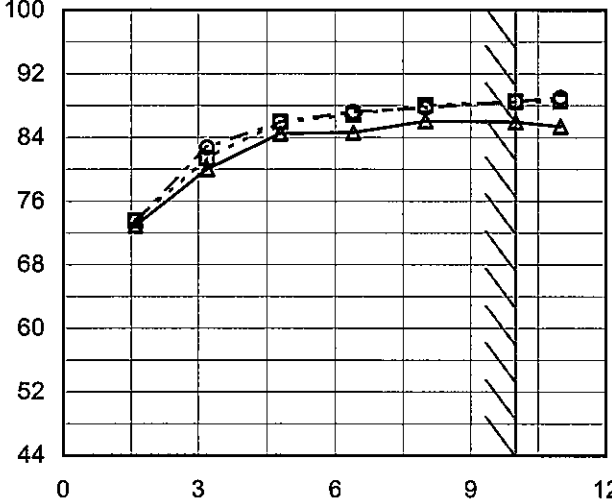
Figure A

2.Values

Load Current [A]	Input Power [W]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	10.2	10.0	10.0
1.6	67.5	67.0	67.0
3.2	122.0	120.0	118.0
4.8	172.9	170.0	170.0
6.4	229.8	224.0	223.0
8.0	282.3	276.0	277.0
10.0	353.1	343.0	343.0
11.0	391.0	377.0	375.0
--	-	-	-
--	-	-	-
--	-	-	-

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Model		LFP240F-30-Y																																	
Item		Efficiency (by Input Voltage)																																	
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<div><div><div><div>Efficiency [%]</div><div>100</div><div>92</div><div>84</div><div>76</div><div>68</div><div>60</div><div>52</div><div>44</div></div><div><div>0</div><div>3</div><div>6</div><div>9</div><div>12</div></div><div><div>Load Current [A]</div></div></div></div>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Efficiency [%]</th></tr><tr><th>Input Volt. 100[V]</th><th>Input Volt. 200[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>0.0</td><td>-</td><td>-</td><td>-</td></tr><tr><td>1.6</td><td>72.9</td><td>73.5</td><td>73.5</td></tr><tr><td>3.2</td><td>80.1</td><td>81.4</td><td>82.8</td></tr><tr><td>4.8</td><td>84.5</td><td>85.9</td><td>85.9</td></tr><tr><td>6.4</td><td>84.6</td><td>86.8</td><td>87.2</td></tr><tr><td>8.0</td><td>86.1</td><td>88.0</td><td>87.7</td></tr><tr><td>10.0</td><td>86.0</td><td>88.5</td><td>89.0</td></tr><tr><td>11.0</td><td>85.4</td><td>88.5</td><td>89.0</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>		Load Current [A]	Efficiency [%]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.0	-	-	-	1.6	72.9	73.5	73.5	3.2	80.1	81.4	82.8	4.8	84.5	85.9	85.9	6.4	84.6	86.8	87.2	8.0	86.1	88.0	87.7	10.0	86.0	88.5	89.0	11.0	85.4	88.5	89.0	--	-	-	-	--	-	-	-	--	-	-	-
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Model		LFP240F-30-Y	
Item		Power Factor (by Input Voltage)	
Object			

1.Graph

□

Load 50%

△

Load 100%

Power Factor

1.0

0.9

0.8

0.7

0.6

0.5

0.4

50

100

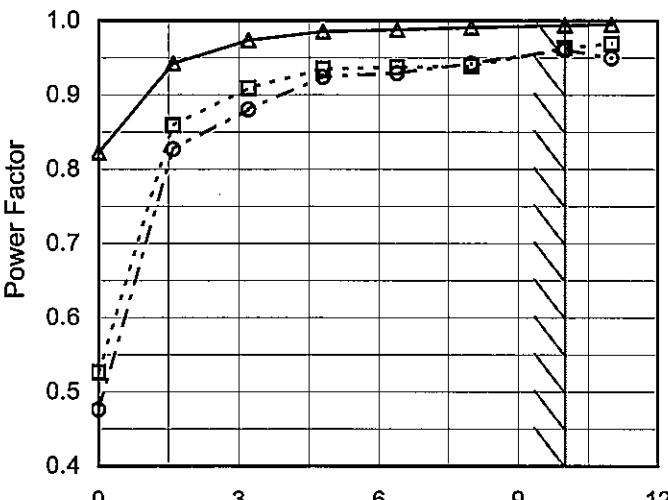
150

200

250

300

Input Voltage [V]

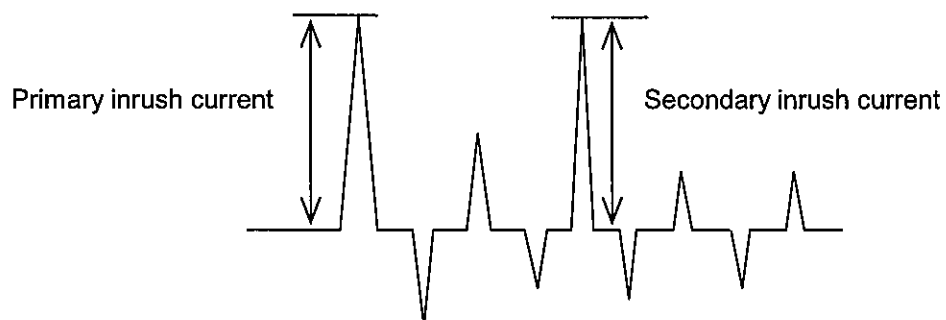
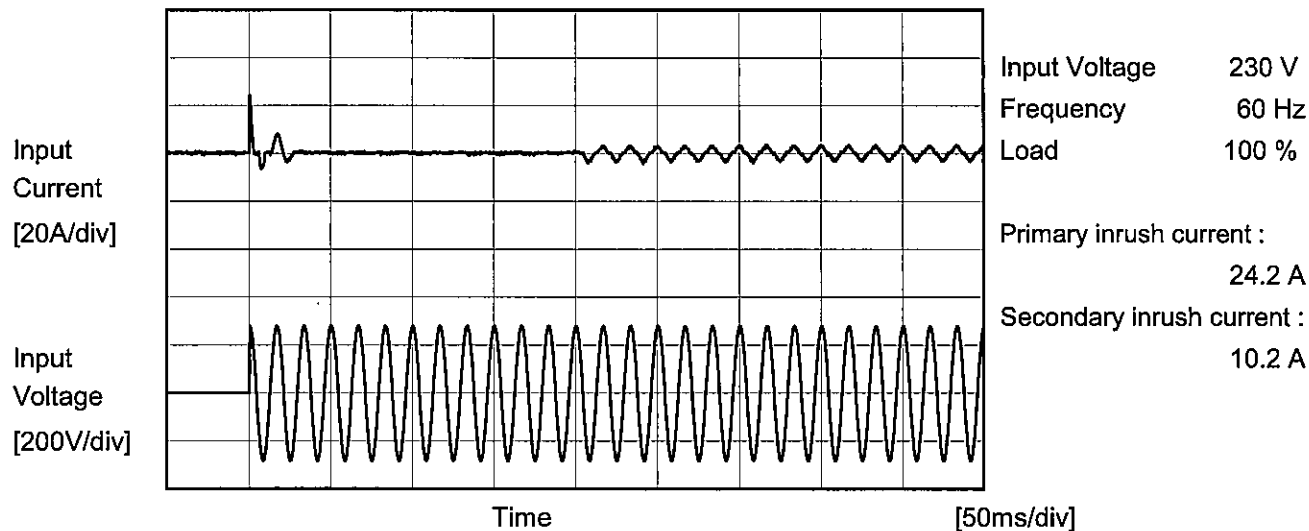
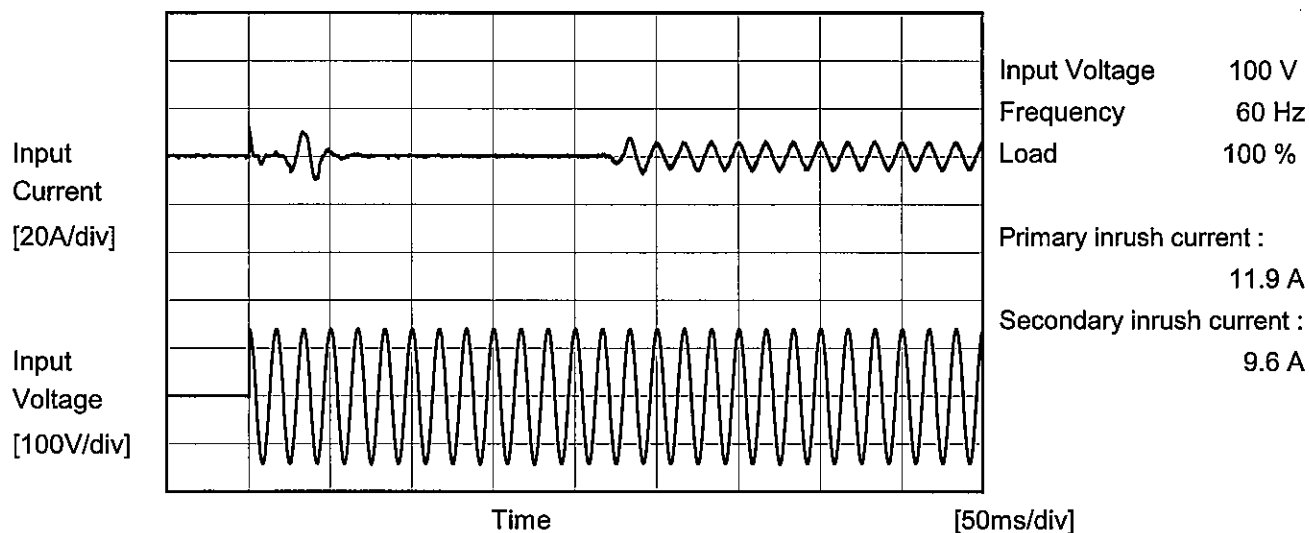
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Model	LFP240F-30-Y	Temperature 25°C Testing Circuitry Figure A	
Item	Inrush Current		
Object			





Model		LFP240F-30-Y	Temperature 25°C Testing Circuitry Figure B
Item		Leakage Current	
Object			

1.Results

[mA]

Standards		Input Volt.			Note
		100 [V]	200 [V]	240 [V]	
DEN-AN	Both phases	0.20	0.35	0.45	Operation
	One of phases	0.30	0.65	0.80	Stand by
IEC60950-1	Both phases	0.19	0.40	0.46	Operation
	One of phases	0.31	0.66	0.77	Stand by

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

2.Condition

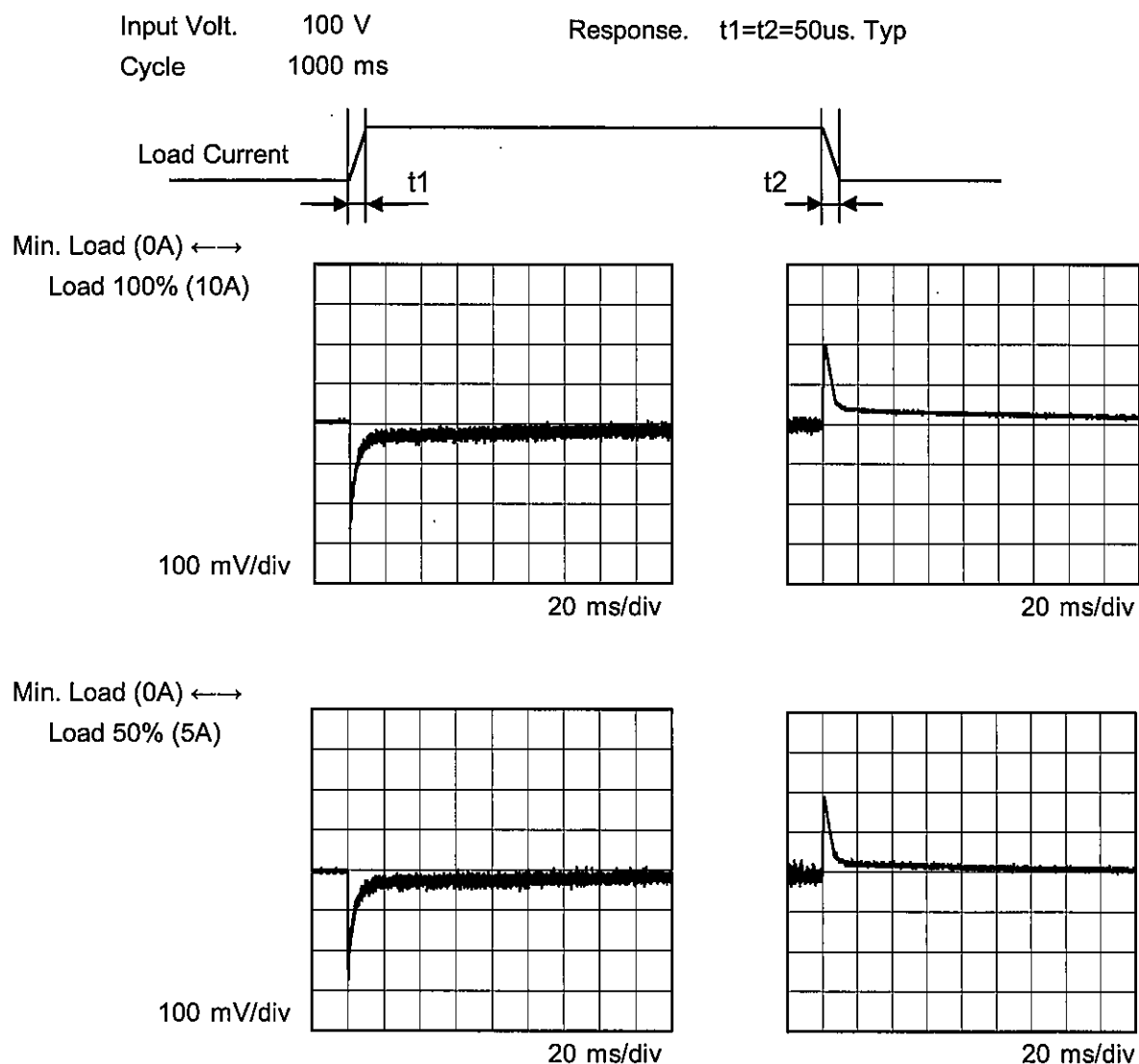
Leakage current value is concluded after measuring both phases of AC input and by choosing the larger one.

Model	LFP240F-30-Y																																
Item	Line Regulation	Temperature	25°C																														
Object	+30V10A	Testing Circuitry	Figure A																														
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Model	LFP240F-30-Y	Temperature	25° C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+30V10A		



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Model		LFP240F-30-Y																																							
Item		Ripple-Noise																																							
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Load Current [A]	Ripple-Noise [mV]																																								
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Fig. Complex Ripple Wave Form																																									

Model		LFP240F-30-Y																																																				
Item		Ambient Temperature Drift																																																				
Object		+30V10A																																																				
1.Graph		2.Values																																																				
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		Testing Circuitry Figure A
Model	LFP240F-30-Y	
Item	Output Voltage Accuracy	
Object	+30V10A	

1. Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -10 - 60°C

Input Voltage : 85 - 264V

Load Current : 0 - 10A

* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

* Output Voltage Accuracy (Ration) = $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	50	264	0	30.486	±37	±0.1
Minimum Voltage	-10	264	10	30.413		

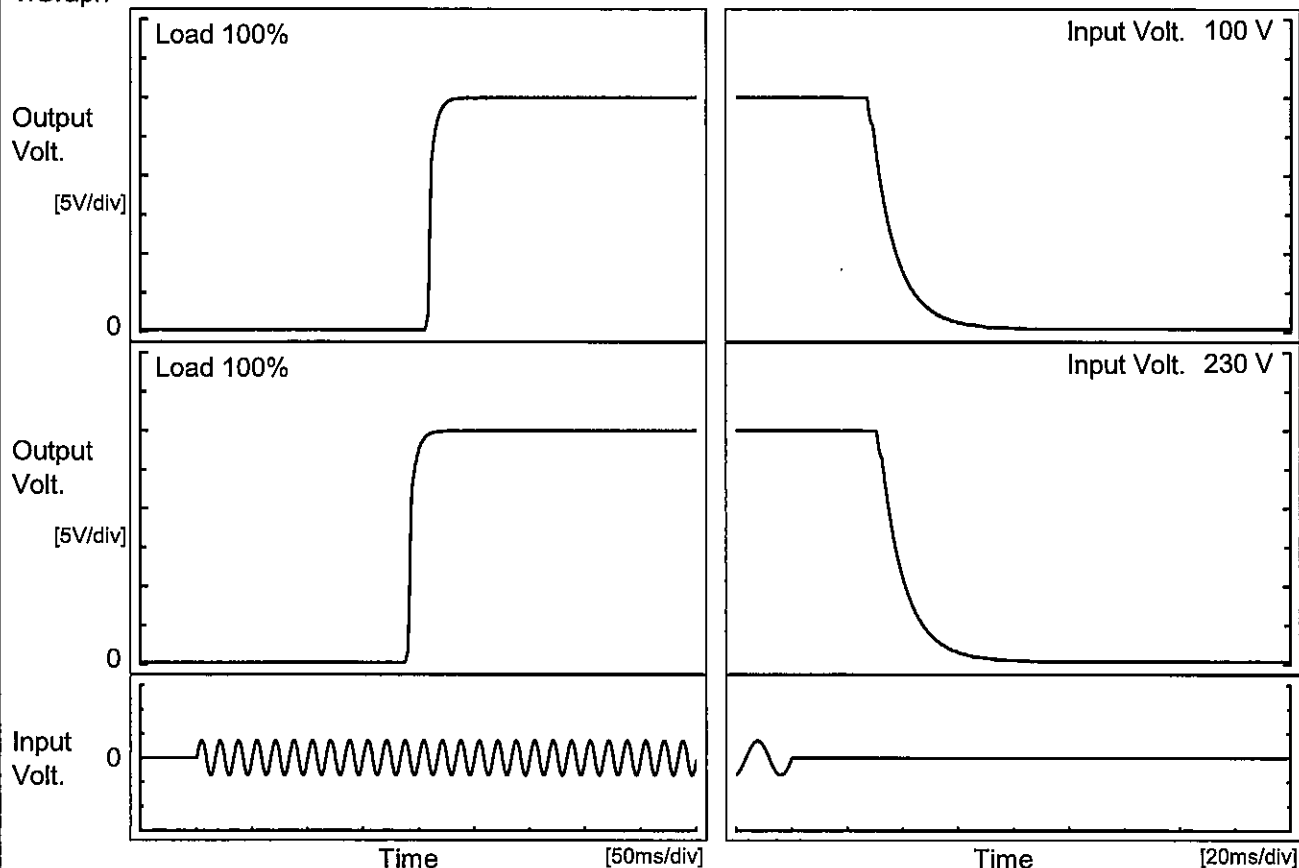


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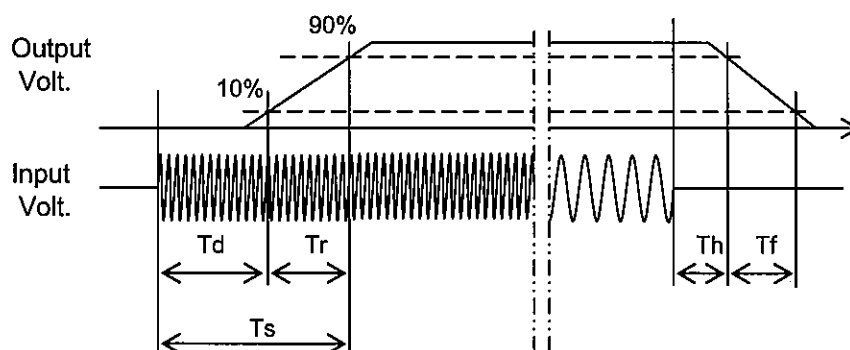
Model	LFP240F-30-Y	Temperature 25°C Testing Circuitry Figure A
Item	Rise and Fall Time	
Object	+30V10A	

1. Graph



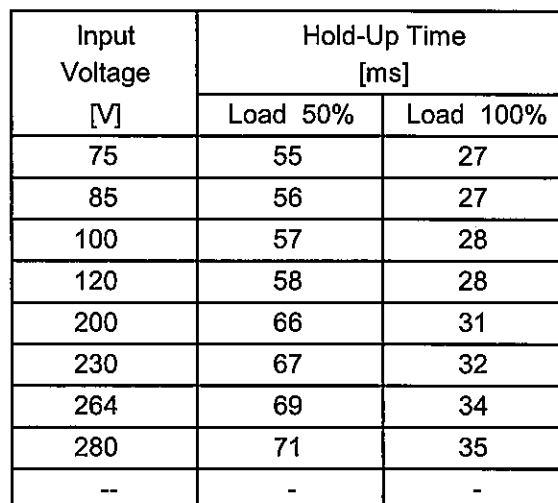
2. Values

		[ms]				
Input Volt.	Time	Td	Tr	Ts	Th	Tf
100 V		228.8	8.8	237.6	28.2	18.7
230 V		205.3	8.8	214.1	33.3	18.6



Temperature 25°C
Testing Circuitry Figure A

2.Values



- 19 -

Model	LFP240F-30-Y																																																					
Item	Instantaneous Interruption Compensation	Temperature	25°C																																																			
Object	+30V10A	Testing Circuitry	Figure A																																																			
1.Graph		2.Values																																																				
<div><div><div>—△—</div><div>---□---</div><div>-·-○-·-</div></div><div><div>Input Volt.</div><div>Input Volt.</div><div>Input Volt.</div></div><div><div>100V</div><div>200V</div><div>230V</div></div></div> <p>Instantaneous Compensation Time [ms]</p> <p>Load Current [A]</p>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Time [ms]</th></tr><tr><th>Input Volt. 100[V]</th><th>Input Volt. 200[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>0.0</td><td>-</td><td>-</td><td>-</td></tr><tr><td>1.6</td><td>176</td><td>201</td><td>206</td></tr><tr><td>3.2</td><td>84</td><td>108</td><td>110</td></tr><tr><td>4.8</td><td>51</td><td>75</td><td>75</td></tr><tr><td>6.4</td><td>35</td><td>58</td><td>59</td></tr><tr><td>8.0</td><td>27</td><td>42</td><td>45</td></tr><tr><td>10.0</td><td>26</td><td>29</td><td>30</td></tr><tr><td>11.0</td><td>25</td><td>27</td><td>28</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>		Load Current [A]	Time [ms]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.0	-	-	-	1.6	176	201	206	3.2	84	108	110	4.8	51	75	75	6.4	35	58	59	8.0	27	42	45	10.0	26	29	30	11.0	25	27	28	--	-	-	-	--	-	-	-	--	-	-	-
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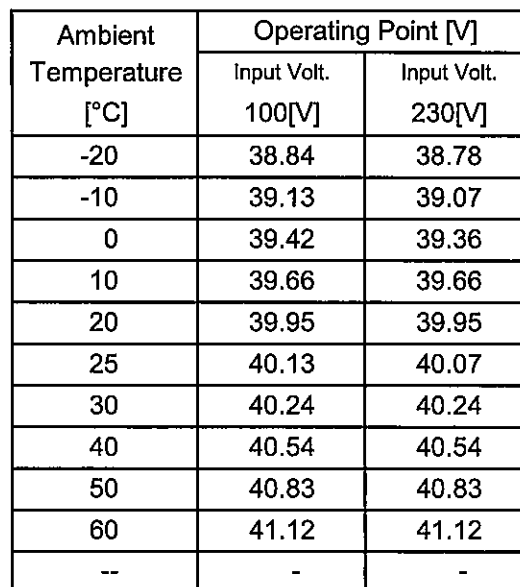
Model		LFP240F-30-Y
Item		Minimum Input Voltage for Regulated Output Voltage
Object		+30V10A

1.Graph

Model	LFP240F-30-Y																																														
Item	Overcurrent Protection	Temperature	25°C																																												
Object	+30V10A	Testing Circuitry	Figure A																																												
1.Graph		2.Values																																													
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Testing Circuitry Figure A

2.Values



Note: Slanted line shows the range of the rated ambient temperature.

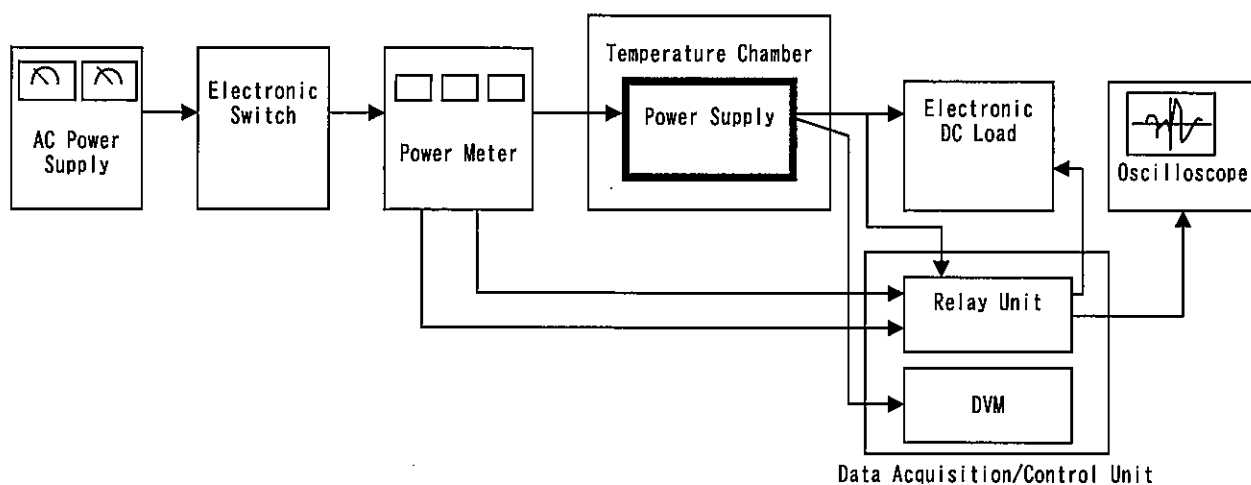


Figure A

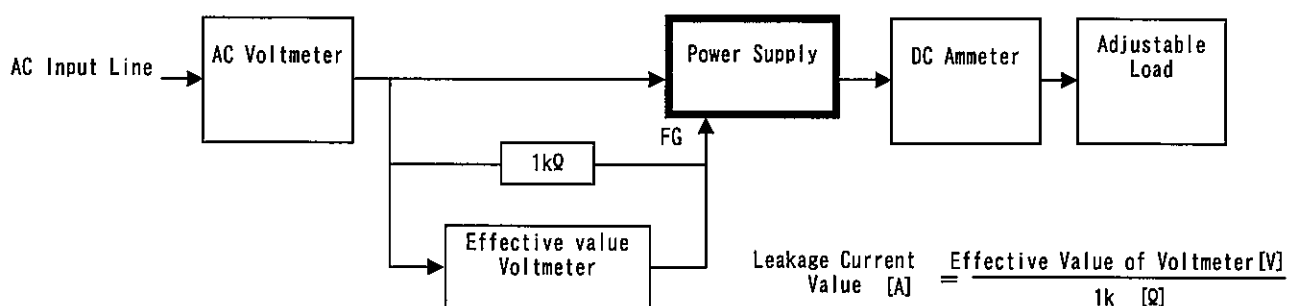


Figure B (DEN-AN)

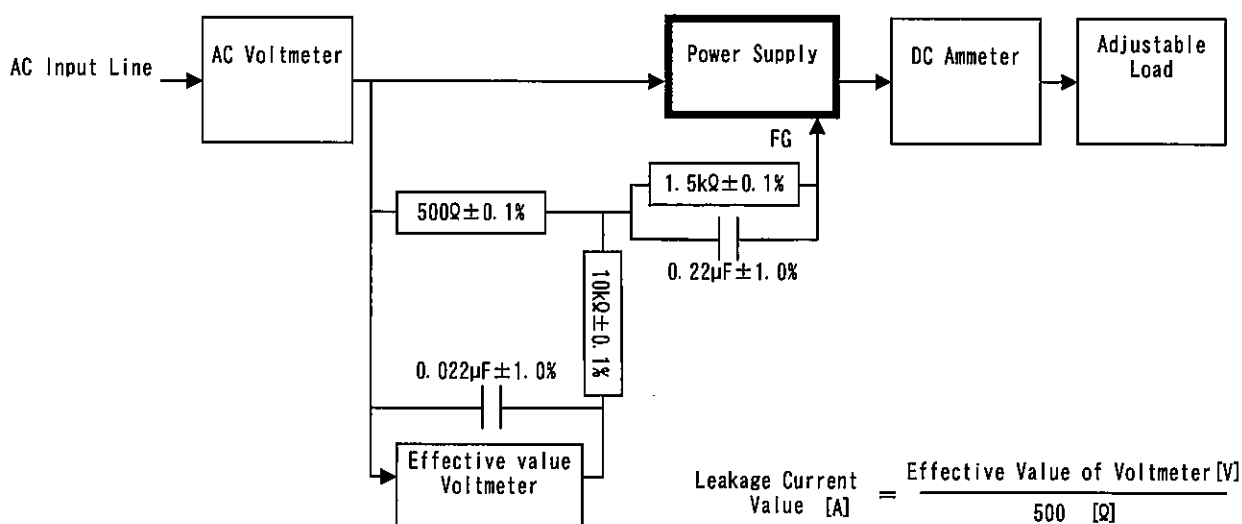


Figure B (IEC60950-1)

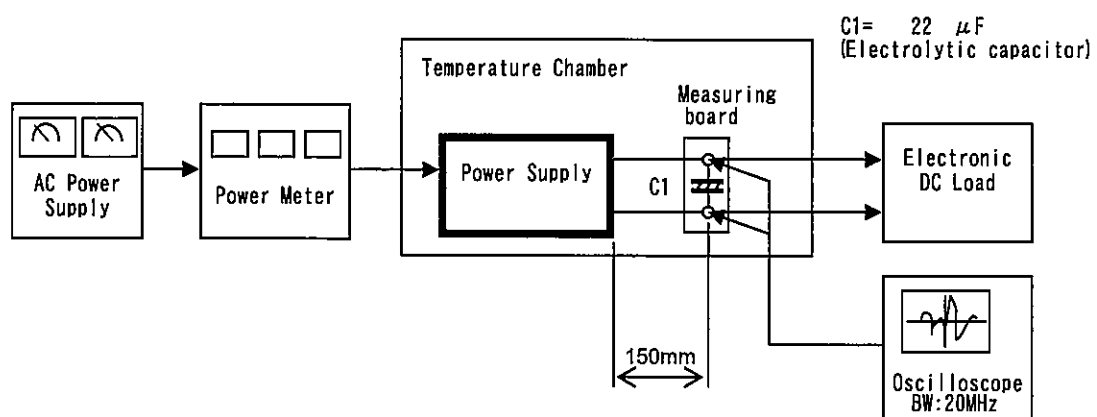


Figure C