



TEST DATA OF LDA150W-18

(200V INPUT)

Regulated DC Power Supply
Feb.14. 2005

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K. Shiho Design Manager

Prepared by : *S. Ueda*
S. Ueda Design Engineer

COSEL CO.,LTD.

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Model		LDA150W-18		Temperature	25°C																																																			
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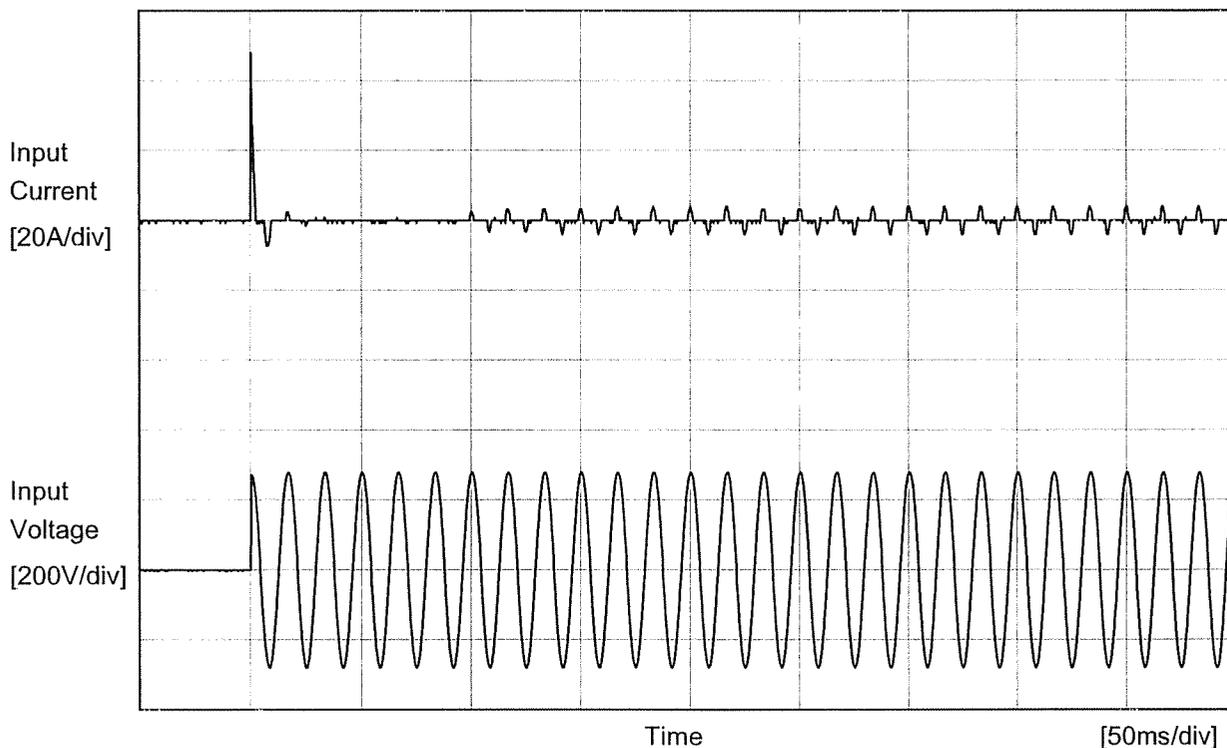
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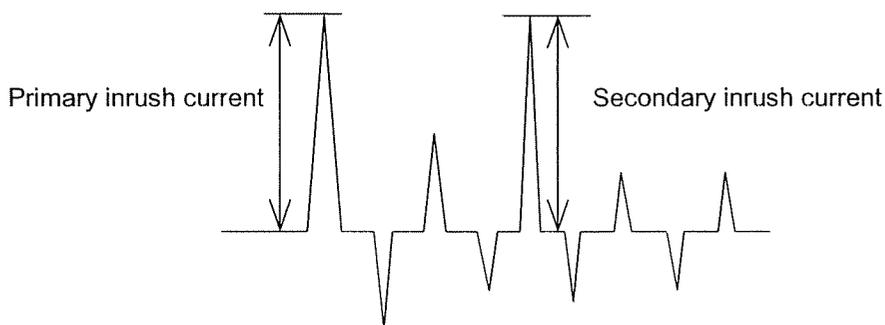


Model		LDA150W-18	Temperature 25°C Testing Circuitry Figure A
Item		Inrush Current	
Object		_____	



Input Voltage 200 V
 Frequency 60 Hz
 Load 100 %

Primary inrush current 48.0 A
 Secondary inrush current 7.2 A





COSEL																																		
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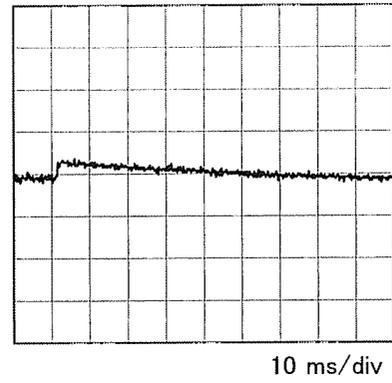
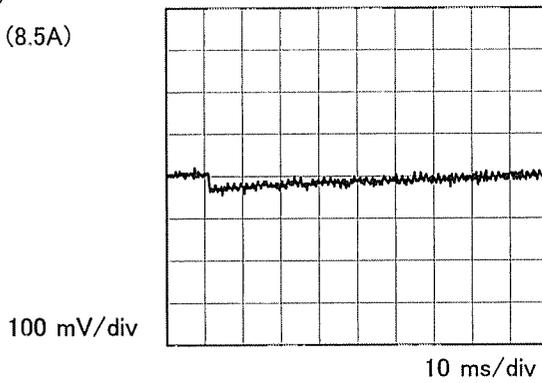


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Item		Dynamic Load Response	Testing Circuitry		Figure A
Object		+18V8.5A			

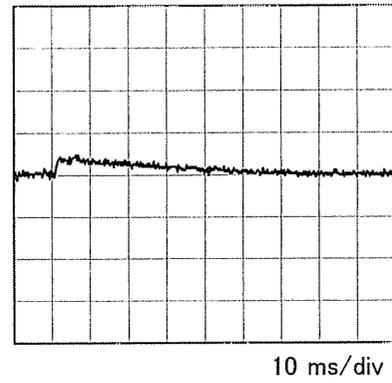
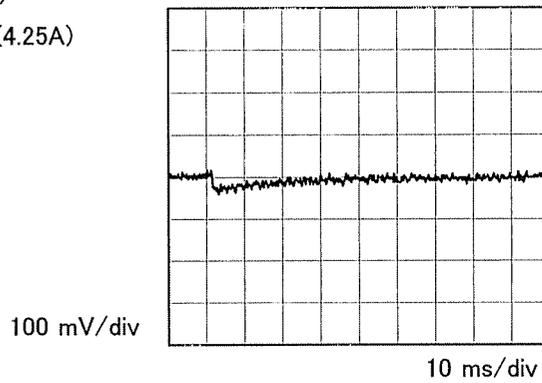
Input Volt. 200 V
 Cycle 1000 ms



Min. Load (0A) ←→
 Load 100% (8.5A)



Min. Load (0A) ←→
 Load 50% (4.25A)



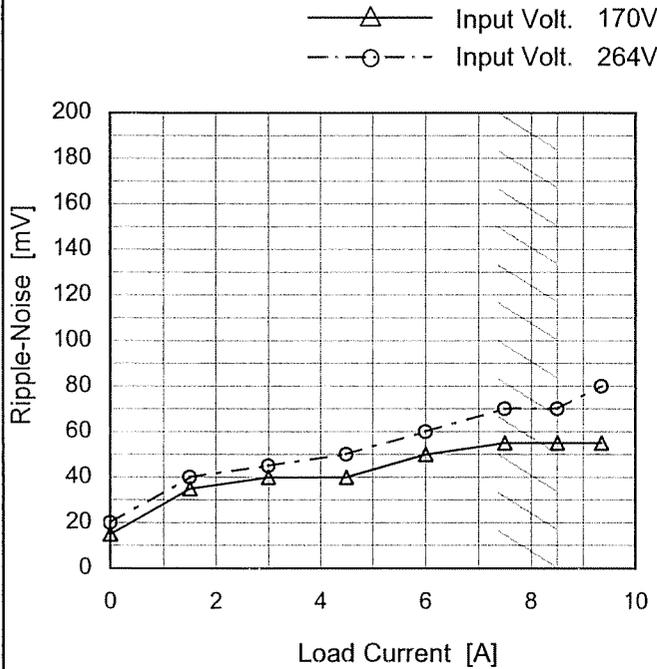


<p>Model LDA150W-18</p> <p>Item Ripple Voltage (by Load Current)</p> <p>Object +18V8.5A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																						
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<p>Measured by 20 MHz Oscilloscope. Ripple Voltage is shown as p-p in the figure below. Note: Slanted line shows the range of the rated load current.</p>																																								
<p>T1: Due to AC Input Line T2: Due to Switching</p> <p>Ripple [mVp-p]</p> <p>Fig. Complex Ripple Wave Form</p>																																								



Model	LDA150W-18	Temperature	25°C
Item	Ripple-Noise	Testing Circuitry	Figure A
Object	+18V8.5A		

1. Graph



Measured by 20 MHz Oscilloscope.
 Ripple-Noise is shown as p-p in the figure below.
 Note: Slanted line shows the range of the rated load current.

2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0.00	15	20
1.50	35	40
3.00	40	45
4.50	40	50
6.00	50	60
7.50	55	70
8.50	55	70
9.35	55	80
--	-	-
--	-	-
--	-	-

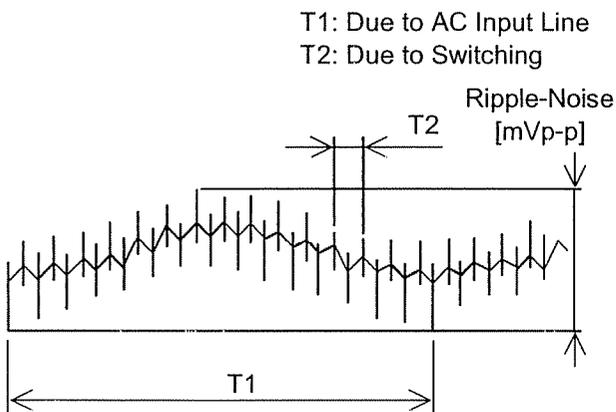


Fig. Complex Ripple Wave Form



COSEL																																								
Model	LDA150W-18																																							
Item	Ripple Voltage (by Ambient Temp.)	Testing Circuitry Figure A																																						
Object	+18V8.5A																																							
<p>1.Graph</p> <div style="text-align: right;"> <p>---□--- Load 50%</p> <p>—△— Load 100%</p> </div> <p style="text-align: center;">Ambient Temperature [°C]</p> <p style="text-align: center;">Input Volt. 200V</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>-20</td><td>60</td><td>60</td></tr> <tr><td>-10</td><td>55</td><td>55</td></tr> <tr><td>0</td><td>45</td><td>55</td></tr> <tr><td>10</td><td>45</td><td>45</td></tr> <tr><td>20</td><td>45</td><td>45</td></tr> <tr><td>25</td><td>35</td><td>45</td></tr> <tr><td>30</td><td>35</td><td>45</td></tr> <tr><td>40</td><td>35</td><td>35</td></tr> <tr><td>50</td><td>35</td><td>30</td></tr> <tr><td>60</td><td>30</td><td>30</td></tr> <tr><td>--</td><td>--</td><td>--</td></tr> </tbody> </table>	Ambient Temperature [°C]	Ripple Voltage [mV]		Load 50%	Load 100%	-20	60	60	-10	55	55	0	45	55	10	45	45	20	45	45	25	35	45	30	35	45	40	35	35	50	35	30	60	30	30	--	--	--
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Item		Ambient Temperature Drift																																																						
Object		+18V8.5A																																																						
1.Graph		<p>—△— Input Volt. 170V ---□--- Input Volt. 200V -·-○-·- Input Volt. 264V</p>		2.Values																																																				
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Model		LDA150W-18	Testing Circuitry Figure A
Item		Output Voltage Accuracy	
Object		+18V8.5A	

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 : 0 - 50°C

Input Voltage : 170 - 264V

Load Current : 0 - 8.5A

* 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	0	170	0	18.088	±24	±0.1
Minimum Voltage	50	170	8.5	18.040		

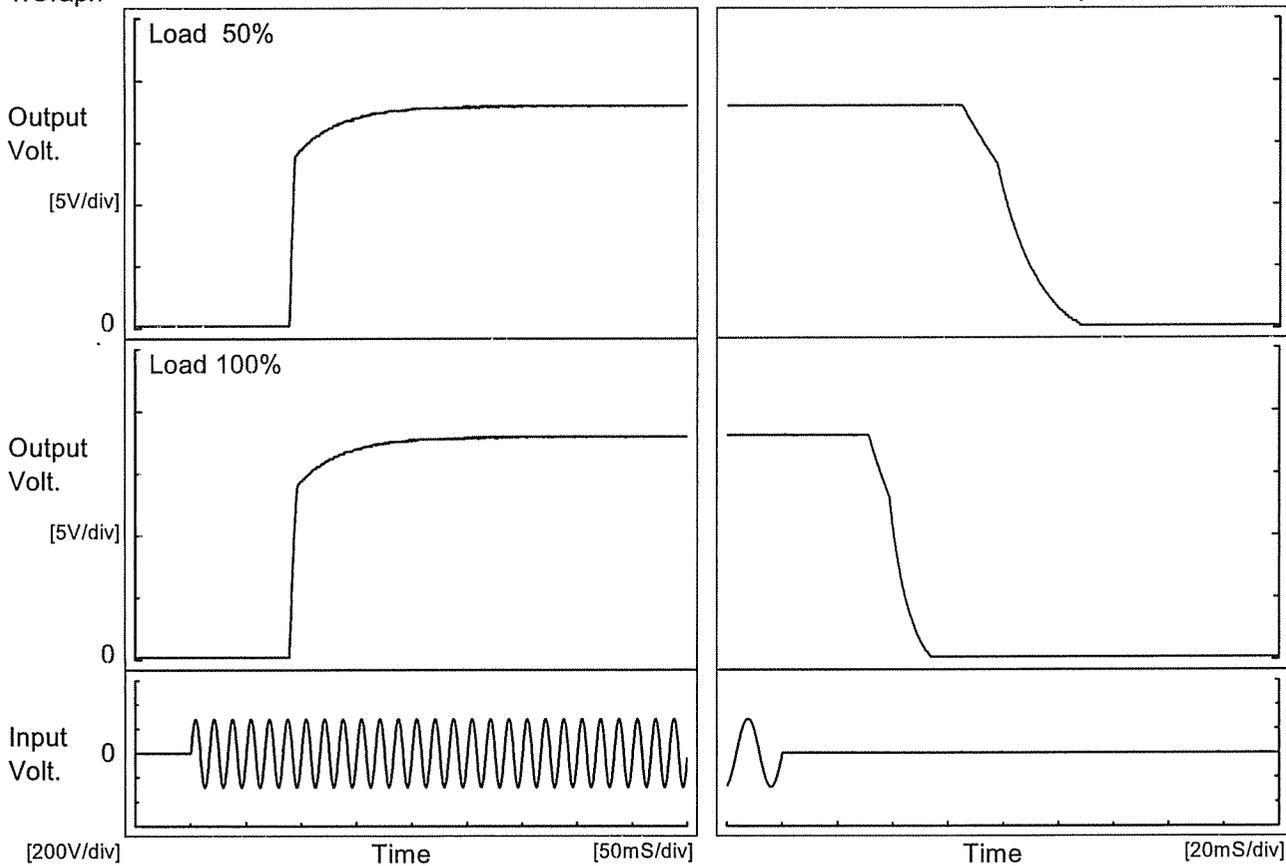


COSEL																									
Model	LDA150W-18	Temperature	25°C																						
Item	Time Lapse Drift	Testing Circuitry	Figure A																						
Object	+18V8.5A																								
<p>1.Graph</p> <p style="text-align: center;">Time [H]</p> <p>Input Volt. 200V Load 100%</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>18.077</td></tr> <tr><td>0.5</td><td>18.066</td></tr> <tr><td>1.0</td><td>18.066</td></tr> <tr><td>2.0</td><td>18.066</td></tr> <tr><td>3.0</td><td>18.065</td></tr> <tr><td>4.0</td><td>18.066</td></tr> <tr><td>5.0</td><td>18.066</td></tr> <tr><td>6.0</td><td>18.066</td></tr> <tr><td>7.0</td><td>18.066</td></tr> <tr><td>8.0</td><td>18.066</td></tr> </tbody> </table>		Time since start [H]	Output Voltage [V]	0.0	18.077	0.5	18.066	1.0	18.066	2.0	18.066	3.0	18.065	4.0	18.066	5.0	18.066	6.0	18.066	7.0	18.066	8.0	18.066
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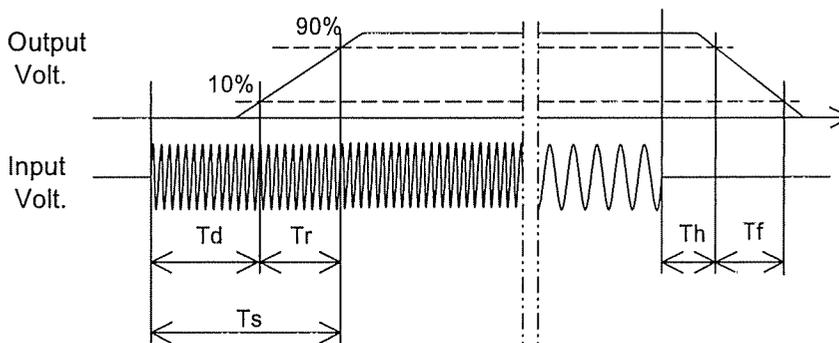
Model	LDA150W-18	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+18V8.5A		

1. Graph



2. Values

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	90.3	39.3	129.6	68.8	29.6
100 %	90.0	40.0	130.0	33.3	15.7





<p>Model LDA150W-18</p> <p>Item Hold-Up Time</p> <p>Object +18V8.5A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																
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<p>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.</p>																																		



Model		LDA150W-18		Temperature		25°C																																																				
Item		Instantaneous Interruption Compensation		Testing Circuitry		Figure A																																																				
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<p>Model LDA150W-18</p> <p>Item Minimum Input Voltage for Regulated Output Voltage</p> <p>Object +18V8.5A</p>		<p>Testing Circuitry Figure A</p>																																						
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<p>Model LDA150W-18</p>		<p>Temperature 25°C</p>																																																								
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Item		Overtoltage Protection																																																					
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Operating Point [V]			<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="3">Operating Point [V]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr><td>-20</td><td>22.21</td><td>22.27</td><td>22.27</td></tr> <tr><td>-10</td><td>22.45</td><td>22.38</td><td>22.38</td></tr> <tr><td>0</td><td>22.62</td><td>22.62</td><td>22.62</td></tr> <tr><td>10</td><td>22.80</td><td>22.80</td><td>22.80</td></tr> <tr><td>20</td><td>22.97</td><td>22.97</td><td>22.97</td></tr> <tr><td>25</td><td>23.03</td><td>23.03</td><td>23.03</td></tr> <tr><td>30</td><td>23.09</td><td>23.09</td><td>23.09</td></tr> <tr><td>40</td><td>23.32</td><td>23.32</td><td>23.32</td></tr> <tr><td>50</td><td>23.50</td><td>23.50</td><td>23.50</td></tr> <tr><td>60</td><td>23.62</td><td>23.62</td><td>23.62</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>		Ambient Temperature [°C]	Operating Point [V]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	-20	22.21	22.27	22.27	-10	22.45	22.38	22.38	0	22.62	22.62	22.62	10	22.80	22.80	22.80	20	22.97	22.97	22.97	25	23.03	23.03	23.03	30	23.09	23.09	23.09	40	23.32	23.32	23.32	50	23.50	23.50	23.50	60	23.62	23.62	23.62	--	-	-	-
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		Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
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<p>Note: Slanted line shows the range of the rated ambient temperature.</p>																																																							

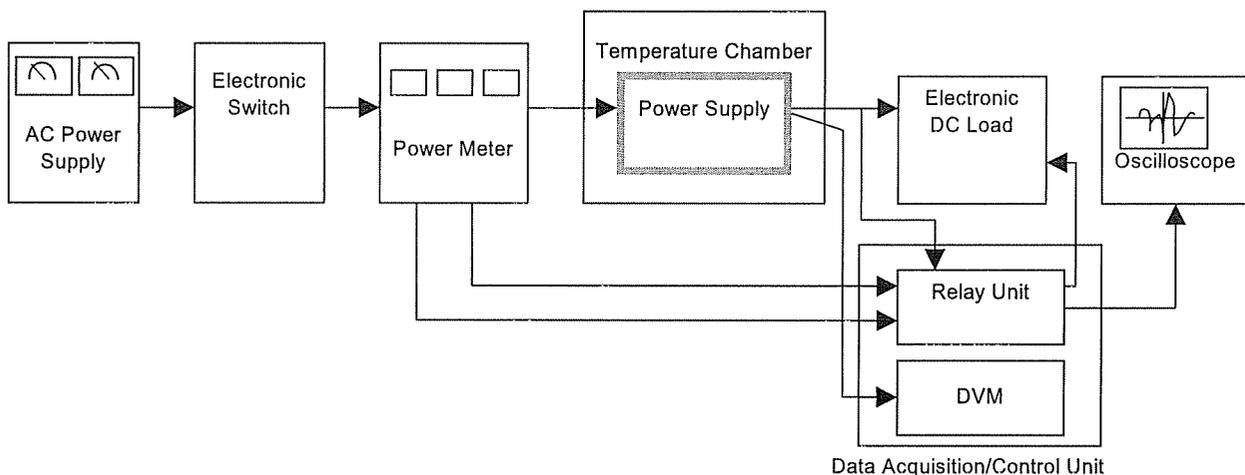


Figure A

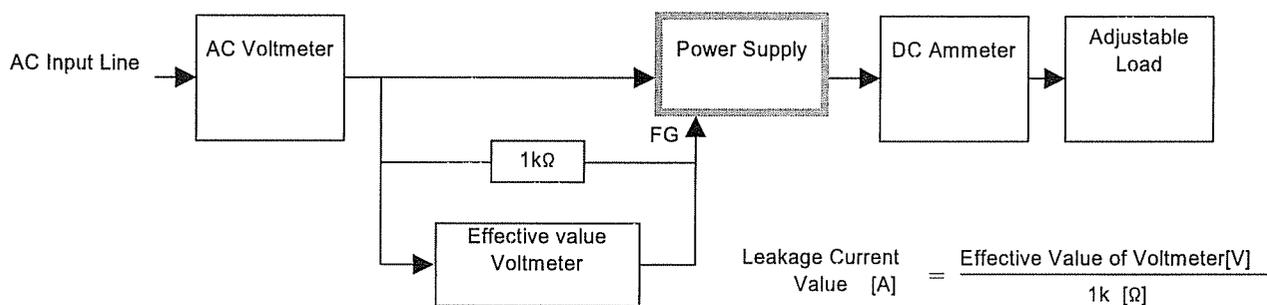


Figure B (DEN-AN)

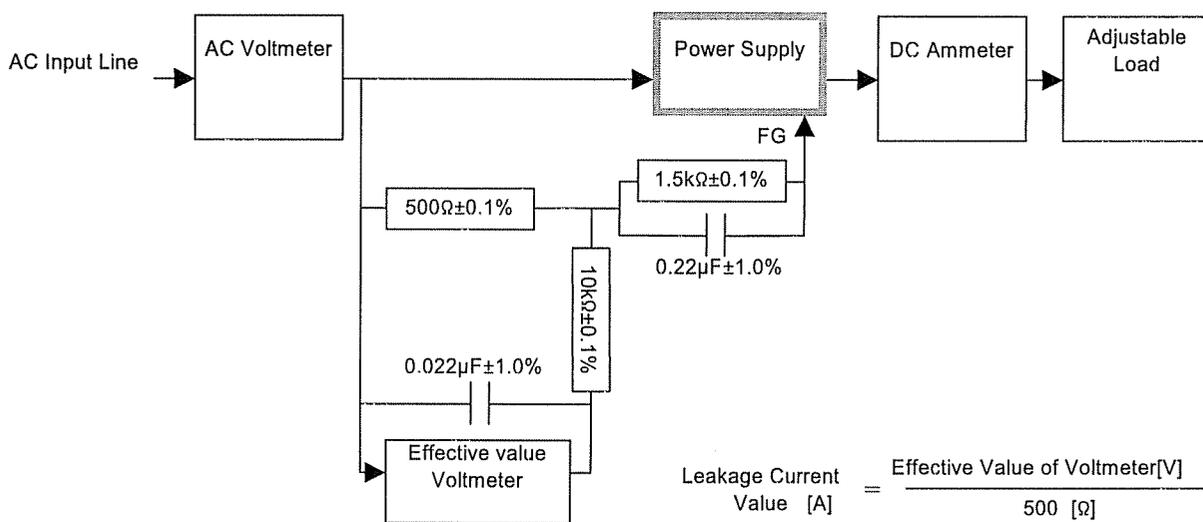


Figure B (IEC60950)