



# TEST DATA OF LDA100W-3 (100V INPUT)

Regulated DC Power Supply  
Jan.5. 2005

Approved by : J. Uchida  
J.Uchida Design Manager

Prepared by : A. Kawai  
A.Kawai Design Engineer

**COSEL CO.,LTD.**

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Model		LDA100W-3		Temperature 25°C																																																
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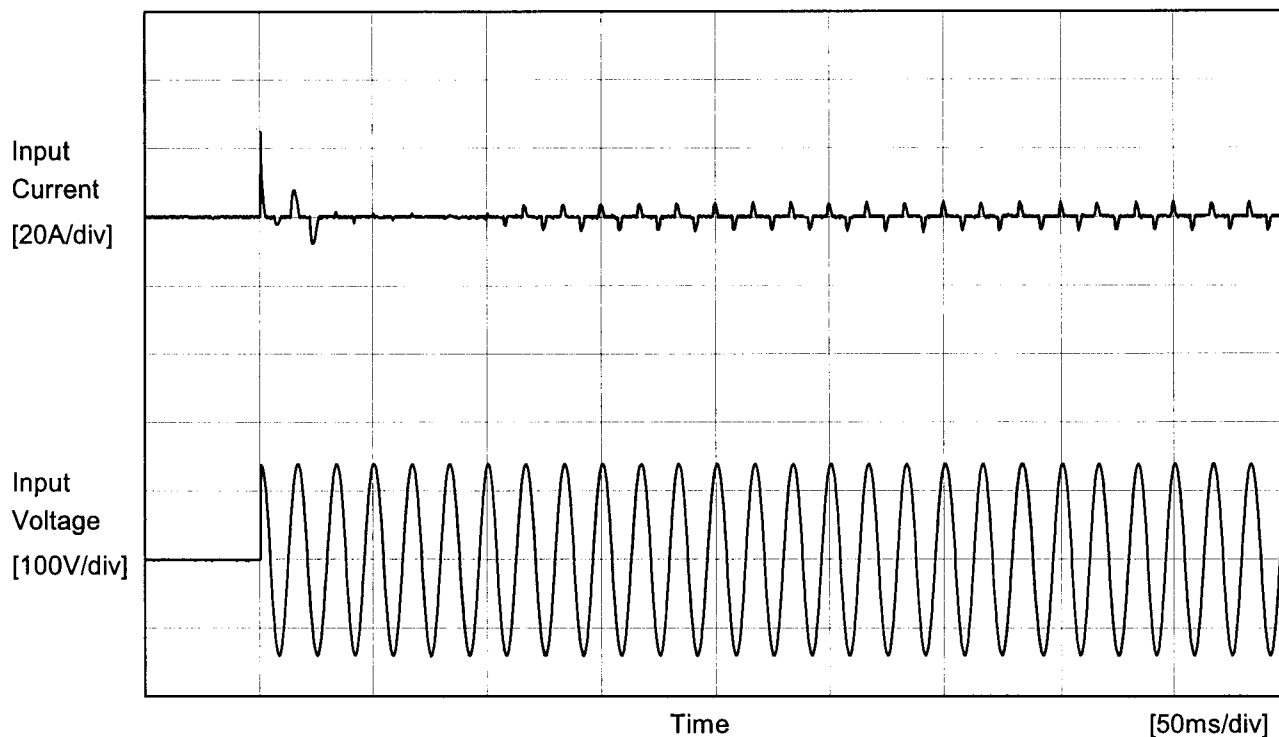
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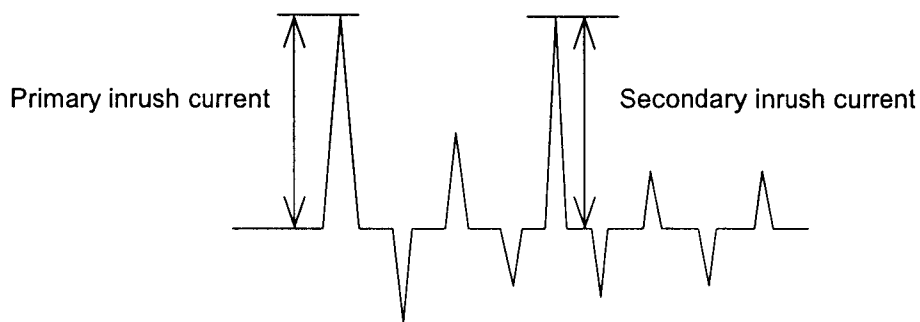


Model		LDA100W-3	Temperature 25°C Testing Circuitry Figure A
Item		Inrush Current	
Object		_____	



Input Voltage 100 V  
 Frequency 60 Hz  
 Load 100 %

Primary inrush current 24.6 A  
 Secondary inrush current 4.6 A





<p>Model LDA100W-3</p> <p>Item Line Regulation</p> <p>Object +3V20A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																
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Model		LDA100W-3	Temperature		25°C
Item		Dynamic Load Response	Testing Circuitry		Figure A
Object		+3V20A			

Input Volt. 100 V  
 Cycle 1000 ms

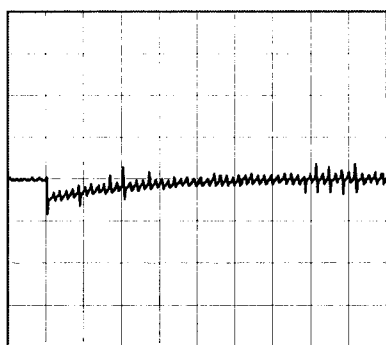
Load Current



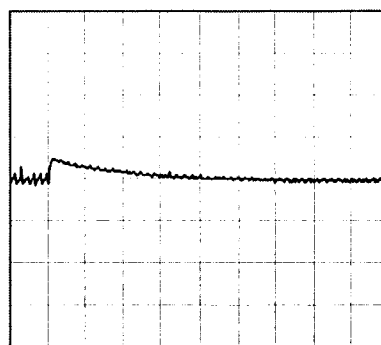
Min. Load (0A) ←→

Load 100% (20A)

100 mV/div



10 ms/div

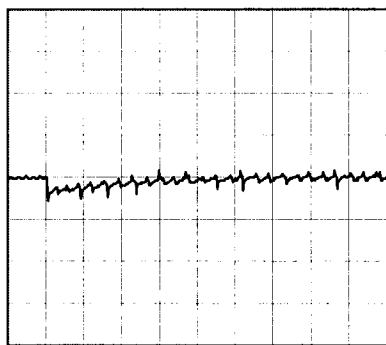


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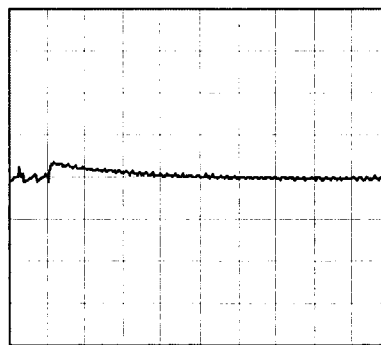
Min. Load (0A) ←→

Load 50% (10A)

100 mV/div



10 ms/div



10 ms/div



<p><b>Model</b> LDA100W-3</p> <p><b>Item</b> Ripple Voltage (by Load Current)</p> <p><b>Object</b> +3V20A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																						
<p>1. Graph</p> <div style="text-align: right;"> <p>—△— Input Volt. 85V</p> <p>- -○- - Input Volt. 132V</p> </div> <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>2. Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Input Volt. 85 [V]</th> <th>Input Volt. 132 [V]</th> </tr> </thead> <tbody> <tr><td>0</td><td>10</td><td>10</td></tr> <tr><td>4</td><td>20</td><td>20</td></tr> <tr><td>8</td><td>20</td><td>20</td></tr> <tr><td>12</td><td>25</td><td>25</td></tr> <tr><td>16</td><td>25</td><td>25</td></tr> <tr><td>20</td><td>25</td><td>25</td></tr> <tr><td>22</td><td>25</td><td>25</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>	Load Current [A]	Ripple Voltage [mV]		Input Volt. 85 [V]	Input Volt. 132 [V]	0	10	10	4	20	20	8	20	20	12	25	25	16	25	25	20	25	25	22	25	25	--	-	-	--	-	-	--	-	-	--	-	-
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<p>T1: Due to AC Input Line T2: Due to Switching</p> <p>Fig. Complex Ripple Wave Form</p>																																								

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<p>1. Graph</p> <div style="text-align: right;"> <p>—△— Input Volt. 85V</p> <p>- -○- - Input Volt. 132V</p> </div> <p>Ripple-Noise [mV]</p> <p>Load Current [A]</p> <p>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.</p>		<p>2. Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple-Noise [mV]</th> </tr> <tr> <th>Input Volt. 85 [V]</th> <th>Input Volt. 132 [V]</th> </tr> </thead> <tbody> <tr><td>0</td><td>25</td><td>25</td></tr> <tr><td>4</td><td>35</td><td>35</td></tr> <tr><td>8</td><td>40</td><td>40</td></tr> <tr><td>12</td><td>45</td><td>45</td></tr> <tr><td>16</td><td>50</td><td>50</td></tr> <tr><td>20</td><td>55</td><td>55</td></tr> <tr><td>22</td><td>55</td><td>55</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>	Load Current [A]	Ripple-Noise [mV]		Input Volt. 85 [V]	Input Volt. 132 [V]	0	25	25	4	35	35	8	40	40	12	45	45	16	50	50	20	55	55	22	55	55	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple-Noise [mV]																																							
	Input Volt. 85 [V]	Input Volt. 132 [V]																																						
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<b>COSEL</b>																																								
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<p><b>Model</b> LDA100W-3</p> <p><b>Item</b> Ambient Temperature Drift</p> <p><b>Object</b> +3V20A</p>		<p>Testing Circuitry Figure A</p>																																																			
<p>1. Graph</p> <p>                     —△— Input Volt. 85V                      - - - □ - - - Input Volt. 100V                      - - - ○ - - - Input Volt. 132V                 </p> <p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>		<p>2. Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="3">Output Voltage [V]</th> </tr> <tr> <th>Input Volt. 85[V]</th> <th>Input Volt. 100[V]</th> <th>Input Volt. 132[V]</th> </tr> </thead> <tbody> <tr><td>-20</td><td>3.031</td><td>3.031</td><td>3.031</td></tr> <tr><td>-10</td><td>3.032</td><td>3.032</td><td>3.032</td></tr> <tr><td>0</td><td>3.032</td><td>3.032</td><td>3.032</td></tr> <tr><td>10</td><td>3.032</td><td>3.032</td><td>3.032</td></tr> <tr><td>25</td><td>3.032</td><td>3.032</td><td>3.032</td></tr> <tr><td>40</td><td>3.031</td><td>3.031</td><td>3.031</td></tr> <tr><td>50</td><td>3.030</td><td>3.030</td><td>3.030</td></tr> <tr><td>60</td><td>3.029</td><td>3.029</td><td>3.029</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> </tbody> </table>	Ambient Temperature [°C]	Output Voltage [V]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	-20	3.031	3.031	3.031	-10	3.032	3.032	3.032	0	3.032	3.032	3.032	10	3.032	3.032	3.032	25	3.032	3.032	3.032	40	3.031	3.031	3.031	50	3.030	3.030	3.030	60	3.029	3.029	3.029	--	-	-	-	--	-	-	-	--	-	-	-
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<b>COSEL</b>		
Model	LDA100W-3	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+3V20A	

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 - 50°C

Input Voltage : 85 - 132V

Load Current : 0 - 20A

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

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

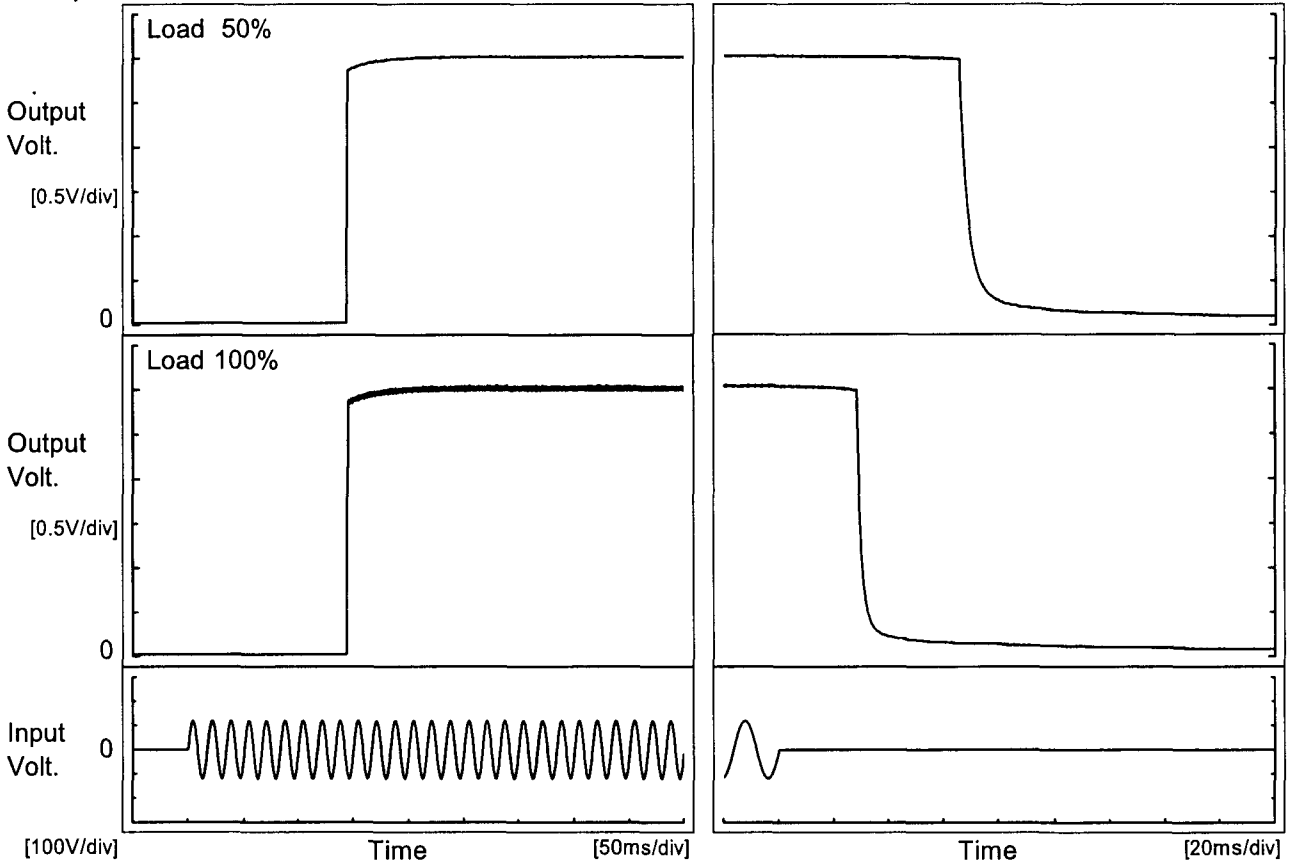
2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	100	0	3.032	±1	±0.1
Minimum Voltage	50	132	0	3.030		



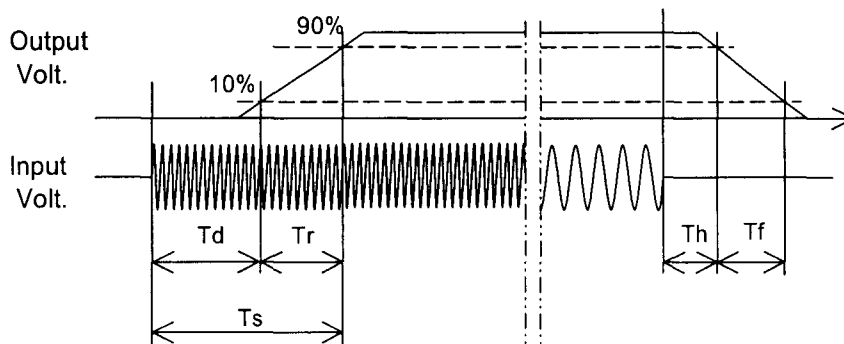
Model		LDA100W-3	Temperature	25°C
Item		Rise and Fall Time	Testing Circuitry	Figure A
Object		+3V20A		

1. Graph



2. Values

		[ms]				
Load	Time	Td	Tr	Ts	Th	Tf
50 %		143.0	2.0	145.0	65.9	12.0
100 %		143.5	2.0	145.5	28.4	6.3







<p>Model LDA100W-3</p> <p>Item Hold-Up Time</p> <p>Object +3V20A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																
<p>1.Graph</p> <p>---□--- Load 50%</p> <p>—△— Load 100%</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Hold-Up Time [ms]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>75</td><td>45</td><td>18</td></tr> <tr><td>80</td><td>55</td><td>23</td></tr> <tr><td>85</td><td>65</td><td>29</td></tr> <tr><td>90</td><td>76</td><td>34</td></tr> <tr><td>100</td><td>99</td><td>46</td></tr> <tr><td>110</td><td>125</td><td>60</td></tr> <tr><td>120</td><td>153</td><td>74</td></tr> <tr><td>132</td><td>190</td><td>94</td></tr> <tr><td>140</td><td>215</td><td>107</td></tr> </tbody> </table>	Input Voltage [V]	Hold-Up Time [ms]		Load 50%	Load 100%	75	45	18	80	55	23	85	65	29	90	76	34	100	99	46	110	125	60	120	153	74	132	190	94	140	215	107
Input Voltage [V]	Hold-Up Time [ms]																																	
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100	99	46																																
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120	153	74																																
132	190	94																																
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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>																																		



<p>Model LDA100W-3</p> <p>Item Instantaneous Interruption Compensation</p> <p>Object +3V20A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																																			
<p>1.Graph</p> <p>—△— Input Volt. 85V</p> <p>---□--- Input Volt. 100V</p> <p>-·-○-·- Input Volt. 132V</p> <p>Instantaneous Compensation Time [ms]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current.</p>		<p>2.Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Time [ms]</th> </tr> <tr> <th>Input Volt. 85[V]</th> <th>Input Volt. 100[V]</th> <th>Input Volt. 132[V]</th> </tr> </thead> <tbody> <tr><td>0</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>4</td><td>162</td><td>238</td><td>430</td></tr> <tr><td>8</td><td>79</td><td>122</td><td>235</td></tr> <tr><td>12</td><td>49</td><td>80</td><td>157</td></tr> <tr><td>16</td><td>34</td><td>57</td><td>118</td></tr> <tr><td>20</td><td>26</td><td>45</td><td>90</td></tr> <tr><td>22</td><td>17</td><td>37</td><td>80</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> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	Load Current [A]	Time [ms]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	0	-	-	-	4	162	238	430	8	79	122	235	12	49	80	157	16	34	57	118	20	26	45	90	22	17	37	80	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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10	4.77	4.83	4.77																																																		
25	4.77	4.77	4.77																																																		
40	4.71	4.71	4.71																																																		
50	4.64	4.65	4.65																																																		
60	4.59	4.65	4.65																																																		
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<p>Note: Slanted line shows the range of the rated ambient temperature.</p>																																																					

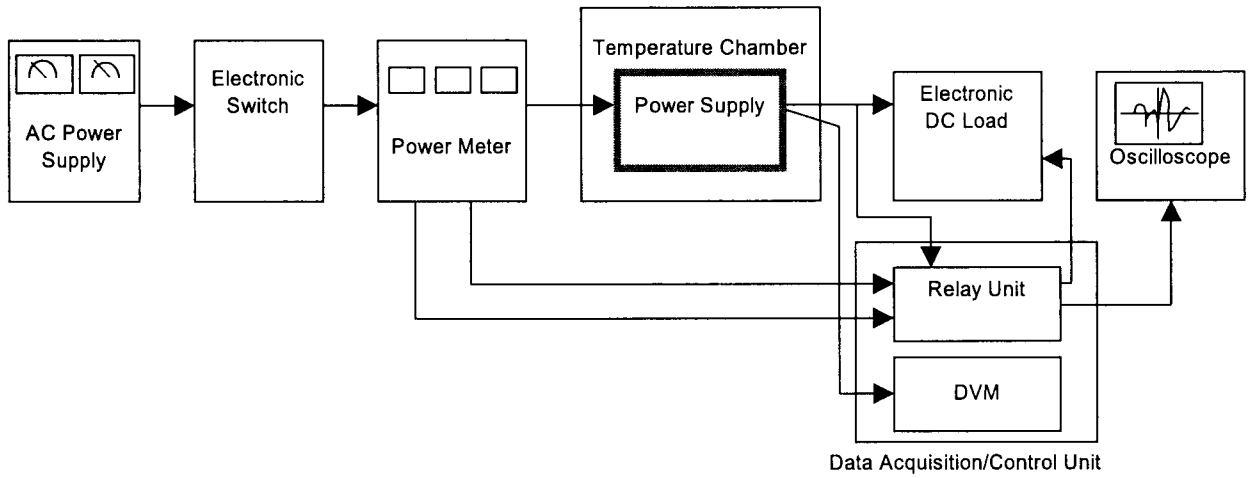


Figure A

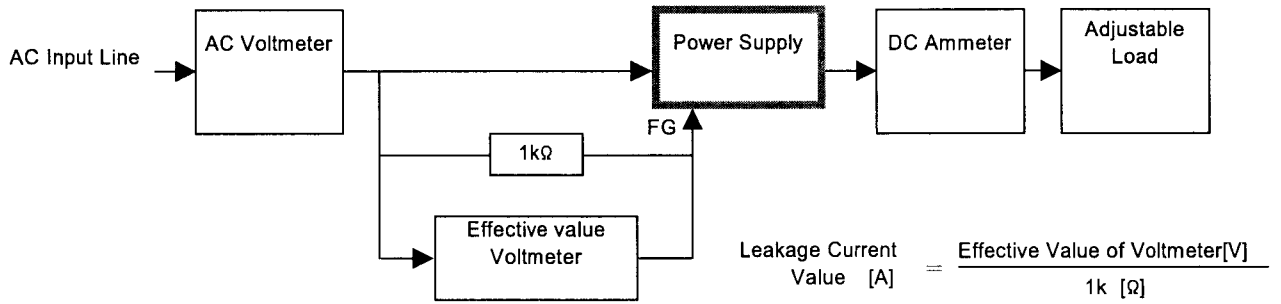


Figure B ( DEN-AN )

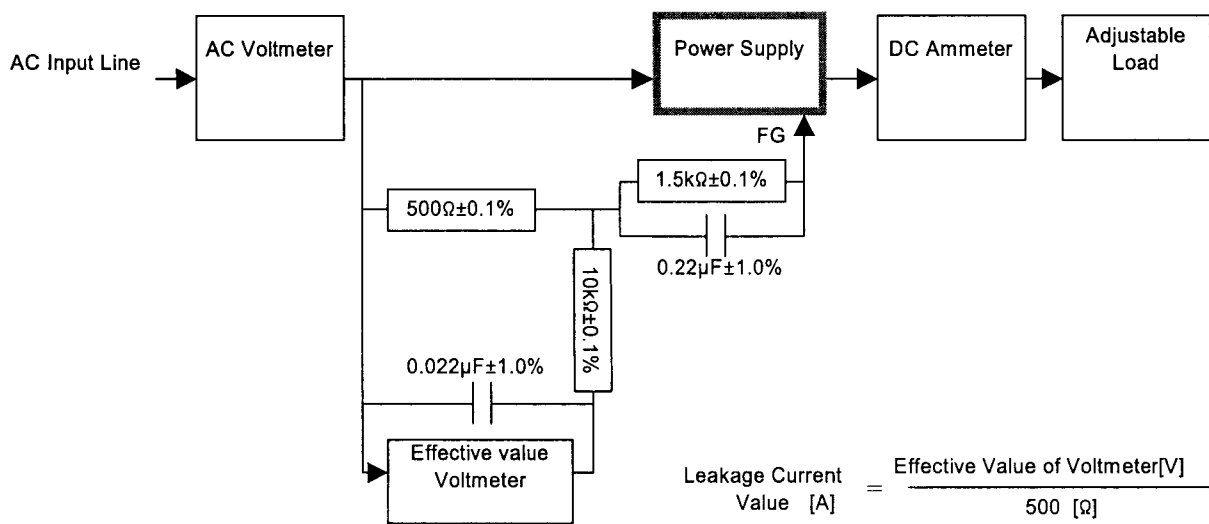


Figure B ( IEC60950 )