



TEST DATA OF UMA30F-48

Regulated DC Power Supply
January 18, 2023

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Design Manager

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Design Engineer

COSEL CO.,LTD.

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(Final Page 15)

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Model	UMA30F-48																																																		
Item	Input Current (by Load Current)	Temperature	25°C																																																
Object	+48V0.65A	Testing Circuitry	Figure A																																																
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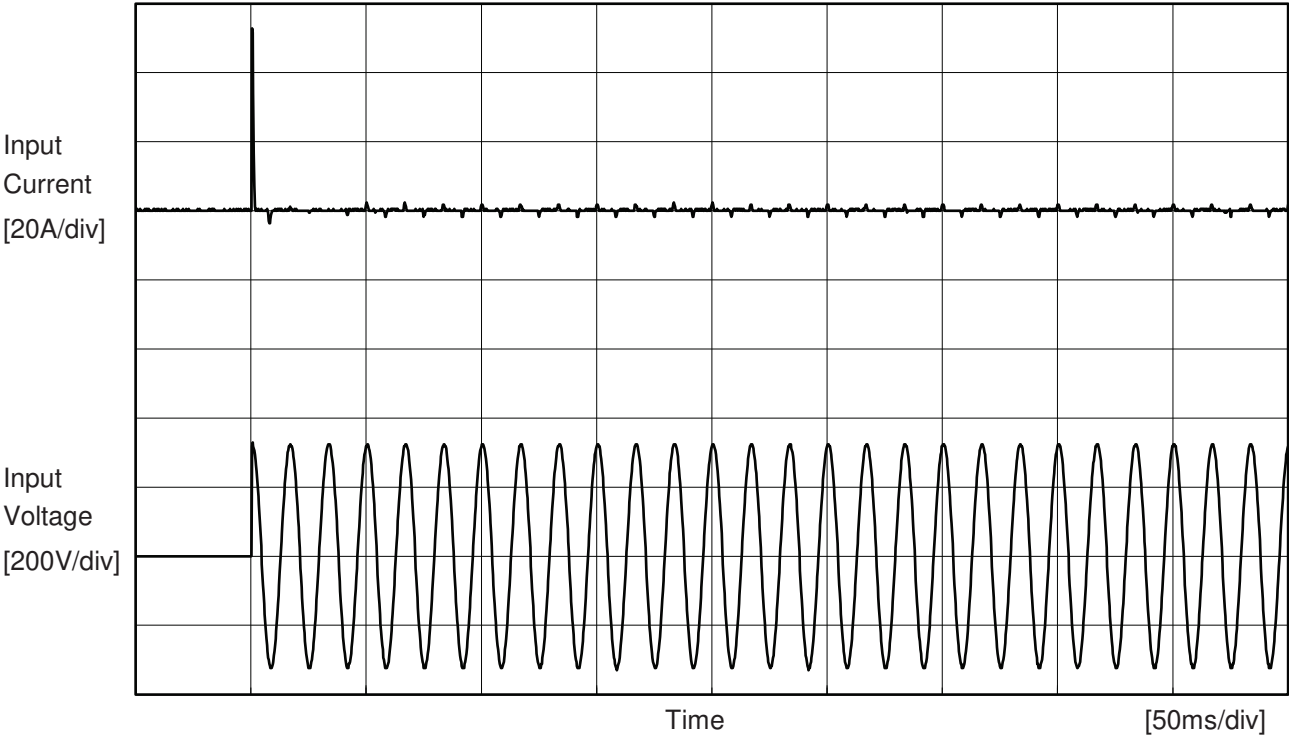
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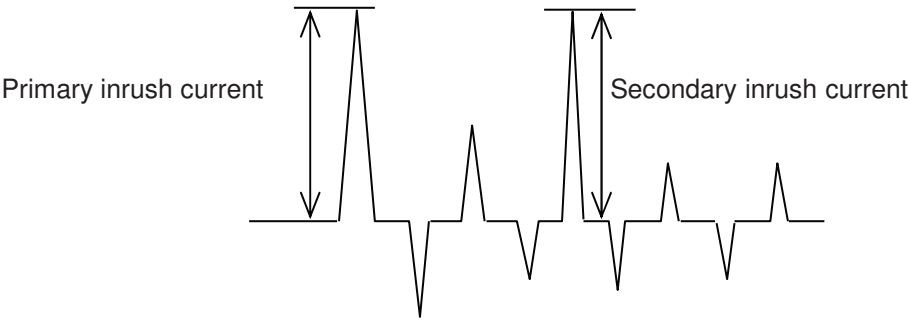
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Model		UMA30F-48	Temperature 25°C Testing Circuitry Figure A
Item		Inrush Current	
Object		+48V0.65A	



Input Voltage	230 V
Frequency	60 Hz
Load	100 %
Primary inrush current	52.8 A
Secondary inrush current	2.4 A





COSEL		Temperature 25°C Testing Circuitry Figure C
Model	UMA30F-48	
Item	Leakage Current	
Object	+48V0.65A	

1.Results

[mA]

Standards	Testing Circuitry	Measuring Method	Input Volt.			Note
			115 [V]	230 [V]	264 [V]	
IEC60601-1	Figure C-1	Both phases	0.05	0.11	0.12	Operation
		One of phases	0.10	0.21	0.24	Stand by
IEC62368-1	Figure C-2	Both phases	0.05	0.11	0.13	Operation
		One of phases	0.10	0.21	0.25	Stand by
	Figure C-3	Both phases	0.05	0.11	0.12	Operation
		One of phases	0.10	0.21	0.25	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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Item	Line Regulation	Temperature	25°C																																
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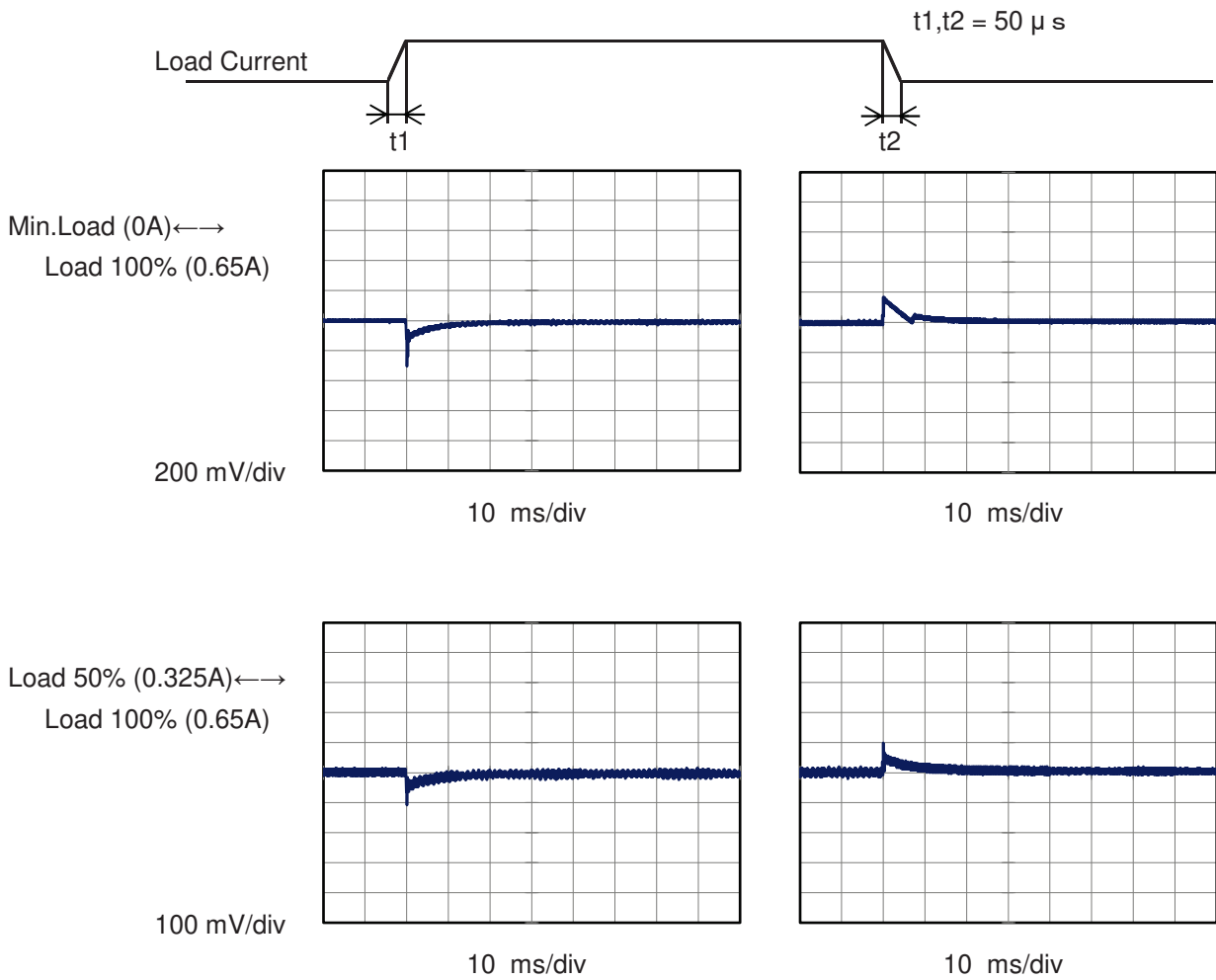


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Item	Ripple-Noise	Temperature 25°C																																																				
Object	+48V0.65A	Testing Circuitry Figure B																																																				
1.Graph																																																						
<div><div>Input Voltage 230V</div><div>Load 100%</div><div><div>20[mV/div]</div><div></div><div>10[ms/div]</div></div></div>																																																						
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Model	UMA30F-48		
Item	Dynamic Load Response	Temperature	25°C
		Testing Circuitry	Figure A
Object	+48V0.65A		

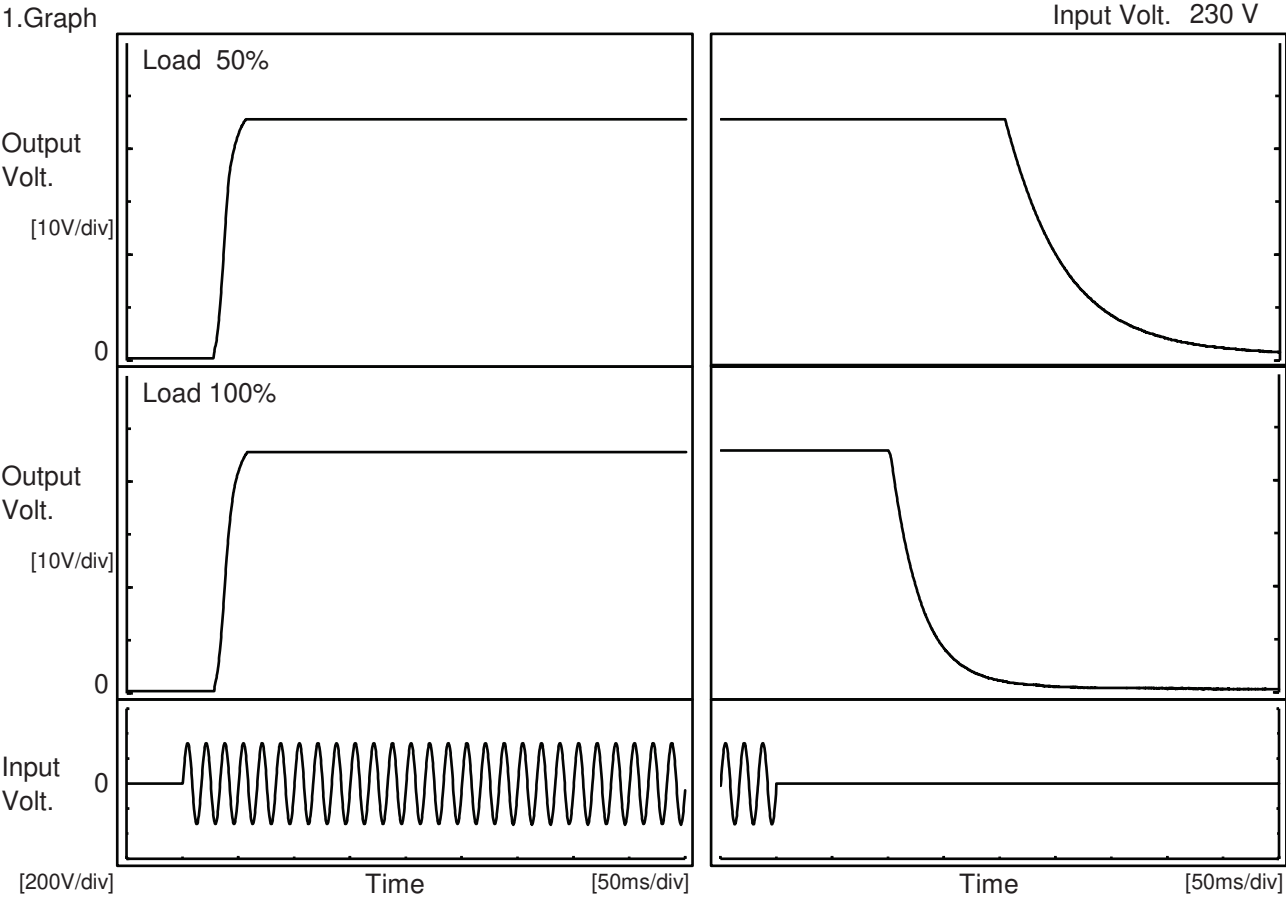
Input Volt. 230 V
Cycle 1000 ms





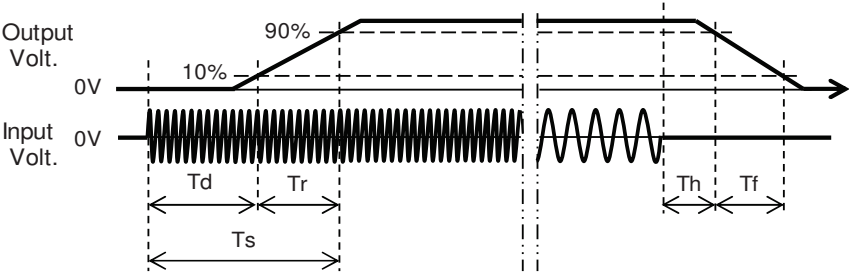
Model		UMA30F-48	Temperature 25°C Testing Circuitry Figure A
Item		Rise and Fall Time	
Object		+48V0.65A	

1.Graph



2.Values

		[ms]				
Load	Time	Td	Tr	Ts	Th	Tf
50 %		31.5	20.0	51.5	207.0	125.8
100 %		32.3	20.8	53.1	103.3	62.0





Model		UMA30F-48																															
Item		Hold-Up Time																															
Object		+48V0.65A																															
1.Graph		2.Values																															
<div><div><div><div></div><div></div></div><div><div></div><div></div></div><div>Load 50%</div><div>Load 100%</div></div><p>This graph plots Hold-Up Time in milliseconds on a logarithmic y-axis (from 1 to 1000) against Input Voltage in Volts on a linear x-axis (from 50 to 300). Two data series are shown: Load 50% (dashed line with square markers) and Load 100% (solid line with triangle markers). Both series show an increasing trend of hold-up time with increasing input voltage. The Load 50% series consistently shows higher hold-up times than the Load 100% series for the same input voltage.</p><table border="1"><thead><tr><th>Input Voltage [V]</th><th>Load 50% [ms]</th><th>Load 100% [ms]</th></tr></thead><tbody><tr><td>85</td><td>22</td><td>-</td></tr><tr><td>100</td><td>33</td><td>-</td></tr><tr><td>115</td><td>45</td><td>20</td></tr><tr><td>132</td><td>62</td><td>27</td></tr><tr><td>170</td><td>107</td><td>47</td></tr><tr><td>200</td><td>152</td><td>69</td></tr><tr><td>230</td><td>204</td><td>96</td></tr><tr><td>264</td><td>273</td><td>131</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></tbody></table></div> <div><p>This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.</p></div>		Input Voltage [V]	Load 50% [ms]	Load 100% [ms]	85	22	-	100	33	-	115	45	20	132	62	27	170	107	47	200	152	69	230	204	96	264	273	131	--	-	-		
Input Voltage [V]	Load 50% [ms]	Load 100% [ms]																															
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Hold-Up Time [ms]

1000

100

10

1

50

100

150

200

250

300

Input Voltage [V]

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

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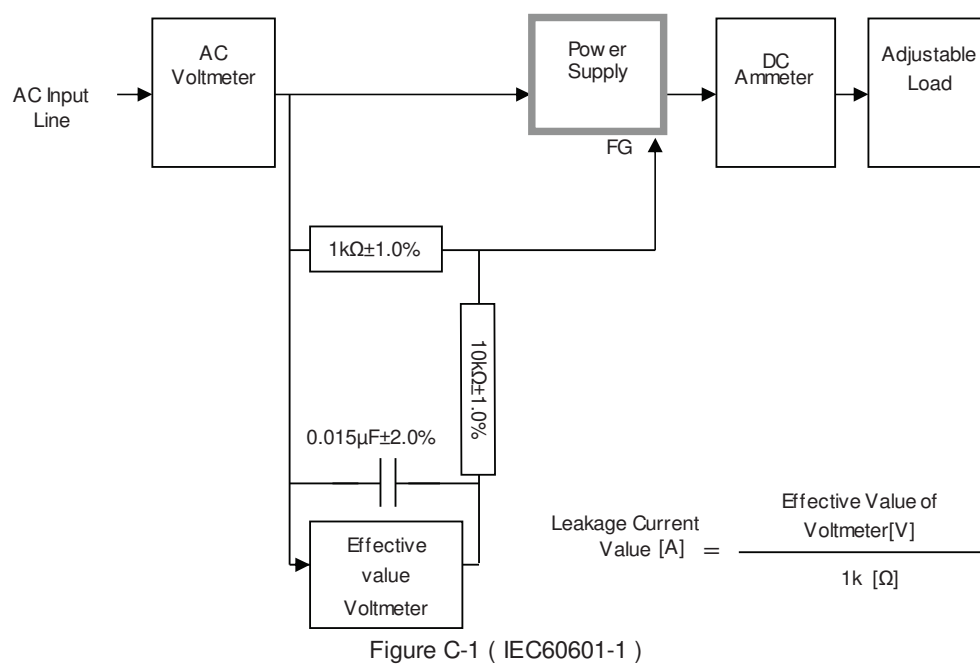
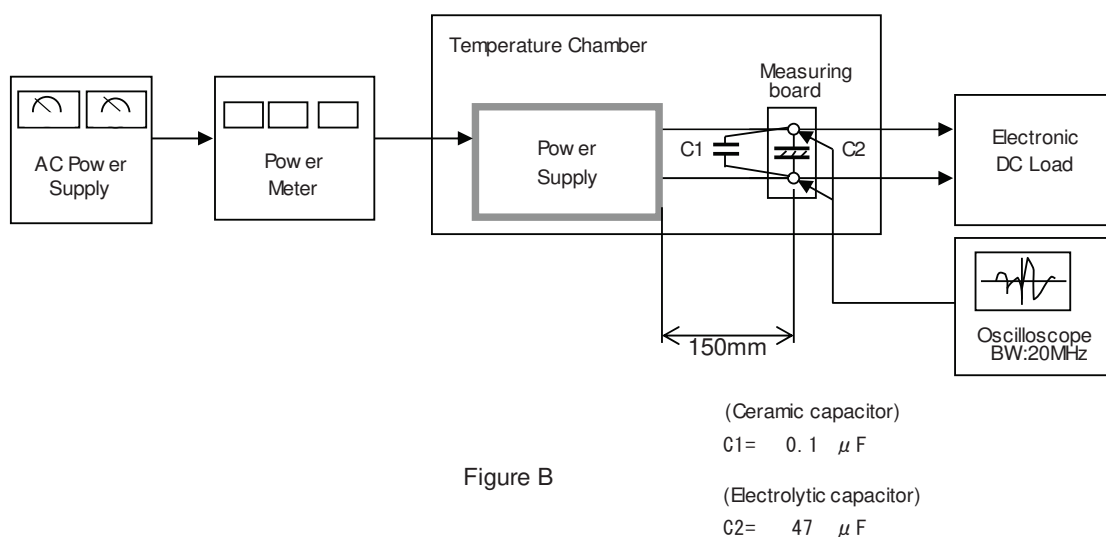
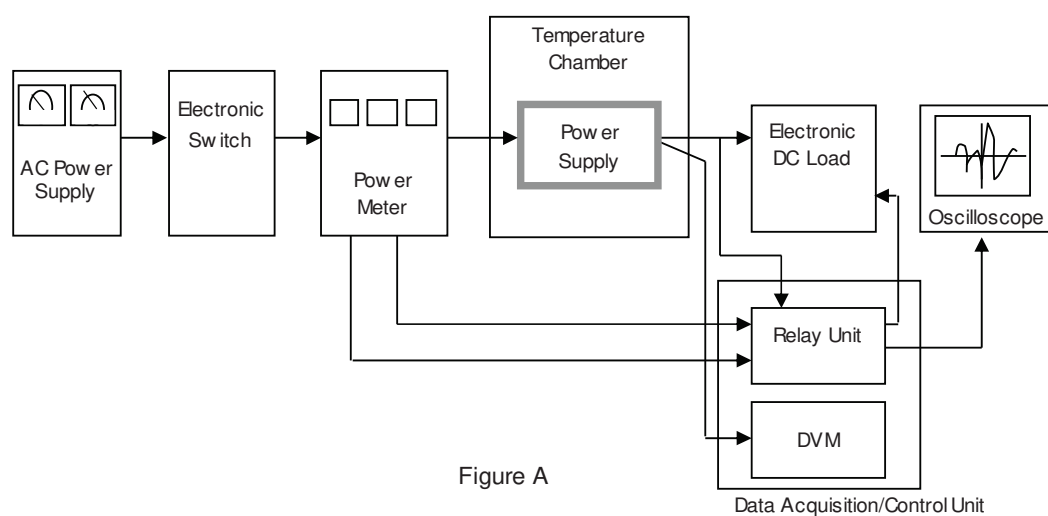
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		Testing Circuitry Figure A	
Model	UMA30F-48		
Item	Ambient Temperature Drift		
Object	+48V0.65A		
1.Values Load 100%			
Ambient Temperature[°C]	Output Voltage [V]		
	Input Volt. 115V	Input Volt. 230V	Input Volt. 264V
-20	48.159	48.161	48.163
25	48.402	48.403	48.403
50	48.483	48.484	48.485
Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A	
Object	+48V0.65A		
1.Values			
Ambient Temperature[°C]	Input Voltage [V]		
	Load 50%	Load 100%	
-20	34	64	
25	33	65	
50	33	66	
Item	Overvoltage Protection	Testing Circuitry Figure A	
Object	+48V0.65A		
1.Values Load 0%			
Ambient Temperature[°C]	Operating Point [V]		
	Input Volt. 115V	Input Volt. 264V	
-20	64.96	64.67	
25	64.04	64.74	
50	64.32	64.32	

- 13 -

BC-11915



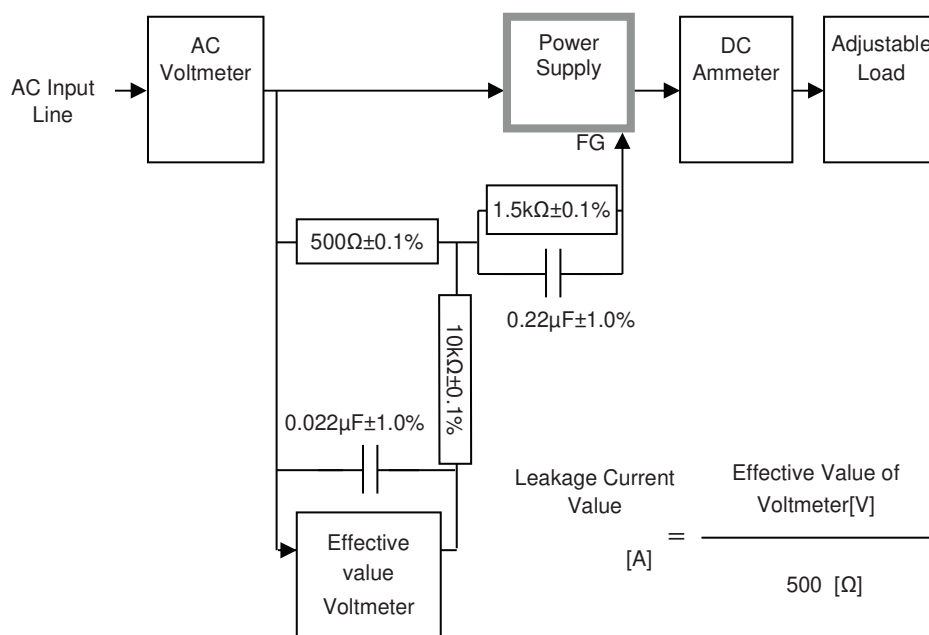


Figure C-2 (IEC62368-1 refer to IEC60990 Fig.4)

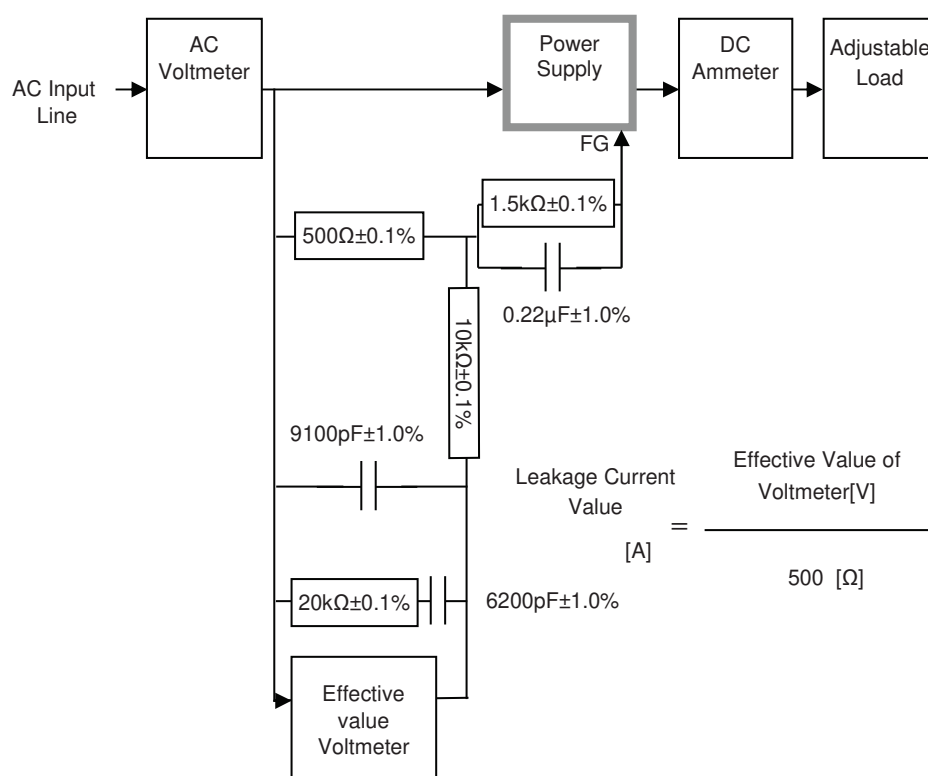


Figure C-3 (IEC62368-1 refer to IEC60990 Fig.5)