参考資料

COSEL

TEST DATA OF MODULE 2A

Regulated DC Power Supply
Apr.13. 2004

Approved by : K. Shibutani
K.Shibutani Design Manager

Prepared by : J. Asano
J.Asano Design Engineer

COSEL CO.,LTD.

COSEL

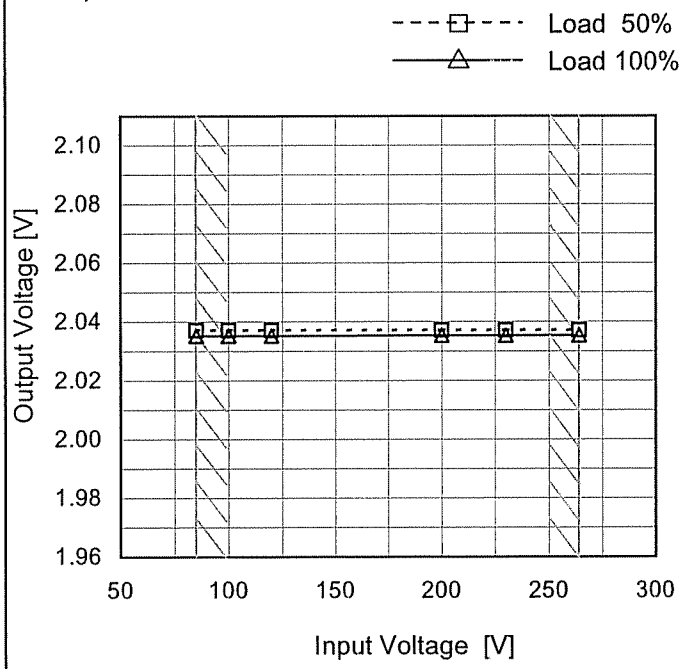
CONTENTS

COSEL

Model	2A MODULE
Item	Line Regulation
Object	+2V60A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	2.037	2.035
100	2.037	2.035
120	2.037	2.035
200	2.037	2.035
230	2.037	2.035
264	2.037	2.035
--	-	-
--	-	-
--	-	-

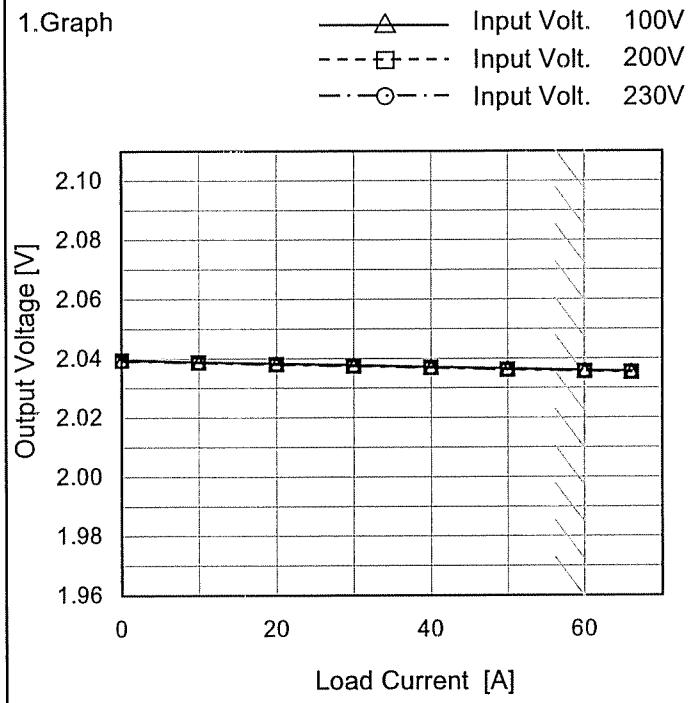
BC-0948

COSEL

Model	2A MODULE
Item	Load Regulation
Object	+2V60A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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	2.040	2.039	2.039
10	2.039	2.039	2.039
20	2.038	2.038	2.038
30	2.038	2.038	2.038
40	2.037	2.037	2.037
50	2.037	2.036	2.036
60	2.036	2.036	2.036
66	2.036	2.035	2.035
--	-	-	-
--	-	-	-
--	-	-	-

BC-0948

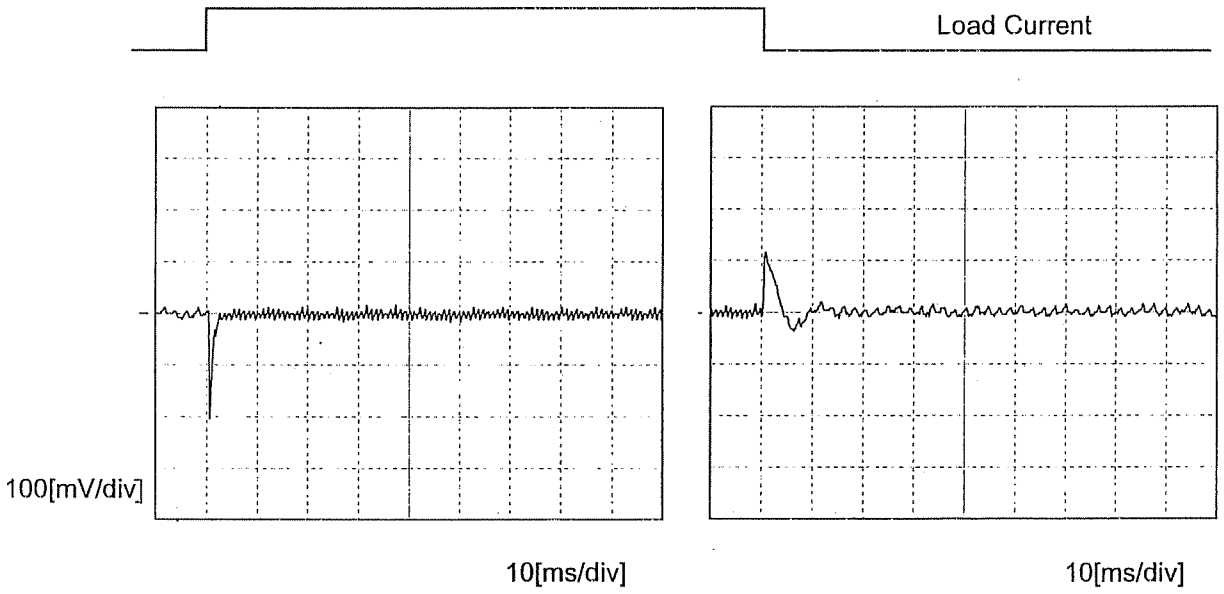
COSEL

Model	2A MODULE
Item	Dynamic Load Response
Object	+2V60A

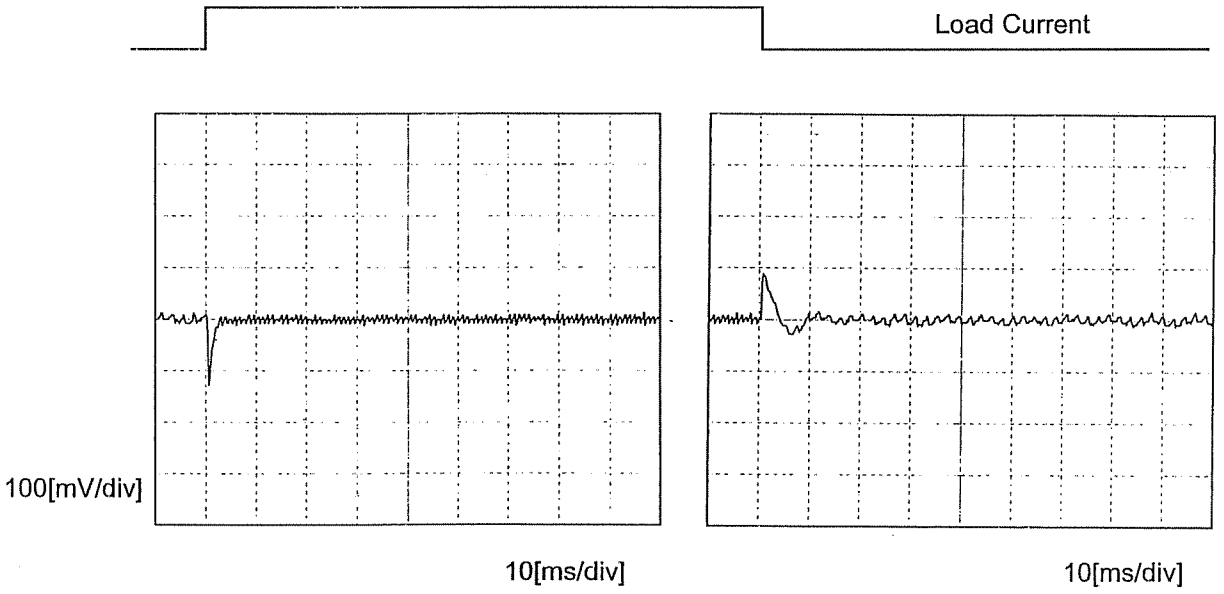
Temperature 25°C
Testing Circuitry Figure A

Input Volt. 100 V
Cycle 1000 ms

Min. Load (0 A) -- Load 100% (60 A)



Min. Load (0 A) -- Load 50% (30 A)



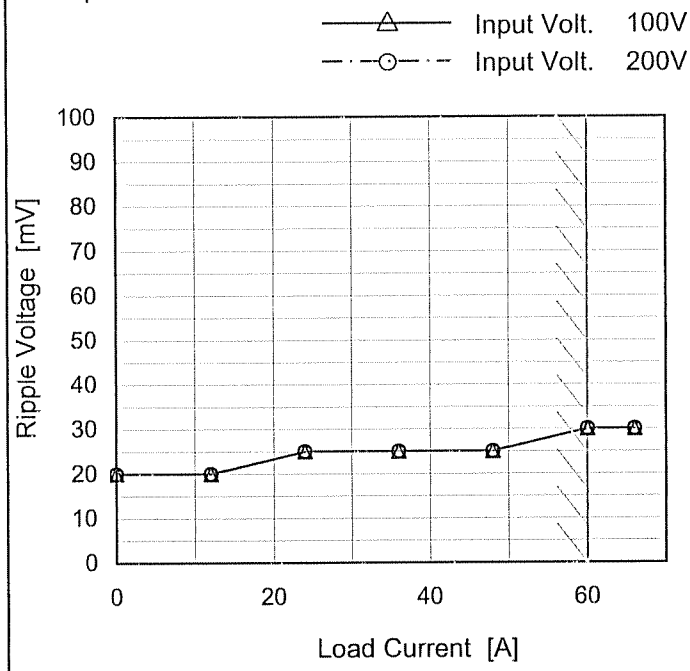
* The characteristic of AC200V is equal.

COSEL

Model	2A MODULE
Item	Ripple Voltage (by Load Current)
Object	+2V60A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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.

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
0	20	20
12	20	20
24	25	25
36	25	25
48	25	25
60	30	30
66	30	30
--	-	-
--	-	-
--	-	-
--	-	-

T1: Due to AC Input Line
T2: Due to Switching

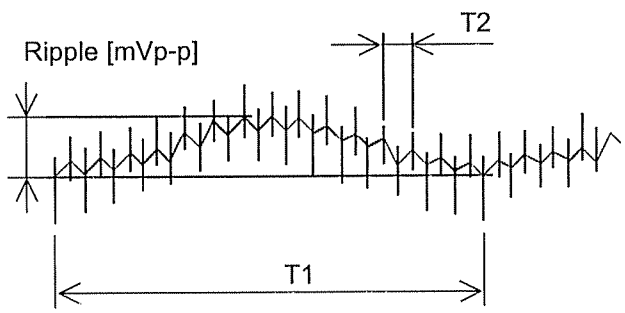


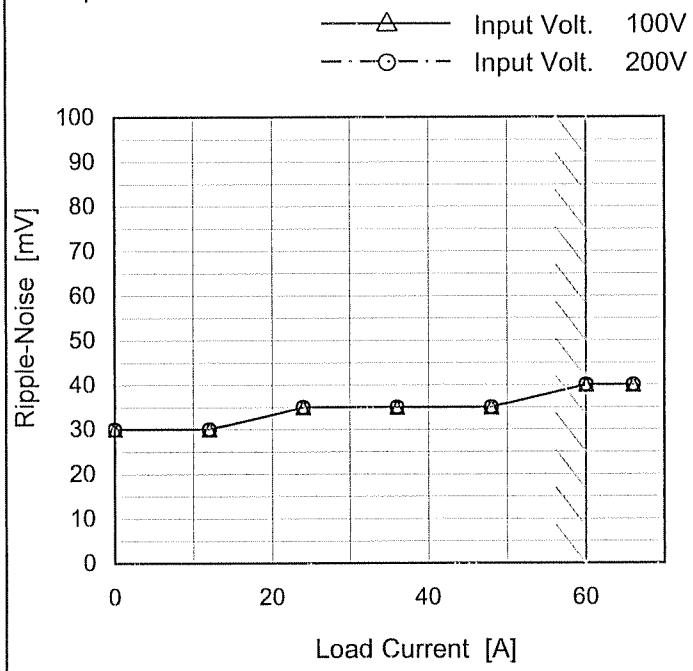
Fig. Complex Ripple Wave Form

COSEL

Model	2A MODULE
Item	Ripple-Noise
Object	+2V60A

Temperature 25°C
Testing Circuitry Figure A

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.

T1: Due to AC Input Line
T2: Due to Switching

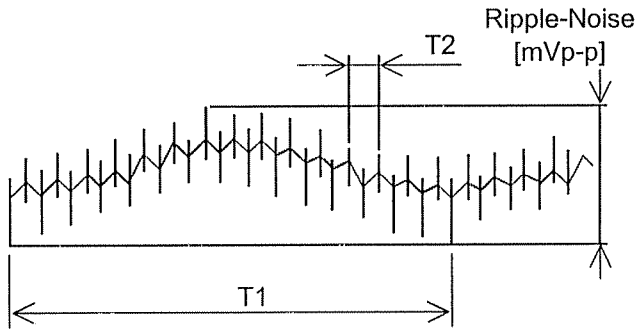


Fig. Complex Ripple Wave Form

2.Values

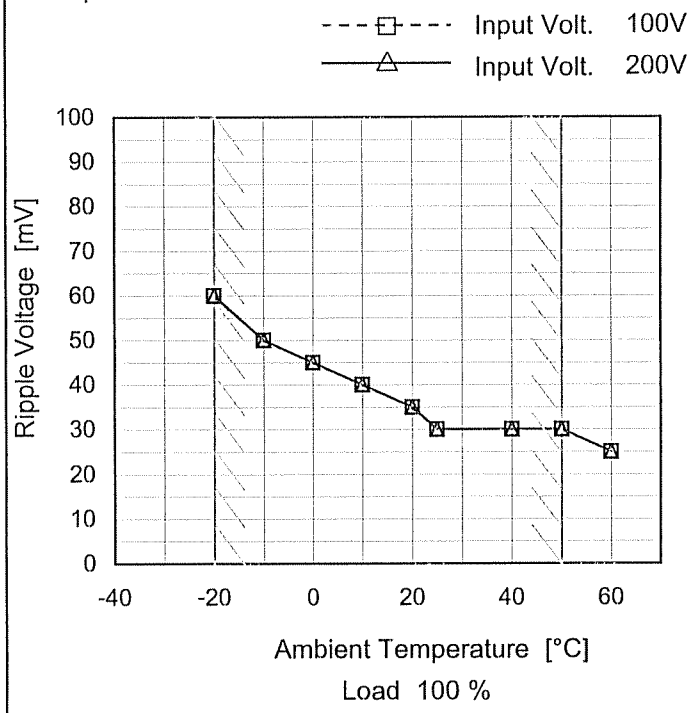
Load Current [A]	Ripple-Noise [mV] Input Volt. 100 [V]	Ripple-Noise [mV] Input Volt. 200 [V]
0	30	30
12	30	30
24	35	35
36	35	35
48	35	35
60	40	40
66	40	40
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	2A MODULE
Item	Ripple Voltage (by Ambient Temp.)
Object	+2V60A

Testing Circuitry Figure A

1.Graph



Load 100 %

Measured by 20 MHz Oscilloscope.

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

2.Values

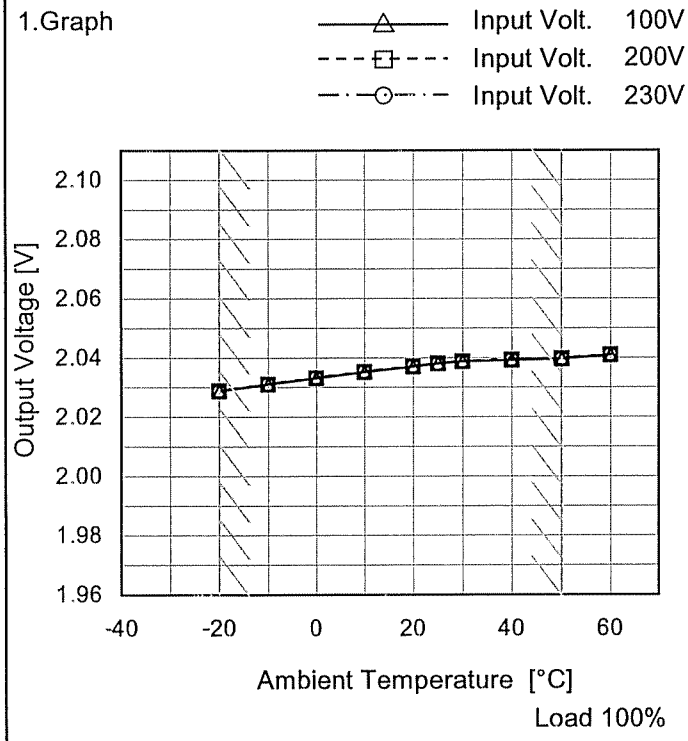
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
-20	60	60
-10	50	50
0	45	45
10	40	40
20	35	35
25	30	30
40	30	30
50	30	30
60	25	25
--	-	-
--	-	-

COSEL

Model	2A MODULE
Item	Ambient Temperature Drift
Object	+2V60A

Testing Circuitry Figure A

1.Graph



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

2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
-20	2.029	2.029	2.029
-10	2.031	2.031	2.031
0	2.033	2.033	2.033
10	2.035	2.035	2.035
20	2.037	2.037	2.037
25	2.038	2.038	2.038
30	2.039	2.039	2.039
40	2.039	2.039	2.039
50	2.040	2.040	2.040
60	2.041	2.041	2.041
--	-	-	-

BC-0948

COSEL

Model	2A MODULE	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+2V60A	

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 : -20 - 50°C
Input Voltage : 85 - 264V
Load Current : 0 - 60A

* Output Voltage Accuracy = ±(Maximum of Output Voltage - Minimum of Output Voltage) / 2

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

2.Values

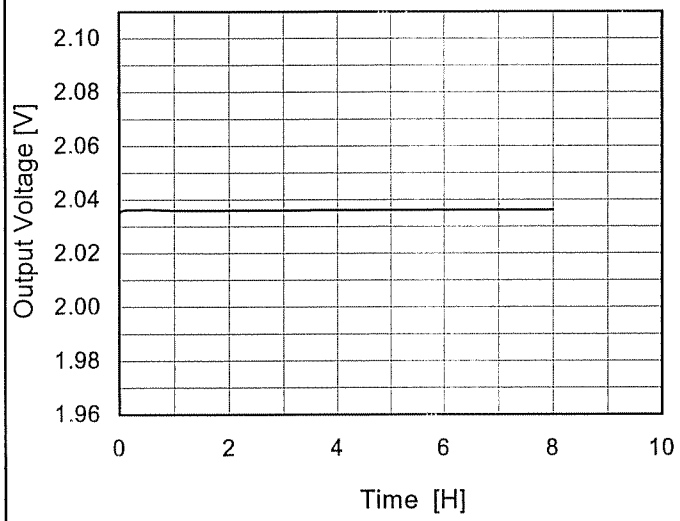
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	50	85	0	2.044	±8	±0.4
Minimum Voltage	-20	85	60	2.029		

COSEL

Model	2A MODULE
Item	Time Lapse Drift
Object	+2V60A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 100V
Load 100%

* The characteristic of AC200V is equal.

2.Values

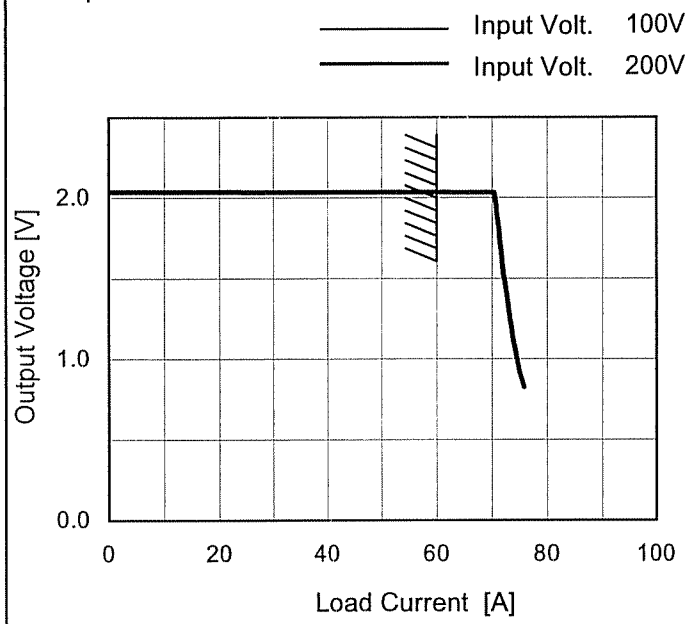
Time since start [H]	Output Voltage [V]
0.0	2.035
0.5	2.036
1.0	2.036
2.0	2.036
3.0	2.036
4.0	2.036
5.0	2.036
6.0	2.036
7.0	2.036
8.0	2.036

COSEL

Model	2A MODULE
Item	Overcurrent Protection
Object	+2V60A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

Intermittent operation occurs when the output voltage is from 0.8V to 0V.

2.Values

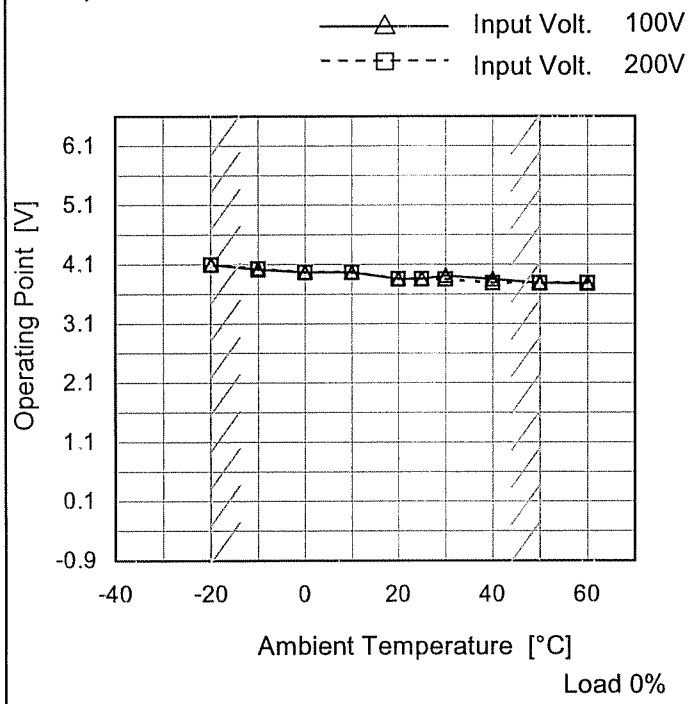
Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 200[V]
2.0	63.46	64.20
1.9	70.82	70.92
1.8	71.15	71.22
1.6	71.89	71.96
1.4	72.63	72.71
1.2	73.40	73.47
1.0	74.38	74.47
0.8	76.13	76.24
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	2A MODULE
Item	Overvoltage Protection
Object	+2V60A

Testing Circuitry Figure A

1.Graph



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

2.Values

Ambient Temperature [°C]	Operating Point [V]	
	Input Volt. 100[V]	Input Volt. 200[V]
-20	4.08	4.08
-10	4.00	4.01
0	3.95	3.95
10	3.95	3.95
20	3.84	3.84
25	3.84	3.84
30	3.89	3.83
40	3.83	3.77
50	3.77	3.77
60	3.76	3.77
--	-	-

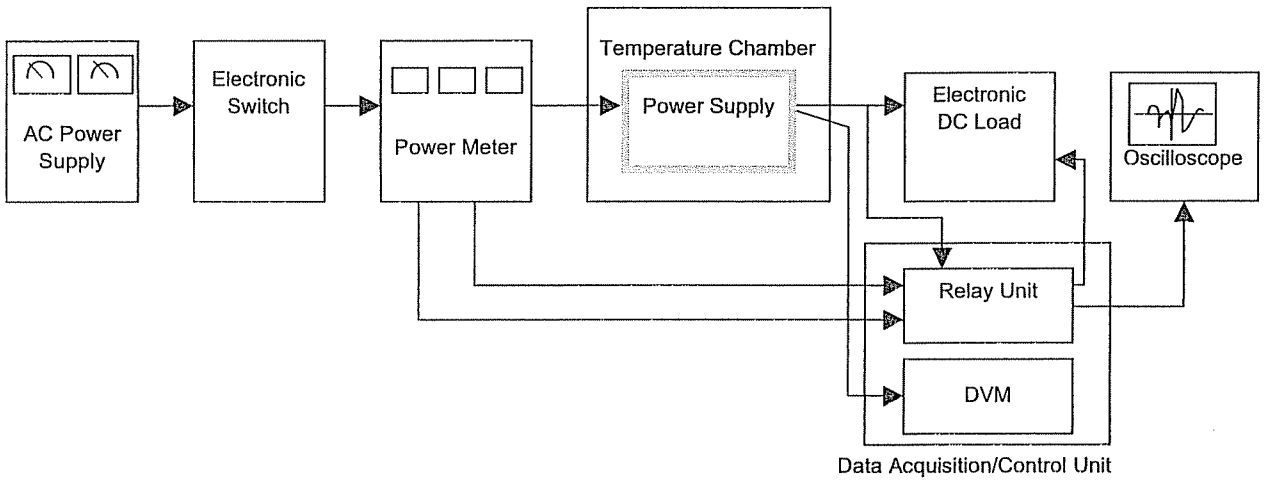


Figure A

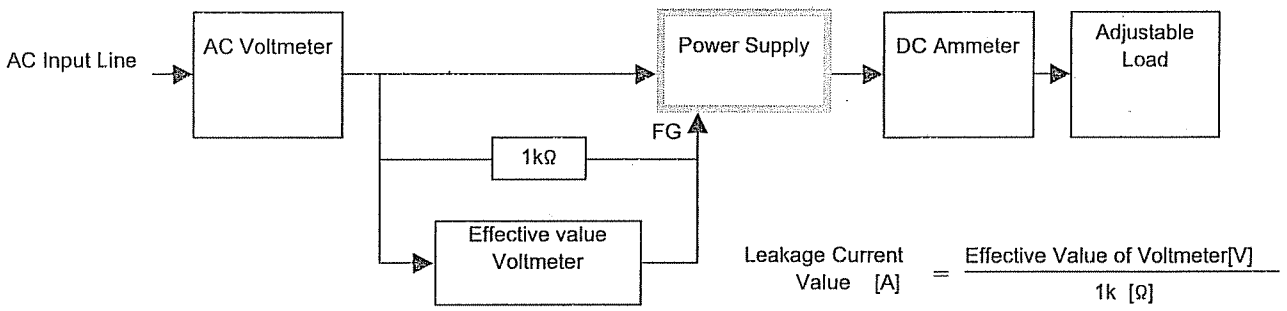


Figure B (DEN-AN)

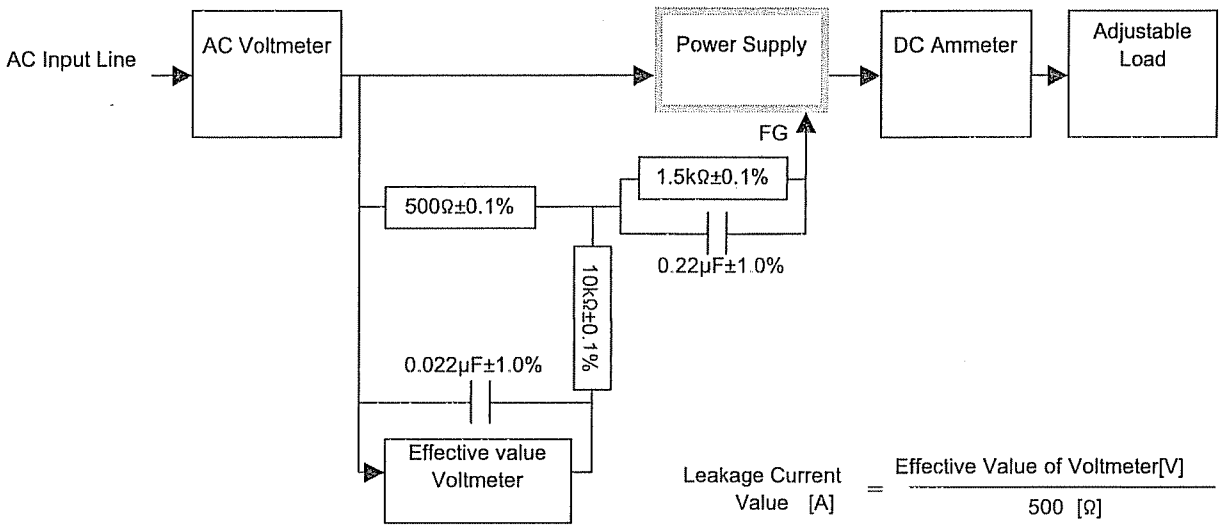


Figure B (IEC60950)