For Reference

TEST DATA OF AEA800F-30

Regulated DC Power Supply
June 10, 2024

Approved by : Satoshi Uetani
Design Manager

Prepared by : Ryoga Orita
Design Engineer

COSEL CO.,LTD.

COSEL

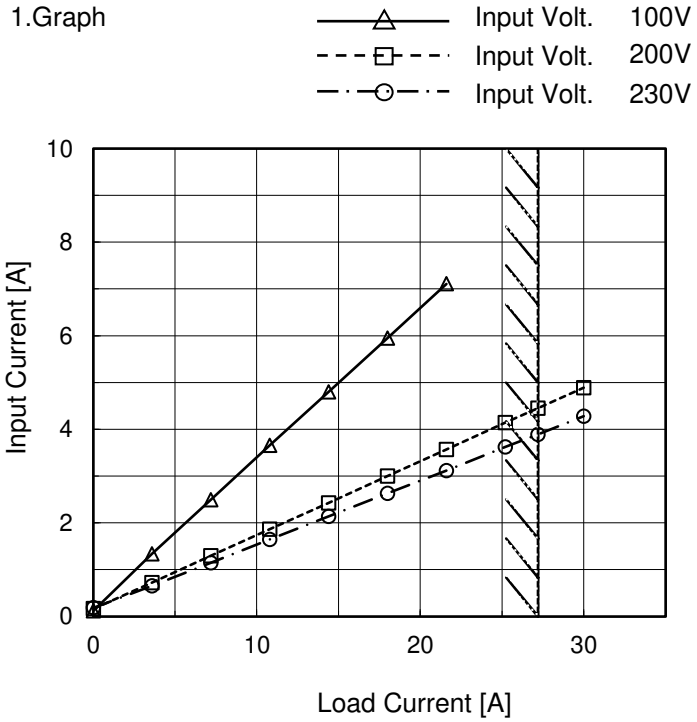
CONTENTS

COSEL

Model	AEA800F-30
Item	Input Current (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

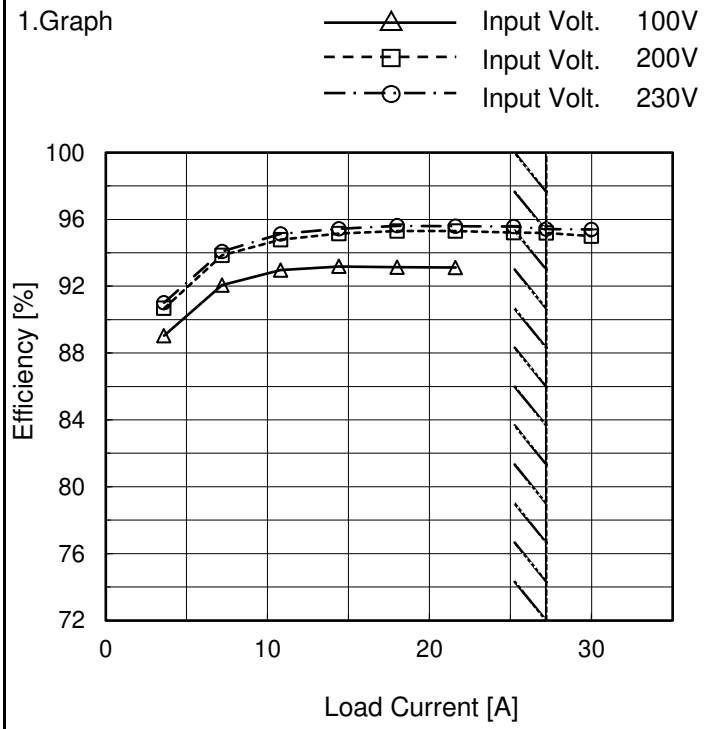
Load Current [A]	Input Current [A]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	0.121	0.165	0.186
3.6	1.335	0.721	0.654
7.2	2.495	1.296	1.148
10.8	3.660	1.864	1.643
14.4	4.800	2.426	2.138
18.0	5.950	2.998	2.627
21.6	7.110	3.570	3.118
25.2	-	4.140	3.620
27.2	-	4.450	3.890
30.0	-	4.890	4.280
--	-	-	-

COSEL

Model	AEA800F-30
Item	Efficiency (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

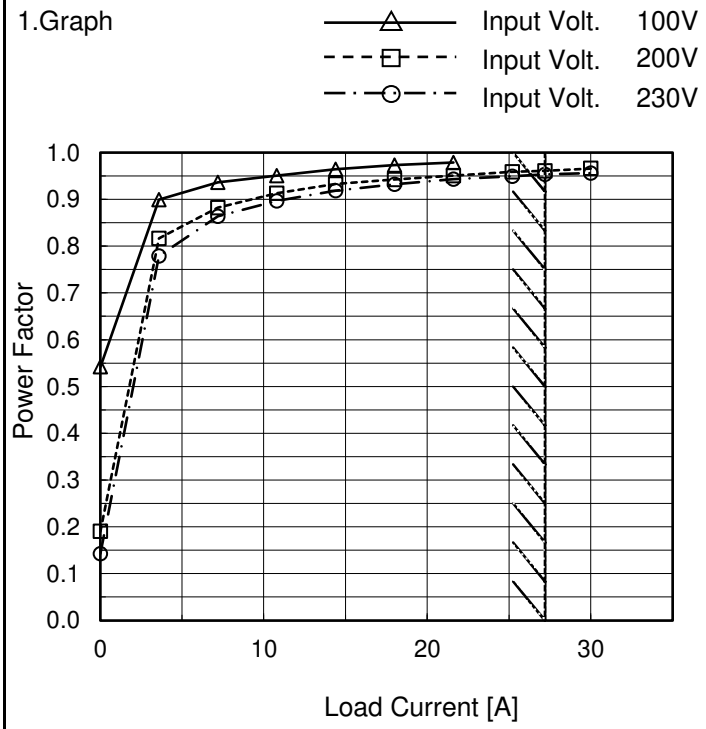
Load Current [A]	Efficiency [%]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	-	-	-
3.6	89.0	90.7	91.0
7.2	92.1	93.9	94.1
10.8	93.0	94.8	95.1
14.4	93.2	95.1	95.4
18.0	93.1	95.3	95.6
21.6	93.1	95.3	95.6
25.2	-	95.2	95.6
27.2	-	95.2	95.4
30.0	-	95.0	95.4
--	-	-	-

COSEL

Model	AEA800F-30
Item	Power Factor (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

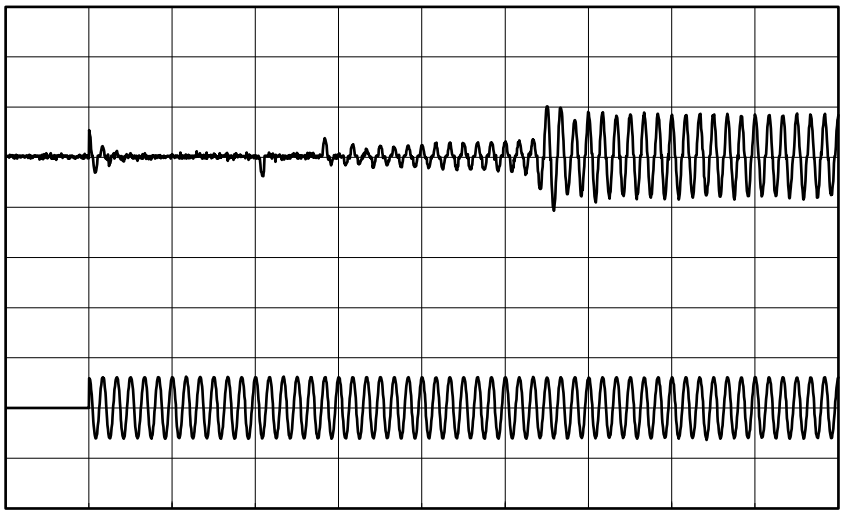
2.Values

Load Current [A]	Power Factor		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	0.542	0.190	0.143
3.6	0.899	0.817	0.779
7.2	0.936	0.882	0.864
10.8	0.951	0.913	0.897
14.4	0.965	0.933	0.919
18.0	0.973	0.942	0.932
21.6	0.979	0.951	0.943
25.2	-	0.959	0.949
27.2	-	0.961	0.953
30.0	-	0.966	0.956
--	-	-	-

COSEL

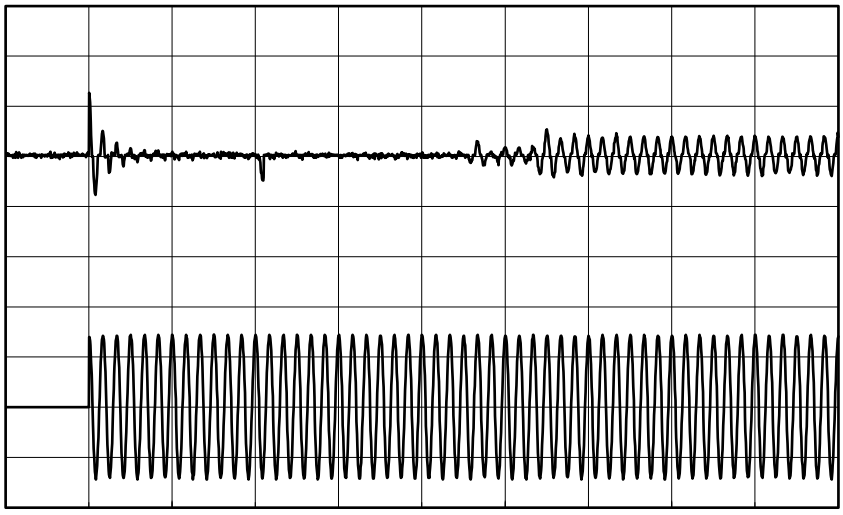
Model	AEA800F-30
Item	Inrush Current
Object	———————

Temperature 25°C
Testing Circuitry Figure A



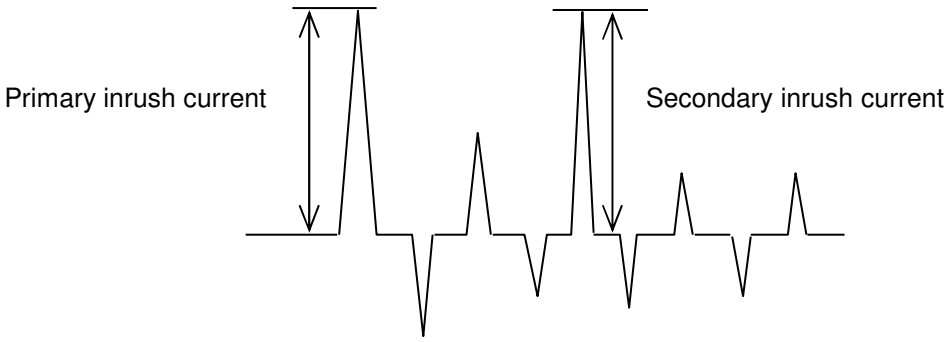
Input Voltage 100 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
10.7 A
Secondary inrush current :
21.4 A



Input Voltage 200 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
25.4 A
Secondary inrush current :
10.8 A



COSEL

Model	AEA800F-30	
Item	Leakage Current	Temperature 25°C Testing Circuitry Figure B
Object	———————————	

1.Results

[mA]

Standards	Testing Circuitry	Measuring Method	Input Volt.			Note
			100 [V]	240 [V]	264 [V]	
DEN-AN	Figure B-1	Both phases	0.08	0.21	0.23	Operation
		One of phases	0.15	0.39	0.44	Stand by
IEC62368-1	Figure B-2	Both phases	0.08	0.20	0.23	Operation
		One of phases	0.15	0.39	0.43	Stand by
	Figure B-3	Both phases	0.08	0.20	0.23	Operation
		One of phases	0.15	0.38	0.43	Stand by
IEC60601-1	Figure B-4	Both phases	0.08	0.20	0.23	Operation
		One of phases	0.15	0.38	0.43	Stand by

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

2.Condition

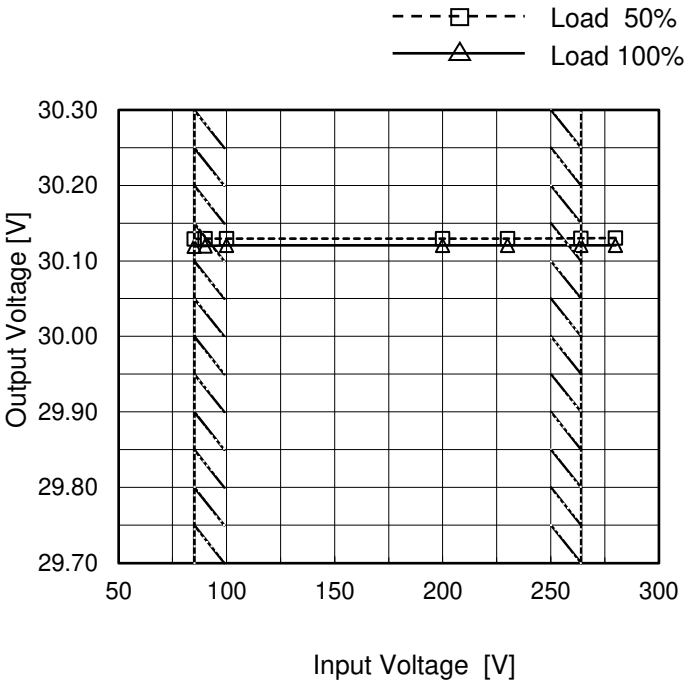
Leakage current value is concluded after measuring both phases of AC input and by choosing the larger one.

COSEL

Model	AEA800F-30
Item	Line Regulation
Object	+30V27.2A

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	30.129	30.119 ※1
90	30.130	30.120 ※2
100	30.129	30.121 ※2
200	30.130	30.121
230	30.130	30.121
264	30.130	30.121
280	30.130	30.121
--	-	-
--	-	-

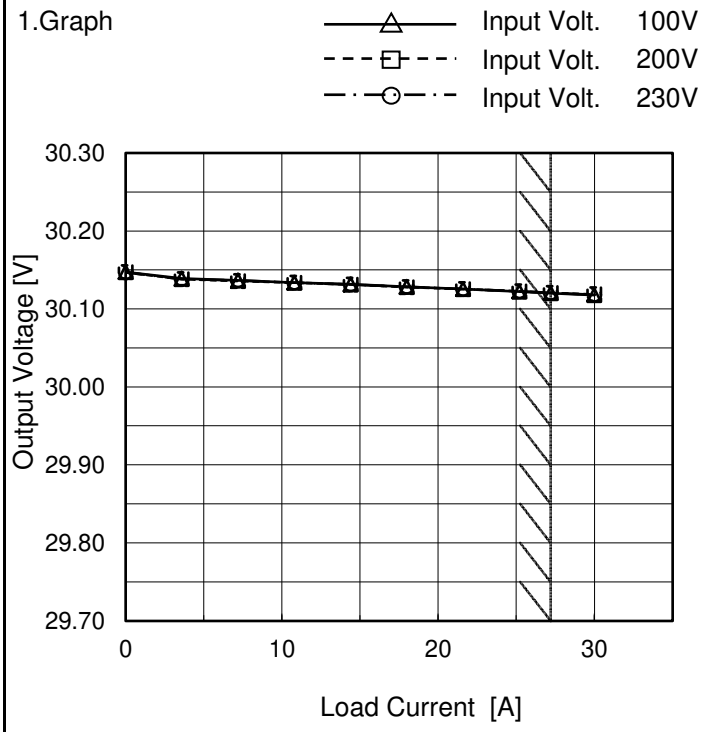
※1 : Load 60%
※2 : Load 75%

COSEL

Model	AEA800F-30
Item	Load Regulation
Object	+30V27.2A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

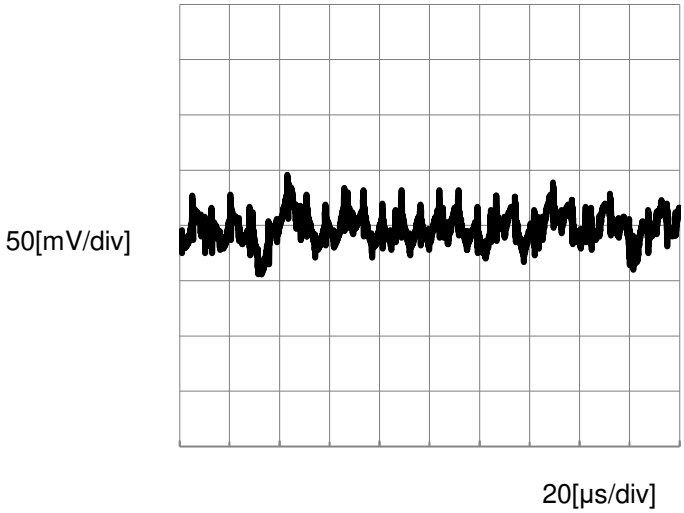
Load Current [A]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	30.147	30.147	30.147
3.6	30.139	30.138	30.138
7.2	30.136	30.136	30.137
10.8	30.134	30.134	30.134
14.4	30.132	30.131	30.131
18.0	30.129	30.128	30.128
21.6	30.126	30.126	30.126
25.2	--	30.123	30.123
27.2	--	30.121	30.121
30.0	--	30.119	30.118
--	--	--	--

Item	Ripple-Noise
Object	+30V27.2A

Temperature 25°C
Testing Circuitry Figure C

1.Graph

Input Voltage 200V
Load 100%



BC-11974

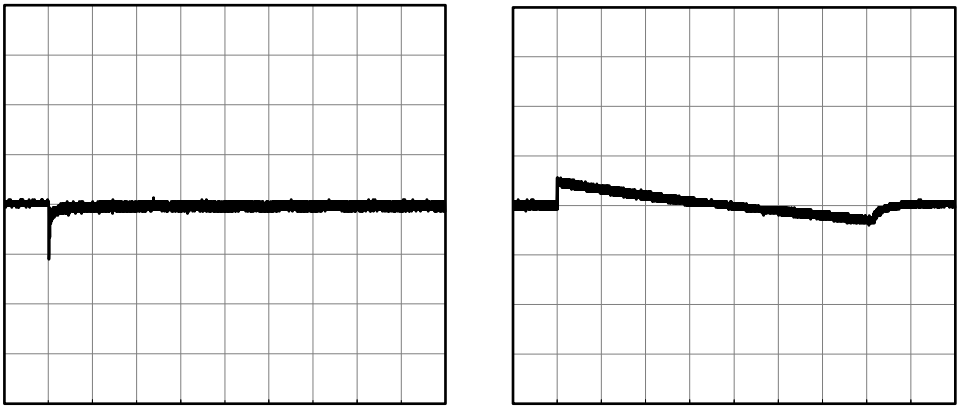
COSEL

Model	AEA800F-30	
Item	Dynamic Load Response	Temperature 25°C Testing Circuitry Figure A
Object	+30V27.2A	

Input Volt. 200 V
Cycle 1000 ms

Response. t1=t2=50µs. Typ

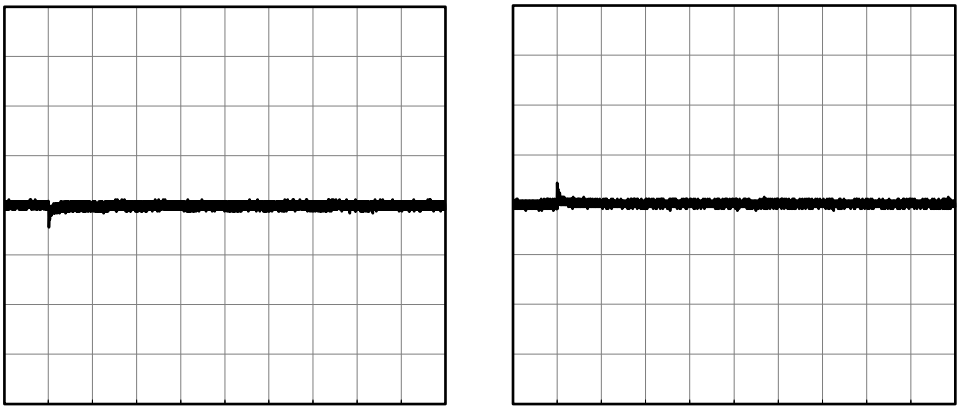
Load 0%(0A) ←→
Load 100%(27.2A)



500[mV/div]

10[ms/div] 10[ms/div]

Load 50%(13.6A) ←→
Load 100%(27.2A)



500[mV/div]

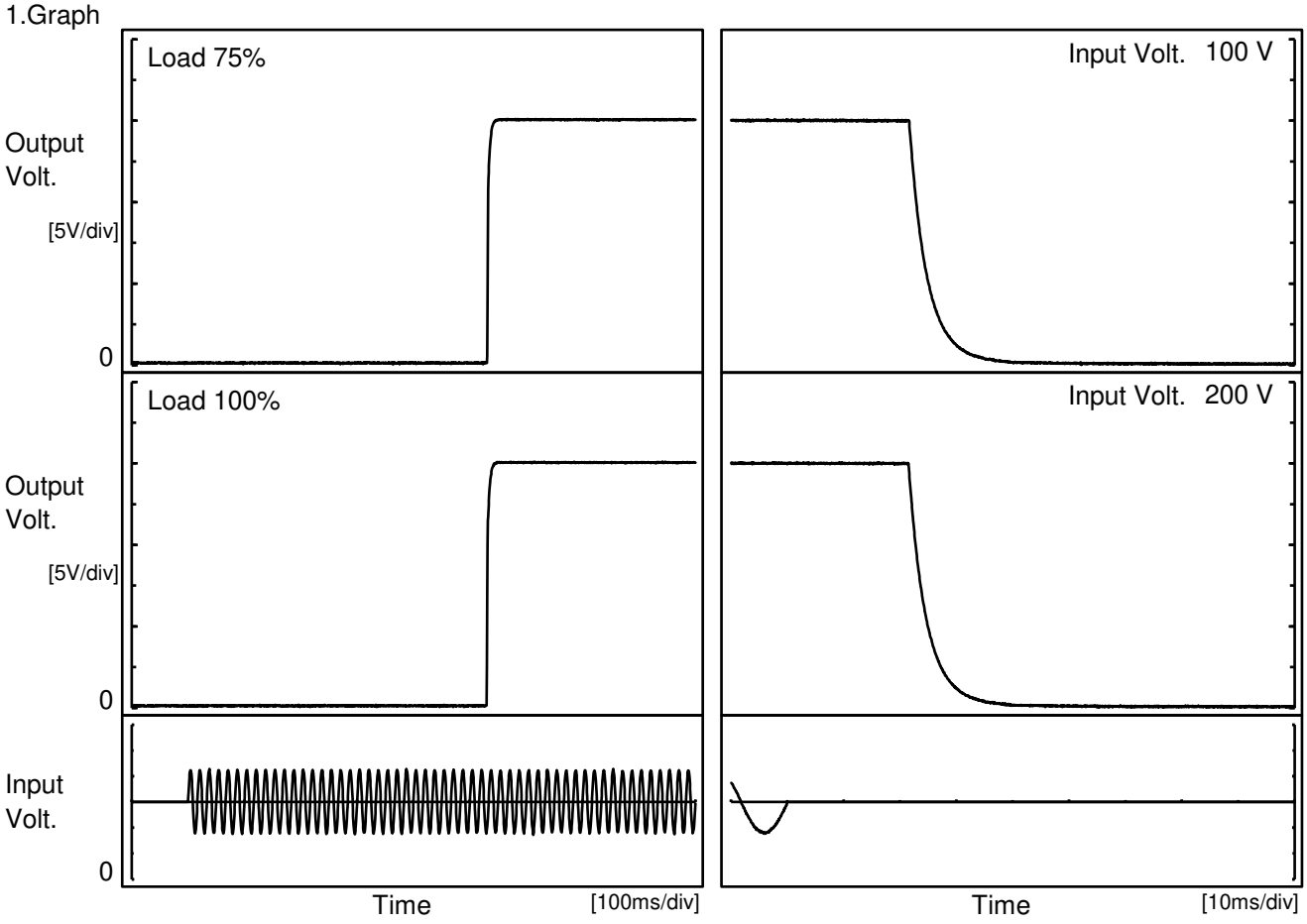
10[ms/div] 10[ms/div]

COSEL

Model	AEA800F-30
Item	Rise and Fall Time
Object	+30V27.2A

Temperature 25°C
Testing Circuitry Figure A

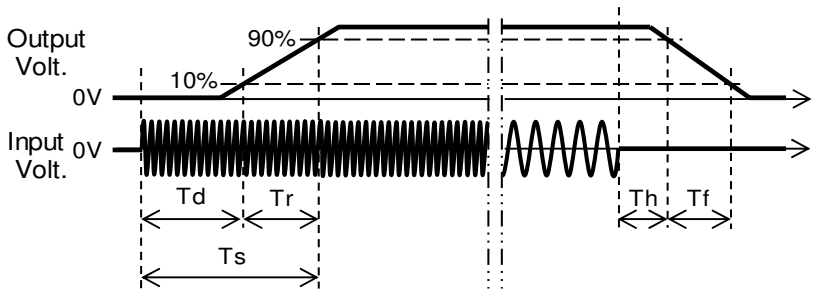
1.Graph



2.Values

[ms]

Input Volt. \ Time	Td	Tr	Ts	Th	Tf
100 V	541.5	5.0	546.5	22.0	7.3
200 V	540.5	5.0	545.5	21.9	7.3

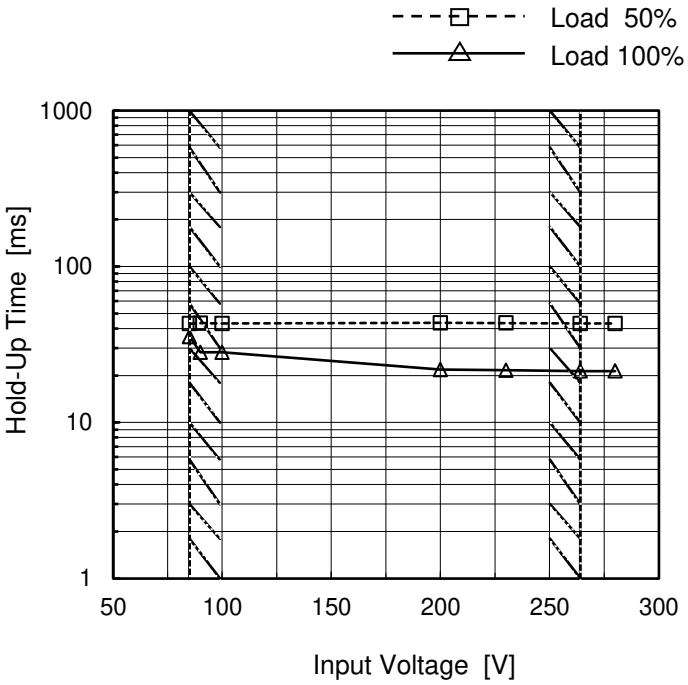


COSEL

Model	AEA800F-30
Item	Hold-Up Time
Object	+30V27.2A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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.

2.Values

Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
85	43	36 ※1
90	43	28 ※2
100	43	28 ※2
200	43	22
230	43	22
264	43	21
280	43	21
--	-	-
--	-	-

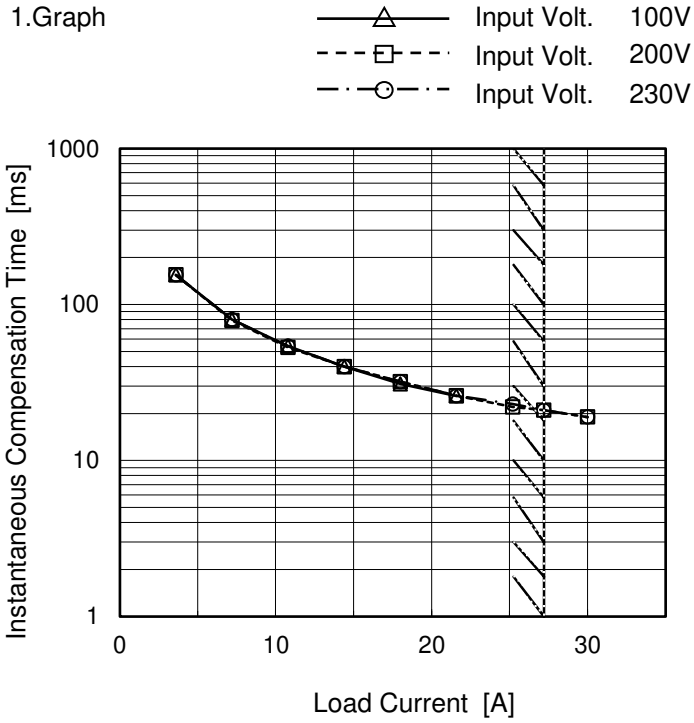
※1 : Load 60%
※2 : Load 75%

COSEL

Model	AEA800F-30
Item	Instantaneous Interruption Compensation
Object	+30V27.2A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

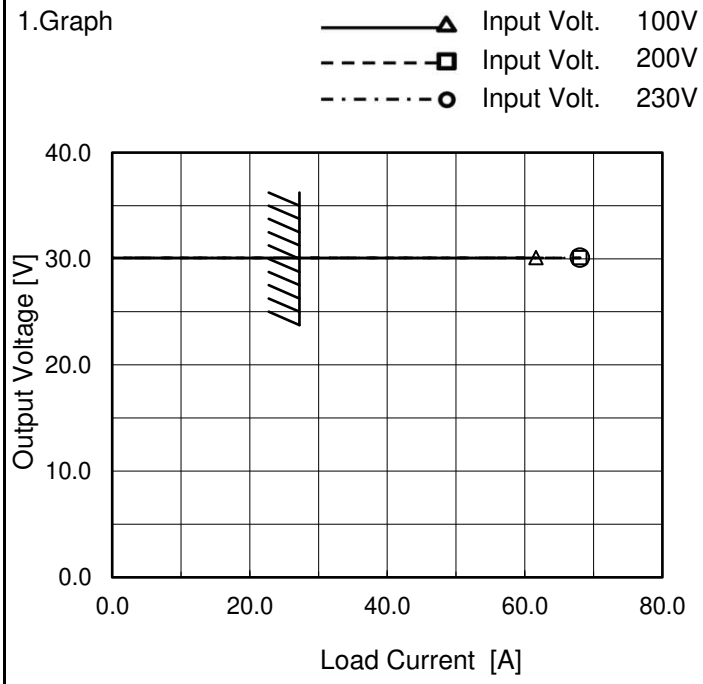
Load Current [A]	Time [ms] Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	-	-	-
3.6	155	155	155
7.2	80	79	80
10.8	54	53	54
14.4	40	40	40
18.0	31	32	32
21.6	26	26	26
25.2	-	22	23
27.2	-	21	21
30.0	-	19	19
--	-	-	-

COSEL

Model	AEA800F-30
Item	Overcurrent Protection
Object	+30V27.2A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

Overcurrent protection is Hiccup mode

2.Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
30	61.60	68.00	68.00
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	AEA800F-30	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	+30V27.2A	

1.Values

Load 100%

Ambient Temperature[℃]	Output Voltage [V]		
	Input Volt. 100V	Input Volt. 200V	Input Volt. 230V
-20	30.081 ※1	30.082	30.082
25	30.118 ※1	30.119	30.119
50	30.111 ※1	30.110	30.111

※1 : Load 75%

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+30V27.2A	

1.Values

Ambient Temperature[℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	75	80
25	75	80
50	75	80

Item	Overvoltage Protection	Testing Circuitry Figure A
Object	+30V27.2A	

1.Values

Load 0%

Ambient Temperature[℃]	Operating Point [V]	
	Input Volt. 100V	Input Volt. 200V
-20	38.81	38.69
25	40.15	40.09
50	40.85	40.85

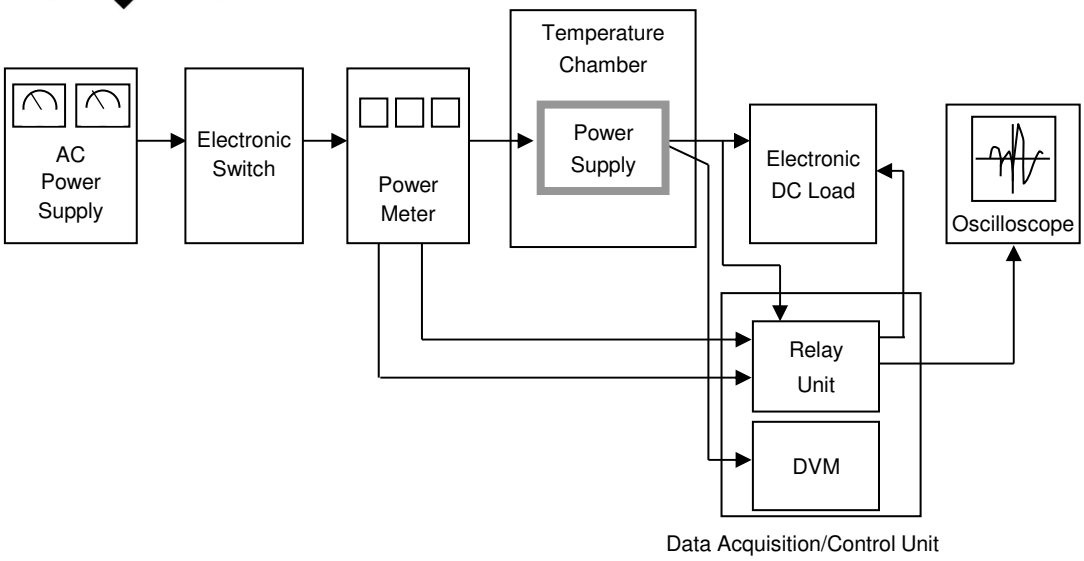


Figure A

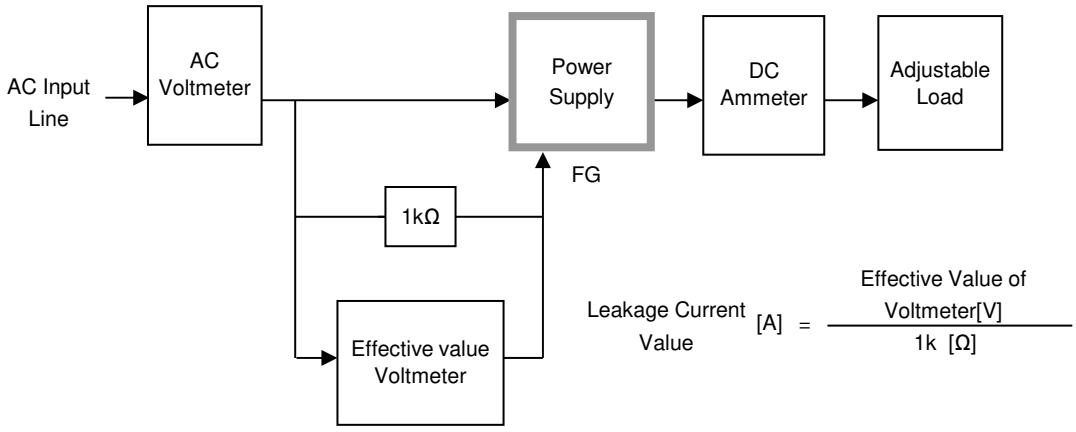


Figure B-1 (DEN-AN)

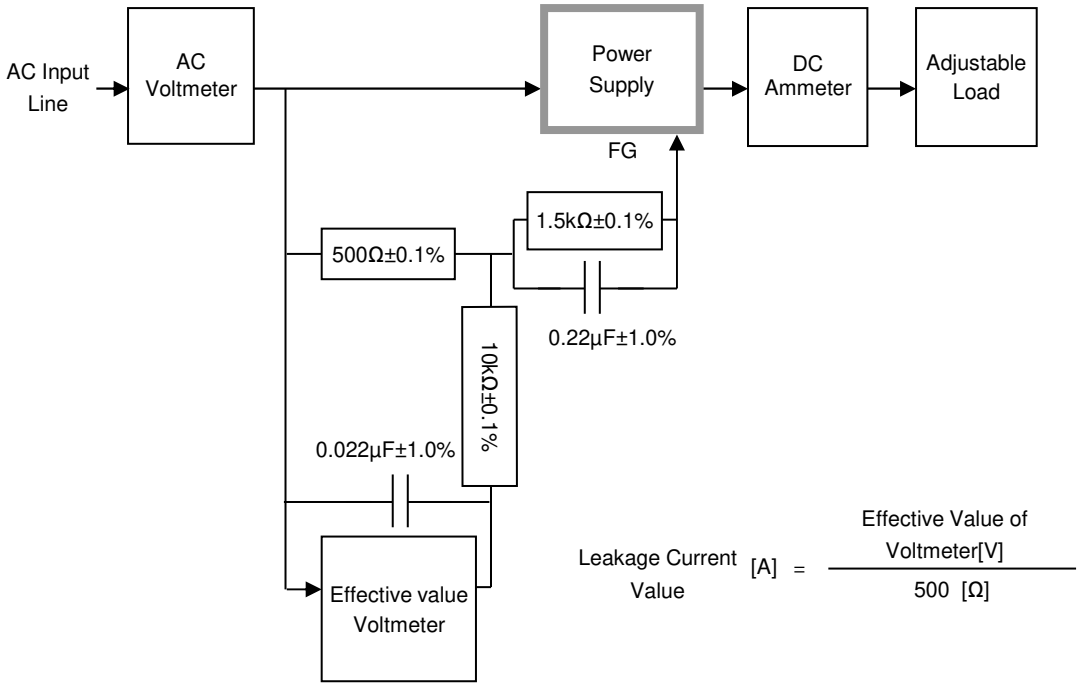


Figure B-2 (IEC62368-1 refer to IEC60990 Fig.4)

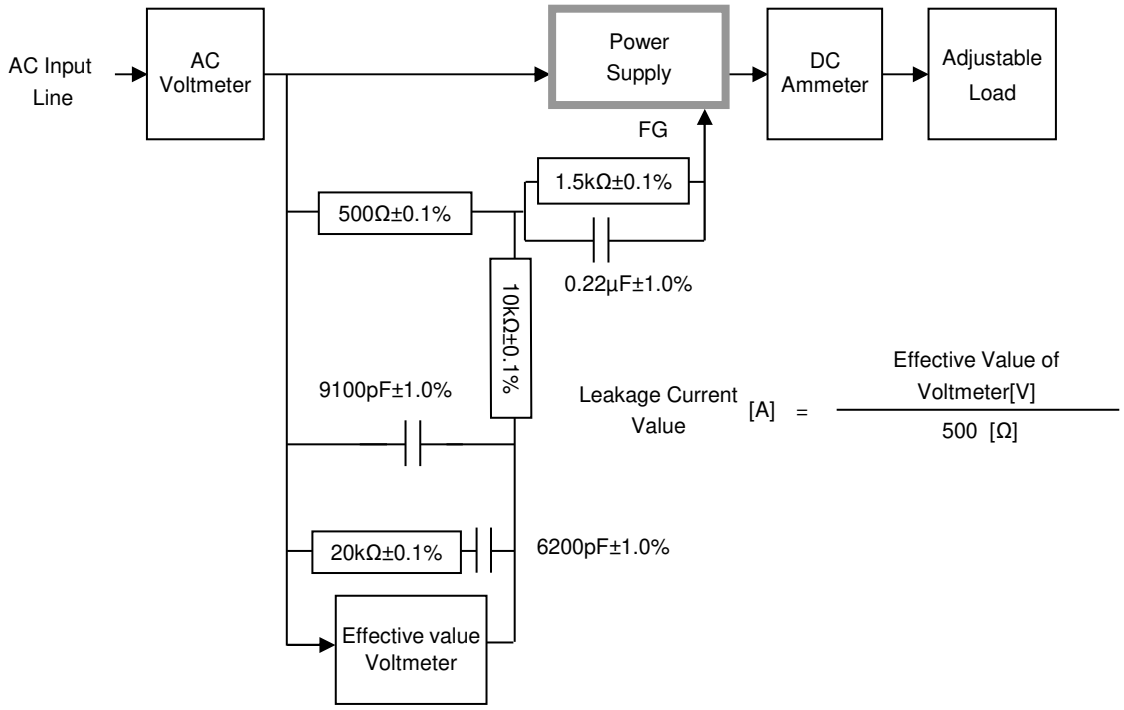


Figure B-3 (IEC62368-1 refer to IEC60990 Fig.5)

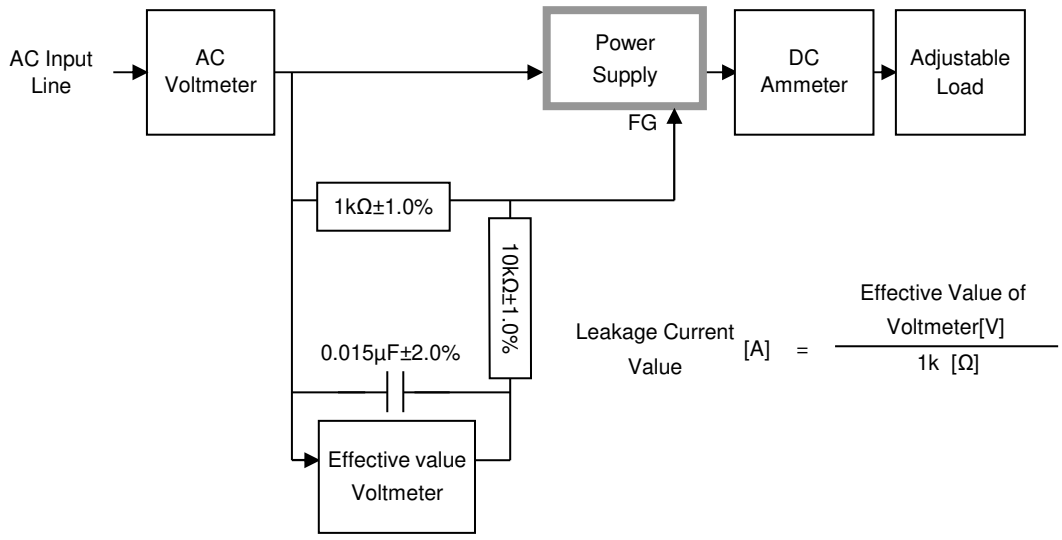


Figure B-4 (IEC60601-1)

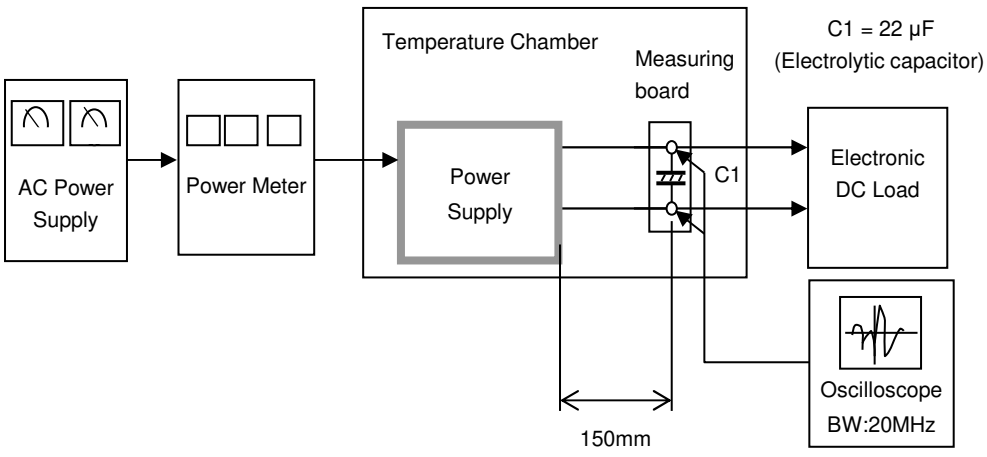


Figure C