For Reference

TEST DATA OF UMA120F-24-Y

Regulated DC Power Supply
November 6, 2024

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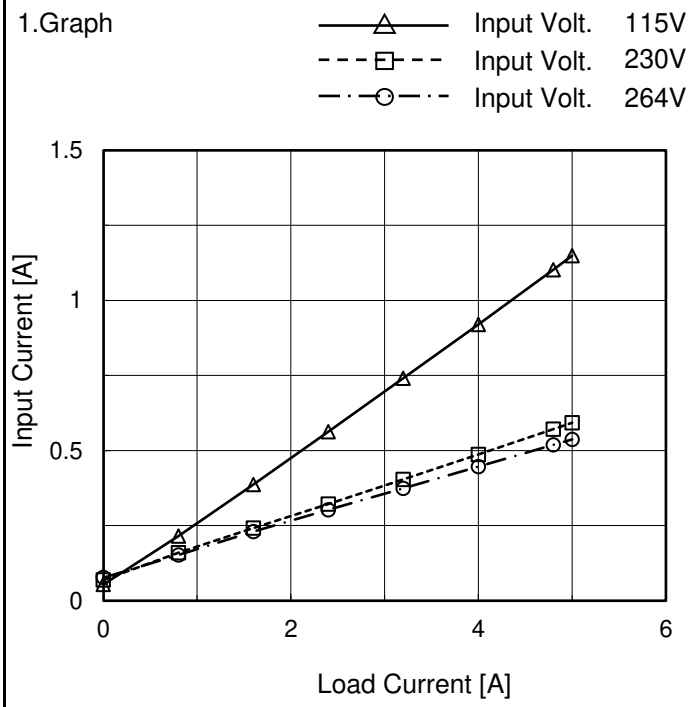
Model	UMA120F-24-Y
Item	Input Current (by Load Current)
Object	+24V5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

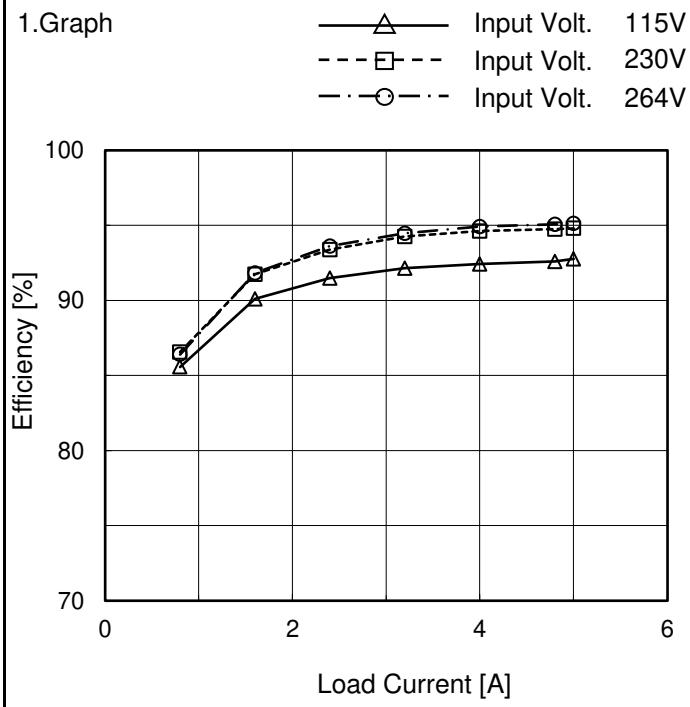
Load Current [A]	Input Current [A]		
	Input Volt. 115[V]	Input Volt. 230[V]	Input Volt. 264[V]
0.0	0.054	0.069	0.077
0.8	0.215	0.160	0.153
1.6	0.387	0.242	0.230
2.4	0.562	0.322	0.302
3.2	0.740	0.404	0.374
4.0	0.920	0.487	0.446
4.8	1.102	0.572	0.519
5.0	1.149	0.593	0.537
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	UMA120F-24-Y
Item	Efficiency (by Load Current)
Object	+24V5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

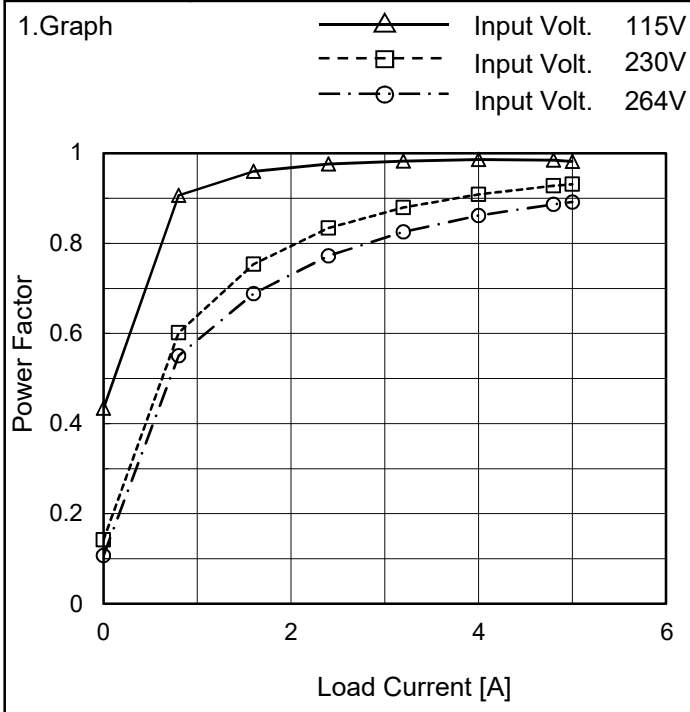
Load Current [A]	Efficiency [%]		
	Input Volt. 115[V]	Input Volt. 230[V]	Input Volt. 264[V]
0.0	-	-	-
0.8	85.6	86.6	86.4
1.6	90.1	91.7	91.8
2.4	91.5	93.4	93.6
3.2	92.1	94.3	94.5
4.0	92.4	94.6	94.9
4.8	92.6	94.7	95.1
5.0	92.8	94.8	95.1
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	UMA120F-24-Y
Item	Power Factor (by Load Current)
Object	+24V5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



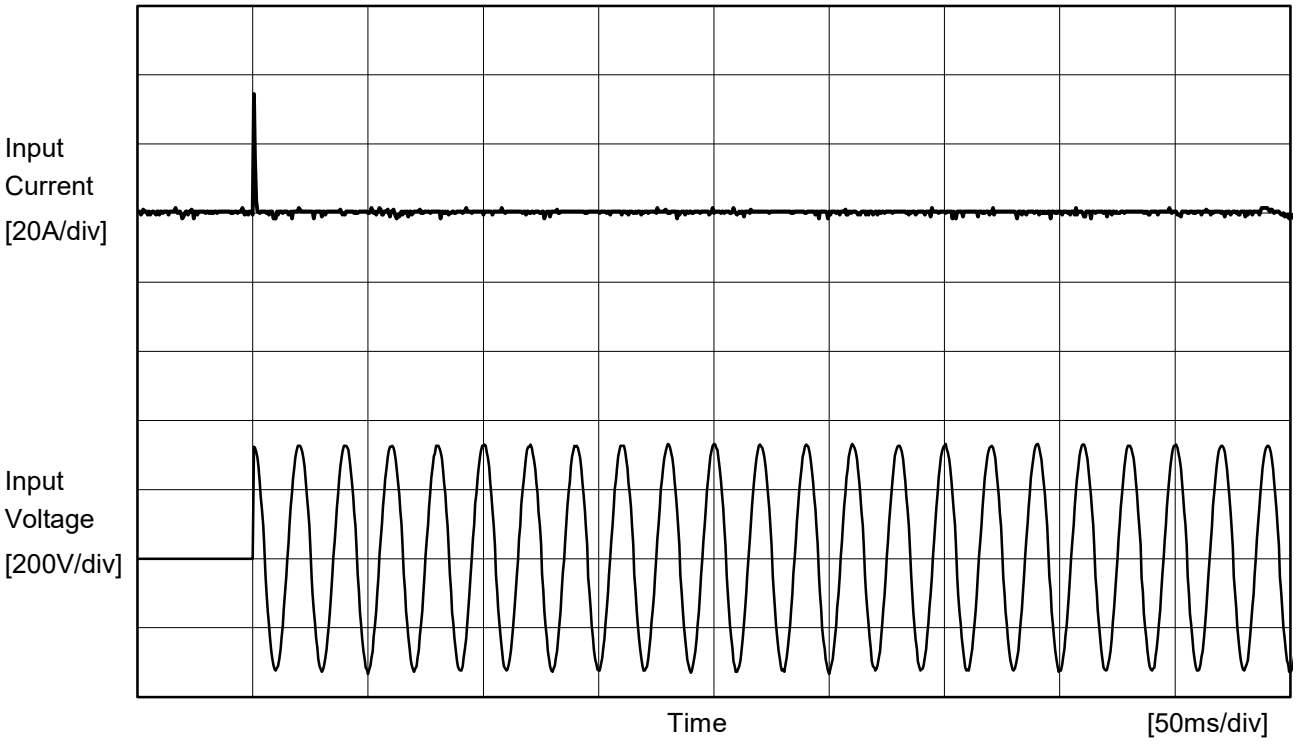
2.Values

Load Current [A]	Power Factor		
	Input Volt. 115[V]	Input Volt. 230[V]	Input Volt. 264[V]
0.0	0.434	0.142	0.107
0.8	0.907	0.602	0.550
1.6	0.959	0.753	0.688
2.4	0.976	0.834	0.772
3.2	0.982	0.879	0.825
4.0	0.986	0.908	0.862
4.8	0.985	0.928	0.887
5.0	0.982	0.931	0.892
--	-	-	-
--	-	-	-
--	-	-	-

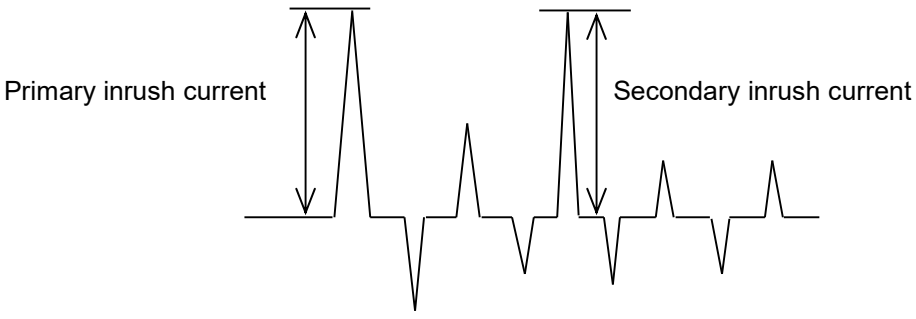
COSEL

Model	UMA120F-24-Y
Item	Inrush Current
Object	+24V5A

Temperature 25°C
Testing Circuitry Figure A



Input Voltage	230 V
Frequency	50 Hz
Load	100 %
Primary inrush current	34.5 A
Secondary inrush current	3.0 A



COSEL

Model	UMA120F-24-Y
Item	Leakage Current
Object	+24V5A

Temperature 25°C
Testing Circuitry Figure C

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	0.10	0.12	Operation
		One of phases	0.09	0.20	0.23	Stand by
IEC62368-1	Figure C-2	Both phases	0.05	0.10	0.12	Operation
		One of phases	0.09	0.20	0.23	Stand by
	Figure C-3	Both phases	0.05	0.10	0.12	Operation
		One of phases	0.09	0.20	0.23	Stand by

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

2.Condition

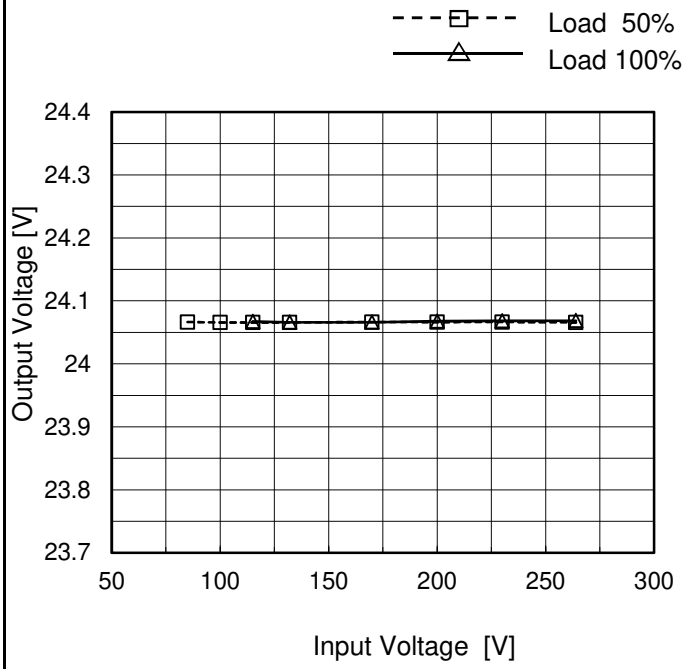
Leakage current value is concluded after measuring both phases of AC input and by choosing the larger one.

COSEL

Model	UMA120F-24-Y
Item	Line Regulation
Object	+24V5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

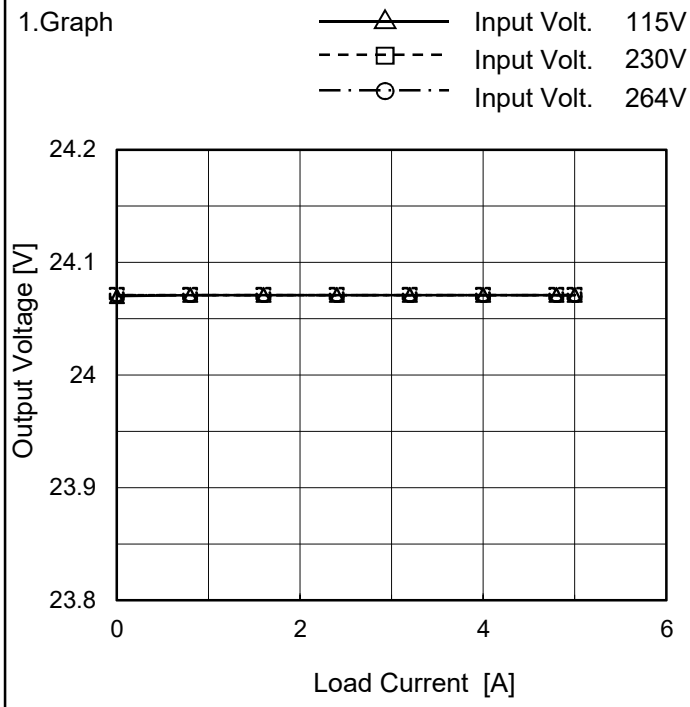
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	24.066	-
100	24.066	-
115	24.066	24.067
132	24.066	24.066
170	24.066	24.066
200	24.066	24.068
230	24.066	24.068
264	24.066	24.069
--	-	-

COSEL

Model	UMA120F-24-Y
Item	Load Regulation
Object	+24V5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

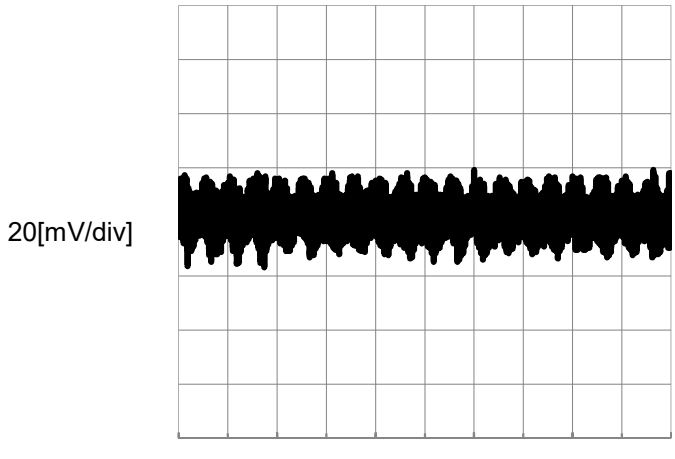
Load Current [A]	Output Voltage [V]		
	Input Volt. 115[V]	Input Volt. 230[V]	Input Volt. 264[V]
0.0	24.070	24.071	24.071
0.8	24.071	24.071	24.071
1.6	24.071	24.071	24.071
2.4	24.071	24.071	24.071
3.2	24.071	24.071	24.071
4.0	24.071	24.071	24.071
4.8	24.071	24.071	24.071
5.0	24.071	24.071	24.071
--	--	--	--
--	--	--	--
--	--	--	--

Item	Ripple-Noise
Object	+24V5A

Temperature 25°C
Testing Circuitry Figure B

1.Graph

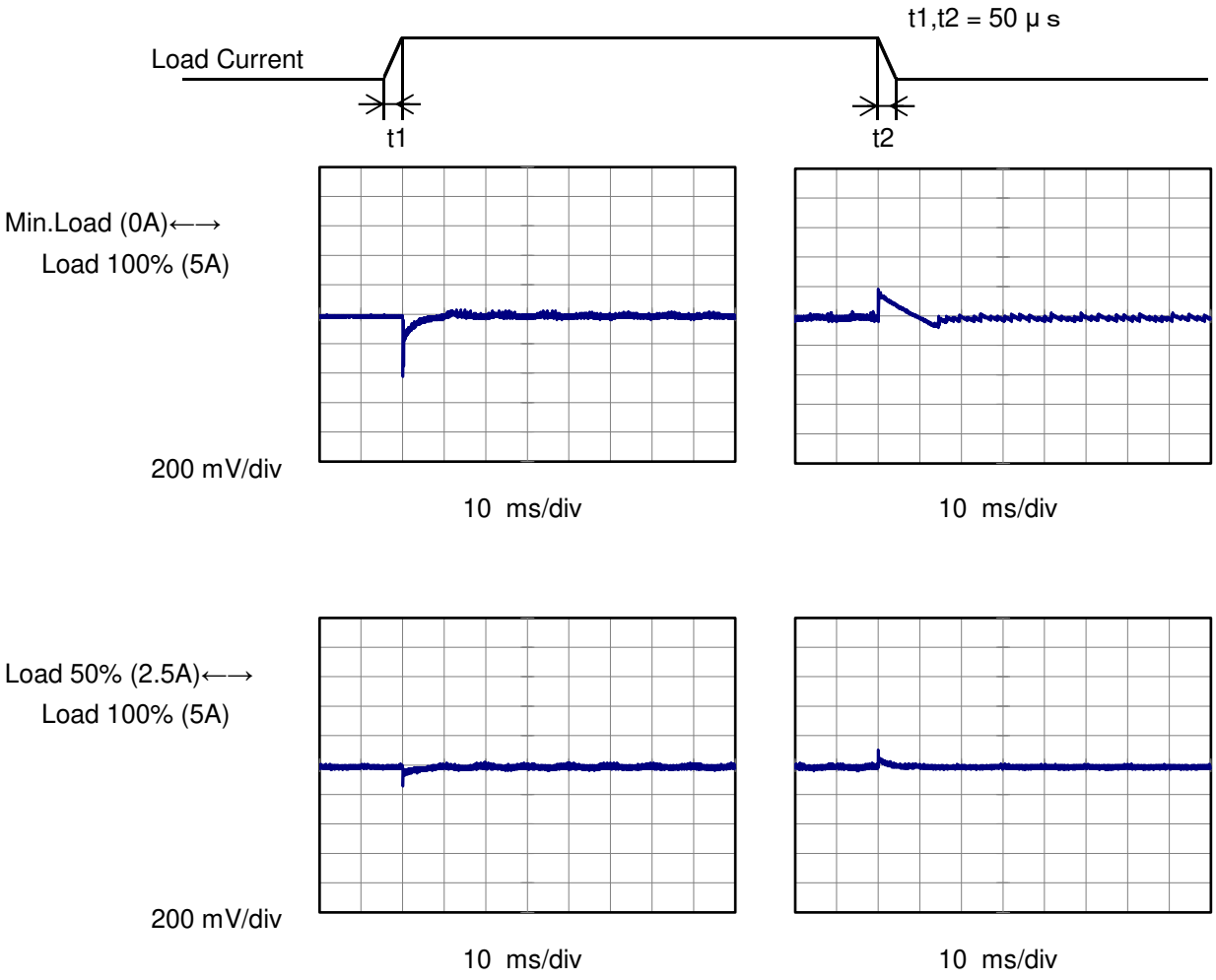
Input Voltage 230V
Load 100%



COSEL

Model	UMA120F-24-Y	
Item	Dynamic Load Response	Temperature 25°C Testing Circuitry Figure A
Object	+24V5A	

Input Volt. 230 V
Cycle 1000 ms

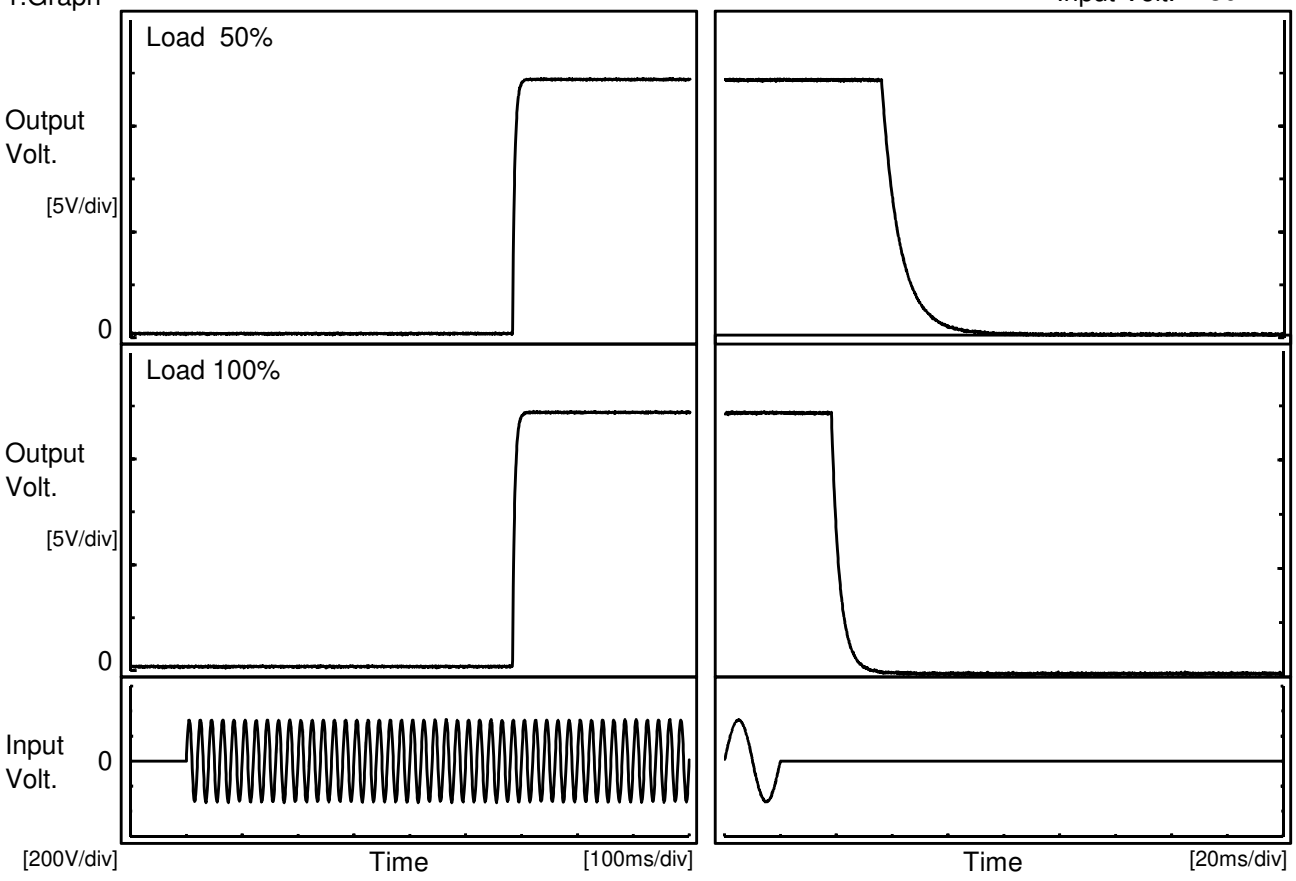


COSEL

Model	UMA120F-24-Y
Item	Rise and Fall Time
Object	+24V5A

Temperature 25°C
Testing Circuitry Figure A

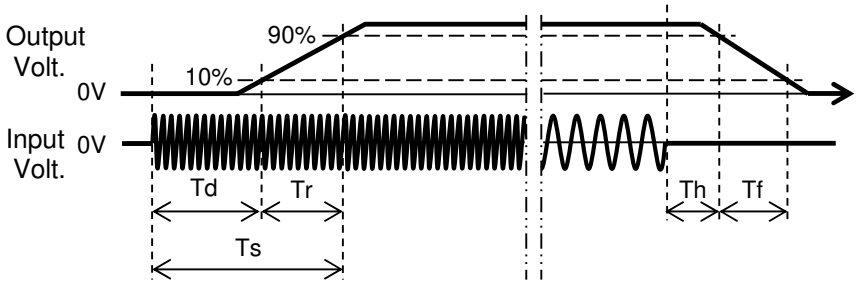
1.Graph



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	583.5	8.0	591.5	36.8	14.9
100 %	583.5	8.0	591.5	18.4	6.8

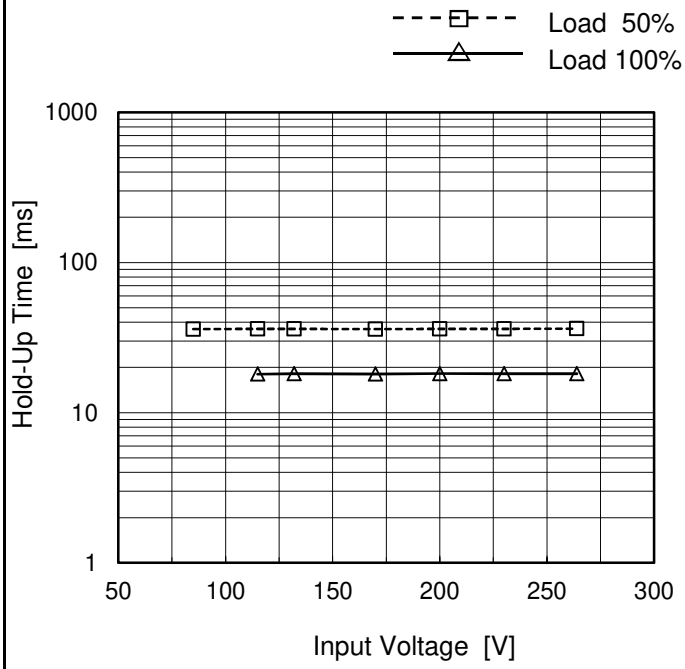


COSEL

Model	UMA120F-24-Y
Item	Hold-Up Time
Object	+24V5A

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.

2.Values

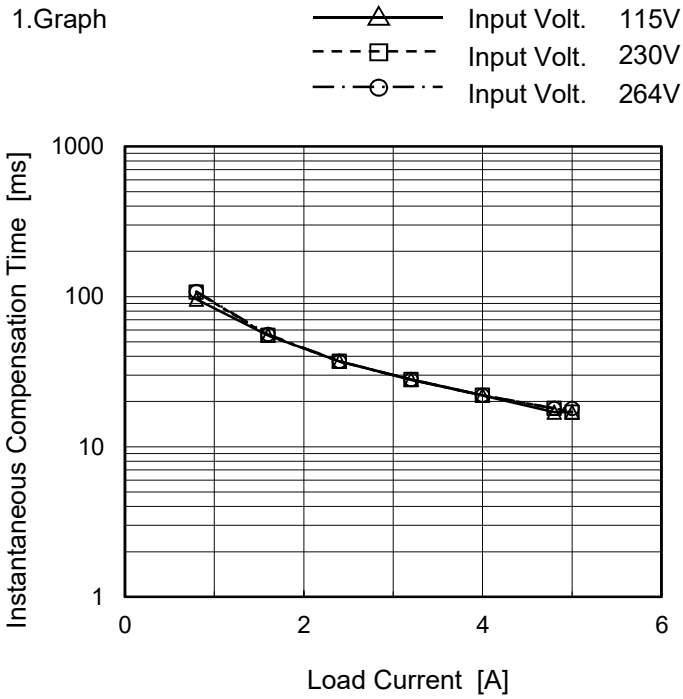
Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
85	36	-
100	36	-
115	36	18
132	36	18
170	36	18
200	36	18
230	36	18
264	36	18
--	-	-

COSEL

Model	UMA120F-24-Y
Item	Instantaneous Interruption Compensation
Object	+24V5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

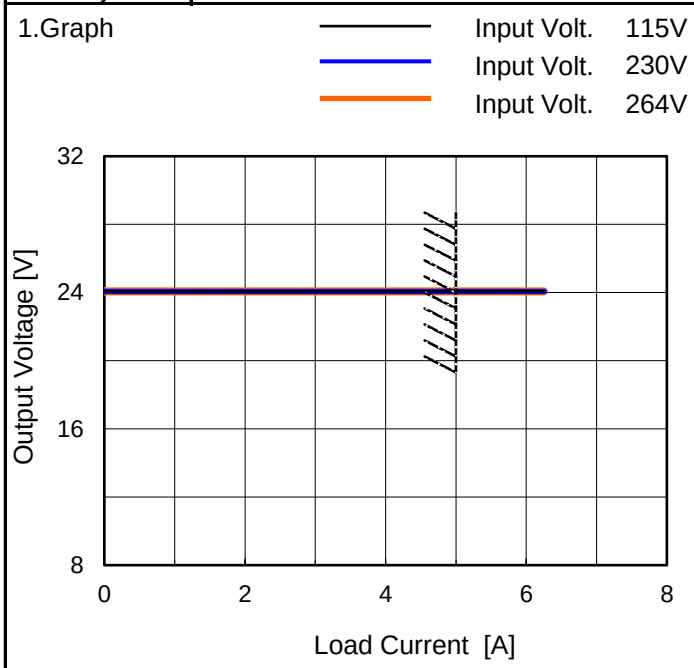
Load Current [A]	Time [ms]		
	Input Volt. 115[V]	Input Volt. 230[V]	Input Volt. 264[V]
0.0	-	-	-
0.8	96	107	108
1.6	55	55	56
2.4	37	37	37
3.2	28	28	28
4.0	22	22	22
4.8	17	18	18
5.0	17	17	18
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	UMA120F-24-Y
Item	Overcurrent Protection
Object	+24V5A

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. 115[V]	Input Volt. 230[V]	Input Volt. 264[V]
24	6.25	6.26	6.25
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	UMA120F-24-Y	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	+24V5A	

1.Values

Load 100%

Ambient Temperature[℃]	Output Voltage [V]		
	Input Volt. 115V	Input Volt. 230V	Input Volt. 264V
-20	24.027	24.028	24.029
25	24.074	24.073	24.073
50	24.080	24.079	24.078

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+24V5A	

1.Values

Ambient Temperature[℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	50	57
25	50	57
50	49	59

Item	Overvoltage Protection	Testing Circuitry Figure A
Object	+24V5A	

1.Values

Load 0%

Ambient Temperature[℃]	Operating Point [V]	
	Input Volt. 115V	Input Volt. 264V
-20	30.14	30.14
25	30.36	30.29
50	30.59	30.51

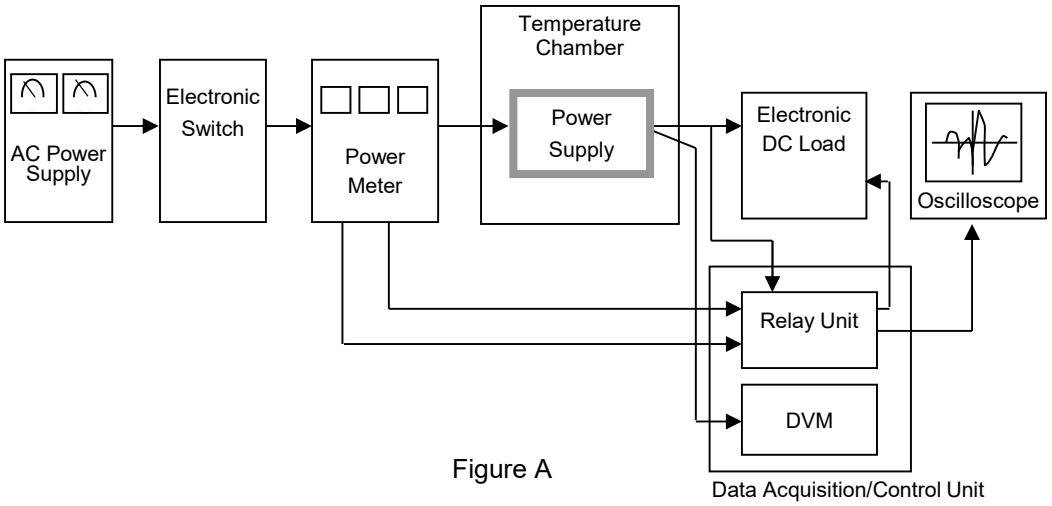
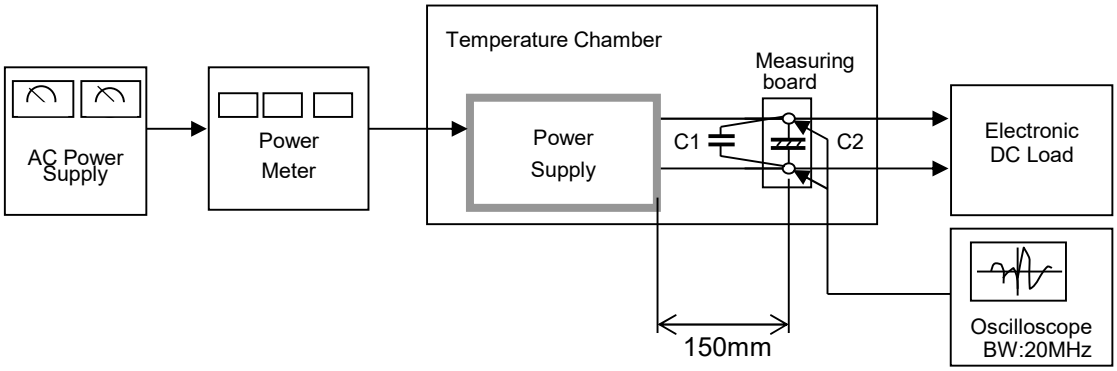


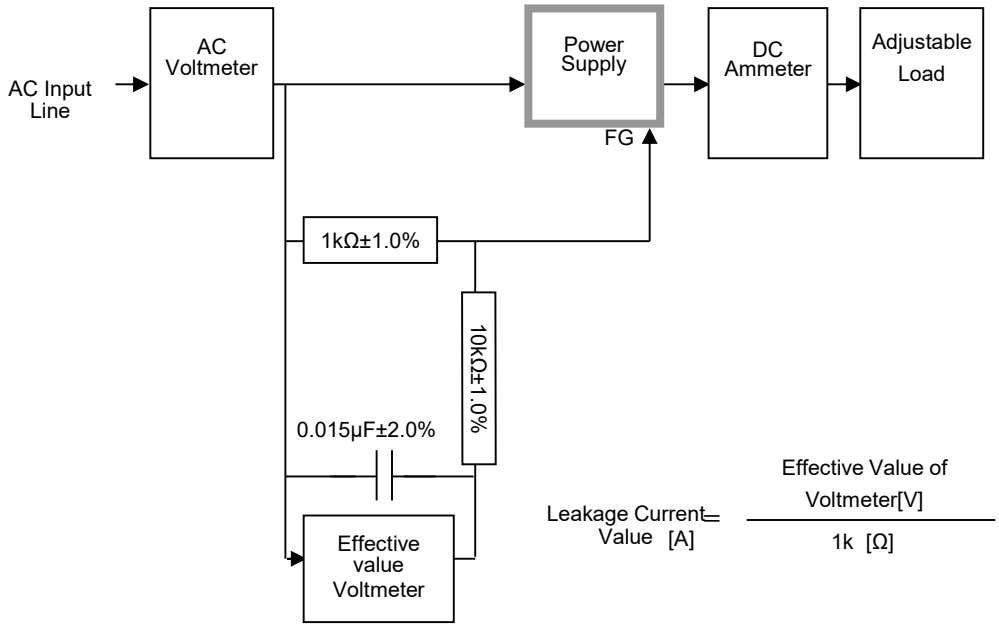
Figure A



(Ceramic capacitor)
C1= 0.1 μF

Figure B

(Electrolytic capacitor)
C2= 47 μF



$$\text{Leakage Current Value [A]} = \frac{\text{Effective Value of Voltmeter[V]}}{\text{1k [Ω]}}$$

Figure C-1 (IEC60601-1)

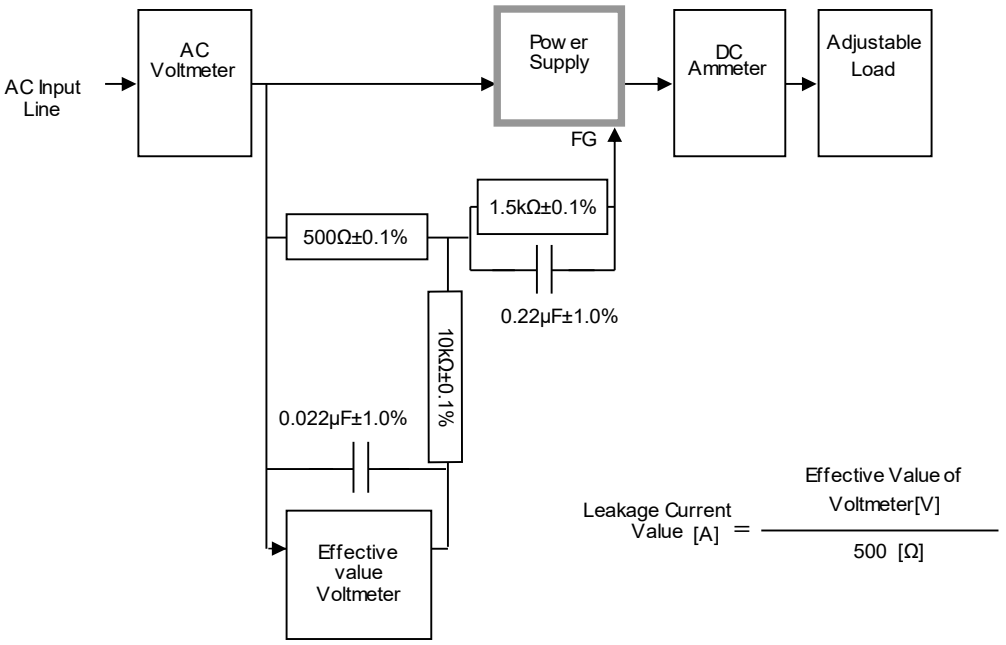


Figure C-2 (IEC62368-1 refer to IEC60990 Fig.4)

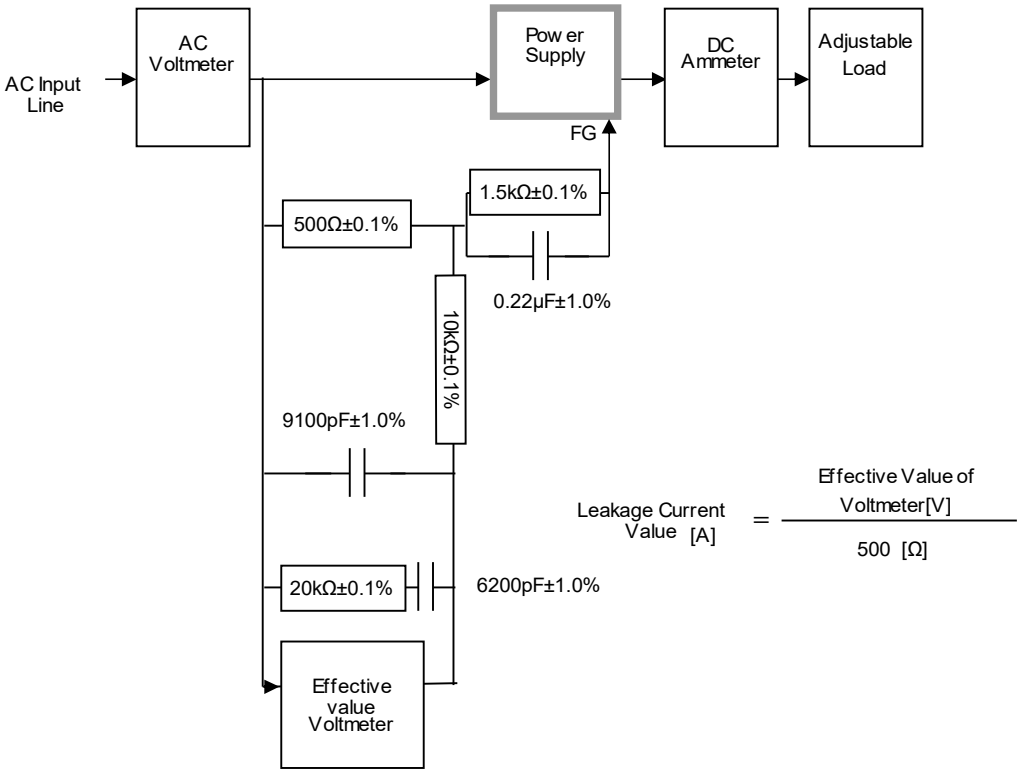


Figure C-3 (IEC62368-1 refer to IEC60990 Fig.5)