参考資料

TEST DATA OF PCA1000F-5

Regulated DC Power Supply
February 19, 2019

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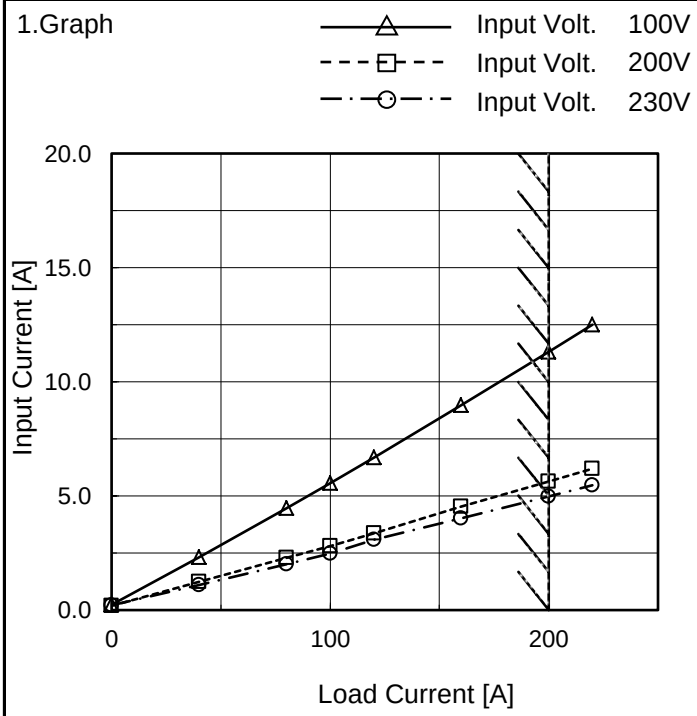
Model	PCA1000F-5
Item	Input Current (by Load Current)
Object	————————

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	0.217	0.186	0.213
40	2.312	1.231	1.102
80	4.470	2.276	2.015
100	5.570	2.810	2.481
120	6.690	3.351	3.071
160	8.970	4.530	4.020
200	11.310	5.630	4.970
220	12.500	6.200	5.460
--	-	-	-
--	-	-	-
--	-	-	-

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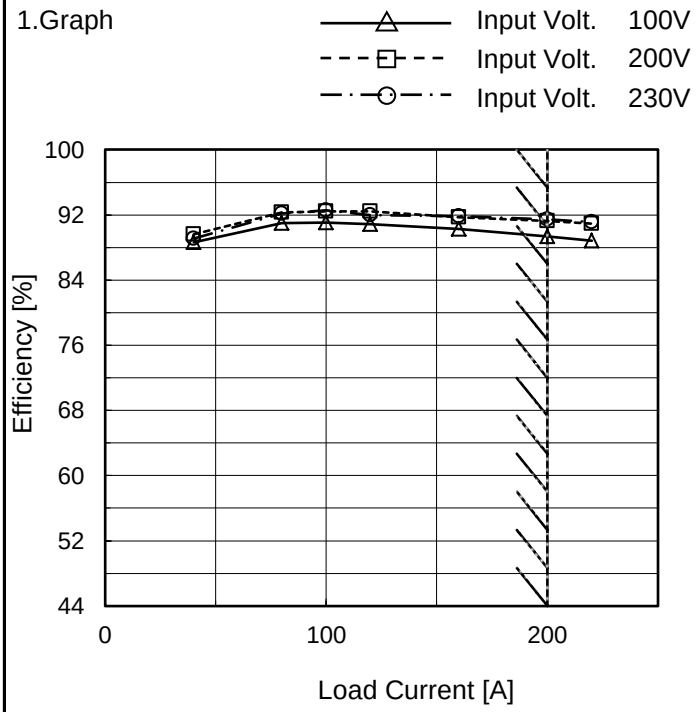
Model	PCA1000F-5
Item	Efficiency (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

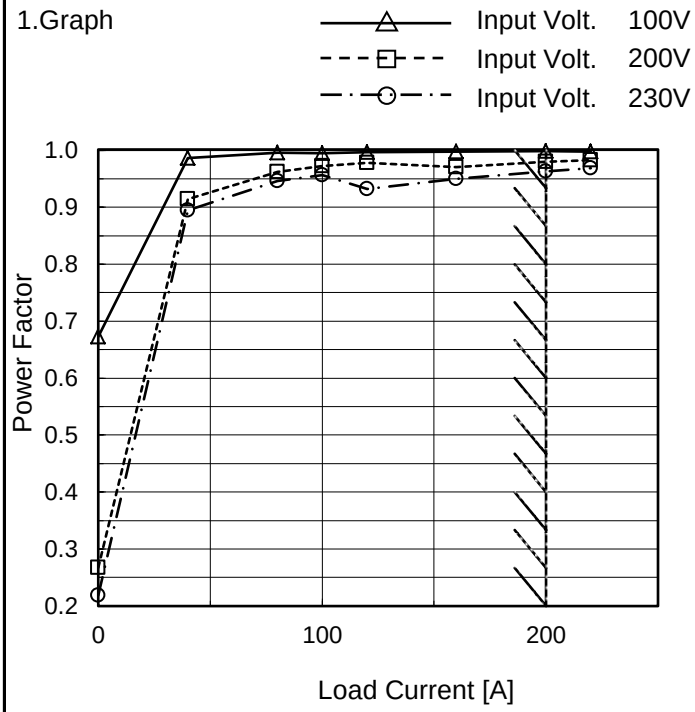
Load Current [A]	Efficiency [%]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0	-	-	-
40	88.7	89.6	89.1
80	91.0	92.3	92.2
100	91.1	92.4	92.6
120	90.9	92.4	92.0
160	90.3	91.7	91.8
200	89.3	91.3	91.4
220	88.8	91.0	91.1
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	PCA1000F-5
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	0.672	0.267	0.219
40	0.987	0.914	0.894
80	0.996	0.962	0.946
100	0.995	0.973	0.956
120	0.997	0.978	0.932
160	0.998	0.970	0.950
200	0.998	0.980	0.963
220	0.998	0.982	0.969
--	-	-	-
--	-	-	-
--	-	-	-

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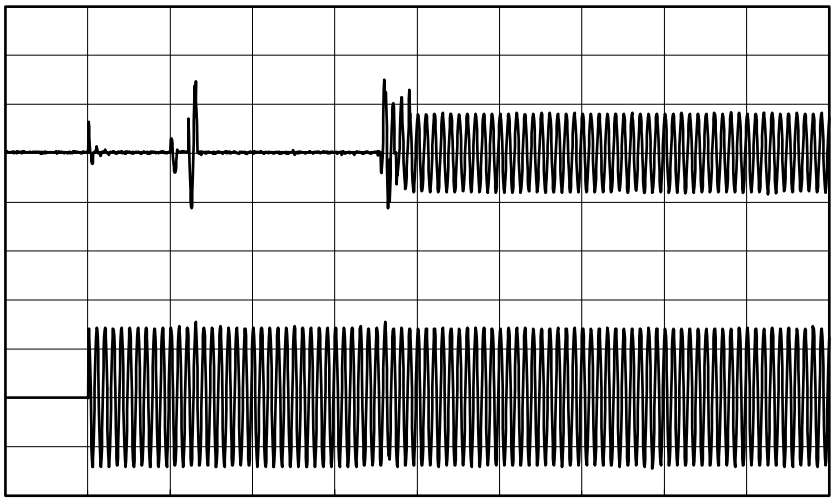
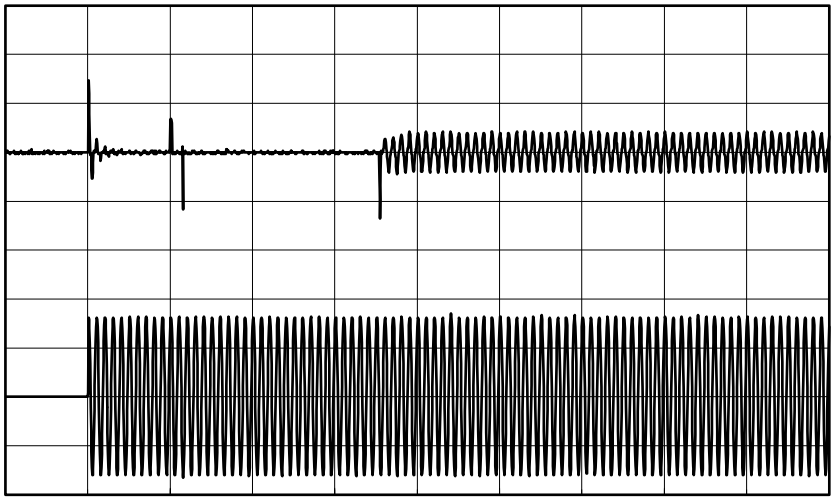
Model	PCA1000F-5		
Item	Inrush Current	Temperature	25°C
		Testing Circuitry	Figure A
Object	———————		



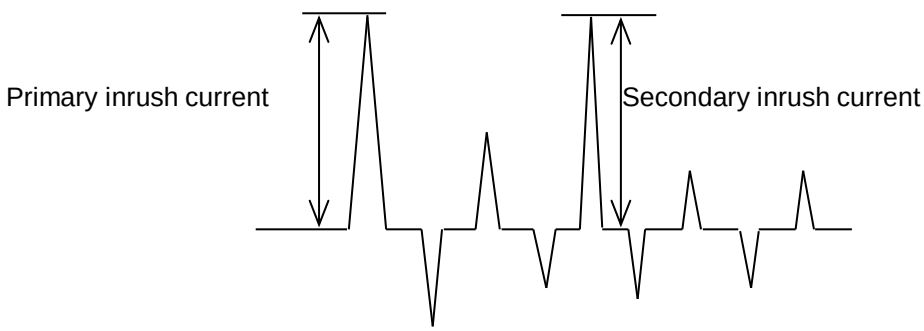
Input Voltage 100 V
Frequency 50 Hz
Load 100 %

Primary inrush current :
12.8 A
Secondary inrush current :
29.9 A



Input Voltage 230 V
Frequency 50 Hz
Load 100 %

Primary inrush current :
29.5 A
Secondary inrush current :
26.9 A



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Model	PCA1000F-5		
Item	Leakage Current	Temperature	25°C
		Testing Circuitry	Figure B
Object	———————————		

1.Results

[mA]

Standards	Testing Circuitry	Measuring Method	Input Volt.			Note
			100 [V]	230 [V]	240 [V]	
DEN-AN	Figure B-1	Both phases	0.11	0.29	0.31	Operation
		One of phases	0.22	0.56	0.59	Stand by
IEC62368-1	Figure B-2	Both phases	0.10	0.28	0.30	Operation
		One of phases	0.22	0.56	0.60	Stand by
	Figure B-3	Both phases	0.11	0.29	0.31	Operation
		One of phases	0.22	0.57	0.61	Stand by
IEC60601-1	Figure B-4	Both phases	0.11	0.28	0.29	Operation
		One of phases	0.22	0.55	0.57	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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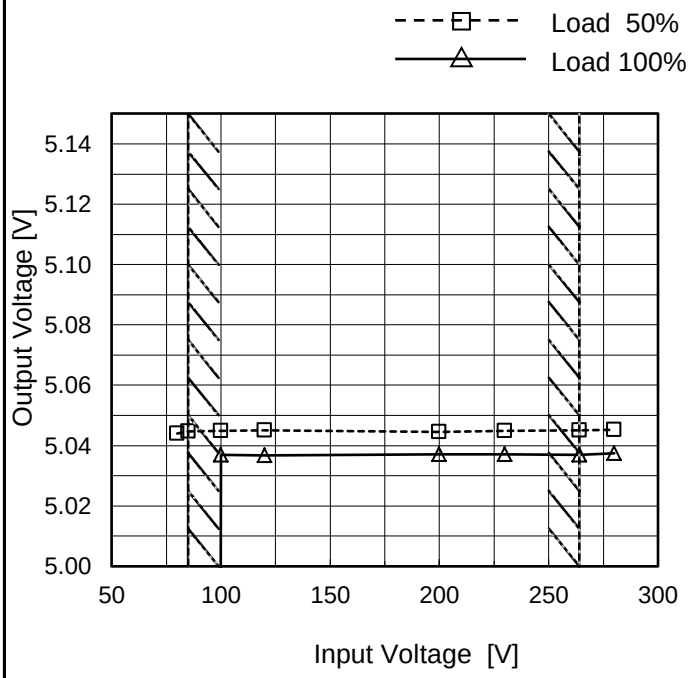
Model	PCA1000F-5
Item	Line Regulation
Object	+5V200A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

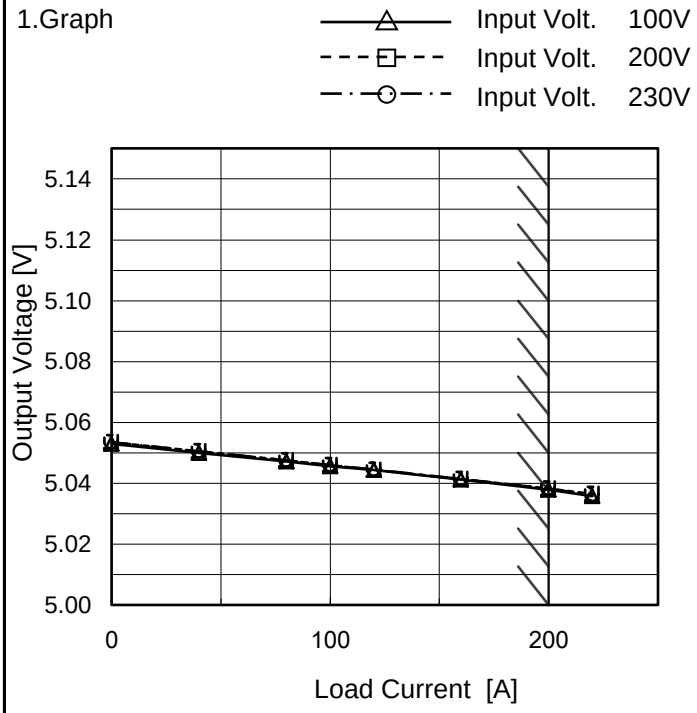
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
80	5.044	-
85	5.045	-
100	5.045	5.037
120	5.045	5.037
200	5.045	5.037
230	5.045	5.037
264	5.045	5.037
280	5.045	5.037
--	-	-

COSEL

Model	PCA1000F-5
Item	Load Regulation
Object	+5V200A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

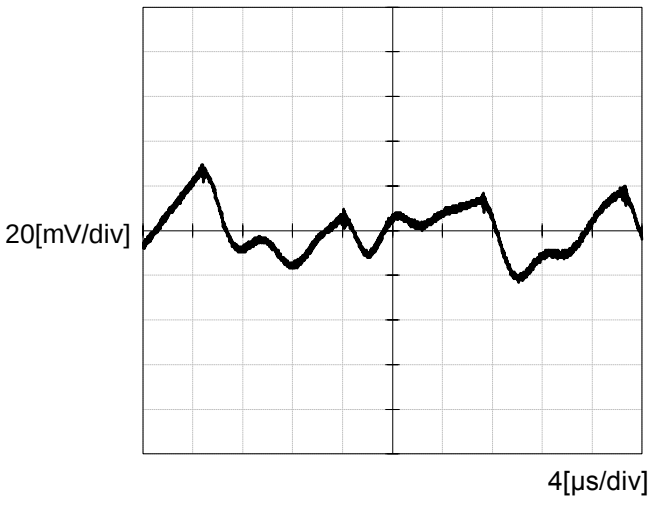
Load Current [A]	Output Voltage [V] Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0	5.053	5.053	5.054
40	5.050	5.051	5.051
80	5.047	5.048	5.048
100	5.046	5.046	5.046
120	5.044	5.044	5.045
160	5.041	5.041	5.041
200	5.038	5.038	5.038
220	5.036	5.036	5.036
--	-	-	-
--	-	-	-
--	-	-	-

Item	Ripple-Noise
Object	+5V200A

Temperature 25°C
Testing Circuitry Figure C

1.Graph

Input Voltage 200V
Load 100%



COSEL

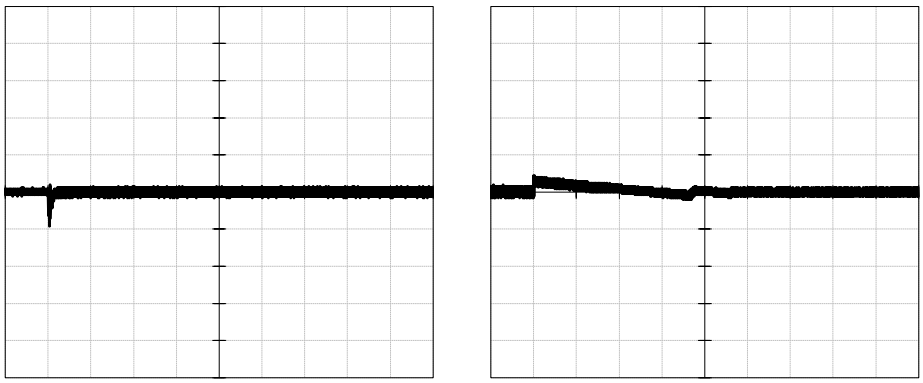
Model	PCA1000F-5		
Item	Dynamic Load Response	Temperature Testing Circuitry	25°C Figure A
Object	+5V200A		

Input Volt. 100 V

Cycle 1000 ms

Response. t1=t2=50µs. Typ

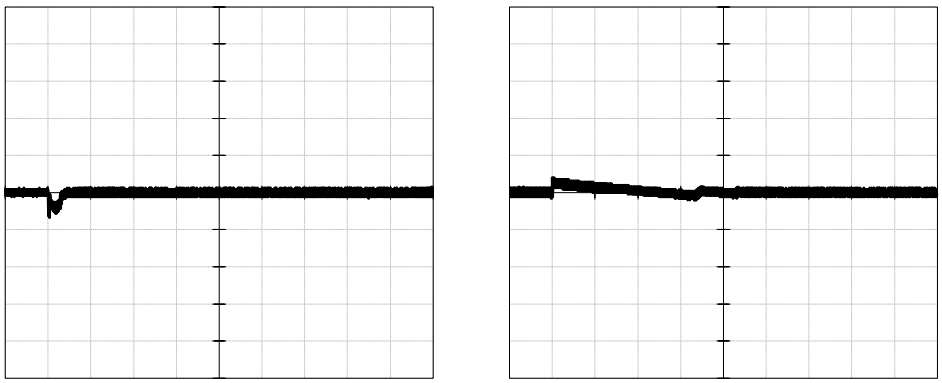
Load 0%(0A) ⟷ Load 100%(200A)



1[V/div]

2[ms/div] 20[ms/div]

Load 0%(0A) ⟷ Load 50%(100A)



1[V/div]

2[ms/div] 20[ms/div]

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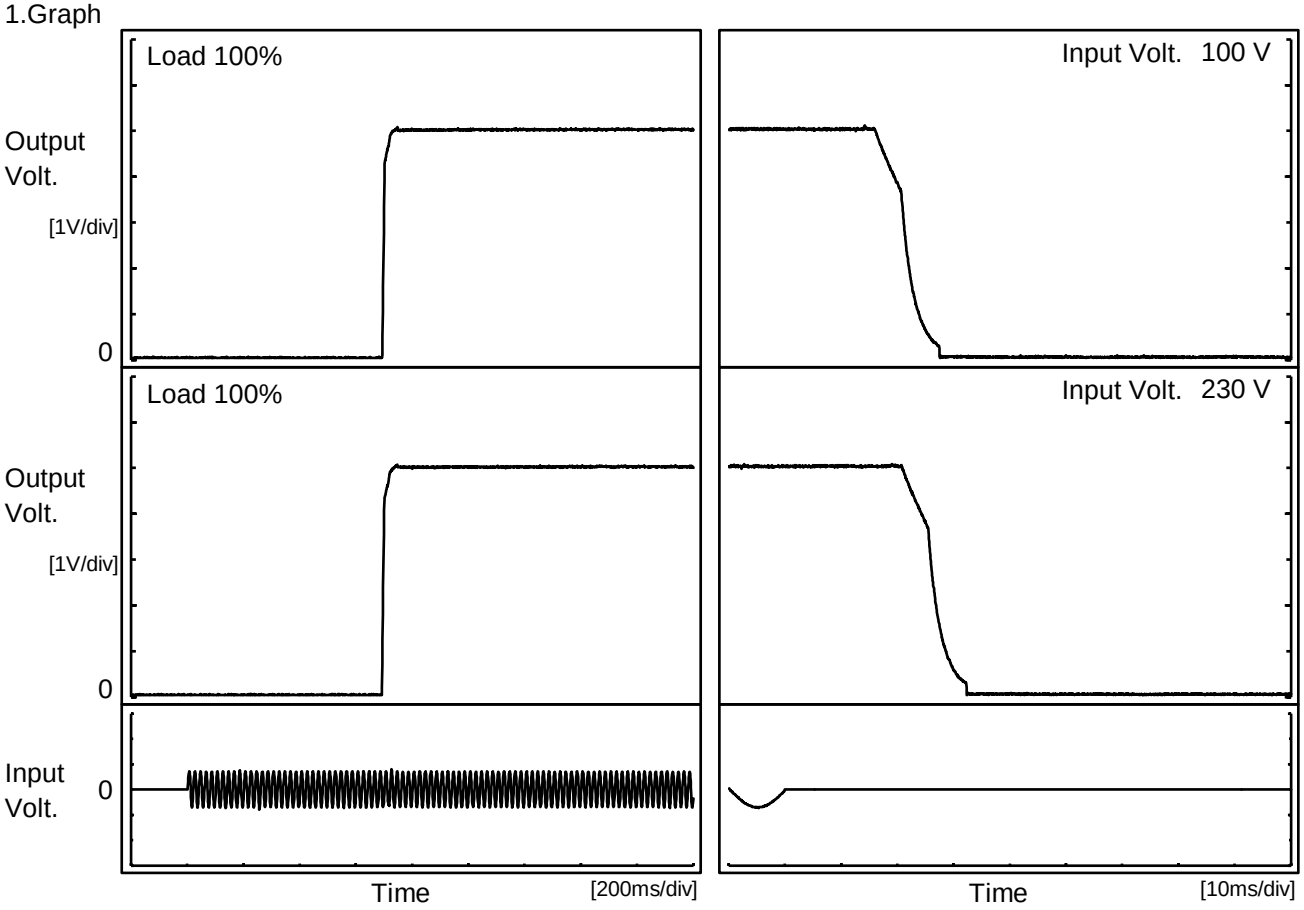
Model	PCA1000F-5	
Item	Rise and Fall Time	Temperature 25°C Testing Circuitry Figure A
Object	+5V200A	

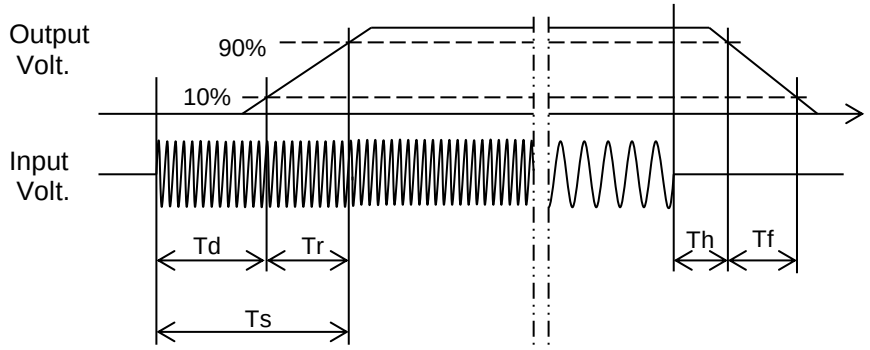
1.Graph



2.Values

[ms]

Input Volt. \ Time	Td	Tr	Ts	Th	Tf
100 V	696.0	10.0	711.0	17.5	8.0
230 V	694.0	10.0	709.0	22.3	8.0

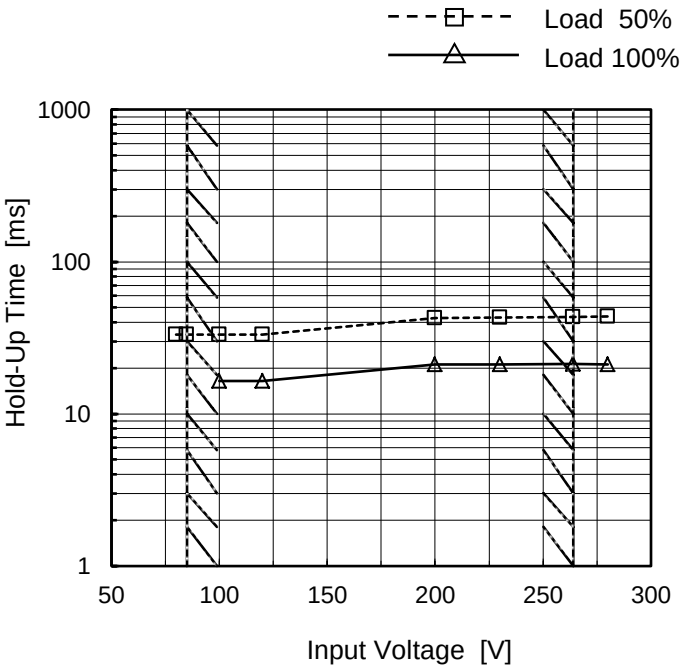


COSEL

Model	PCA1000F-5
Item	Hold-Up Time
Object	+5V200A

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%
80	33	-
85	33	-
100	33	16
120	33	16
200	43	21
230	43	21
264	43	21
280	44	21
--	-	-

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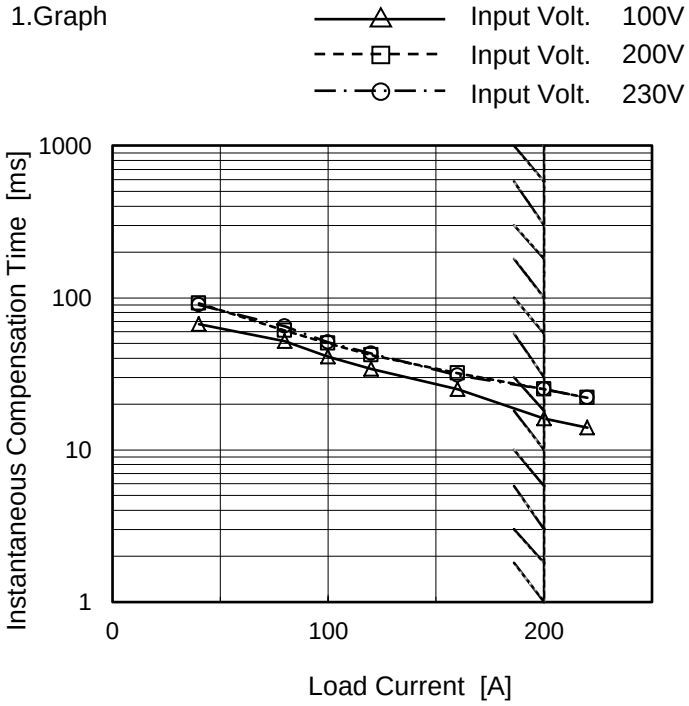
Model	PCA1000F-5
Item	Instantaneous Interruption Compensation
Object	+5V200A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

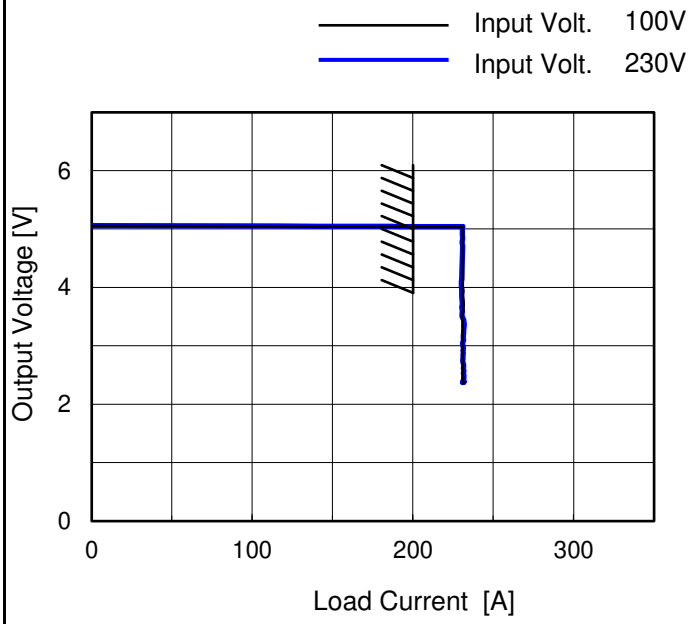
Load Current [A]	Time [ms]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0	-	-	-
40	67	92	90
80	52	61	65
100	41	50	51
120	34	42	43
160	25	32	31
200	16	25	25
220	14	22	22
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	PCA1000F-5
Item	Overcurrent Protection
Object	+5V200A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

Hiccup mode activates when the output voltage is from 2.5 to 0V.

2.Values

Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 230[V]
4.75	231.10	230.65
4.50	230.92	230.97
4.00	230.22	231.01
3.50	230.56	231.77
3.00	230.87	231.10
2.50	230.92	231.67
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COSEL

Model	PCA1000F-5
Item	Ambient Temperature Drift
Object	+5V200A

Testing Circuitry Figure A

1.Values

Load 100%

Ambient Temperature[℃]	Output Voltage [V]		
	Input Volt. 100V	Input Volt. 200V	Input Volt. 230V
-20	5.016	5.016	5.016
25	5.038	5.038	5.038
40	5.045	5.045	5.045

Item	Minimum Input Voltage for Regulated Output Voltage
Object	+5V200A

Testing Circuitry Figure A

1.Values

Ambient Temperature[℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	73	78
25	74	77
40	74	77

Item	Overvoltage Protection
Object	+5V200A

Testing Circuitry Figure A

1.Values

Load 0%

Ambient Temperature[℃]	Operating Point [V]	
	Input Volt. 100V	Input Volt. 230V
-20	6.53	6.53
25	6.53	6.52
40	6.52	6.52

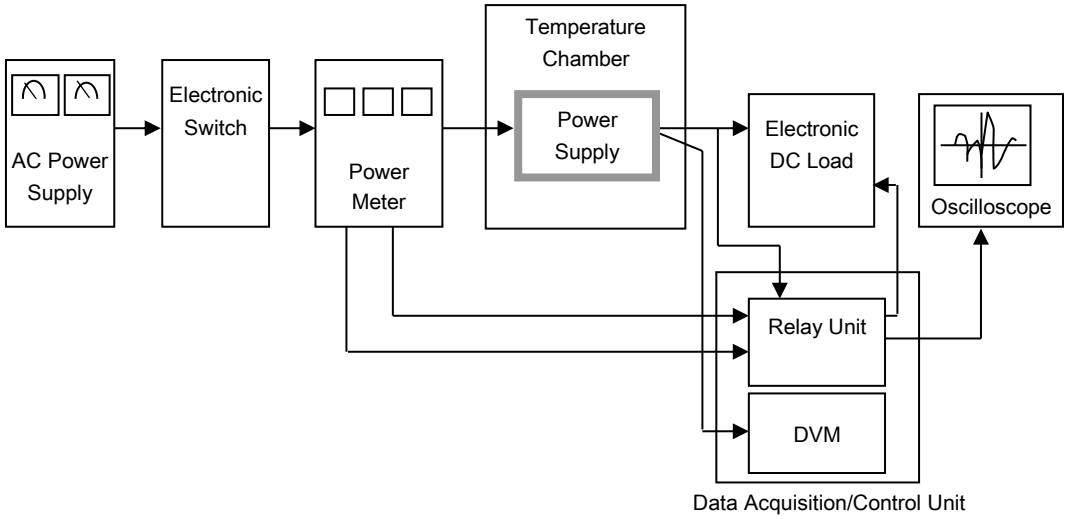

Figure A

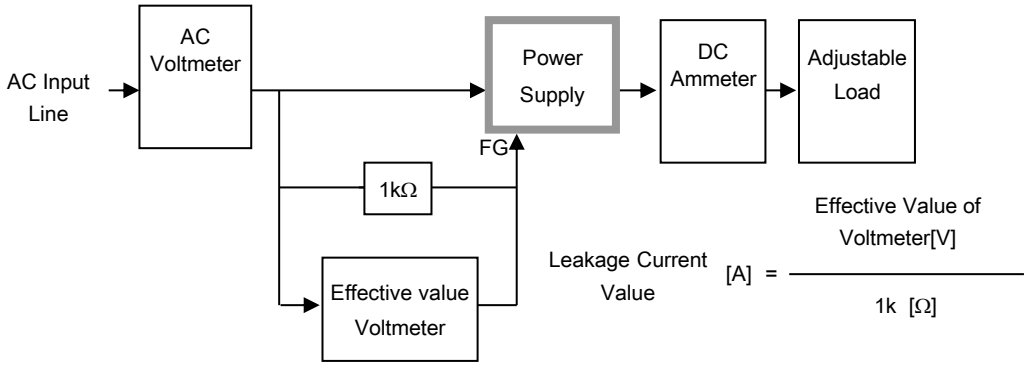

Figure B-1 (DEN-AN)

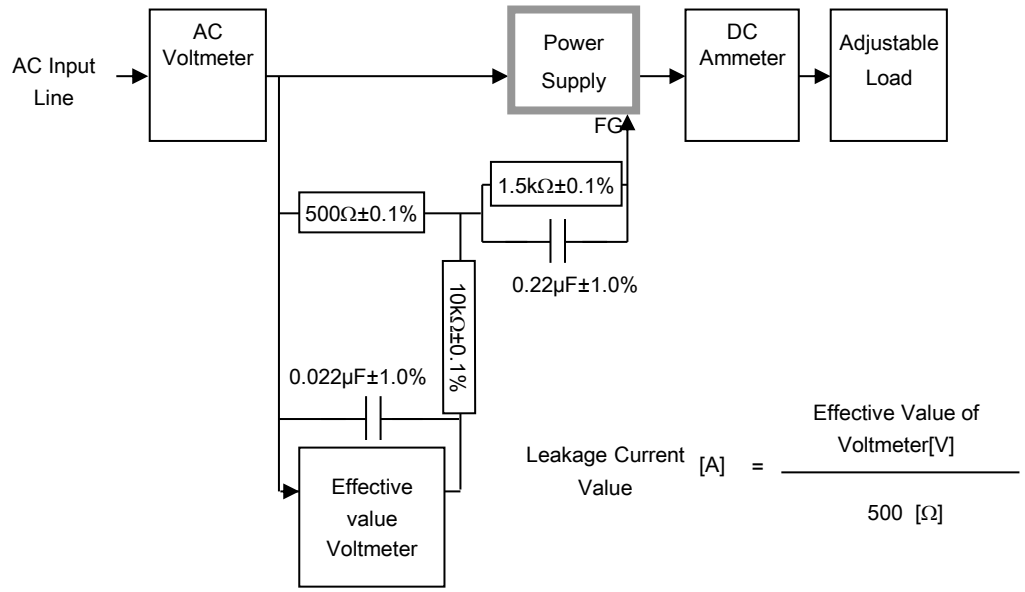

Figure B-2 (IEC62368-1 refer to IEC60990 Fig.4)

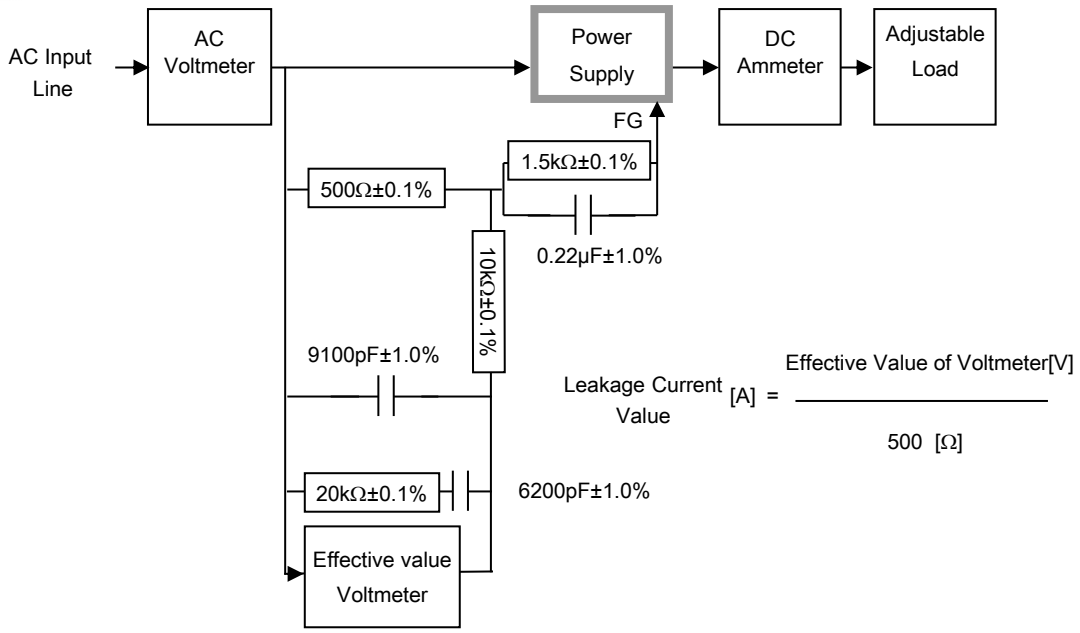

Figure B-3 (IEC62368-1 refer to IEC60990 Fig.5)

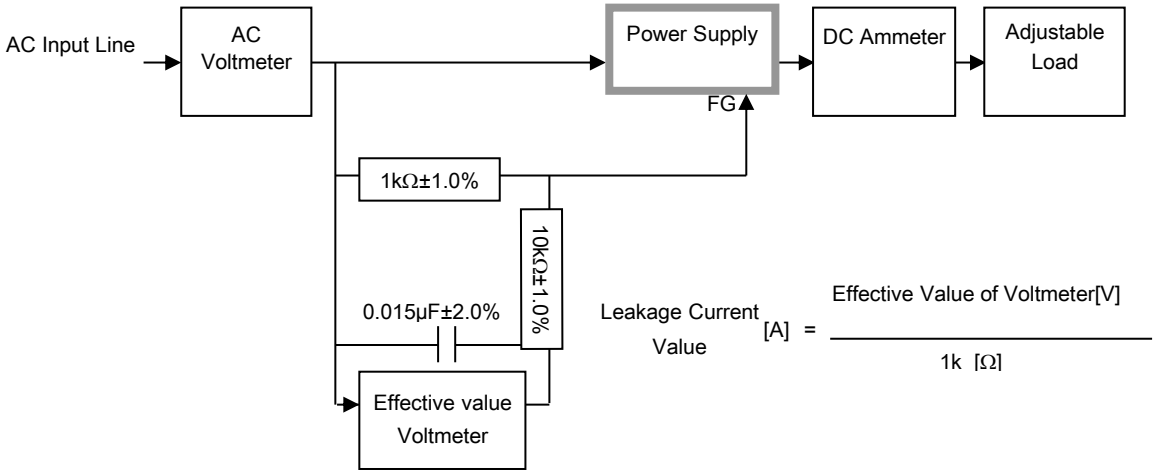

Figure B-4 (IEC60601-1)

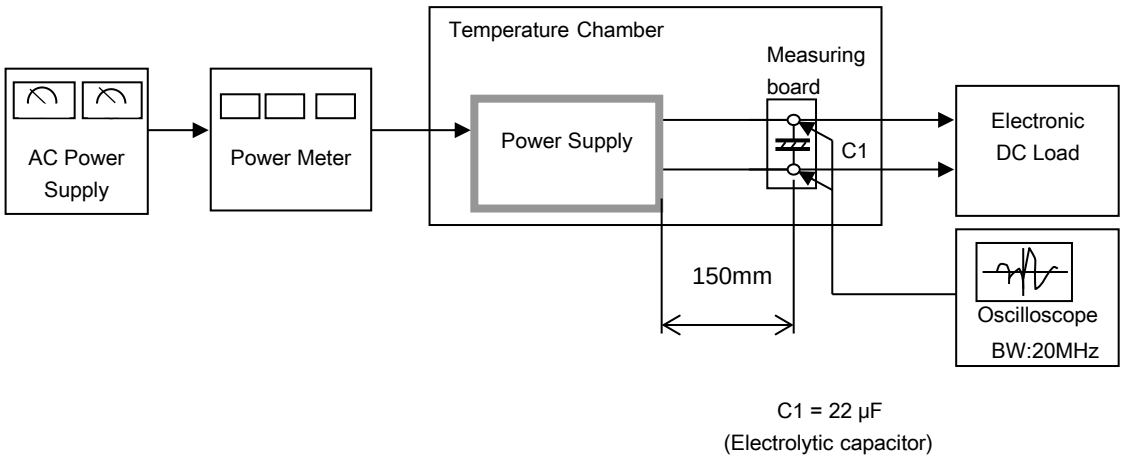

Figure C