Reference

COSEL

TEST DATA OF PJMA1500F-12

Regulated DC Power Supply
September 27, 2022

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Design Engineer

COSEL CO.,LTD.

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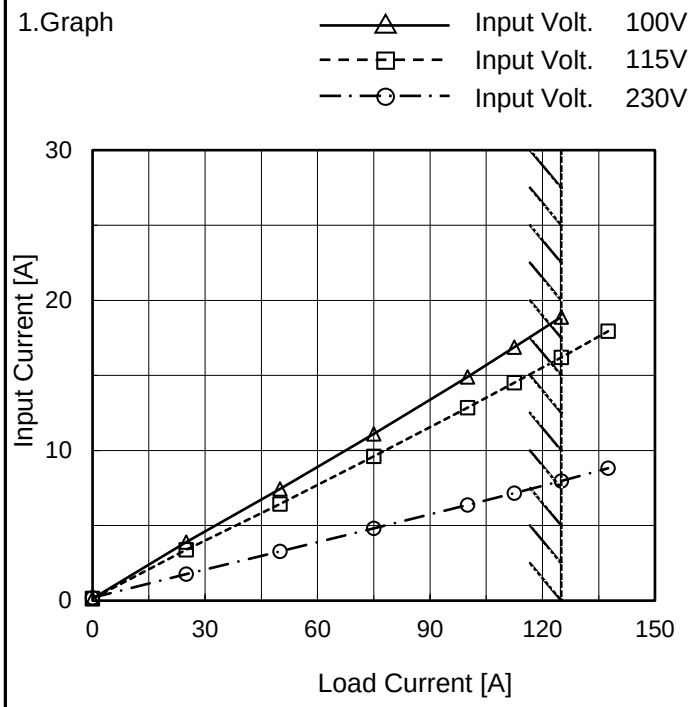
Model	PJMA1500F-12
Item	Input Current (by Load Current)
Object	———————

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. 115[V]	Input Volt. 230[V]
0.0	0.133	0.137	0.193
25.0	3.887	3.381	1.768
50.0	7.437	6.438	3.277
75.0	11.099	9.609	4.809
100.0	14.903	12.854	6.362
112.5	16.878	14.512	7.159
125.0	18.887	16.207	7.971
137.5	-	17.939	8.814
--	-	-	-
--	-	-	-
--	-	-	-

BC-11904

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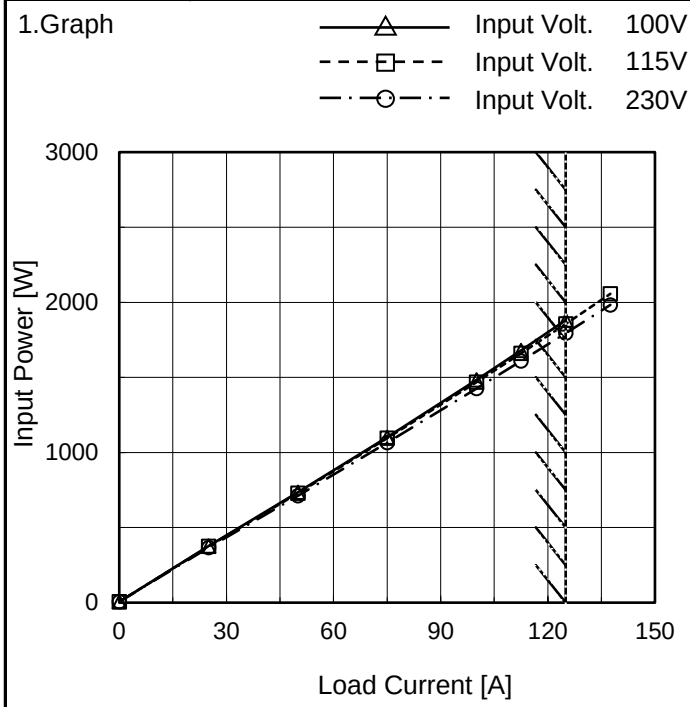
Model	PJMA1500F-12
Item	Input Power (by Load Current)
Object	———————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

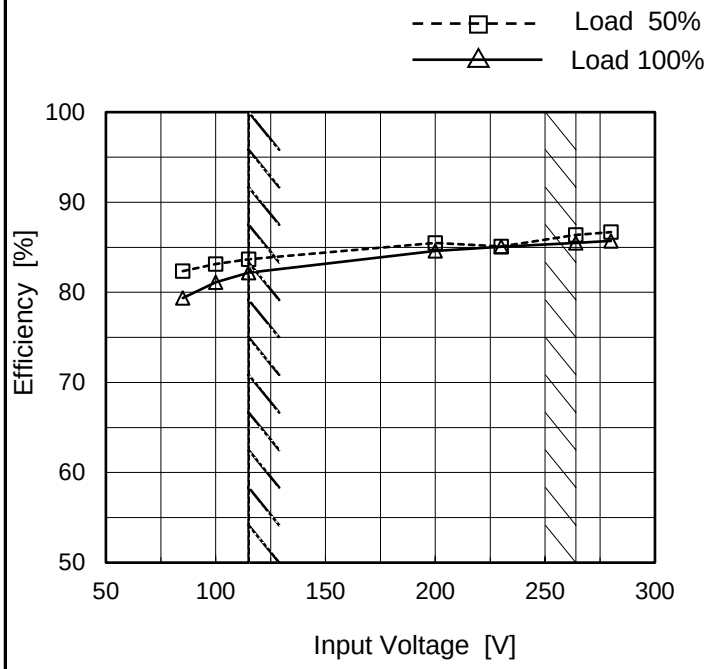
Load Current [A]	Input Power [W]		
	Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]
0.0	5	5	6
25.0	376	374	366
50.0	734	729	711
75.0	1103	1095	1066
100.0	1483	1469	1426
112.5	1680	1661	1609
125.0	1881	1856	1794
137.5	-	2056	1983
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	PJMA1500F-12
Item	Efficiency (by Input Voltage)
Object	————————

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]	Efficiency [%]	
	Load 50%	Load 100%
85	82.4	79.4 ※1
100	83.1	81.1 ※2
115	83.7	82.2
200	85.5	84.6
230	85.1	85.0
264	86.4	85.5
280	86.7	85.7
--	-	-
--	-	-

※1 : Load 80%
※2 : Load 90%

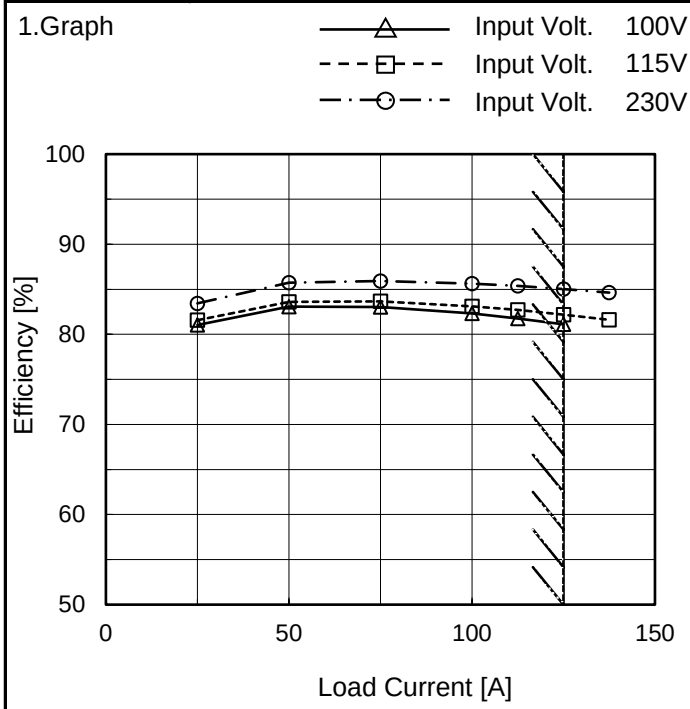
BC-11904

COSEL

Model	PJMA1500F-12
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. 115[V]	Input Volt. 230[V]
0.0	-	-	-
25.0	81.0	81.6	83.4
50.0	83.1	83.6	85.7
75.0	83.0	83.7	85.9
100.0	82.3	83.1	85.6
112.5	81.8	82.7	85.4
125.0	81.1	82.2	85.0
137.5	-	81.6	84.6
--	-	-	-
--	-	-	-
--	-	-	-

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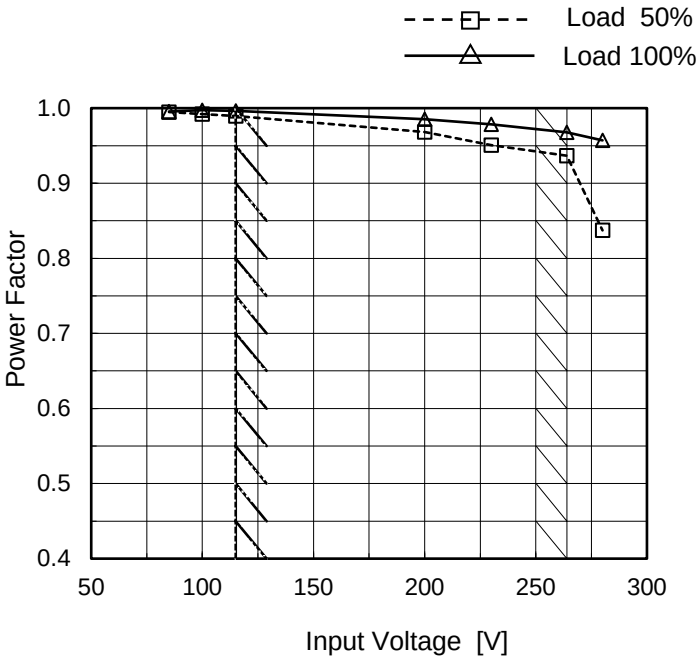
Model	PJMA1500F-12
Item	Power Factor (by Input Voltage)
Object	――――――――――

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]	Power Factor	
	Load 50%	Load 100%
85	0.995	0.996 ※1
100	0.992	0.997 ※2
115	0.990	0.996
200	0.968	0.985
230	0.951	0.978
264	0.937	0.968
280	0.837	0.957
--	-	-
--	-	-

※1 : Load 80%
※2 : Load 90%

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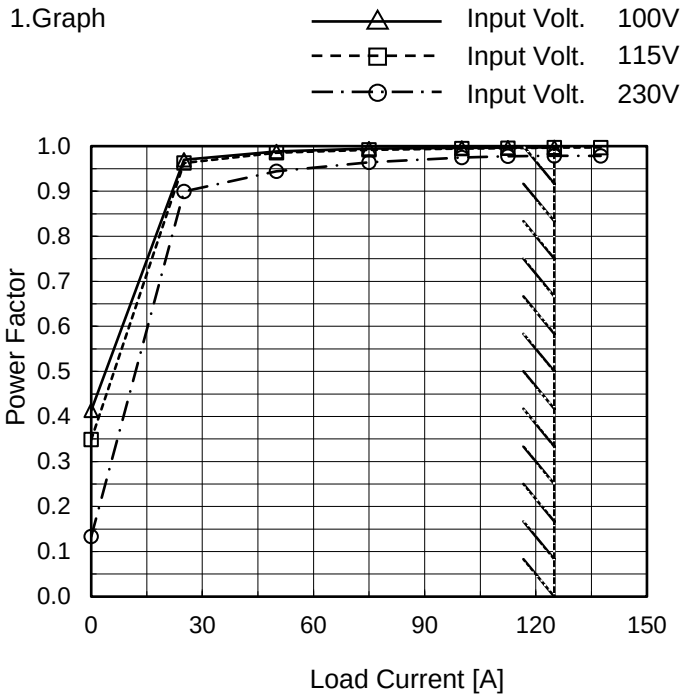
Model	PJMA1500F-12
Item	Power Factor (by Load Current)
Object	————————

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. 115[V]	Input Volt. 230[V]
0.0	0.413	0.348	0.133
25.0	0.970	0.963	0.900
50.0	0.989	0.986	0.944
75.0	0.994	0.992	0.964
100.0	0.996	0.995	0.975
112.5	0.997	0.995	0.978
125.0	0.997	0.997	0.979
137.5	-	0.997	0.978
--	-	-	-
--	-	-	-
--	-	-	-

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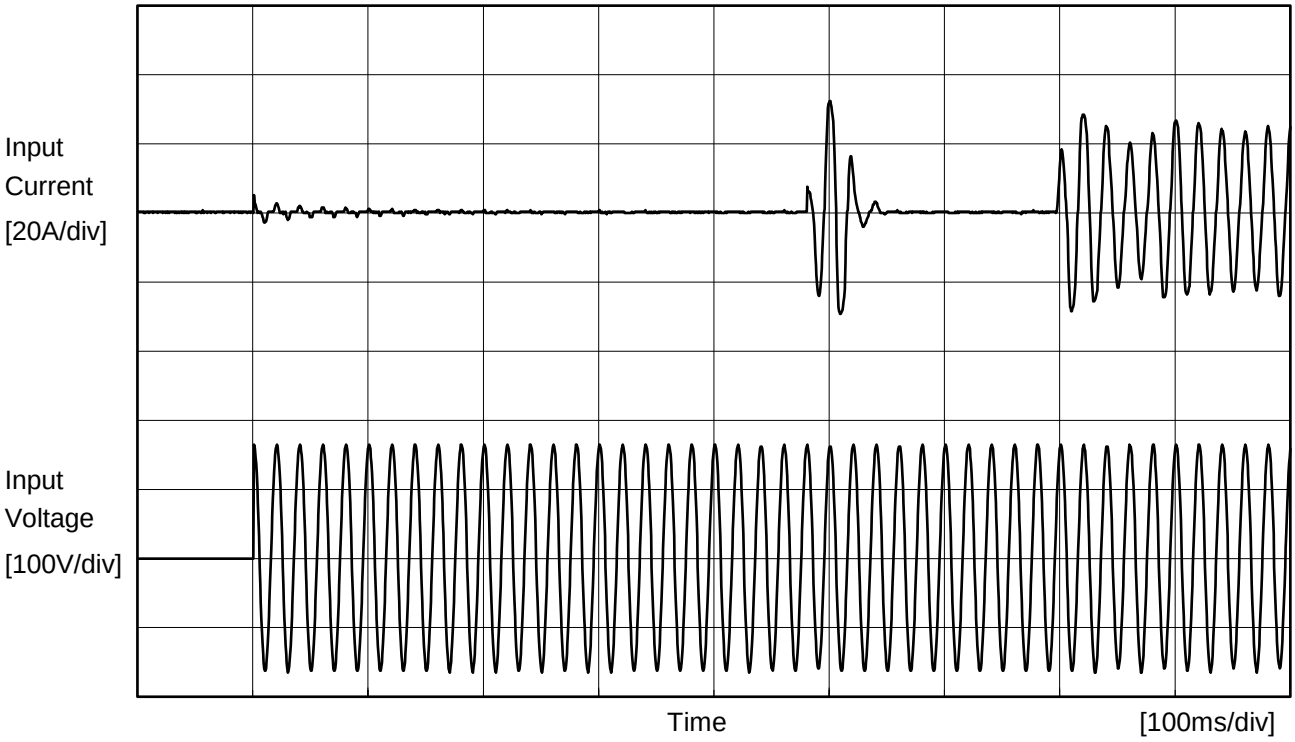
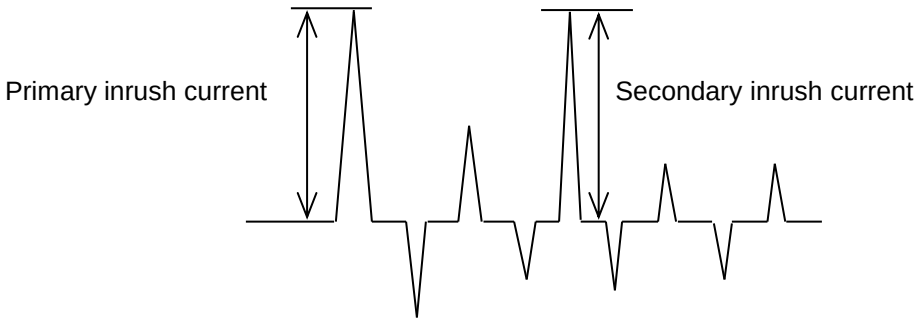
Model	PJMA1500F-12
Item	Inrush Current
Object	————————

Temperature 25°C
Testing Circuitry Figure A



Input Voltage	115 V
Frequency	50 Hz
Load	100 %
Primary inrush current	5.1 A
Secondary inrush current	32.3 A



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Model	PJMA1500F-12	
Item	Leakage Current	Temperature 25°C Testing Circuitry Figure C
Object	――――――――――――	

1.Results

[mA]

Standards		Input Volt.			Note
		230 [V]	240 [V]	264 [V]	
IEC60601-1	Both phases	0.21	0.24	0.27	Operation
	One of phases	0.39	0.40	0.45	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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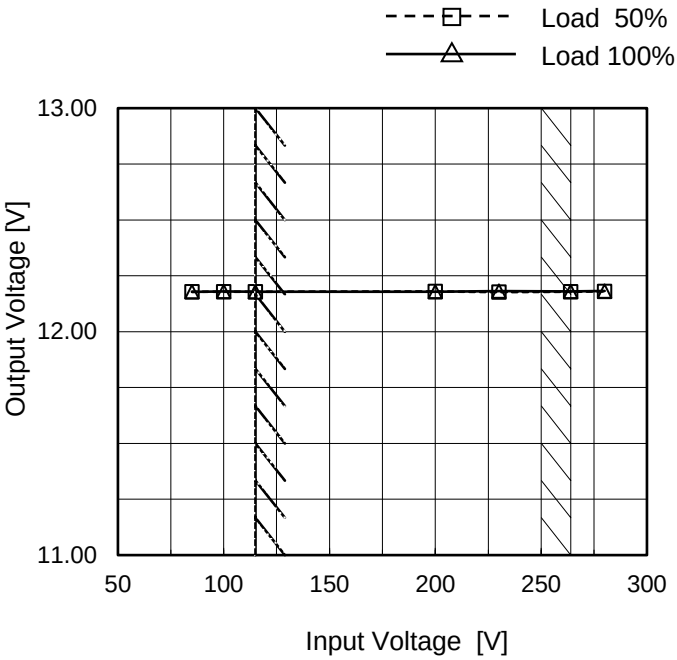
Model	PJMA1500F-12
Item	Line Regulation
Object	+12V125A

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	12.179	12.178 ※1
100	12.178	12.181 ※2
115	12.179	12.179
200	12.180	12.179
230	12.177	12.181
264	12.179	12.180
280	12.180	12.182
--	-	-
--	-	-

※1 : Load 80%
※2 : Load 90%

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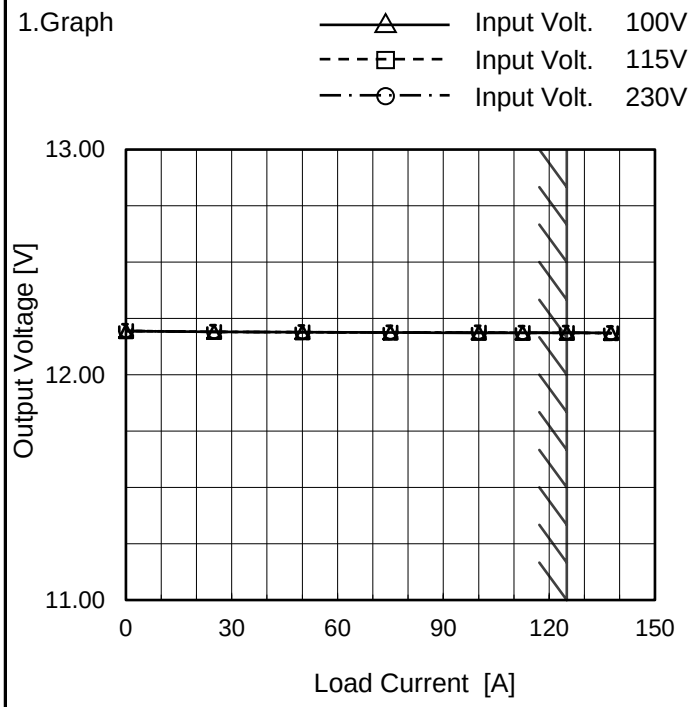
Model	PJMA1500F-12
Item	Load Regulation
Object	+12V125A

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. 115[V]	Input Volt. 230[V]
0.0	12.194	12.195	12.195
25.0	12.190	12.191	12.191
50.0	12.189	12.189	12.189
75.0	12.188	12.187	12.188
100.0	12.186	12.187	12.188
112.5	12.186	12.186	12.186
125.0	12.186	12.187	12.187
137.5	12.186	12.185	12.184
--	--	--	--
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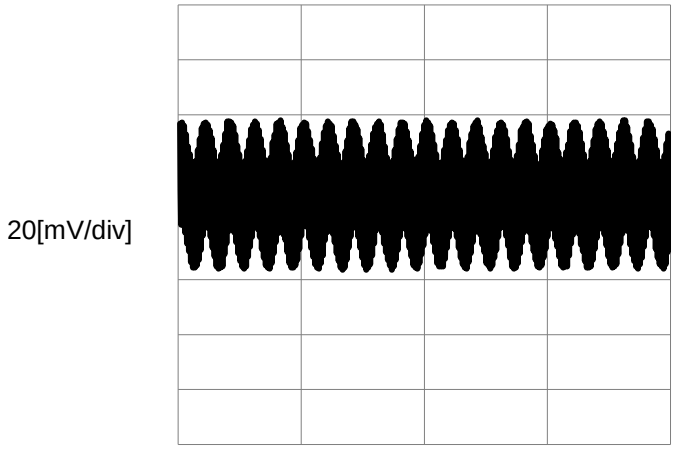
--	--	--	--

Item	Ripple-Noise
Object	+12V125A

Temperature 25°C
Testing Circuitry Figure B

1.Graph

Input Voltage 115V
Load 100%



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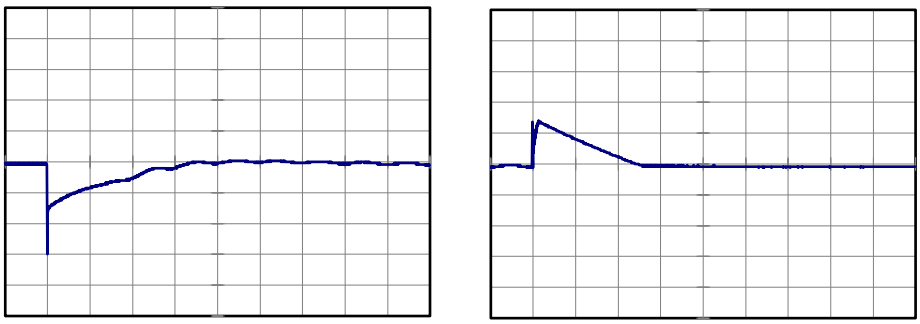
Model	PJMA1500F-12		
Item	Dynamic Load Response	Temperature	25°C
		Testing Circuitry	Figure A
Object	+12V125A		

Input Volt. 115 V
Cycle 1000 ms

t1,t2 = 50 μ s

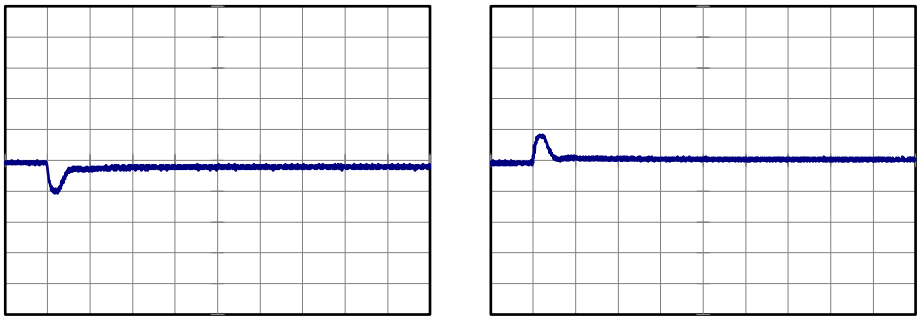
Min.Load (0A)←→
Load 100% (125A)



200 mV/div

10 ms/div 10 ms/div

Load 50% (62.5A)←→
Load 100% (125A)



200 mV/div

100 us/div 100 us/div

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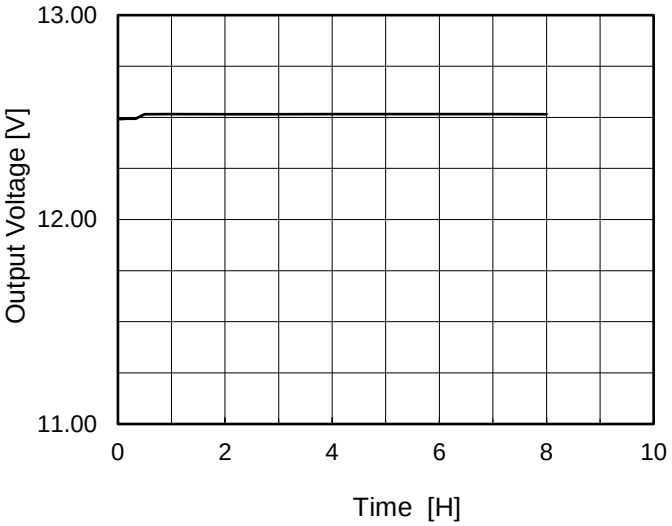
Model	PJMA1500F-12
Item	Time Lapse Drift
Object	+12V125A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 115V
Load 100%

2.Values

Time since start [H]	Output Voltage [V]
0.0	12.492
0.5	12.515
1.0	12.516
2.0	12.515
3.0	12.515
4.0	12.516
5.0	12.516
6.0	12.516
7.0	12.516
8.0	12.515

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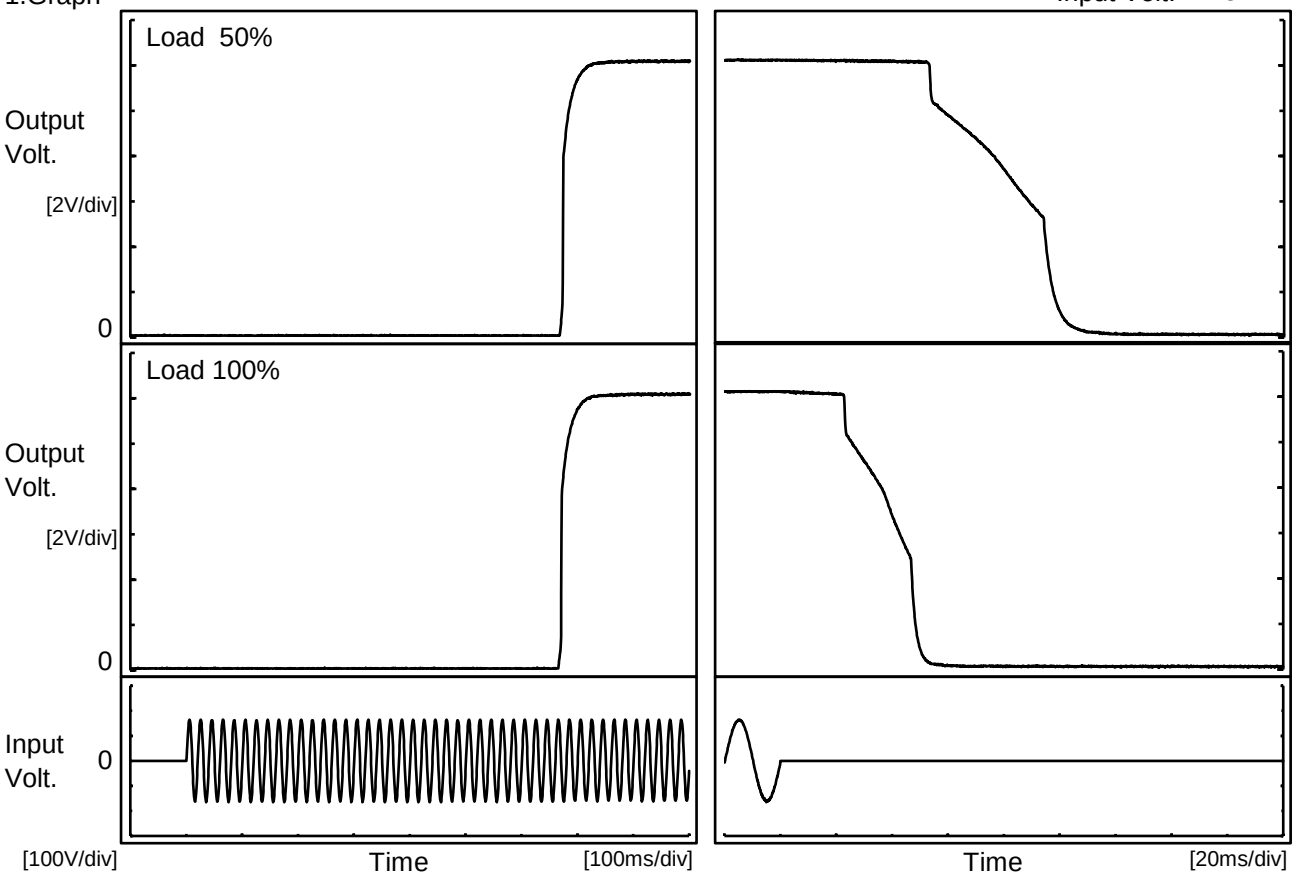
Model	PJMA1500F-12
Item	Rise and Fall Time
Object	+12V125A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

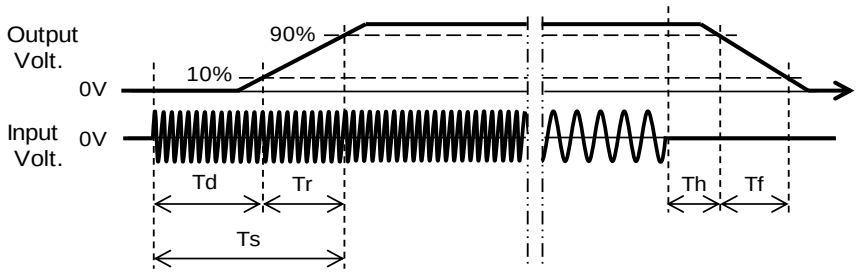
Input Volt. 115 V



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	672.0	19.5	691.5	53.7	45.7
100 %	669.5	19.5	689.0	23.2	26.0

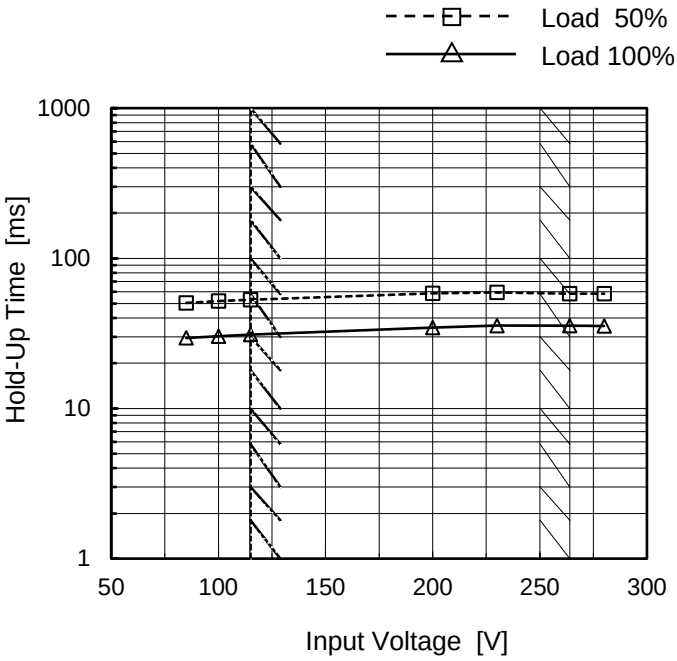


COSEL

Model	PJMA1500F-12
Item	Hold-Up Time
Object	+12V125A

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	50	29 ※1
100	52	30 ※2
115	53	31
200	58	35
230	59	36
264	58	36
280	58	35
--	-	-
--	-	-

※1 : Load 80%
※2 : Load 90%

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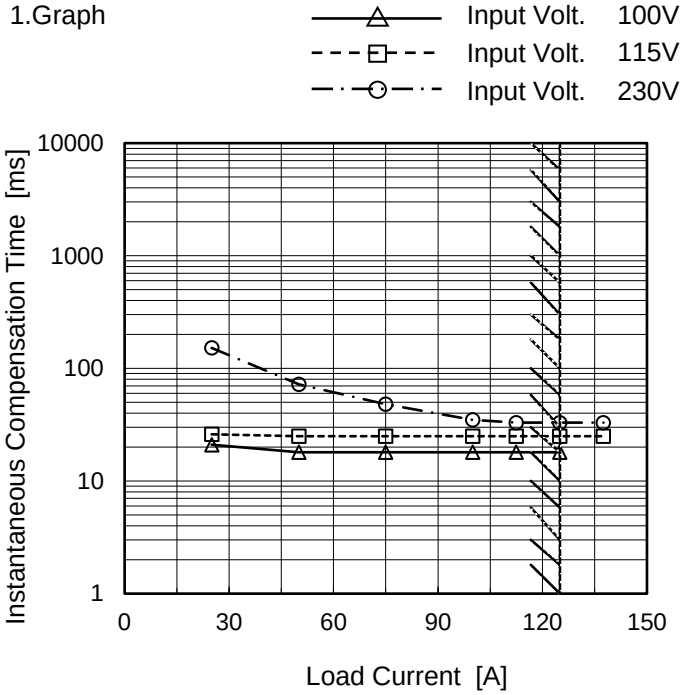
Model	PJMA1500F-12
Item	Instantaneous Interruption Compensation
Object	+12V125A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

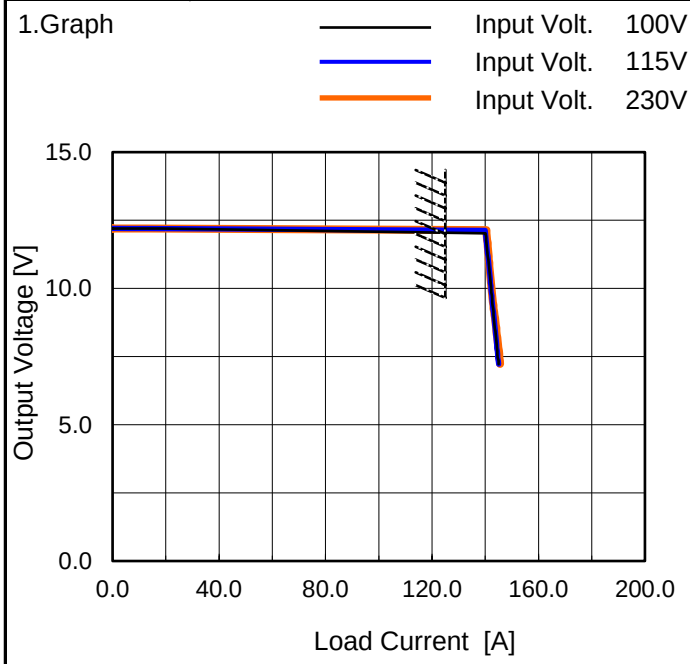
Load Current [A]	Time [ms]		
	Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]
0.0	-	-	-
25.0	21	26	152
50.0	18	25	72
75.0	18	25	48
100.0	18	25	35
112.5	18	25	33
125.0	18	25	33
137.5	-	25	33
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	PJMA1500F-12
Item	Overcurrent Protection
Object	+12V125A

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 7.2V to 0V.

2.Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]
12.0	140.12	140.03	140.41
11.4	140.72	140.72	141.04
10.8	140.12	141.39	141.59
9.6	142.56	142.54	142.77
8.4	143.78	143.84	144.24
7.2	145.00	145.05	145.58
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

Model	PJMA1500F-12	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	+12V125A	

1.Values

Load 100%

Ambient Temperature[℃]	Output Voltage [V]		
	Input Volt. 100V	Input Volt. 115V	Input Volt. 230V
-20	12.111	12.110	12.113
25	12.186	12.187	12.186
50	12.206	12.205	12.206

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+12V125A	

1.Values

Ambient Temperature[℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	68	70
25	68	71
50	67	69

Item	Overvoltage Protection	Testing Circuitry Figure A
Object	+12V125A	

1.Values

Load 0%

Ambient Temperature[℃]	Operating Point [V]	
	Input Volt. 100V	Input Volt. 230V
-20	15.61	15.61
25	16.02	16.02
50	16.31	16.25

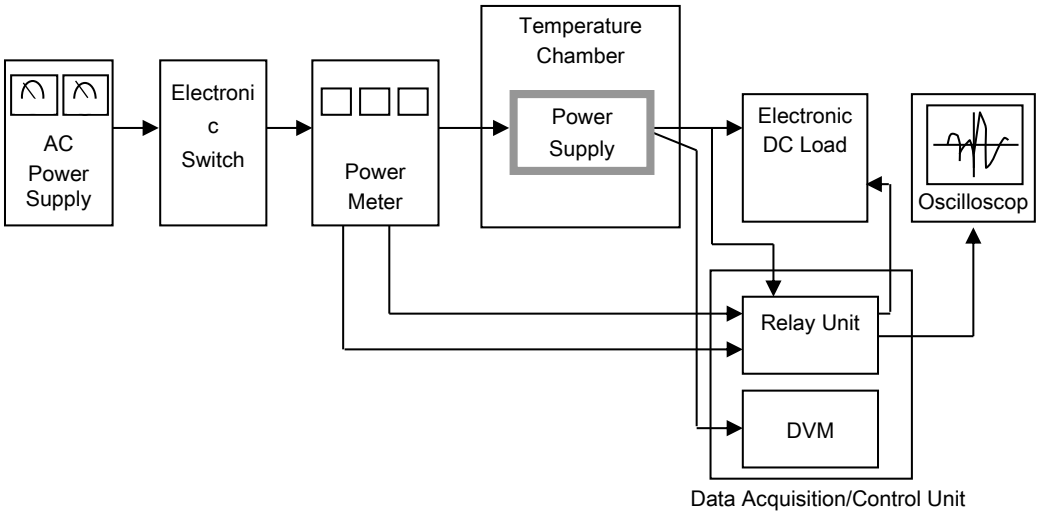
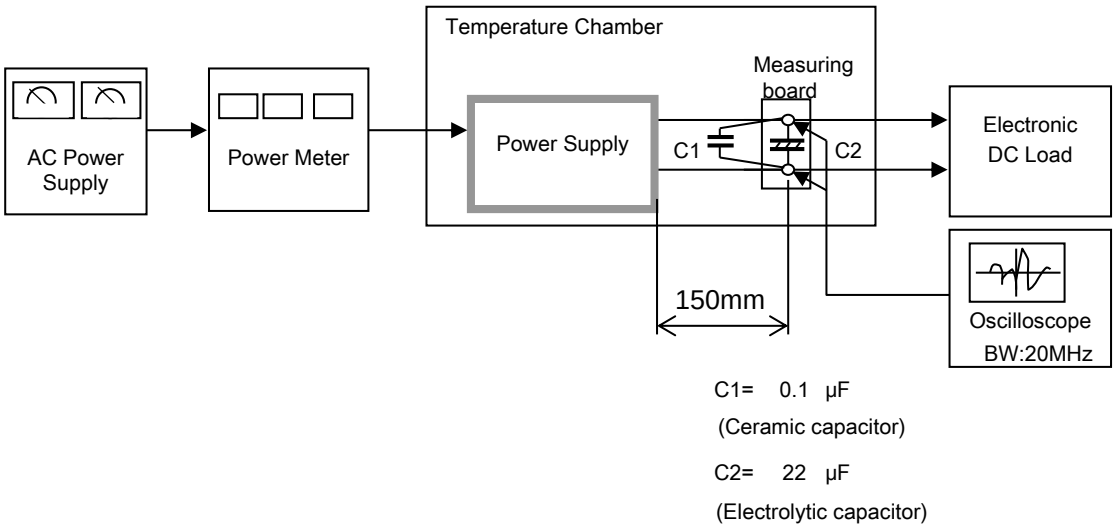


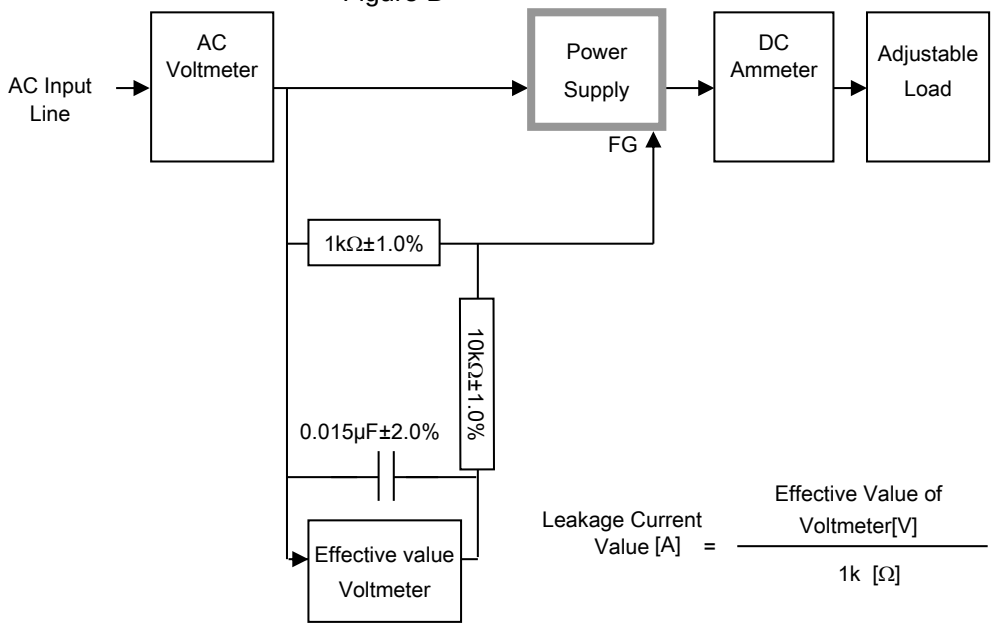
Figure A



C1= 0.1 μF
(Ceramic capacitor)

C2= 22 μF
(Electrolytic capacitor)

Figure B



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

Figure C (IEC60601-1)