For Reference

TEST DATA OF GHA700F-56-J1

Regulated DC Power Supply
February 1, 2023

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COSEL CO.,LTD.

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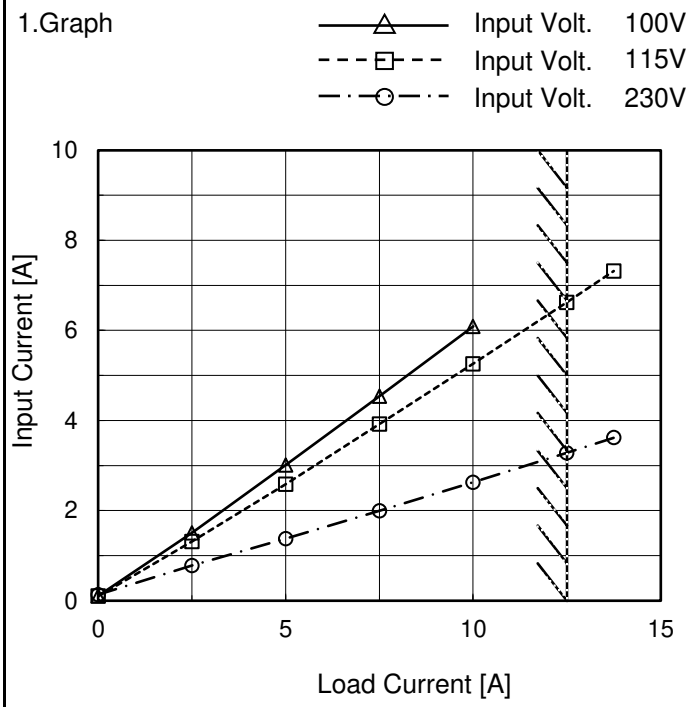
Item	Input Current (by Load Current)
Object	———————

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]
0.00	0.105	0.103	0.135
2.50	1.503	1.316	0.781
5.00	3.013	2.588	1.380
7.50	4.540	3.920	1.995
10.00	6.090	5.260	2.630
12.50	-	6.620	3.282
13.75	-	7.320	3.620
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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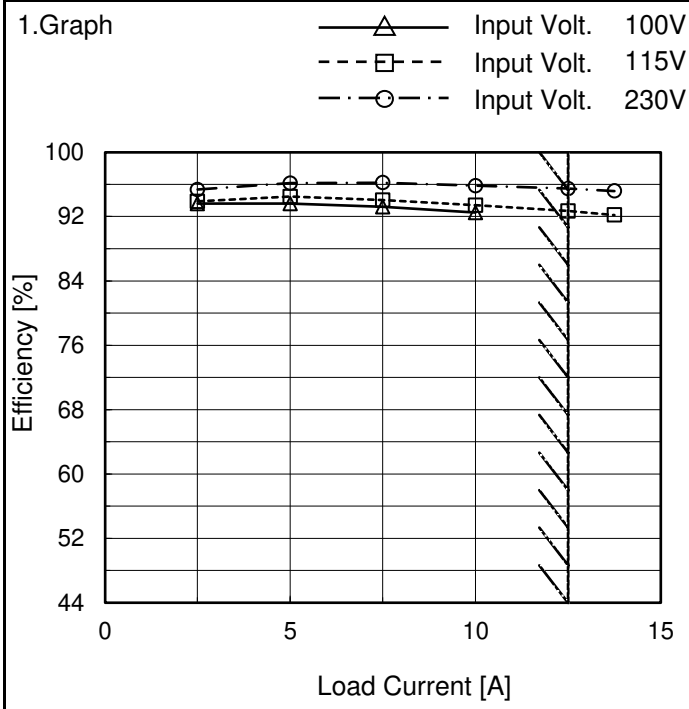
Model	GHA700F-56-J1
Item	Efficiency (by Load Current)
Object	————————

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]
0.00	-	-	-
2.50	93.6	93.9	95.4
5.00	93.6	94.5	96.1
7.50	93.2	94.0	96.2
10.00	92.5	93.4	95.8
12.50	-	92.7	95.5
13.75	-	92.2	95.2
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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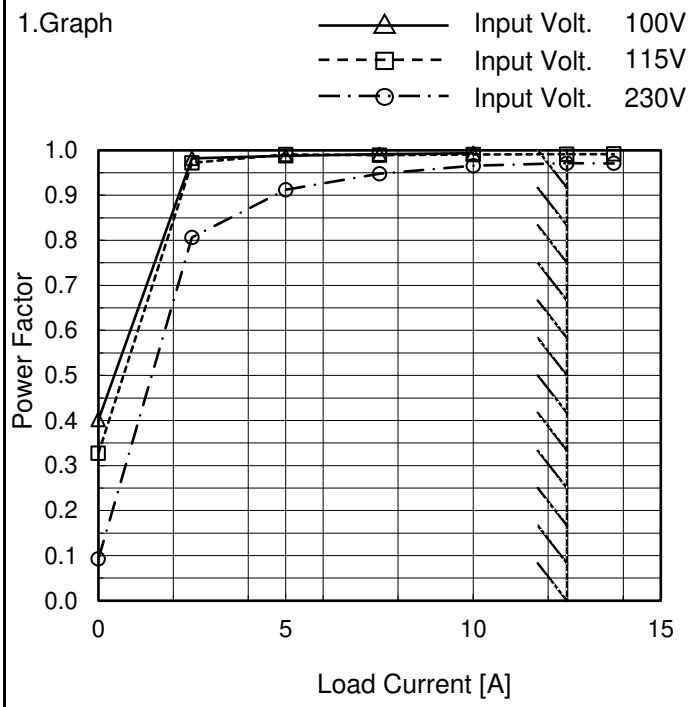
Model	GHA700F-56-J1
Item	Power Factor (by Load Current)
Object	————————

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]
0.00	0.402	0.327	0.093
2.50	0.982	0.972	0.807
5.00	0.988	0.991	0.912
7.50	0.991	0.989	0.948
10.00	0.993	0.990	0.965
12.50	-	0.991	0.971
13.75	-	0.992	0.971
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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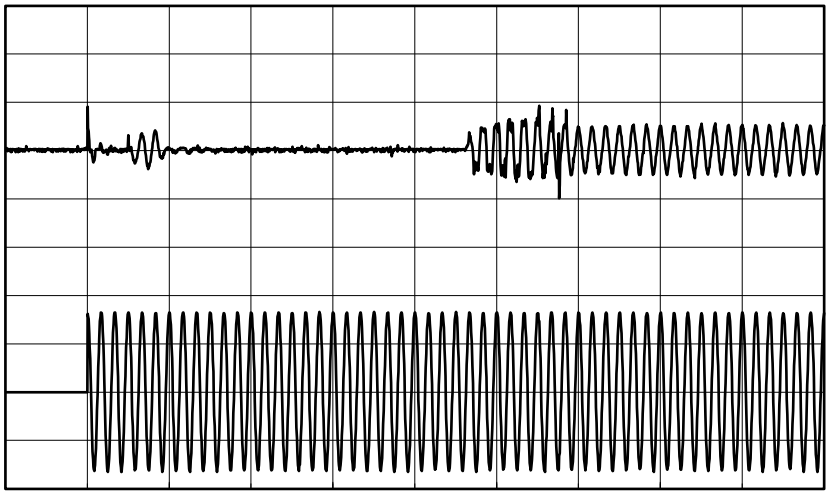
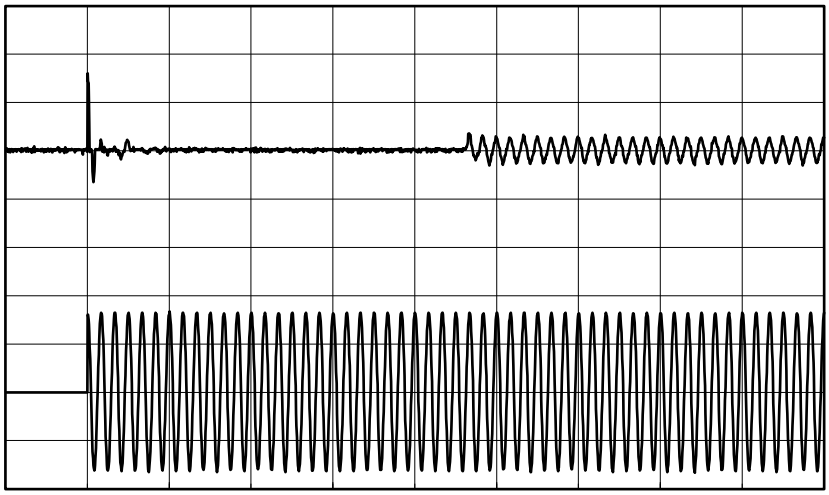
Model	GHA700F-56-J1
Item	Inrush Current
Object	————————

Temperature 25°C
Testing Circuitry Figure A



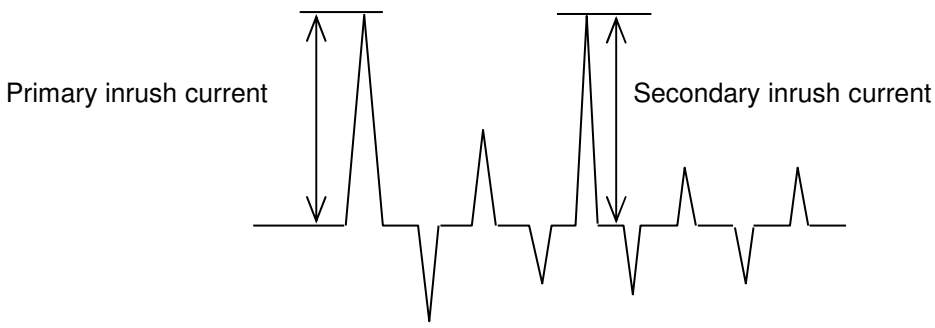
Input Voltage 115 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
18.2 A
Secondary inrush current :
19.7 A



Input Voltage 230 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
32.1 A
Secondary inrush current :
7.2 A



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Model	GHA700F-56-J1	
Item	Leakage Current	Temperature 25°C Testing Circuitry Figure C
Object	————————	

1.Results

[mA]

Standards	Testing Circuitry	Measuring Method	Input Volt.			Note
			100 [V]	240 [V]	264 [V]	
DEN-AN	Figure C-1	Both phases	0.06	0.15	0.17	Operation
		One of phases	0.09	0.24	0.26	Stand by
IEC62368-1	Figure C-2	Both phases	0.06	0.15	0.17	Operation
		One of phases	0.09	0.24	0.25	Stand by
	Figure C-3	Both phases	0.06	0.15	0.17	Operation
		One of phases	0.09	0.23	0.26	Stand by
IEC60601-1	Figure C-4	Both phases	0.06	0.15	0.17	Operation
		One of phases	0.09	0.24	0.26	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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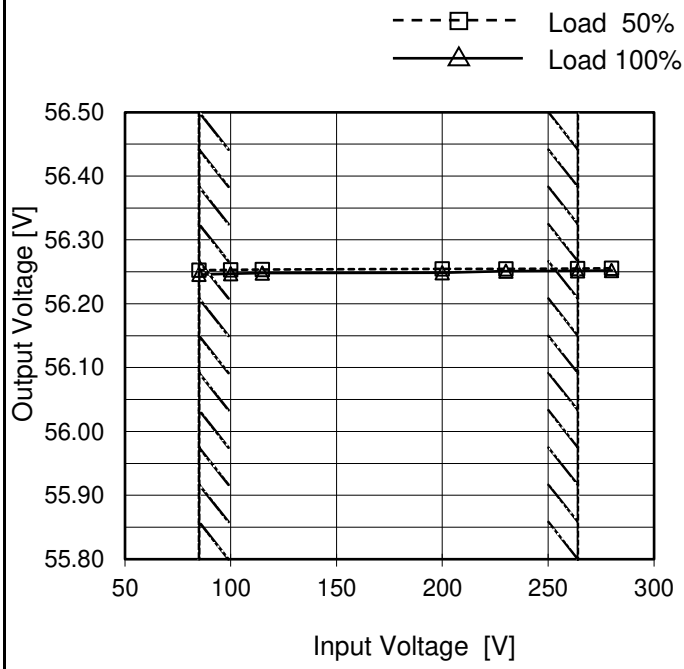
Model	GHA700F-56-J1
Item	Line Regulation
Object	+56V12.5A

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	56.253	56.246 ※1
100	56.253	56.247 ※2
115	56.254	56.248
200	56.254	56.249
230	56.254	56.251
264	56.255	56.252
280	56.256	56.252
--	-	-
--	-	-

※1 : Load 75%
※2 : Load 87.5%

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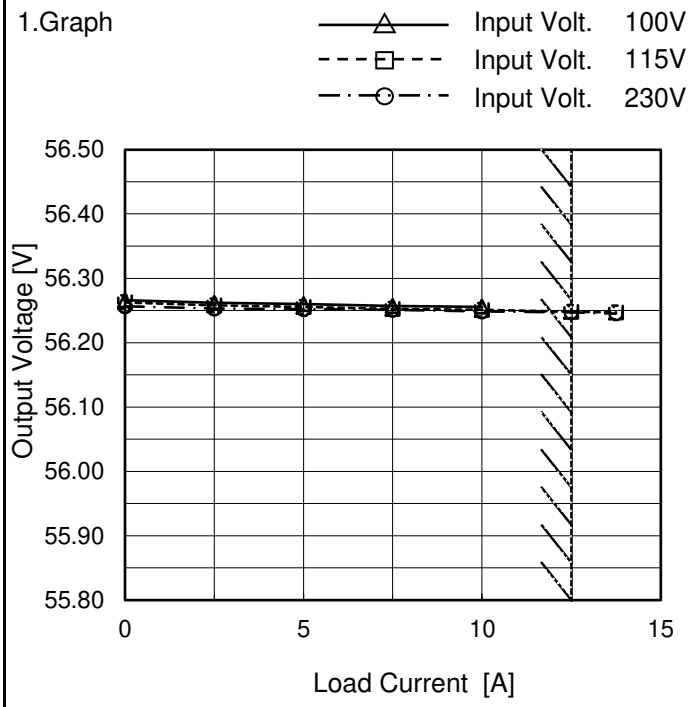
Model	GHA700F-56-J1
Item	Load Regulation
Object	+56V12.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

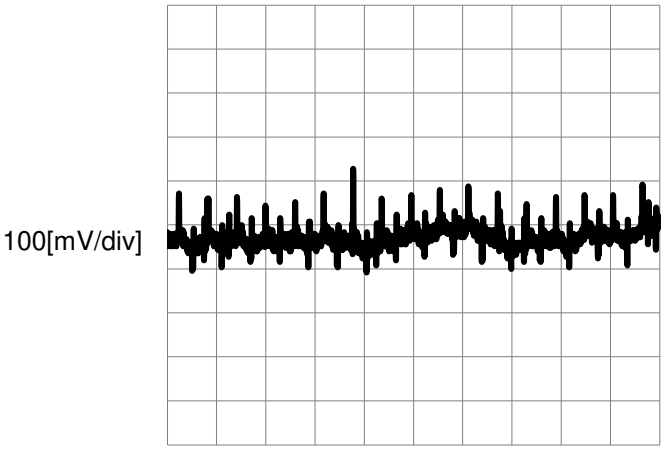
Load Current [A]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 115[V]	Input Volt. 230[V]
0.00	56.266	56.263	56.257
2.50	56.262	56.258	56.253
5.00	56.260	56.255	56.252
7.50	56.257	56.252	56.251
10.00	56.256	56.251	56.249
12.50	-	56.248	56.247
13.75	-	56.247	56.245
--	--	--	--
--	--	--	--
--	--	--	--
--	--	--	--

Item	Ripple-Noise
Object	+56V12.5A

Temperature 25°C
Testing Circuitry Figure B

1.Graph

Input Voltage 230V
Load 100%



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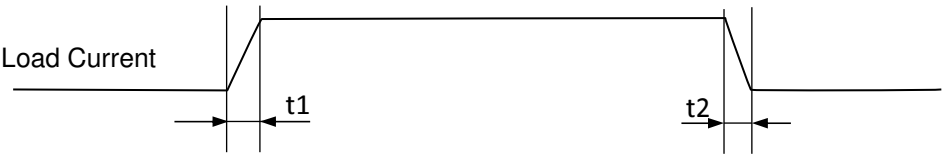
Model	GHA700F-56-J1
Item	Dynamic Load Response
Object	+56V12.5A

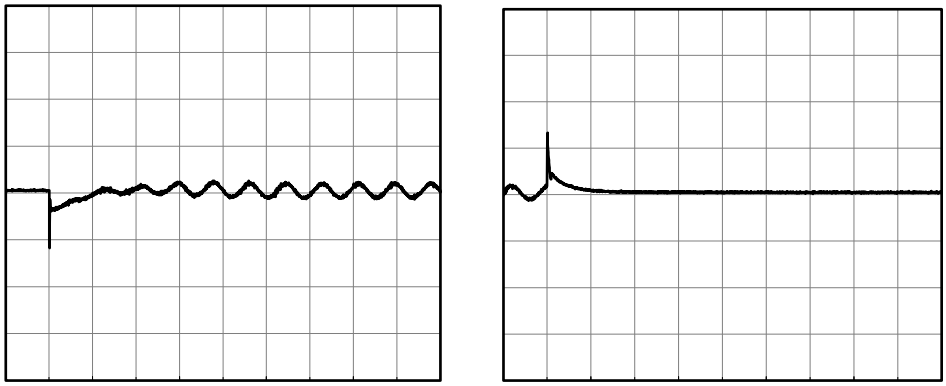
Temperature 25°C
Testing Circuitry Figure A

Input Volt. 115 V
Cycle 1000 ms

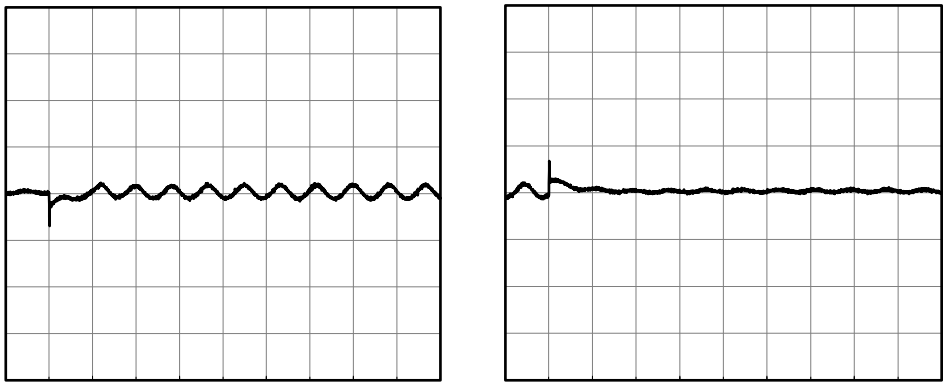
Response. t1=t2=50µs. Typ



Load 0%(0A) ←→
Load 100%(12.5A)



Load 50%(6.25A) ←→
Load 100%(12.5A)



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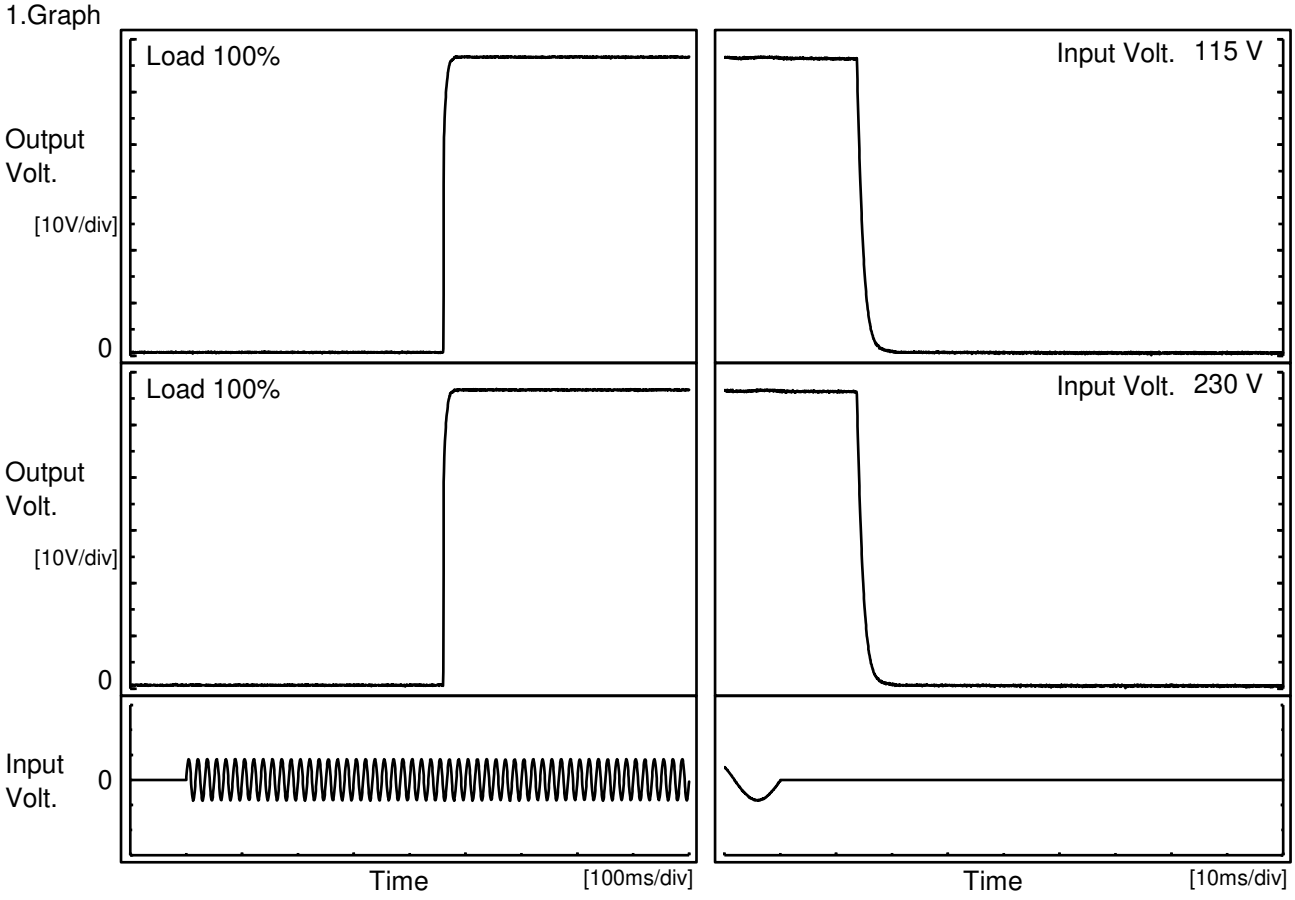
Model	GHA700F-56-J1
Item	Rise and Fall Time
Object	+56V12.5A

Temperature 25°C
Testing Circuitry Figure A

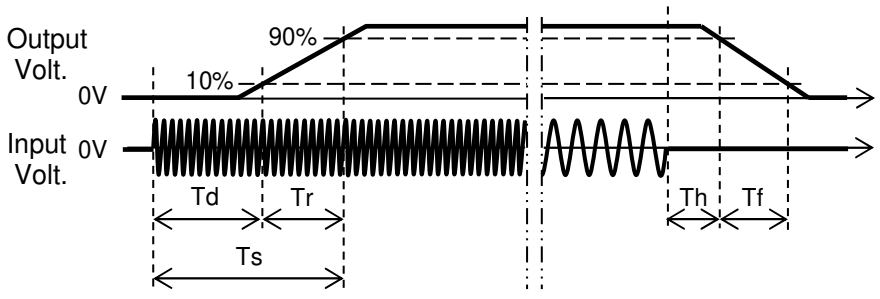
1.Graph



2.Values

[ms]

Input Volt. \ Time	Td	Tr	Ts	Th	Tf
115 V	460.5	5.0	465.5	13.8	2.3
230 V	460.5	5.0	465.5	13.8	2.2



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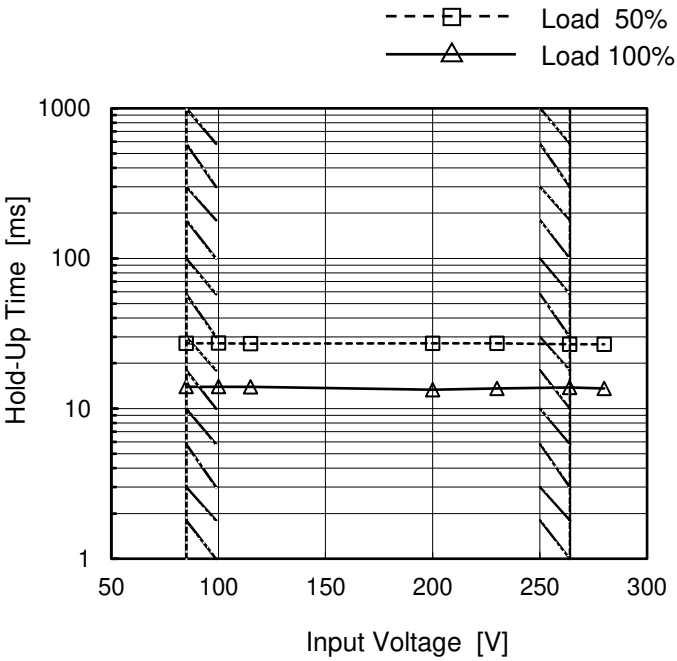
COSEL

Model	GHA700F-56-J1
Item	Hold-Up Time
Object	+56V12.5A

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	27	14 ※1
100	27	14 ※2
115	27	14
200	27	13
230	27	14
264	27	14
280	27	14
--	-	-
--	-	-

※1:Load 75%
※2:Load 87.5%

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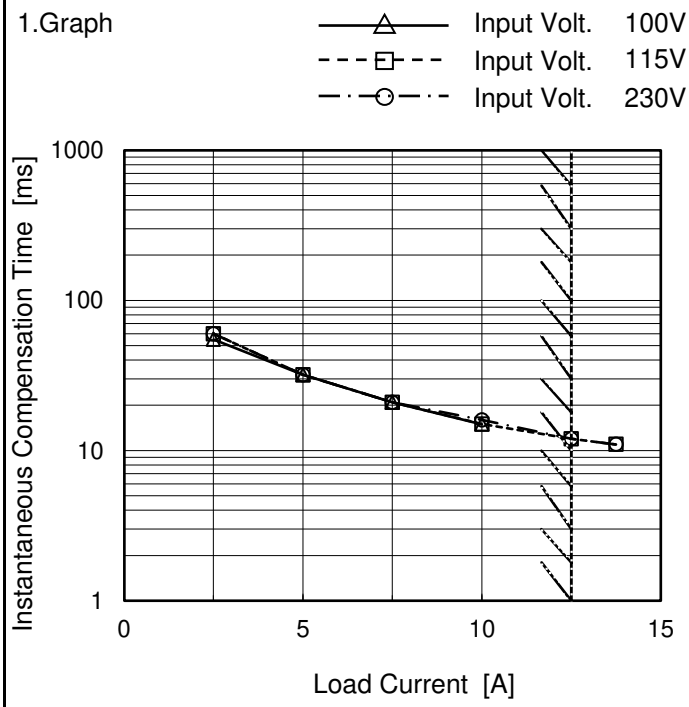
Model	GHA700F-56-J1
Item	Instantaneous Interruption Compensation
Object	+56V12.5A

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]
0.00	-	-	-
2.50	55	60	60
5.00	32	32	32
7.50	21	21	21
10.00	15	15	16
12.50	-	12	12
13.75	-	11	11
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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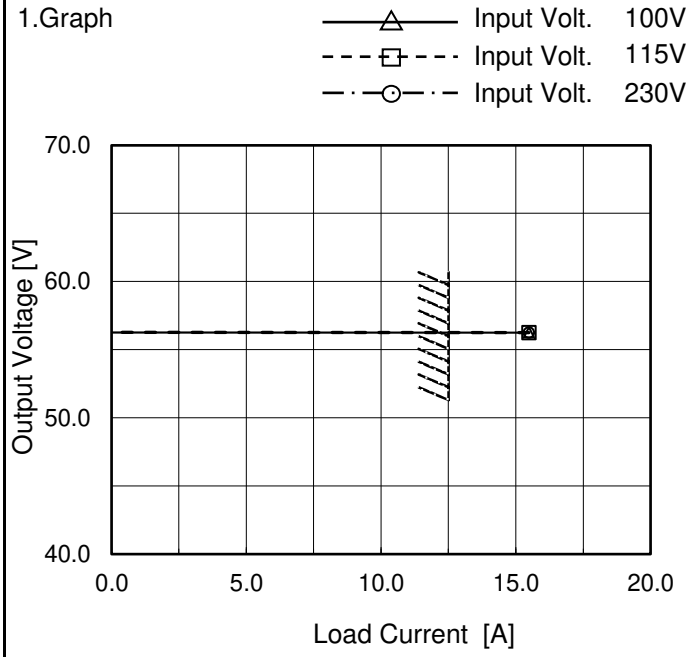
Model	GHA700F-56-J1
Item	Overcurrent Protection
Object	+56V12.5A

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. 115[V]	Input Volt. 230[V]
56	15.01	15.09	15.09
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	GHA700F-56-J1	
Item	Ambient Temperature Drift	Testing Circuitry Figure A
Object	+56V12.5A	

1.Values

Load 100%

Ambient Temperature[℃]	Output Voltage [V]		
	Input Volt. 100V	Input Volt. 115V	Input Volt. 230V
-20	55.975	55.987	56.011
25	56.243	56.248	56.265
50	56.338	56.341	56.353

Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A
Object	+56V12.5A	

1.Values

Ambient Temperature[℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	76	77
25	76	77
50	76	77

Item	Overvoltage Protection	Testing Circuitry Figure A
Object	+56V12.5A	

1.Values

Load 0%

Ambient Temperature[℃]	Operating Point [V]	
	Input Volt. 115V	Input Volt. 230V
-20	72.40	72.40
25	72.69	72.69
50	72.87	72.87

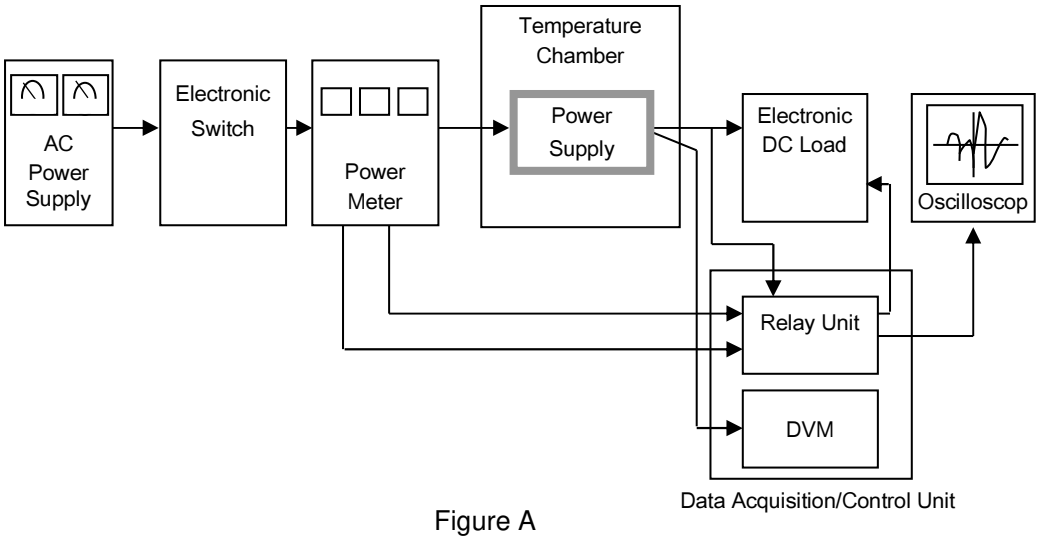
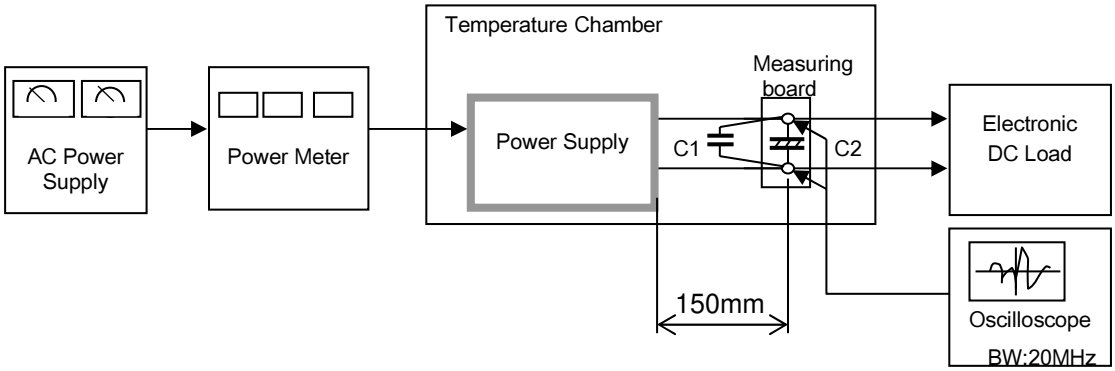


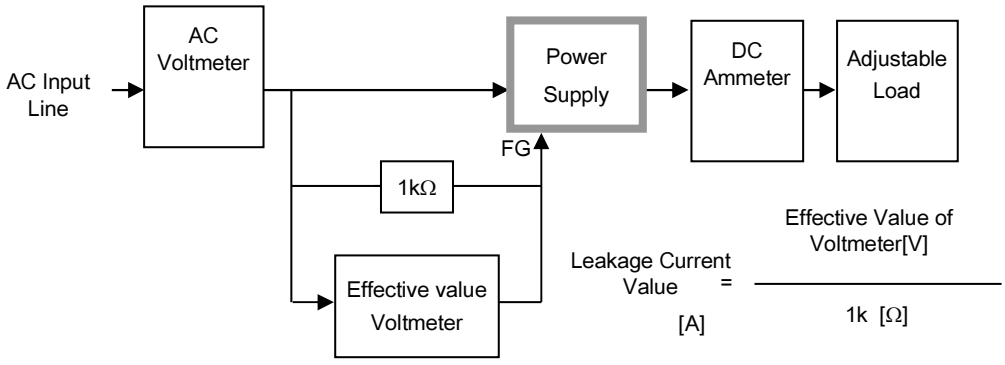
Figure A



C1= 0.1 µF
(Ceramic capacitor)

C2= 22 µF
(Electrolytic capacitor)

Figure B



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

Figure C-1 (DEN-AN)

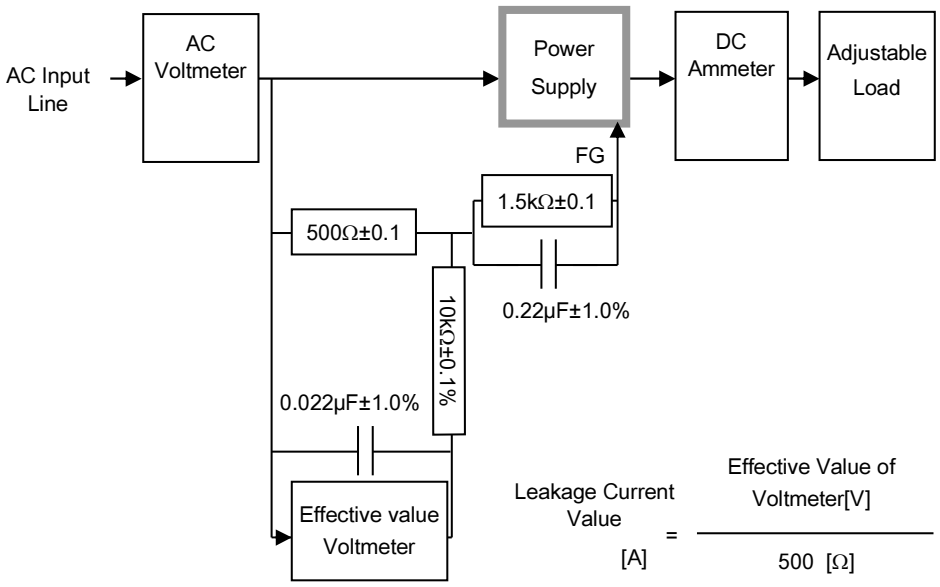


Figure C-2 (IEC62368-1 refer to IEC60990 Fig.4)

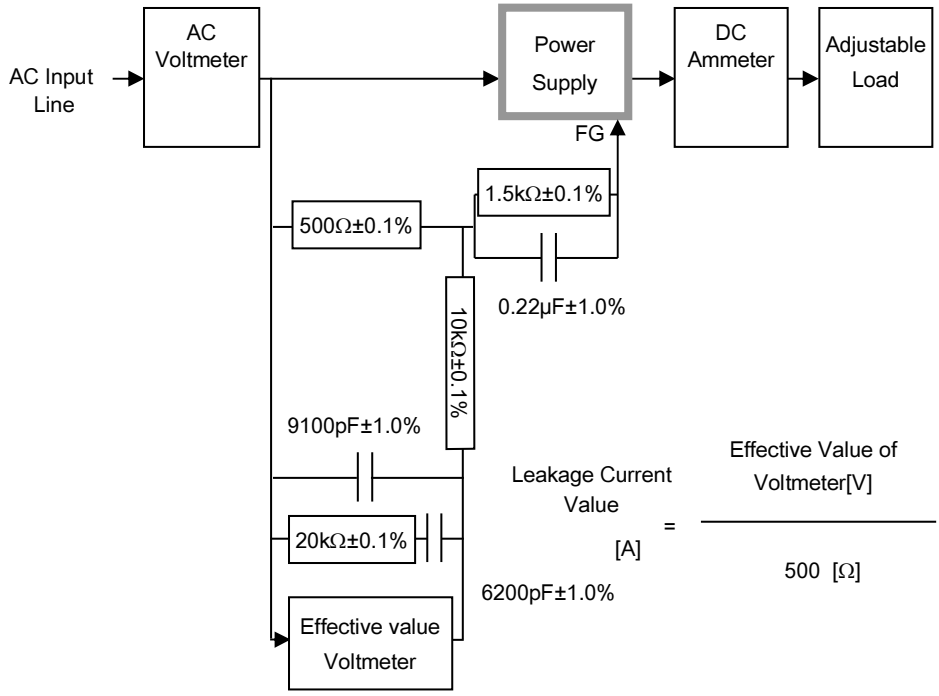


Figure C-3 (IEC62368-1 refer to IEC60990 Fig.5)

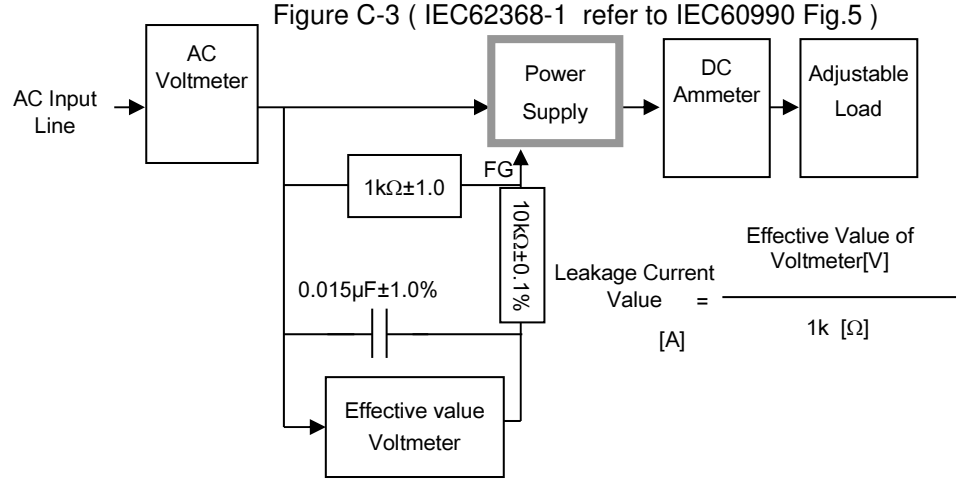


Figure C-4 (IEC60601-1)