

CUS2000M

IMMUNITY DATA

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Terminology used

	Definition
FG	 Frame GND
$\frac{\perp}{\perp}$	 Earth ($\frac{\perp}{\perp}$) terminal
L	 Live line
N	 Neutral line
///	 Earth
V+	 Output terminal +
V-	 Output terminal -
STBY+	 Standby supply +
STBY-	 Standby supply -
R+	 Remote ON/OFF terminal +
R-	 Remote ON/OFF terminal -
PG	 Power good signal
S+	 Remote sense +
S-	 Remote sense -

※ Test results are reference data based on our standard measurement condition.

1. Summary of Immunity Test Result

MODEL: CUS2000M

(1) IEC61000 Series Test Result:

Item	Standard	Test level	Criteria	Result	Notes & Conditions
Electrostatic Discharge Immunity Test	IEC61000-4-2	1,2,3,4	A	PASS	
Radiated Radio-Frequency Electromagnetic Field Immunity Test	IEC61000-4-3	2,3	A	PASS	
Electrical Fast Transient / Burst Immunity Test	IEC61000-4-4	1,2,3,4	A	PASS	
Surge Immunity Test	IEC61000-4-5	1,2,3,4	A	PASS	Input a.c. power PORT
Conducted Disturbances Induced by Radio-Frequency Field Immunity Test	IEC61000-4-6	1,2,3	A	PASS	
Power Frequency Magnetic Field Immunity Test	IEC61000-4-8	1,2,3,4	A	PASS	
Voltage Dips Immunity Test, Short Interruptions Immunity Test	IEC61000-4-11 (100~120VAC) CLASS 3 Industrial	Dip: 20% 5000ms	A	PASS	
		Dip: 30% 500ms	A	PASS	
		Dip: 60% 200ms	A/B	PASS	A : $\leq 800W$, B : $> 800W$
		Dip: 100% 20ms	A/B	PASS	A : $\leq 1000W$, B : $> 1000W$
		Dip: 100% 10ms	A	PASS	A : $\leq 1400W$, B : $> 1400W(12V)$ A(24V,36V,48V)
		Dip: 100% 5000ms	B	PASS	
	IEC61000-4-11 (200~240VAC) CLASS 3 Industrial	Dip: 20% 5000ms	A	PASS	
		Dip: 30% 500ms	A	PASS	
		Dip: 60% 200ms	A	PASS	
		Dip: 100% 20ms	A/B	PASS	A : $\leq 1000W$, B : $> 1000W$
		Dip: 100% 10ms	A	PASS	A : $\leq 1400W$, B : $> 1400W(12V)$ A(24V,36V,48V)
		Dip: 100% 5000ms	B	PASS	

Detail of test condition refer to each test page.

Criteria A

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

Criteria B

1. Must not have temporary function degradation that requires input restart.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

1. Summary of Immunity Test Result

MODEL: CUS2000M

(2) IEC60601-1-2 Series Test Result:

Item	Standard	Test level	Criteria	Result	Notes & Conditions
Electrostatic Discharge Immunity Test	IEC60601-1-2 Ed.4.1	1,2,3,4	A	PASS	ENCLOSURE PORT
Radiated Radio-Frequency Electromagnetic Field Immunity Test	IEC60601-1-2 Ed.4.1	3	A	PASS	ENCLOSURE PORT
Electrical Fast Transient / Burst Immunity Test	IEC60601-1-2 Ed.4.1	1,2,3	A	PASS	
Surge Immunity Test	IEC60601-1-2 Ed.4.1	1,2,3	A	PASS	Input a.c. power PORT
Conducted Disturbances Induced by Radio-Frequency Field Immunity Test	IEC60601-1-2 Ed.4.1	1,2	A	PASS	
Power Frequency Magnetic Field Immunity Test	IEC60601-1-2 Ed.4.1	1,2,3,4	A	PASS	ENCLOSURE PORT
Voltage Dips Immunity Test, Short Interruptions Immunity Test	IEC60601-1-2. Ed4.1 (100~120VAC)	Dip: 30% 500ms	A	PASS	
		Dip: 100% 10ms	A	PASS	A : $\leq 1400W$, B : $> 1400W(12V)$ A(24V,36V,48V)
		Dip: 100% 20ms	A/B	PASS	A : $\leq 1000W$, B : $> 1000W$
		Dip: 100% 5000ms	B	PASS	
Voltage Dips Immunity Test, Short Interruptions Immunity Test	IEC60601-1-2. Ed4.1 (200~240VAC)	Dip: 30% 500ms	A	PASS	
		Dip: 100% 10ms	A	PASS	A : $\leq 1400W$, B : $> 1400W(12V)$ A(24V,36V,48V)
		Dip: 100% 20ms	A/B	PASS	A : $\leq 1000W$, B : $> 1000W$
		Dip: 100% 5000ms	B	PASS	
Radiated Field In Close Proximity Immunity Test	IEC60601-1-2 Ed.4.1	-	A	PASS	

Detail of test condition refer to each test page.

Criteria A

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

Criteria B

1. Must not have temporary function degradation that requires input restart.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

2. Electrostatic Discharge Immunity Test (IEC61000-4-2)

MODEL: CUS2000M

(1) Equipment Used

Electro Static Discharge Simulator : ESS-S3011A (NOISEKEN)

Discharge Resistance : 330Ω Capacity : 150pF

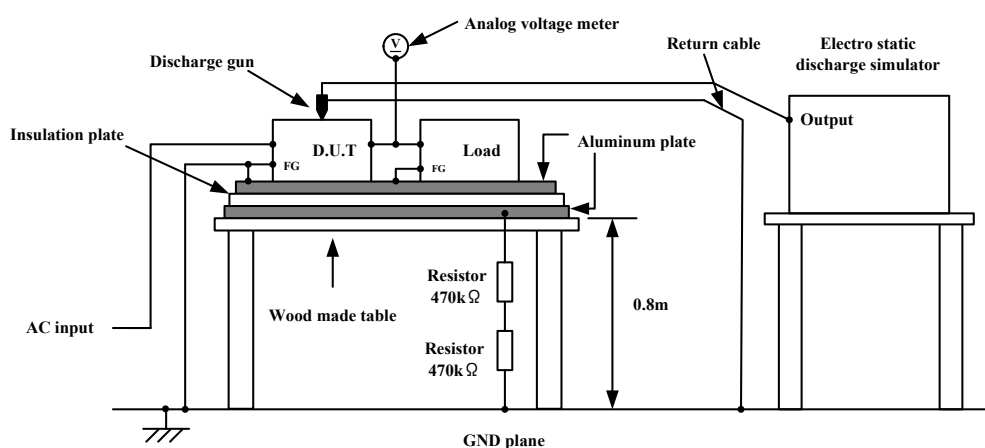
(2) Test Conditions

• Input Voltage	: 100, 240VAC	• Output Voltage	: Rated
• Output Current	: 0%, 100%	• Polarity	: +, -
• Test Times	: 10 times	• Discharge Interval	: > 1 second
• Ambient Temperature	: 25°C		

(3) Test Method and Device Test Point

Contact Discharge : $\equiv$, Mounting screw

Air Discharge : $\equiv$, Mounting screw, Input and output terminal



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Contact Discharge (kV)	CUS2000M-12/24/36/48	Air Discharge(kV)	CUS2000M-12/24/36/48
2	PASS	2	PASS
4	PASS	4	PASS
6	PASS	8	PASS
8	PASS	15	PASS

3. Radiated Radio-Frequency Electromagnetic Field Immunity Test (IEC61000-4-3)

MODEL: CUS2000M

(1) Equipment Used

Signal Generator : MG3692B (Anritsu)

LOG.Periodic Antenna : VULP9118E (Schwarzbeck)

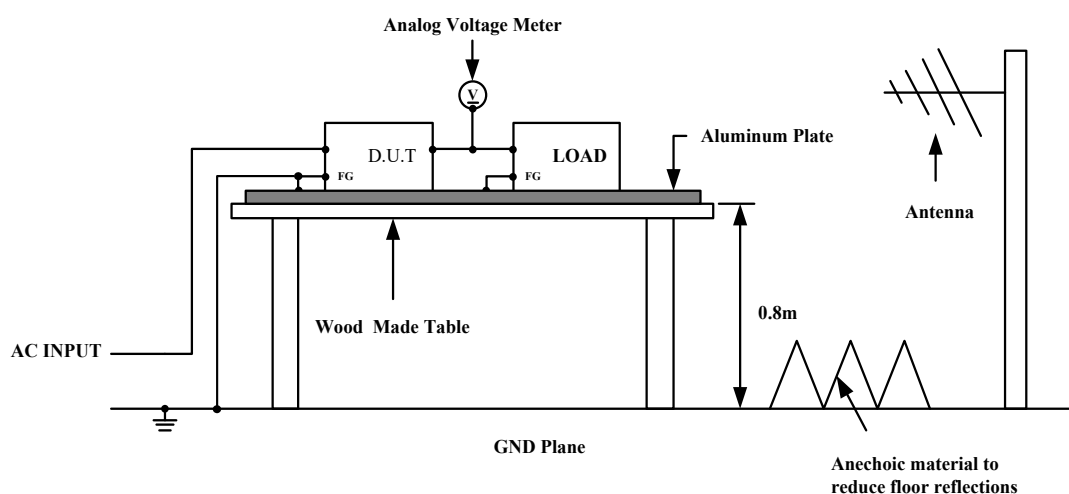
Horn Antenna : STLP 9149 (Schwarzbeck)

Power Amplifier : 80RF 1000-175 (AMETEK)
: AS0102-65 (AMETEK)
: AS1860-50 (AMETEK)

(2) Test Conditions

• Input Voltage	: 100, 240VAC	• Output Voltage	: Rated
• Output Current	: 0%, 100%	• Amplitude Modulated	: 80%, 1kHz
• Wave Angle	: Horizontal and Vertical	• Ambient Temperature	: 25°C
• Sweep Condition	: 1.0% Step Up, 0.5 Seconds Hold	• Distance	: 3.0m
• Test Angle	: Top/Bottom, Both Sides, Front/Back		
• Electromagnetic Frequency	: 80~1000MHz, 1.4~6.0GHz		

(3) Test Method



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Radiation Field Strength (V/m)	Electromagnetic Frequency	CUS2000M-12/24/36/48
3	1.4~6.0GHz	PASS
10	80~1000MHz	PASS

4. Electrical Fast Transient / Burst Immunity Test (IEC61000-4-4)

MODEL: CUS2000M

(1) Equipment Used

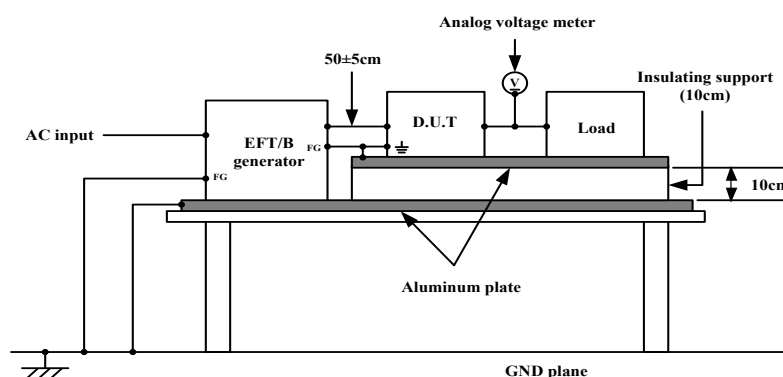
EFT/B Generator : EMS61000-4A (EVERFINE)
Coupling Clamp : EFTC-2 (EVERFINE)

(2) Test Conditions

• Input Voltage	: 100, 240VAC	• Output Voltage	: Rated
• Output Current	: 0%, 100%	• Test Time	: 1 minute
• Polarity	: +, -	• Ambient Temperature	: 25°C
• Number of Tests	: 1 time	• Pulse Frequency	: 5kHz / 100kHz
• Burst Time	: 15ms / 0.75ms	• Number of Pulse	: 75pcs
• Burst Cycle	: 300ms		

(3) Test Method and Device Test Point

Apply to (N, L, $\frac{\pm}{\text{L}}$), (N, L), (N), (L), ($\frac{\pm}{\text{L}}$), (V+, V-), (STBY+, STBY-), (R+, R-), (S+, S-), (PG)



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Test terminal	Test Voltage (kV)	Repetition Rate (kHz)	CUS2000M-12/24/36/48
Input/Output Port	0.5	5 / 100	PASS
	1	5 / 100	PASS
	2	5 / 100	PASS
	4	5 / 100	PASS
Signal Port	0.25	5 / 100	PASS
	0.5	5 / 100	PASS
	1	5 / 100	PASS
	2	5 / 100	PASS

5. Surge Immunity Test (IEC61000-4-5)

MODEL: CUS2000M

(1) Equipment Used

Surge Generator : LSS-F03 (NOISEKEN)

Coupling Impedance : Common 12Ω
Normal 2Ω

Coupling Capacitance : Common 9μF
Normal 18μF

(2) Test Conditions

• Input Voltage : 100, 240VAC

• Output Voltage : Rated

• Output Current : 0, 100%

• Number of Tests : 5 times

• Polarity : +, -

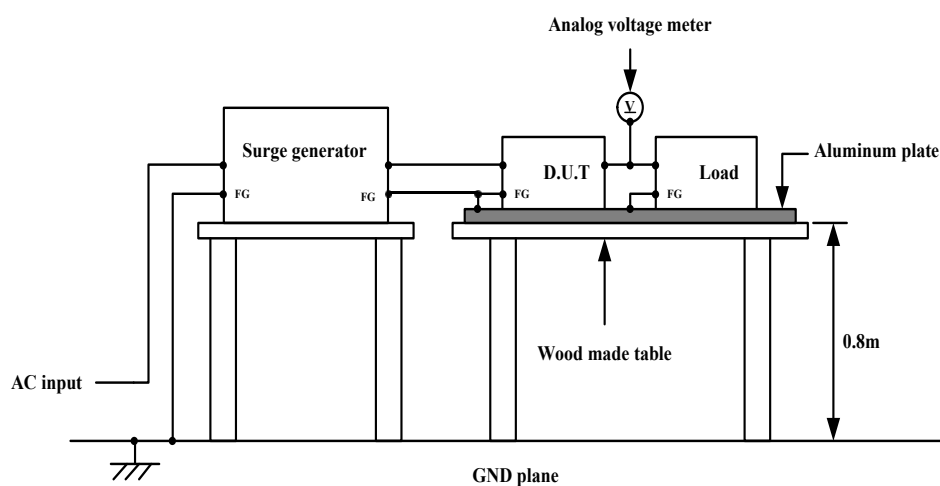
• Mode : Common, Normal

• Phase : 0, 90, 180, 270 deg

• Ambient Temperature : 25°C

(3) Test Method and Device Test Points

Apply to Common mode (N- $\frac{\Delta}{\Delta}$, L- $\frac{\Delta}{\Delta}$) and Normal mode (N-L)



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Common		Normal	
Test Voltage (kV)	CUS2000M-12/24/36/48	Test Voltage (kV)	CUS2000M-12/24/36/48
0.5	PASS	0.5	PASS
1	PASS	1	PASS
2	PASS	2	PASS
4	PASS		

6. Conducted Disturbances Induced by Radio-Frequency Field Immunity Test (IEC61000-4-6)

MODEL: CUS2000M

(1) Equipment Used

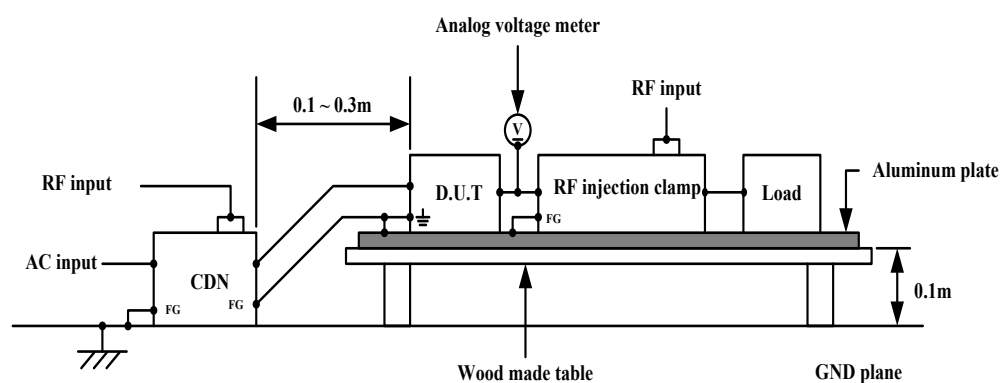
Compact RF Generator : CIT-10-75 (FRANKONIA)
Coupling-Decoupling Network : CDN-M1 (FRANKONIA)
: CDN-M2+3-32A (FRANKONIA)

(2) Test Conditions

• Input Voltage : 100, 240VAC • Output Voltage : Rated
• Output Current : 100% • Ambient Temperature : 25°C
• Electromagnetic Frequency : 150kHz~80MHz • Sweep Condition : 1.0% Step Up, 0.5 Seconds Hold

(3) Test Method

Apply to (N, L, $\pm$), (N, L), (N), (L), ($\pm$), (V+, V-), (STBY+, STBY-), (R+, R-), (S+, S-), (PG)



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Test terminal	Voltage Level (V)	CUS2000M-12/24/36/48
Input/Output/Signal Port	1	PASS
	3	PASS
	10	PASS

7. Power Frequency Magnetic Field Immunity Test (IEC61000-4-8)

MODEL: CUS2000M

(1) Equipment Used

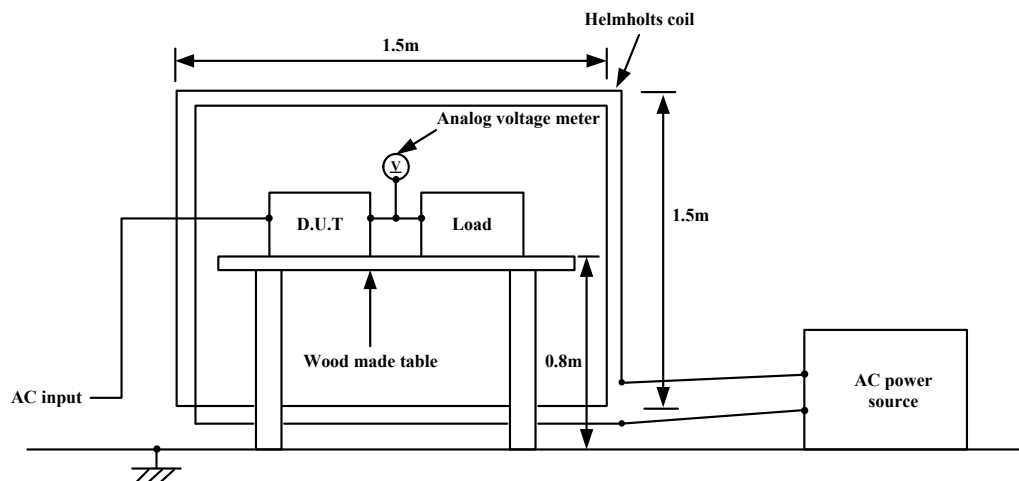
AC Power Source & Signal Phase Power Analyzer & Shunt Resister : EMS61000-8K (EVERFINE)

Helmholts Coil : MFC-5 (EVERFINE)

(2) Test Conditions

- Input Voltage : 100, 240VAC
- Output Voltage : Rated
- Output Current : 100%
- Magnetic Frequency : 50Hz, 60Hz
- Ambient Temperature : 25°C
- Direction : X, Y, Z
- Test Time : More than 10 seconds (each direction)

(3) Test Method and Device Test Point



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Magnetic Field Strength (A/m)	CUS2000M-12/24/36/48
1	PASS
3	PASS
10	PASS
30	PASS

8. Voltage Dips, Short Interruptions Immunity Test (IEC61000-4-11)

MODEL: CUS2000M

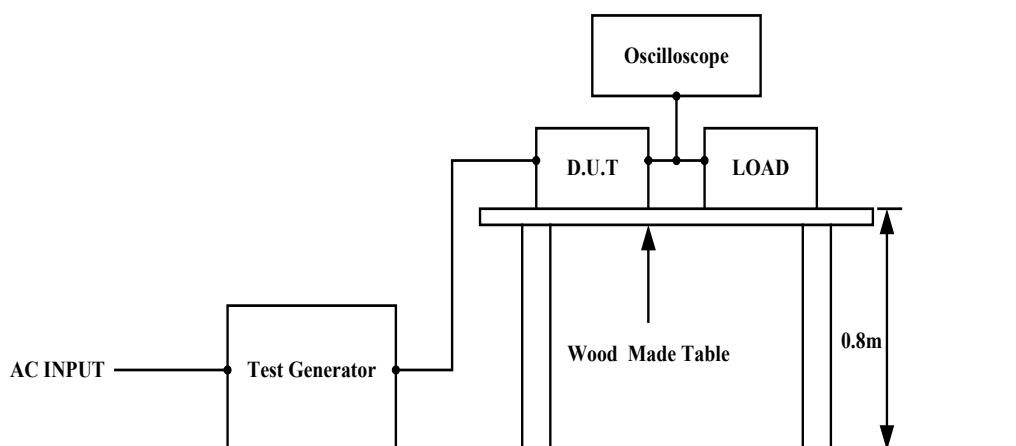
(1) Equipment Used

Test Generator : PCR6000WE2 (KIKUSUI)

(2) Test Conditions

• Input Voltage	: 100, 240VAC	• Output Voltage	: Rated
• Output Current	: 100%	• STBY Output Current	: 100%
• Ambient Temperature	: 25°C	• Number of Tests	: 3 times
• Test interval	: More than 10 seconds		

(3) Test Method and Device Test Point



(4) Acceptable Conditions

Criteria A

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

Criteria B

1. Must not have temporary function degradation that requires input restart.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Phenomenon	Test Level	Dip rate	Continue Time	Input Voltage Range	Criteria	CUS2000M-12/24/36/48
Voltage dips	80%	20%		100 ~ 120VAC	A	PASS
				200 ~ 240VAC	A	PASS
	70%	30%	500ms	100 ~ 120VAC	A	PASS
				200 ~ 240VAC	A	PASS
	40%	60%	200ms	100 ~ 120VAC	A : $\leq 800W$, B : $> 800W$	PASS
				200 ~ 240VAC	A	PASS
	0%	100%	20ms	100 ~ 120VAC	A : $\leq 1000W$, B : $> 1000W$	PASS
				200 ~ 240VAC	A : $\leq 1000W$, B : $> 1000W$	PASS
Short Interruptions	0%	100%	10ms	100 ~ 120VAC	A : $\leq 1400W$, B : $> 1400W(12V)$ A(24V,36V,48V)	PASS
				200 ~ 240VAC	A : $\leq 1400W$, B : $> 1400W(12V)$ A(24V,36V,48V)	PASS
			5000ms	100 ~ 120VAC	B	PASS
				200 ~ 240VAC	B	PASS

9. Electrostatic Discharge Immunity Test (IEC60601-1-2 Ed.4.1)

MODEL: CUS2000M

(1) Equipment Used

Electro Static Discharge Simulator : ESS-S3011A (NOISEKEN)

Discharge Resistance : 330Ω Capacity : 150pF

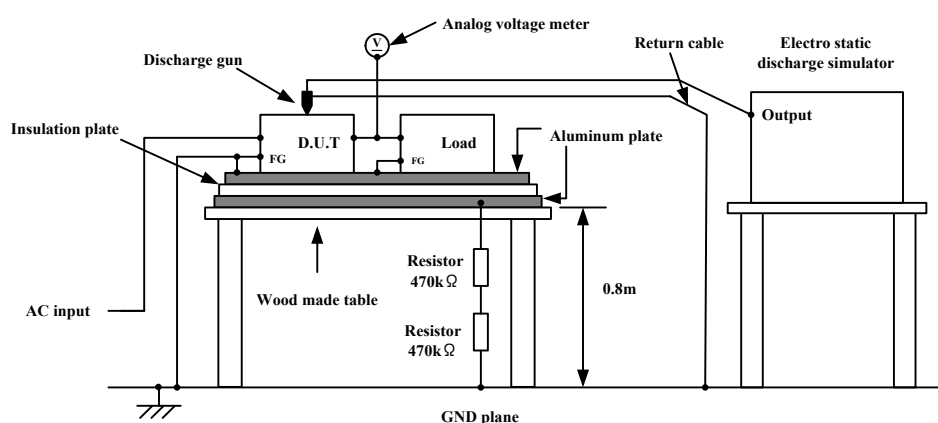
(2) Test Conditions

• Input Voltage	: 100, 240VAC	• Output Voltage	: Rated
• Output Current	: 0%, 100%	• Polarity	: +, -
• Test Times	: 10 times	• Discharge Interval	: > 1 second
• Ambient Temperature	: 25°C		

(3) Test Method and Device Test Point (IEC61000-4-2, ENCLOSURE PORT)

Contact Discharge : ⚡, Mounting screw

Air Discharge : ⚡, Mounting screw, Input and output terminal



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Contact Discharge (kV)	CUS2000M-12/24/36/48	Air Discharge(kV)	CUS2000M-12/24/36/48
2	PASS	2	PASS
4	PASS	4	PASS
6	PASS	8	PASS
8	PASS	15	PASS

10. Radiated Radio-Frequency Electromagnetic Field Immunity Test (IEC60601-1-2 Ed.4.1)

MODEL: CUS2000M

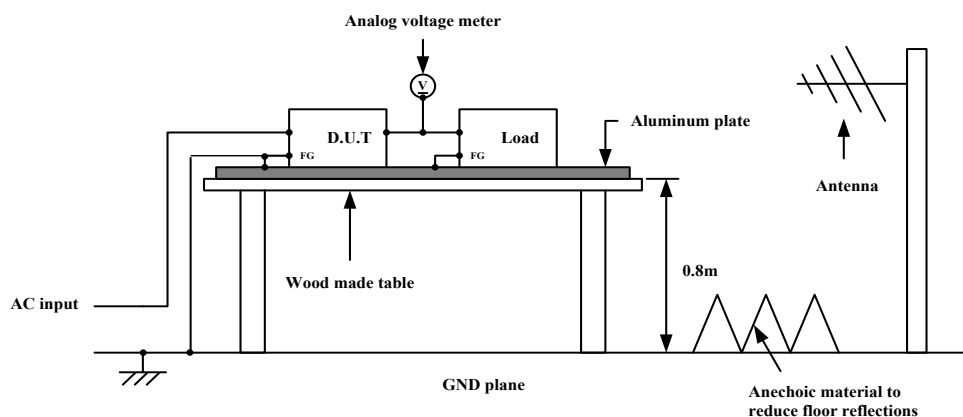
(1) Equipment Used

Signal Generator	: MG3692B (Anritsu)
Logarithmic Periodic Antenna	: VULP9118E (Schwarzbeck)
Horn Antenna	: STLP 9149 (Schwarzbeck)
Stacked Double LOG.Periodic Antenna	: 9128D (SCHWARZBECK)
	: 9149 (SCHWARZBECK)
Power Amplifier	: 80RF 1000-175 (AMETEK)
	: AS0102-65 (AMETEK)
	: AS1860-50 (AMETEK)
	: BBA 100 (R&S)
	: NTWPA-1060300E (RFLIGHT)

(2) Test Conditions

•Input Voltage	: 100, 240VAC	•Output Voltage	: Rated
•Output Current	: 0%, 100%	•Distance(AM)	: 3.0m
•Wave Angle	: Horizontal and Vertical	•Distance(FM,PM)	: 0.3m
•Test Angle	: Top/Bottom, Both Sides, Front/Back	•Ambient Temperature	: 25°C
•Amplitude Modulated(AM)	: 80%, 1kHz, 1.0% step up, 0.5 seconds hold.	•Pulse Modulated(PM)	: 18Hz, 217Hz, 50% duty, 0.5 seconds hold.
•Frequency Modulated(FM)	: 5kHz deviation, 1kHz sine, 0.5 seconds hold.		

(3) Test Method (IEC61000-4-3, ENCLOSURE PORT)



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Modulation	Radiation Field Strength (V/m)	Electromagnetic Frequency	CUS2000M-12/24/36/48
AM	10	80MHz ~2.7GHz	PASS
PM	27	385MHz	PASS
(18Hz)	28	810,870,930MHz	PASS
PM	9	710,745,780,5240,5500,5785MHz	PASS
(217Hz)	28	1720,1845,1970,2450MHz	PASS
FM	28	450MHz	PASS

11. Electrical Fast Transient / Burst Immunity Test (IEC60601-1-2 Ed.4.1)

MODEL: CUS2000M

(1) Equipment Used

EFT/B Generator : EMS61000-4A (EVERFINE)

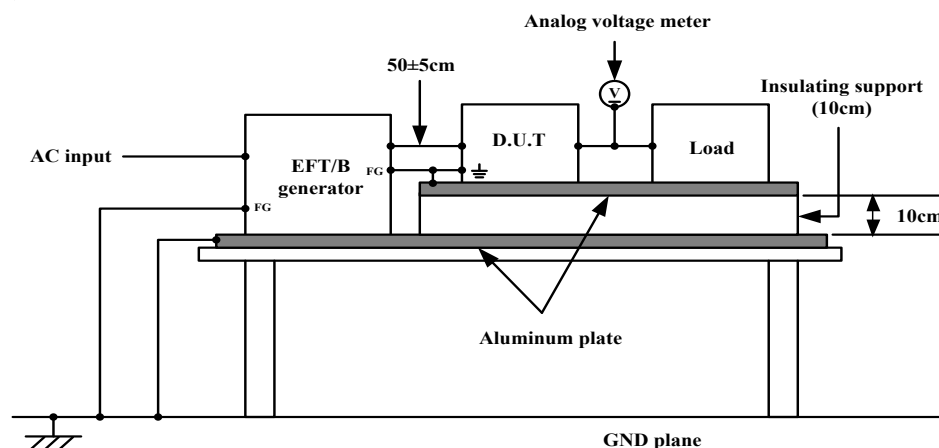
Coupling Clamp : EFTC-2 (EVERFINE)

(2) Test Conditions

• Input Voltage	: 100, 240VAC	• Output Voltage	: Rated
• Output Current	: 0%, 100%	• Test Time	: 1 minute
• Polarity	: +, -	• Ambient Temperature	: 25°C
• Number of Tests	: 1 time	• Pulse Frequency	: 5kHz / 100kHz
• Burst Time	: 15ms / 0.75ms	• Number of Pulse	: 75pcs
• Burst Cycle	: 300ms		

(3) Test Method and Device Test Point

Apply to (N, L, ϕ), (N, L), (N), (L), (ϕ), (V+, V-), (STBY+, STBY-), (R+, R-), (S+, S-), (PG)



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Test terminal	Test Voltage (kV)	Repetition Rate (kHz)	CUS2000M-12/24/36/48
Input/Output Port	0.5	5 / 100	PASS
	1	5 / 100	PASS
	2	5 / 100	PASS
Signal Port	0.25	5 / 100	PASS
	0.5	5 / 100	PASS
	1	5 / 100	PASS

12. Surge Immunity Test (IEC60601-1-2 Ed.4.1)

MODEL: CUS2000M

(1) Equipment Used

Surge Generator : LSS-F03 (NOISEKEN)

Coupling Impedance : Common 12Ω

Normal 2Ω

Coupling Capacitance : Common 9μF

Normal 18μF

(2) Test Conditions

• Input Voltage : 100, 240VAC

• Output Current : 0, 100%

• Polarity : +, -

• Phase : 0, 90, 180, 270 deg

• Output Voltage : Rated

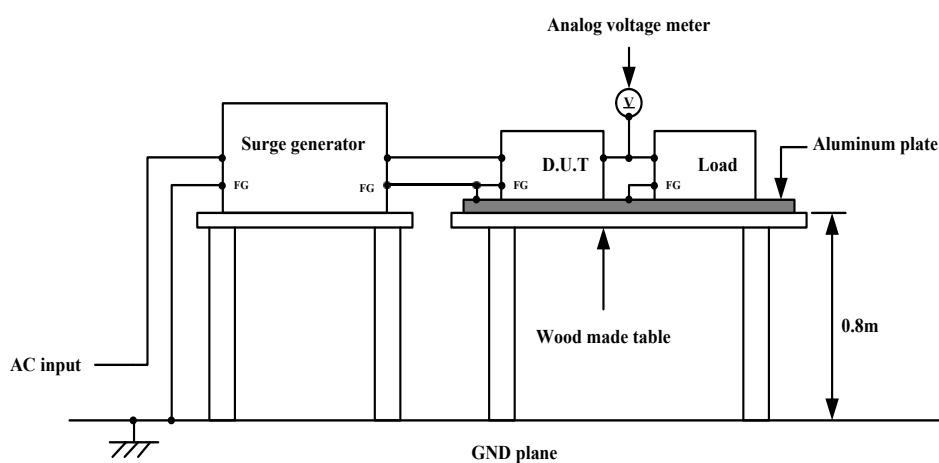
• Number of Tests : 5 times

• Mode : Common, Normal

• Ambient Temperature : 25°C

(3) Test Method and Device Test Points

Apply to Common mode (N- $\pm$, L- $\pm$) and Normal mode (N-L)



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Common		Normal	
Test Voltage (kV)	CUS2000M-12/24/36/48	Test Voltage (kV)	CUS2000M-12/24/36/48
0.5	PASS	0.5	PASS
1	PASS	1	PASS
2	PASS		

13. Conducted Disturbances Induced by Radio-Frequency Field Immunity Test (IEC60601-1-2 Ed.4.1)

MODEL: CUS2000M

(1) Equipment Used

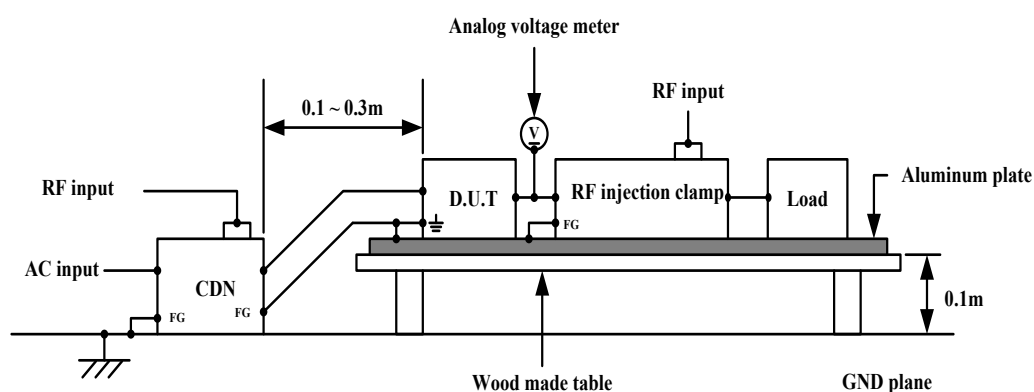
Compact RF Generator : CIT-10-75 (FRANKONIA)
Coupling-Decoupling Network : CDN-M1 (FRANKONIA)
: CDN-M2+3-32A (FRANKONIA)

(2) Test Conditions

• Input Voltage : 100, 240VAC • Output Voltage : Rated
• Output Current : 100% • Ambient Temperature : 25°C
• Electromagnetic Frequency : 150kHz~80MHz • Sweep Condition : 1.0% Step Up, 0.5 Seconds Hold

(3) Test Method

Apply to (N, L, $\pm$), (N, L), (N), (L), ($\pm$), (V+, V-), (STBY+, STBY-), (R+, R-), (S+, S-), (PG)



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Test terminal	Voltage Level (V)	CUS2000M-12/24/36/48
Input/Output/Signal Port	1	PASS
	3	PASS

14. Power Frequency Magnetic Field Immunity Test (IEC60601-1-2 Ed.4.1)

MODEL: CUS2000M

(1) Equipment Used

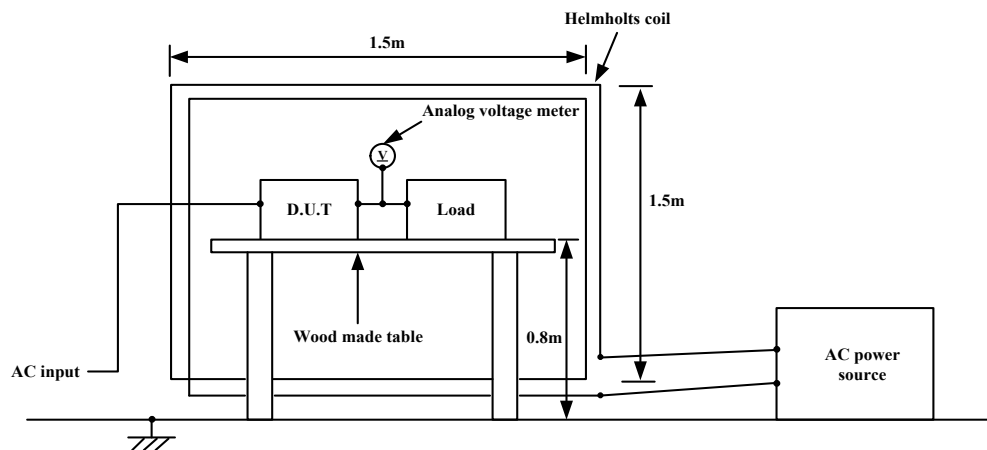
AC Power Source & Signal Phase Power Analyzer & Shunt Resister : EMS61000-8K (EVERFINE)

Helmholts Coil : MFC-5 (EVERFINE)

(2) Test Conditions

- Input Voltage : 100, 240VAC
- Output Voltage : Rated
- Output Current : 100%
- Ambient Temperature : 25°C
- Magnetic Frequency : 50Hz, 60Hz
- Direction : X, Y, Z
- Test Time : More than 10 seconds (each direction)

(3) Test Method (IEC61000-4-8, ENCLOSURE PORT)



(4) Acceptable Conditions

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Magnetic Field Strength (A/m)	CUS2000M-12/24/36/48
1	PASS
3	PASS
10	PASS
30	PASS

15. Voltage Dips, Voltage Interruptions Immunity Test (IEC60601-1-2 Ed.4.1)

MODEL: CUS2000M

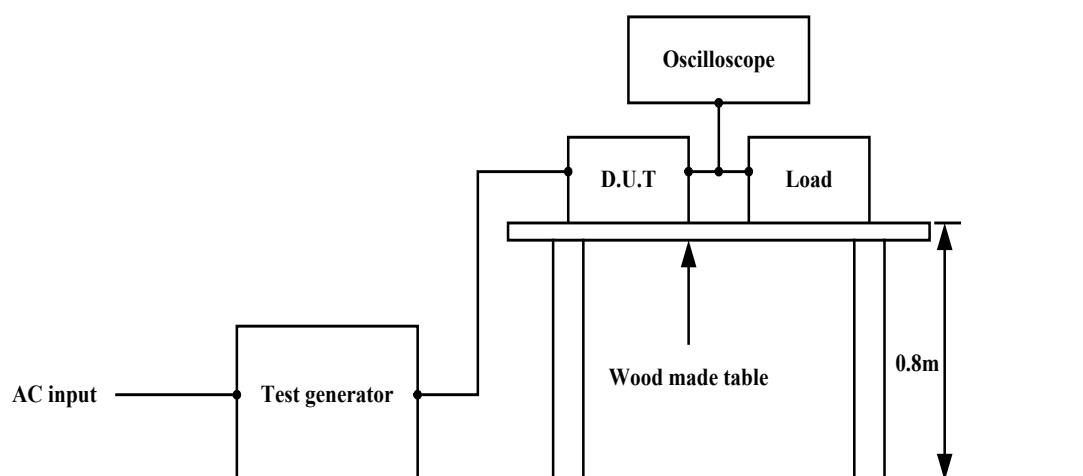
(1) Equipment Used

Test generator : PCR6000WE2 (KIKUSUI)

(2) Test Conditions

• Input Voltage	: 100, 240VAC	• Output Voltage	: Rated
• Output Current	: 100%	• STBY Output Current	: 100%
• Ambient Temperature	: 25°C	• Number of Tests	: 3 times
• Test Interval	: More than 10 seconds		

(3) Test Method (IEC61000-4-11, Input a.c. power PORT)



(4) Acceptable Conditions

Criteria A

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

Criteria B

1. Must not have temporary function degradation that requires input restart.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

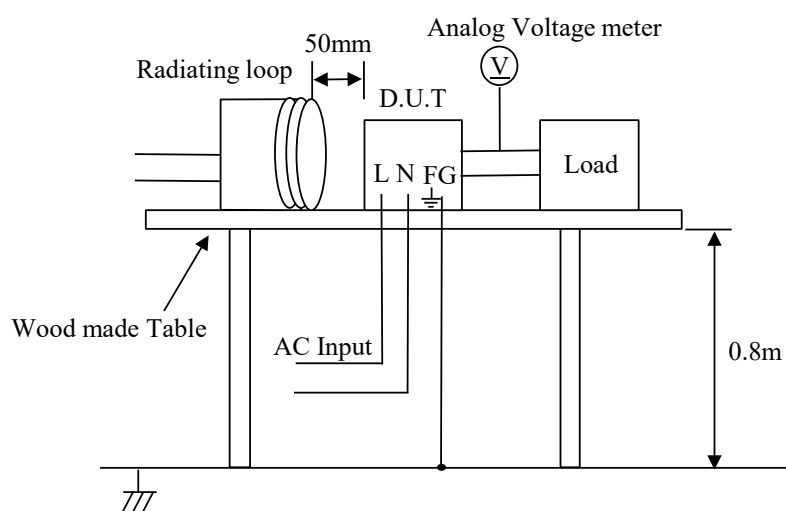
Phenomenon	Test Level	Continue Time	Phase Angles	Input Voltage Range	Criteria	CUS2000M-12/24/36/48
Voltage dips	70%	500ms	0 deg	100VAC	A	PASS
				240VAC	A	PASS
	0%	10ms	0,45,90,135,180,225,270,315 deg	100VAC	A : $\leq 1400W$, B : $> 1400W(12V)$ A(24V,36V,48V)	PASS
				240VAC	A : $\leq 1400W$, B : $> 1400W(12V)$ A(24V,36V,48V)	PASS
	0%	20ms	0 deg	100VAC	A : $\leq 1000W$, B : $> 1000W$	PASS
				240VAC	A : $\leq 1000W$, B : $> 1000W$	PASS
Voltage interruptions	0%	5000ms	0 deg	100VAC	B	PASS
				240VAC	B	PASS

16. Radiated Field In Close Proximity Immunity Test (IEC60601-1-2 Ed.4.1)**MODEL: CUS2000M****(1) Equipment Used**

Signal generator	: SMC100A (R&S)
Power amplifier system	: BBA150-AB200 (R&S) : NFCN9734 (SCHWARZBECK)
Loop sensor	: FESP5134-40 (SCHWARZBECK)
Radiating loop	: FESP5132 (SCHWARZBECK) : FESP5139 (SCHWARZBECK)

(2) Test Conditions

Input Voltage	: 100, 240VAC	Output Voltage	: Rated
Output Current	: Full load	Distance	: 50mm
Test Angle	: Top/Bottom, Both Sides, Front/Back	Ambient Temperature	: 25°C
Test Time	: 2sec for each coil position		

(3) Test Method (IEC61000-4-39)**(4) Acceptable Conditions**

1. The regulation of output voltage must not exceed 5% of initial value during test.
2. The output voltage must be within the regulation of specification after the test.
3. Smoke and fire are not allowed.

(5) Test Result

Test Frequency	Immunity test level (A/m)	Modulation	CUS2000M-12/24/36/48
30kHz	8	Continuous waves	PASS
134.2kHz	65	Pulse Modulation 50%, 2.1kHz	PASS
13.56MHz	7.5	Pulse Modulation 50%, 50kHz	PASS