

EM/EMS Test Result

According to IEC60601-1-2 4th Edition (EMS)

Model Name : GHA500F series

The EUT is operated with following condition during EM/EMS test.

Input Voltage : 230VAC / 50Hz
Output Current : Rated Current
Ambient Temperature : 25°C ± 10°C

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#	Subject	Reference standard	Test Condition	Criteria *1	Result
1	EMI	Conducted Emission	EN55011, EN55032 Class B CISPR 32 Class B FCC Part15 Class B VCCI Class B	-	Pass
2		Radiated Emission	EN55011, EN55032 Class B CISPR 32 Class B FCC Part15 Class B VCCI Class B	-	Pass
3		Harmonic Current	IEC61000-3-2 Class A	-	Pass
4	EMS	Electrostatic discharge immunity test	IEC61000-4-2 Contact Discharge : Level 4 (8kV) Air Discharge : Level 4 (15kV)	A	Pass
5		Radiated, radio-frequency, electromagnetic field immunity test	IEC61000-4-3 10V/m : (80MHz~2.7GHz) 80% Amplitude modulated	A	Pass
6		Electrical fast transient / Burst immunity test	IEC61000-4-4 Level 3 (2kV) Repetition Rate : 100kHz *2	A	Pass
7		Surge immunity test	IEC61000-4-5 Line to Line : Level 3 (2kV) Line to Earth : Level 4 (4kV)	B	Pass
8		Immunity to conducted disturbances, induced by radio-frequency fields	IEC61000-4-6 Voltage Level (e.m.f.) : Level 3 (10Vrms)	A	Pass
9		Power frequency magnetic field Immunity test	IEC61000-4-8 Magnetic Field Strength : Level 4 (30A/m)	A	Pass
10		Voltage dips, short interruptions and voltage variations immunity test	IEC61000-4-11 (1) 100% dip for 10ms, 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° (2) 100% dip for 20ms, 0° (3) 60% dip for 100ms, 0° (4) 30% dip for 500ms, 0° (5) 100% dip for 5 seconds (short interruption)	A A *3 B B B	Pass Pass Pass Pass Pass

*1 Output load is 70% of rated current.

***1 Definition of Criteria**

Criteria A : (1) No output voltage drop with control circuit failure.
(2) No protection circuit and other circuit malfunction.

Criteria B : (1) The output voltage is temporary degradation of performance.
It recovers its normal performance without operator intervention.
(2) No protection circuit and other circuit failure.

*2 Required adding ferrite core RFC-H13 (Kitagawa Industries Co., Ltd.) or equivalent on the input line.

*3 Required to limit the output power less than 360W to comply with this condition.

<Notes>

Power supply shall not determine the final equipment performance against EMS test. Therefore we confirmed the output voltage performance only. EMS test should be performed as a final product.