



EMC TEST REPORT

Test Report No. : 31EE0164-HO

Applicant : IDEC CORPORATION
Type of Equipment : Programmable Controller
Model No. : FC5A-D12K1E
FC5A-D12S1E
FC4A-K4A1
FC4A-PM128
Test standard : EN 61131-2: 2007
Test Result : Complied

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the above standard(s).
4. The test results in this test report are traceable to the national or international standards.

Date of test:

January 5 to 17, 2011

**Representative
test engineer:**

Takeshi Choda
Engineer of WiSE Japan,
UL Verification Service

Approved by :

Masanori Nishiyama
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SECTION 1: Customer information

Company Name : IDEC CORPORATION
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Contact Person : Kenichi Takahashi

SECTION 2: Equipment Under Test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment : Programmable Controller
Model No. : FC5A-D12K1E
FC5A-D12S1E
FC4A-K4A1
FC4A-PM128
Serial No. : Refer to Section 4, Clause 4.2
Rating : DC 24V
Receipt Date of Sample : December 24, 2010
Country of Mass-production : Japan
Condition of EUT : Engineering prototype
(Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT : No Modification by the test lab

2.2 Product description

Model No: FC5A-D12K1E, FC5A-D12S1E, FC4A-K4A1 and FC4A-PM128 (referred as the EUT in this report) are the Programmable Controller.

Clock frequency(ies) in the system : FC5A-D12K1E: 8MHz, 8MHz, 10MHz, 25MHz
FC5A-D12S1E: 8MHz, 8MHz, 10MHz, 25MHz
FC4A-K4A1: 14.7456MHz
FC4A-PM128: None

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SECTION 3: Test specification, methods & procedures

3.1 Test specification

Title : EN 61131-2: 2007-07
: Programmable controllers -
Part 2: Equipment requirements and tests
EMC Immunity Zone B

3.2 Procedures and results

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Item	Test Procedure	Limits	Deviation	Worst margin	Result
Conducted emission	CISPR 16-2-1 and CISPR 16-1-2	EN 61131-2 Table 29	N/A	N/A *1)	N/A
Radiated emission	CISPR 16-2-3	EN 61131-2 Table 29	N/A *1)	8.0dB 225.009MHz, Horizontal, QP	Complied

*1) Measurements were limited up to 1GHz since the highest frequency of internal source of the EUT is less than 108MHz.

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Item	Test Procedure	Specification	Criterion	Actual Performance	Result
Electrostatic discharge	EN 61000-4-2:1995 +A1:1998+A2:2001	±4kV indirect discharge ±4kV contact discharge ±8kV air discharge	B	±2kV, ±4kV contact discharge ±2kV, ±4kV, ±8kV air discharge	Complied
Radio-frequency electromagnetic field	EN 61000-4-3:2006 +A1: 2008	80-1000MHz: 10V/m 1.4-2.0GHz: 3V/m 2.0-2.7GHz: 1V/m (unmodulated, r.m.s.) AM, 1kHz, 80%	A	80-1000MHz: 11.5V/m 1400-2000MHz: 3.5V/m 2000-2700MHz: 1.2V/m (unmodulated, r.m.s.) 80% AM, 1kHz	Complied
Electrical fast transient/burst	EN 61000-4-4:2004	±2.0kV (AC and DC Power ports) ±1.0kV (Signal Lines) 5/50ns, 5kHz	B	<u>DC Power ports</u> ±2.0kV <u>Signal ports</u> ±1.0kV 5/50ns, 5kHz	Complied
Surge	EN 61000-4-5:2006	±2.0kV (Common mode) ±1.0kV (Normal mode) 1.2/50us(8/20us)	B	<u>DC mains power input ports</u> ±0.5kV, ±1.0kV (Common) ±0.5kV (Normal) 1.2/50us	Complied
Radio-frequency conducted disturbances	EN 61000-4-6:2009	0.15-80MHz 10V (unmodulated, r.m.s.) AM, 1kHz, 80%	A	<u>DC Power ports</u> , <u>Signal ports</u> 0.15-80MHz, 10.5V (unmodulated, r.m.s.) 80% AM, 1kHz	Complied
Power frequency magnetic field	EN 61000-4-8:1993 +A1:2001	50, 60 Hz 30A/m	A	50/60Hz, 31.5A/m(r.m.s.)	Complied
Voltage dips and short interruptions	EN 61000-4-11:2004	0% Ut 0.5 cycle (dips) 40% Ut 10/12 cycle at 50/60Hz(dips) 70% Ut 25/30 cycle at 50/60Hz(dips) 0% Ut 250/300 cycle at 50/60Hz(interruptions) Ut: Rated voltage of EUT	A C C C	N/A	N/A

* The test was not performed based on the customer's test plan.

3.3 Addition to standard

No addition, exclusion nor deviation has been made from the standard.

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