

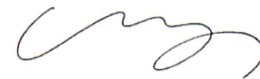
## Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

<b>Manufacturer</b>	<b>IDEC Corporation</b>
<b>Address</b>	22-6-64 Nishimiyahara, Yodogawa-Ku, Osaka 532-0004 Japan
<b>Place of Production</b>	IDEC IZUMI TAIWAN CORPORATION No. 87, Swi Kuan Road, Chu Hou Village, Jen Wu Country, Kaohsiung, Hsien 814 Taiwan  SHINKO TECHNOS CO., LTD. SANDA FACTORY 501-19 Fukushima, Sanda, Hyogo, 669-1313 Japan  KAYBRIGHT ELECTRICITY (HUIZHOU) CO., LTD. Shunju Village Chayuan Village, Qiuchang Street, Huiyang District, Huizhou, Guangdong, 516221, China
<b>Type</b>	Control Systems
<b>Description</b>	Programmable Controller
<b>Trade Name</b>	FC6A and FC6B Series (See Appendix for more details)
<b>Application</b>	Marine and offshore applications for use in environmental categories ENV 2 & ENV3 in the "General Power Distribution Zones" as defined in LR Type Approval System Test Specification No. 1-2019 where the Test Specification is satisfactory for the intended operation.
<b>Ratings</b>	Power Supply : 3.3VDC, 5VDC, 12 VDC, 24 VDC, 100-240VAC 50/60Hz
<b>Additional Tests</b>	IACS Unified Requirement E10 (Rev.7)
<b>Other Conditions</b>	The certificate attests to the hardware's suitability for the environmental categories stated.  Suitability of the software and system configuration is subject to a separate plan appraisal according to the Lloyd's Register Rules and Regulations when placed on Lloyd's Register classed vessels.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Group Ltd of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document No. LR2011028TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.



**Toshihiro Shigeno**

Innovation / Type Approval Coordinator and  
Senior Surveyor to Lloyd's Register Group Ltd  
A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United  
Kingdom

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**LLOYD'S REGISTER TYPE APPROVAL**  
**Issue by: Yokohama Technical Support Office**  
**Issued to: IDEC CORPORATION**  
**For: PROGRAMMABLE CONTROLLER, FC6A and FC6B Series**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System Procedure TA14 Version 03 (July 2017) and this Design Appraisal Document forms part of the Certificate.

This is a renewal of certificate 15/10025(E5).

**APPROVAL DOCUMENTATION**

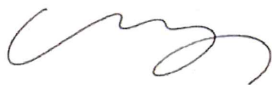
<u>Title</u>	<u>Document Ref.</u>	<u>Date</u>
Request for Marine Services – Type Approval	2502TA	April 21 2020
Application Checklist – Appendix to Form 2502TA/2502TA MR	-	April. 21. 2020
List of Drawing and Documents	16-306-019B	4 April 2016
Product Covered and Ratings	16-306-020	1 March 2016
External Configurations	16-306-033	7 March 2016
Catalogue for Micro Smart FC6A Micro Programmable Logic Controllers	EP1575-1	February 2016
Block Diagram	16-306-038	9 March 2016
Block Diagram	16-306-048	9 March 2016
Test Sample Selection	16-306-039	8 March 2016
Test Specifications	16-306-040	8 March 2016
List of Drawing and Documents	16-306-013	3 February 2016
Product specification	Y1513-0L20E	19 October 2015
	(Only applicable parts of additional models listed in 16-306-013)	
Test Specifications	-	-
Materials Index	-	-
Electrical Components List (1)	-	-
Printed Wiring Board Drawing List	-	-
Schematic Diagram List	-	-
Test Specifications (for Enhancement of EMC)	17-306-030	8 May 2017
Programmable Controller FC6A Series Analog Modules (for Enhancement of EMC)	-	-
Programmable Controller FC6A Series & FC6B Series Additional Modules Test Specifications	17-306-029N	15 November 2017
Schematic Diagram Index & Drawings	-	-
Parts List Index & Drawings	-	-
Drawing List for PWB & Drawings	-	-
Test Specifications	18-306-037N	3 September 2018
Product Covered	-	-
Comparison List Index	-	-
Schematic Diagram Index	-	-



Parts List Index	-	-
Drawing List for PWB (No.1 to No.4)	-	-
Test Specifications	20-306-007	2020.5.11
List of Drawings and Documents	20-306-001	2020.04.15

**TEST REPORTS**

<u>Title</u>	<u>Document Ref.</u>	<u>Date</u>
Type Approval Test of FC6A additional Modules for Maritime Application with JQA Test Report	KL80160235	15 July 2016
Software data sheet	16-RD219-044	14 December 2015
Test report of Type Approval for Thermo Resistance Bulb PTR-HD/PTR-HS	LR01(H)-2016	JUNE. 24. 2016
Test report of Type Approval on Insulation test, Dry heat test, High voltage test for Thermo Resistance Bulb PTR-HD/PTR-HS	LR01(H)-RDV-2016 (Test Report No. 16-086€)	JUNE. 24. 2016 (Issue no June 3, 2016)
Test report of Type Approval on Vibration test 1 for Thermo Resistance Bulb PTR-HD/PTR-HS	LR01(H)-Vib1-2016 (Test Report No. 16-087€)	JUNE. 24. 2016 (Issue no June 3, 2016)
Test report of Type Approval on Vibration test 2 for Thermo Resistance Bulb PTR-HD/PTR-HS	LR01(H)-Vib2-2016 (Test Report No. 16-088€)	JUNE. 24. 2016 (Issue no June 3, 2016)
Test report for LR - Programmable Controller Additional Circuit FC6A Series Analog Modules (for Enhancement of EMC)	-	June 15, 2017
Programmable Controller FC6A Series & FC6B Series Additional Modules Test Report	18-306-011N	19 March 2018
Test Report	18-306-039N	10 October 2018
Programmable Controller FFC6A Series Alternate Circuit by IDEC Corporation	KL80180398	10 October 2018
Test Report	20-306-016N	July 13, 2020
TEST REPORT for Lloyd's Register	KL80200166	July 2, 2020
Test Report		



T. Shigeno  
 Innovation/Type Approval Coordinator and  
 Senior Surveyor to Lloyd's Register Group Limited





**Supplementary Type Approval Terms and Conditions**

*Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.*

*Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.*

*Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations. Lloyd's Register Group Limited reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.*



## Appendix

### TYPE

FC6A Series Comprising:-

#### CPU Modules

FC6A-M16R1	:	DC Power Supply, 8-DC Input, 8-Relay Output
FC6A-M16R4		
FC6A-M16R1E		
FC6A-M16R4E		
FC6A-M16P1	:	DC Power Supply, 8-DC Input, 8-Transistor Source Output
FC6A-M16P4		
FC6A-M16P1E		
FC6A-M16P4E		
FC6A-M32P3	:	DC Power Supply, 16-DC Input, 16-Transistor Source Output
FC6A-M32P3E		
FC6A-C16R1A	:	AC Power Supply, 9-DC Input, 7-Relay Output
FC6A-C16R1AE		
FC6A-C16R1CE	:	DC Power Supply, 9-DC Input, 7-Relay Output
FC6A-C24R1A	:	AC Power Supply, 14-DC Input, 10-Relay Output
FC6A-C24R1AE		
FC6A-C24R1CE	:	DC Power Supply, 14-DC Input, 10-Relay Output
FC6A-C40R1A	:	AC Power Supply, 24-DC Input, 16-Relay Output
FC6A-C40R1AE		
FC6A-C40R1CE	:	DC Power Supply, 24-DC Input, 16-Relay Output
FC6A-C40R1DE		
FC6A-C16P1C	:	DC Power Supply, 9-DC Input, 7-Transistor Source Output
FC6A-C16P1CE		
FC6A-C24P1C	:	DC Power Supply, 14-DC Input, 10-Transistor Source Output
FC6A-C24P1CE		
FC6A-C40P1C	:	DC Power Supply, 24-DC Input, 16-Transistor Source Output
FC6A-C40P1CE		
FC6A-C40P1DE		
FC6A-C16K1C	:	DC Power Supply, 9-DC Input, 7-Transistor Sink Output
FC6A-C16K1CE		
FC6A-C24K1C	:	DC Power Supply, 14-DC Input, 10-Transistor Sink Output
FC6A-C24K1CE		
FC6A-C40K1C	:	DC Power Supply, 24-DC Input, 16-Transistor Sink Output
FC6A-C40K1CE		
FC6A-C40K1DE	:	DC Power Supply, 24-DC Input, 16-Transistor Sink Output
FC6A-C40R1AEJ	:	AC Power Supply, 24-DC Input, 6-Relay Output
FC6A-C40R1CEJ	:	DC Power Supply, 24-DC Input, 16-Relay Output
FC6A-C40R1DEJ		



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FC6A-C40P1CEJ	:	DC Power Supply, 24-DC Input, 16-Transistor Source Output
FC6A-C40P1DEJ	:	
FC6A-C40K1CEJ	:	DC Power Supply, 24-DC Input, 16-Transistor Sink Output
FC6A-C40K1DEJ	:	
FC6A-D16R1CEE	:	DC Power Supply, 8-DC Input, 8-Relay Output
FC6A-D16P1CEE	:	DC Power Supply, 8-DC Input, 8- Transistor Source Output
FC6A-D16K1CEE	:	DC Power Supply, 8-DC Input, 8- Transistor Sink Output
FC6A-D32P3CEE	:	DC Power Supply, 16-DC Input, 16- Transistor Source Output
FC6A-D32K3CEE	:	DC Power Supply, 16-DC Input, 16- Transistor Sink Output
FC6A-D16R4CEE	:	DC Power Supply, 8-DC Input, 8-Relay Output
FC6A-D16P4CEE	:	DC Power Supply, 8-DC Input, 8- Transistor Source Output
FC6A-D16K4CEE	:	DC Power Supply, 8-DC Input, 8- Transistor Sink Output
FC6A-D32P4CEE	:	DC Power Supply, 16-DC Input, 16- Transistor Source Output
FC6A-D32K4CEE	:	DC Power Supply, 16-DC Input, 16- Transistor Sink Output

Input Modules

FC6A-N08B1	:	DC Power Supply (Internal), 8-DC Input
FC6A-N08B4	:	
FC6A-N16B1	:	DC Power Supply (Internal), 16-DC Input
FC6A-N16B3	:	
FC6A-N16B4	:	
FC6A-N32B3	:	DC Power Supply (Internal), 32-DC Input
FC6A-N08A11	:	DC Power Supply (Internal), 8-AC Input
FC6A-N08A14	:	

Output Modules

FC6A-R081	:	DC Power Supply (internal), 8-Relay Output
FC6A-R084	:	
FC6A-R161	:	DC Power Supply (internal), 16-Relay Output
FC6A-R164	:	
FC6A-T08P1	:	DC Power Supply (internal), 8-Transistor Source Output
FC6A-T08P4	:	
FC6A-T16P1	:	DC Power Supply (internal), 16-Transistor Source Output
FC6A-T16P3	:	
FC6A-T16P4	:	
FC6A-T32P3	:	DC Power Supply (internal), 32-Transistor Source Output
FC6A-T08K1	:	DC Power Supply (internal), 8-Transistor Sink Output
FC6A-T08K4	:	
FC6A-T16K1	:	DC Power Supply (internal), 16-Transistor Sink Output
FC6A-T16K3	:	
FC6A-T16K4	:	
FC6A-T32K3	:	DC Power Supply (internal), 32-Transistor Sink Output





I/O Mixture Modules

FC6A-M08BR1	:	DC Power Supply (internal), 4-DC Input, 4-Relay Output
FC6A-M08BR4	:	
FC6A-M24BR1	:	DC Power Supply (internal), 16-DC Input, 8-Relay Output
FC6A-M24BR4	:	
FC6A-TYS4	:	DC Power Supply (internal), 12-DC Input, 8-Transistor Source Output

Analog Modules

FC6A-J2C1	:	2-Analog Input
FC6A-J2C4	:	
FC6A-J4A1	:	4-Analog Input
FC6A-J4A4	:	
FC6A-J8A1	:	8-Analog Input
FC6A-J8A4	:	
FC6A-K2A1	:	2-Analog Output
FC6A-K2A4	:	
FC6A-K4A1	:	4-Analog Output
FC6A-K4A4	:	
FC6A-L06A1	:	4-Analog Input, 2-Analog Output
FC6A-L06A4	:	
FC6A-L03CN1	:	2-Analog Input, 1-Analog Output
FC6A-L03CN4	:	
FC6A-J4CN1	:	4-Analog Input
FC6A-J4CN4	:	
FC6A-J8CU1	:	8-Analog Input
FC6A-J8CU4	:	
FC6A-F2MR1	:	2-Analog Input, 2-Relay Output
FC6A-F2MR4	:	
FC6A-F2M1	:	2-Analog Input, 2-Analog Output or 2-Transistor Output
FC6A-F2M4	:	
FC6A-J4CH1Y	:	4-Analog Input
FC6A-J4CH4Y	:	

Option Modules

FC6A-PJ2A	:	2-Analog Input
FC6A-PK2AV	:	2-Analog Output
FC6A-PK2AW	:	2-Analog Output
FC6A-PJ2CP	:	2-Analog Input
PC6A-PC1	:	2-Serial Communication (RS232C/RS485)
PC6A-PC2	:	2-Serial Communication (RS232C/RS485)
PC6A-PC3	:	1-Serial Communication (RS485)
FC6A-PC4	:	Bluetooth Communication



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FC6A-PTS4	:	Cartridge Module, DC Power Supply, 4-Transistor Source Output
FC6A-PTK4	:	Cartridge Module, DC Power Supply, 4-Transistor Sink Output
FC6A-PN4	:	Cartridge Module, DC Power Supply, 4-DC Input
FC6A-PC99	:	Cartridge Module, 1-Serial Communication (RS485)

Expansion Interface Module

FC6A-EXM2	:	DC Power Supply (Internal)
FC6A-EXM1M	:	DC Power Supply (Internal)
FC6A-EXM1S	:	DC Power Supply
FC6A-EXM24	:	DC Power Supply
FC6A-EXM1S4	:	DC Power Supply

Communication Module

FC6A-SIF52	:	DC Power Supply (Internal)
FC6A-SIF524	:	DC Power Supply (Internal)

Cartridge Base Module

FC6A-HPH1	:	Cartridge Base Module
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HMI module

FC6A-PH1	:	DC Power Supply (Internal)
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FC6B Series Comprising:-

CPU Modules


FC6B-C16R1A	:	AC Power Supply, 9-DC Input, 7-Relay Output
FC6B-C16R1C	:	DC Power Supply, 9-DC Input, 7-Relay Output
FC6B-C24R1A	:	AC Power Supply, 14-DC Input, 10-Relay Output
FC6B-C24R1C	:	DC Power Supply, 14-DC Input, 10-Relay Output
FC6B-C40R1A	:	AC Power Supply, 24-DC Input, 16-Relay Output
FC6B-C40R1C	:	DC Power Supply, 24-DC Input, 16-Relay Output
FC6B-C16P1C	:	DC Power Supply, 9-DC Input, 7-Transistor Source Output
FC6B-C24P1C	:	DC Power Supply, 14-DC Input, 10-Transistor Source Output
FC6B-C40P1C	:	DC Power Supply, 24-DC Input, 16-Transistor Source Output
FC6B-C16K1C	:	DC Power Supply, 9-DC Input, 7-Transistor Sink Output
FC6B-C24K1C	:	DC Power Supply, 14-DC Input, 10-Transistor Sink Output
FC6B-C40K1C	:	DC Power Supply, 24-DC Input, 16-Transistor Sink Output
FC6B-D16R1C	:	DC Power Supply, 8-DC Input, 8-Relay Output
FC6B-D16P1C	:	DC Power Supply, 8-DC Input, 8-Transistor Source Output





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FC6B-D16K1C	:	DC Power Supply, 8-DC Input, 8-Transistor Sink Output
FC6B-D32P3C	:	DC Power Supply 16-DC Input, 16-Transistor Source Output
FC6B-D32K3C	:	DC Power Supply, 16-DC Input, 16-Transistor Sink Output
FC6B-D16R4C	:	DC Power Supply, 8-DC Input, 8-Relay Output
FC6B-D16P4C	:	DC Power Supply, 8-DC Input, 8-Transistor Source Output
FC6B-D16K4C	:	DC Power Supply, 8-DC Input, 8-Transistor Sink Output
FC6B-D32P4C	:	DC Power Supply 16-DC Input, 16-Transistor Source Output
FC6B-D32K4C	:	DC Power Supply, 16-DC Input, 16-Transistor Sink Output



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