



CERTIFICATE NUMBER 22-2262249-PDA

EFFECTIVE DATE 16-JUN-2022

EXPIRATION DATE 15-JUN-2027

ABS TECHNICAL OFFICE Yokohama Engineering Services

## CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

**IDEC CORPORATION**

located at

**YODOGAWA-KU, OSAKA CITY, Japan**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

**Product Programmable Logic Controller**

**Model FT1A Series**

This Product Design Assessment (PDA) Certificate remains valid until 15-June-2027 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau of Shipping

Motohiro Tamura  
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

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**Tier: 5 - Unit Certification Required**

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**Product:** Programmable Logic Controller

**Model:** FT1A Series

**Endorsements:**

**Intended Service:**

Programmable Operator Interface Display for Controlling and Monitoring for ACC, ACCU and ABCU Class Vessels

**Description:**

Programmable Logic Controller. For the product list for application, refer to the Attachment of ABS Type Approval Certificate.

**Rating:**

Power supply: 24VDC, 100V - 240V AC 50/60Hz

Operating temperature: 0 to +55 degree C (All equipment except FT1A-C12RA-\*and FT1A-C14\*A\*), -20 to +55 degree C (FT1A-C12RA-\*and FT1A-C14\*A-\*)

Refer to the Attachment of ABS Type Approval Certificate

**Service Restriction:**

- 1) This product does require unit certification in connection with the equipment in which it is used (Computer-based systems Category II).
- 2) The following requirement applicable to computer based system in accordance with 4-9-3 of the Marine Vessels Rules;
  - (a) The assigned system Category II.
  - (b) The requirement evidence to be kept by the manufacturer in accordance with 4-9-3/Table 2 of the Marine Vessels Rules.
  - (c) The tests required to be witness by ABS Surveyor in accordance with 4-9-3/Table 2 of the Marine Vessels Rules.
- 3) This product is not intended to be used for applications which require high reliability and safety.
- 4) Installation environment onboard are areas including bridge and deck zone for "Touch" series and areas except bridge and deck zone for "Pro" and "Lite" series.
- 5) This product is to be enclosed as appropriate for the location in which it is installed when the minimum degree of protection required exceeds IP20.
- 6) If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

**Comments:**

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

**Notes/Drawing/Documentation:**

This DA Certificate is based on the following documents:

Drawing No. 20-306-045\_Ver.3, List of Drawing and Documents, List of Drawing and Documents, Revision: 0, Pages: 1

Drawing No. 1-1.List of application models, 15-306-043, Revision: 0, Pages: 1

Drawing No. 1-2.List of application models, NSH-12046-09, Revision: 0, Pages: 1

Drawing No. 1 List of application models, 20-306-044, Revision: 0, Pages: 1

Drawing No. 2.ISO9001 certificate, JQA-0952, Revision: 0, Pages: 1

Drawing No. 3-1.ISO9001 certificate, FM558206, Revision: 0, Pages: 1

Drawing No. 3-2.ISO9001 certificate, QAIC/JP/0269-A, Revision: 0, Pages: 1

Drawing No. 3.ISO9001 certificate, C0450102-IS2, Revision: 0, Pages: 1

Drawing No. 4.Product catalog, EP1527-0-1, Revision: 0, Pages: 1

Drawing No. 4.Product catalog, EP1527-8-1, Revision: 0, Pages: 1

Drawing No. 5-1.Product specification, Y1494-6L01J, Revision: 0, Pages: 1

Drawing No. 5-2.Product specification, Y1494-0L01E, Revision: 0, Pages: 1

Drawing No. 6-1.Instruction manual, B-1552(2), Revision: 0, Pages: 1

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Drawing No. 6-2.Instruction manual, B-1710, Revision: 3, Pages: 1  
Drawing No. 6-3.Instruction manual, B-1468, Revision: 3, Pages: 1  
Drawing No. 6-4.Instruction manual, B-1475, Revision: 3, Pages: 1  
Drawing No. 6-5.Instruction manual, B-1477, Revision: 2, Pages: 1  
Drawing No. 6.Instruction manual, B-2073, Revision: 0, Pages: 1  
Drawing No. 7-1.Block diagram, 15-306-044, Revision: 0, Pages: 1  
Drawing No. 7-2.Block diagram, 12-RD219-111, Revision: 0, Pages: 1  
Drawing No. 7-3.Block diagram, 12-RD219-116, Revision: 0, Pages: 1  
Drawing No. 8-1.Outline drawing, 15-306-045, Revision: 0, Pages: 1  
Drawing No. 8-2.Outline drawing, 15-306-046, Revision: 0, Pages: 1  
Drawing No. 8-3.Outline drawing, Y1494-6L01D, Revision: 0, Pages: 1  
Drawing No. 8-4.Outline drawing, Y1494-0L01D, Revision: 0, Pages: 1  
Drawing No. 9-1.Main component list, 15-306-047, Revision: 1, Pages: 1  
Drawing No. 9-2.Main component list, 12-RD219-112, Revision: 1, Pages: 1  
Drawing No. 9-3.Main component list, 12-RD219-117, Revision: 0, Pages: 1  
Drawing No. 10-1.Test sample selection, 15-306-049, Revision: 0, Pages: 1  
Drawing No. 10-2.Test sample selection, NSH-12046-11, Revision: 0, Pages: 1  
Drawing No. 10.Test sample selection, 20-R&D-0915, Revision: 0, Pages: 1  
Drawing No. 11-1.Test specification, 15-306-050, Revision: 0, Pages: 1  
Drawing No. 11-2.Test specification, NSH-12046-12, Revision: 0, Pages: 1  
Drawing No. 11.Test specifications, 20-R&D-0916, Revision: 0, Pages: 1  
Drawing No. 12-1.Performance confirmation and criteria, 15-306-051, Revision: 0, Pages: 1  
Drawing No. 12-2.Performance confirmation and criteria, 12-RD219-115, Revision: 2, Pages: 1  
Drawing No. 12-3.Performance confirmation and criteria, 12-RD219-120, Revision: 0, Pages: 1  
Drawing No. 12. Performance confirmation and criteria, 20-R&D-0918, Revision: 0, Pages: 1  
Drawing No. 13-1.Test configuration, 15-306-052B, Revision: 0, Pages: 1  
Drawing No. 13-2. Test configuration, 12-RD219-114 test configuration of FT1A Touch, Revision: 2, Pages: 1  
Drawing No. 13-3.Test configuration, 12-RD219-119, Revision: 0, Pages: 1  
Drawing No. 13. Test configuration, 20-R&D-0919, Revision: 0, Pages: 1  
Drawing No. 13. FT1A Lite/Pro Configuration of Test, 20-R&D-0921, Revision: 0, Pages: 1  
Drawing No. 14-1.Test schedule, 15-306-053D, Revision: 0, Pages: 1  
Drawing No. 14-2.Test schedule, NSH-12046-13, Revision: 0, Pages: 1  
Drawing No. 15.ISO IEC17025 certificate, VLAC-001-2, Revision: 0, Pages: 1  
Drawing No. 16-1.Flame retardance, 15-306-054, Revision: 0, Pages: 1  
Drawing No. 16-2.Flame retardance, 12-RD219-113, Revision: 0, Pages: 1  
Drawing No. 16-3.Flame retardance, 12-RD219-118, Revision: 0, Pages: 1  
Drawing No. 17.Software development manual, 10-391-162, Revision: 0, Pages: 1  
Drawing No. 17.Software maintenance manual, 19-R&D-0901, Revision: 0, Pages: 1  
Drawing No. 17.Software development manual, 19-R&D-0902, Revision: 0, Pages: 1  
Drawing No. 18-1.Copies of EC Declaration of conformity, D1B136/D2B154, Revision: 0, Pages: 1  
Drawing No. 18-2.Copies of EC Declaration of conformity, D1B133/D2B151, Revision: 0, Pages: 1  
Drawing No. 18.Copies of EU Declaration of conformity, D1B133/D2B151/D5B078, Revision: 0, Pages: 1  
Drawing No. 18.Copies of EU Declaration of conformity, D1B136/D2B154/D5B079, Revision: 0, Pages: 1  
Drawing No. 19-1.Type test report, 16-306-017, dated 2 February 2016, Revision: 0, Pages: 1, issued by IDEC CORPORATION  
Drawing No. 19-2.Type test report, 15-306-124, dated 2 February 2016, Revision: 0, Pages: 1, issued by IDEC CORPORATION  
Drawing No. 19-3.Type test report, 15-306-125, dated 2 February 2016, Revision: 0, Pages: 1, issued by IDEC CORPORATION  
Drawing No. 19-4.Type test report, 15-306-126, dated 2 February 2016, Revision: 0, Pages: 1, issued by IDEC CORPORATION  
Drawing No. 19-5.Type test report, 15-306-127, dated 2 February 2016, Revision: 0, Pages: 1, issued by IDEC CORPORATION  
Drawing No. 19-6.Type test report, KL80150276, dated 4 September 2015, Revision: 0, Pages: 1, issued by Japan

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Quality Assurance Organization

Drawing No. 19-7.Type test report, NSH-12046-16, dated 20 September 2013, Revision: 0, Pages: 1, issued by Japan Certification Corporation

Drawing No. 19. TEST REPORT for ABS, 21-306-010, dated 31 August 2021, Revision: 0, Pages: 4, issued by IDEC CORPORATION

Drawing No. 19. TEST REPORT, KL80200585, dated 14 December 2020, Revision: 0, Pages: 48, issued by Japan Quality Assurance Organization

**Terms of Validity:**

This Product Design Assessment (PDA) Certificate remains valid until 15/Jun/2027 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

**STANDARDS**

**ABS Rules:**

2022 Marine Vessel Rules: 1-1-4/7.7, 1-1-A3 & A4, 4-9-3 (Cat II) and 4-9-9/13,

2022 Mobile Offshore Units Rules: 1-1-4/9.7, 1-1-A2 & A3 and 4-3-4/5,

2022 High-Speed Craft: 1-1-4/11.9, 1-1-A2 & A3, 4-7-8 (Cat II) and 4-7-9/15

**National:**

NA

**International:**

NA

**Government:**

NA

**EUMED:**

NA

**OTHERS:**

IACS UR E10 (Rev.8 Feb. 2021) and IACS UR E22 (Rev.2 June 2016 Complete Revision)



Design Assessment (DA) Certificate Attachment for Component Details

DA Certificate No: 22-2262249-PDA  
Issue Date: 16 June 2022  
Expire Date: 15 June 2027  
Company: IDEC CORPORATION  
Product/Equipment: Programmable Logic Controller

An "X" in the following tables indicates the existence of the functions or ports; A bar "—" in the tables indicates nonexistence of the functions or ports.

Touch (Display Models)

Model Number	Rated Voltage	Number of Input/Output	Input Type		Output Type	Program Size	Interfaces	Option Port	LCD	Bezel Color					
			Digital Input (24VDC)	Analog Input (*1)											
FT1A-M12RA-W	24VDC	12 (8 in/4 out)	6	2	4 Relay Outputs:10A	Program Size: 48KB Memory Capacity for Screen Drawing: 5MB	USB-A USB-mini B RS232C RS422/485 Ethernet	—	STN Monochrome	Light Gray					
FT1A-M12RA-B										Dark Gray					
FT1A-M12RA-S										Silver					
FT1A-C12RA-W									TFT Color	Light Gray					
FT1A-C12RA-B										Dark Gray					
FT1A-C12RA-S										Silver					
FT1A-M14KA-W	24VDC	14 (8 in / 6 out)	6 (Tr. Source Inputs)	2	4 Tr. Sink Output 2 Analog Output	Program Size: 48KB Memory Capacity for Screen Drawing: 5MB	USB-A USB-mini B RS232C RS422/485 Ethernet	2	STN Monochrome	Light Gray					
FT1A-M14KA-B										Dark Gray					
FT1A-M14KA-S										Silver					
FT1A-M14SA-W			6 (Tr. Sink Inputs)		4 Tr. Source Output 2 Analog Output					Light Gray					
FT1A-M14SA-B										Dark Gray					
FT1A-M14SA-S										Silver					
FT1A-C14KA-W			6 (Tr. Source Inputs)		4 Tr. Sink Output 2 Analog Output				TFT Color	Light Gray					
FT1A-C14KA-B										Dark Gray					
FT1A-C14KA-S										Silver					
FT1A-C14SA-W			6 (Tr. Sink Inputs)		4 Tr. Source Output 2 Analog Output					Light Gray					
FT1A-C14SA-B										Dark Gray					
FT1A-C14SA-S										Silver					

(\*1) Digital / Analog common

Option for Touch

Model Number	Name	Specification
FC6A-PJ2A	Extended Analog Cartridge	2 Analog Input
FC6A-PK2AV		2 Analog Output
FC6A-PK2AW		2 Analog Output
FC6A-PJ2CP		2 Analog Input

Pro (LCD Models)

Model Number	Rated Voltage	Number of Input/Output	Input Type		Output Type	High Speed Transistor Output	Program Size	Interfaces							
			Digital Input (24VDC)	Analog Input (*1)				USB mini-B Port	Ethernet Port	Extended Communication Port		Memory Cartridge Port	SD Memory Card Slot		
										Part2	Part3				
FT1A-H12RA	24VDC	12 (8 in / 4 out)	6	2	4 Relay Outputs: 10A	—	12 KB	X	—	—	—	X	—		
FT1A-H24RA		24 (16 in / 8 out)	12	4	4 Relay Outputs: 10A 4 Relay Outputs: 2A	—	48 KB		X	X	—		—		
FT1A-H40RKA		40 (24 in / 16 out)	18	6	4 Relay Outputs: 10A 8 Relay Outputs: 2A 4 Tr. Sink Outputs	X					X		X	X	X
FT1A-H40RSA		40 (24 in / 16 out)			4 Relay Outputs: 10A 8 Relay Outputs: 2A 4 Tr. Source Outputs										
FT1A-H48KA		48 (30 in / 18 out)	22	8	18 Tr. Sink Outputs										
FT1A-H48SA		48 (30 in / 18 out)			18 Tr. Source Outputs										
FT1A-H12RC	100-240VAC	12 (8 in / 4 out)	8	—	4 Relay Outputs: 10A	—	12 KB	—	—	—		—			
FT1A-H24RC		24 (16 in / 8 out)	16		4 Relay Outputs: 10A 4 Relay Outputs: 2A		48KB	X	X	—	—				
FT1A-H40RC		40 (24 in / 16 out)	24		4 Relay Outputs: 10A 12 Relay Outputs: 2A					X	X	X	X		
FT1A-H48KC		48 (30 in / 18 out)	30		18 Tr. Sink Outputs	X									
FT1A-H48SC		48 (30 in / 18 out)			18 Tr. Source Outputs	X									

(\*1) Digital / Analog common

Lite (No LCD Models)

Model Number	Rated Voltage	Number of Input/Output	Input Type		Output Type	High Speed Transistor Output	Program Size	Interfaces							
			Digital Input (24VDC)	Analog Input (*1)				USB mini-B Port	Ethernet Port	Extended Communication Port		Memory Cartridge Port	SD Memory Card Slot		
										Part2	Part3				
FT1A-B12RA	24VDC	12 (8 in / 4 out)	6	2	4 Relay Outputs: 10A	—	12 KB	X	—	—	—	X	—		
FT1A-B24RA		24 (16 in / 8 out)	12	4	4 Relay Outputs: 10A 4 Relay Outputs: 2A	—	48 KB		X	X	—		—		
FT1A-B40RKA		40 (24 in / 16 out)	18	6	4 Relay Outputs: 10A 8 Relay Outputs: 2A 4 Tr. Sink Outputs	X					X		X	X	X
FT1A-B40RSA		40 (24 in / 16 out)			4 Relay Outputs: 10A 8 Relay Outputs: 2A 4 Tr. Source Outputs										
FT1A-B48KA		48 (30 in / 18 out)	22	8	18 Tr. Sink Outputs										
FT1A-B48SA		48 (30 in / 18 out)			18 Tr. Source Outputs										
FT1A-B12RC	100-240VAC	12 (8 in / 4 out)	8	—	4 Relay Outputs: 10A	—	12 KB	—	—	—		—			
FT1A-B24RC		24 (16 in / 8 out)	16		4 Relay Outputs: 10A 4 Relay Outputs: 2A		48 KB	X	X	—	—				
FT1A-B40RC		40 (24 in / 16 out)	24		4 Relay Outputs: 10A 12 Relay Outputs: 2A					X	X	X	X		
FT1A-B48KC		48 (30 in / 18 out)	30		18 Tr. Sink Outputs										
FT1A-B48SC		48 (30 in / 18 out)			18 Tr. Source Outputs									X	

(\*1) Digital / Analog common

Option for Pro/Lite

Model Number	Name	Specification
FT1A-PC1	Extended Communication Cartridge	RS232C, mini DIN connector type
FT1A-PC2	Extended Communication Cartridge	RS485, mini DIN connector type
FT1A-PC3	Extended Communication Cartridge	RS485, terminal type
FT1A-PM1	Memory Cartridge	-