



Lloyd's
Register

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.

This certificate is issued to:

PRODUCER	Mitsubishi Electric Corporation, Nagoya Works
PLACE OF PRODUCTION	5-1-14, Yada-minami, Higashi-ku, Nagoya, Aichi, 461-8670, Japan
DESCRIPTION	Programmable Logic Controller
TYPE	MELSEC iQ-F series comprising of: CPU Modules FX5U-32MR/ES : Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Relay FX5U-32MT/ES : Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Transistor (sink) FX5U-32MT/ESS : Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Transistor (source) FX5U-64MR/ES : Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 64 points Input: 32 points, 24 VDC sink/source Output: 32 points, Relay FX5U-64MT/ES : Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 64 points Input: 32 points, 24 VDC sink/source

Certificate No.	16/10018
Issue Date	26 September 2016
Expiry Date	25 September 2021
Sheet	1 of 6

S. Fujii

Yokohama Technical Support Office
Lloyd's Register Group Limited

Lloyd's Register Group Limited
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	Output: 32 points, Transistor (sink)
FX5U-64MT/ESS	: Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 64 points Input: 32 points, 24 VDC sink/source Output: 32 points, Transistor (source)
FX5U-80MR/ES	: Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 80 points Input: 40 points, 24 VDC sink/source Output: 40 points, Relay
FX5U-80MT/ES	: Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 80 points Input: 40 points, 24 VDC sink/source Output: 40 points, Transistor (sink)
FX5U-80MT/ESS	: Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 80 points Input: 40 points, 24 VDC sink/source Output: 40 points, Transistor (source)
FX5UC-32MT/D	: Power supply: 24 VDC Total Number of Point: 32 points Input: 16 points, 24 VDC sink Output: 16 points, Transistor (sink)
FX5UC-32MT/DSS	: Power supply: 24 VDC Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Transistor (source)
FX5UC-64MT/D	: Power supply: 24 VDC Total Number of Point: 64 points Input: 32 points, 24 VDC sink Output: 32 points, Transistor (sink)
FX5UC-64MT/DSS	: Power supply: 24 VDC Total Number of Point: 64 points Input: 32 points, 24 VDC sink/source Output: 32 points, Transistor (source)
FX5UC-96MT/D	: Power supply: 24 VDC

Certificate No.	16/10018
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Expiry Date	25 September 2021
Sheet	2 of 6

S. Fujii
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Lloyd's
Register

	Total Number of Point: 96 points Input: 48 points, 24 VDC sink Output: 48 points, Transistor (sink)
FX5UC-96MT/DSS	: Power supply: 24 VDC Total Number of Point: 96 points Input: 48 points, 24 VDC sink/source Output: 48 points, Transistor (source)
Options	
FX5-8EX/ES	: Power supply: from CPU Module Total Number of Point: 8 points Input: 8 points, 24 VDC sink/source
FX5-8EYR/ES	: Power supply: from CPU Module Total Number of Point: 8 points Output: 8 points, Relay
FX5-8EYT/ES	: Power supply: from CPU Module Total Number of Point: 8 points Output: 8 points, Transistor (sink)
FX5-8EYT ESS	: Power supply: from CPU Module Total Number of Point: 8 points Output: 8 points, Transistor (source)
FX5-16EX/ES	: Power supply: from CPU Module Total Number of Point: 16 points Input: 16 points, 24 VDC sink/source
FX5-16EYR/ES	: Power supply: from CPU Module Total Number of Point: 16 points Output: 16 points, Relay
FX5-16EYT/ES	: Power supply: from CPU Module Total Number of Point: 16 points Output: 16 points, Transistor (sink)
FX5-16EYT/ESS	: Power supply: from CPU Module Total Number of Point: 16 points Output: 16 points, Transistor (source)

Certificate No. 16/10018
Issue Date 26 September 2016
Expiry Date 25 September 2021
Sheet 3 of 6

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FX5-16ET/ES-H	:	Power supply: from CPU Module Total Number of Point: 16 points Input: 8 points, 24 VDC sink Output: 8 points, Transistor (sink)
FX5-16ET/ESS-H	:	Power supply: from CPU Module Total Number of Point: 16 points Input: 8 points, 24 VDC sink/source Output: 8 points, Transistor (source)
FX5-32ER/ES	:	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Relay
FX5-32ET/ES	:	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Transistor (sink)
FX5-32ET/ESS	:	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Transistor (source)
FX5-C16EX/D	:	Power supply: from CPU Module Total Number of Point: 16 points Input: 16 points, 24 VDC sink
FX5-C16EX/DS	:	Power supply: from CPU Module Total Number of Point: 16 points Input: 16 points, 24 VDC sink/source
FX5-C16EYT/D	:	Power supply: from CPU Module Total Number of Point: 16 points Output: 16 points, Transistor (sink)
FX5-C16EYT/DSS	:	Power supply: from CPU Module Total Number of Point: 16 points Output: 16 points, Transistor (source)
FX5-C32EX/D	:	Power supply: from CPU Module Total Number of Point: 32 points

Certificate No.	16/10018
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Expiry Date	25 September 2021
Sheet	4 of 6

S. Fujii
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		Input: 32 points, 24 VDC sink
FX5-C32EX/DS	:	Power supply: from CPU Module Total Number of Point: 32 points Input: 32 points, 24 VDC sink/source
FX5-C32EYT/D	:	Power supply: from CPU Module Total Number of Point: 32 points Output: 32 points, Transistor (sink)
FX5-C32EYT/DSS	:	Power supply: from CPU Module Total Number of Point: 32 points Output: 32 points, Transistor (source)
FX5-C32ET/D	:	Power supply: from CPU Module Total Number of Point: 32 points Input: 16 points, 24 VDC sink Output: 16 points, Transistor (sink)
FX5-C32ET/DSS	:	Power supply: from CPU Module Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Transistor (source)
FX5-1PSU-5V	:	Expansion Power Supply Module
FX5-C1PS-5V	:	Expansion Power Supply Module
FX5-CNV-BC	:	Connector Conversion for Connecting an Extension Cable
FX5-CNV-IF	:	Connector Conversion FX5 (terminal block) -> FX5 (connector)
FX5-CNV-IFC	:	Connector Conversion FX5 (connector) -> FX5 (terminal block)
FX5-CNV-BUS	:	Bus Conversion FX5 (terminal block) -> FX3 (terminal block)
FX5-CNV-BUSC	:	Bus Conversion FX5 (connector) -> FX3 (connector)
FX5-232-BD	:	For RS-232C Communication Board

Certificate No. 16/10018

Issue Date 26 September 2016

Expiry Date 25 September 2021

Sheet 5 of 6

S. Fujii
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Lloyd's
Register

FX5-485-BD	:	For RS-485 Communication Board
FX5-422-BD-GOT	:	For GOT RS-422 Communication Board
FX5-232ADP	:	For RS-232C Communication adapter
FX5-485ADP	:	For RS-485 Communication adapter
FX5-4AD-ADP	:	4 ch analog input adapter
FX5-4DA-ADP	:	4 ch analog output adapter

APPLICATION Marine and offshore applications for use in environmental categories ENV2 in the "General Power Distribution Zones" (*1) and "Bridge and Deck Zone" (*2) as defined in LR Type Approval System Test Specification No. 1-2015 where the Test Specification is satisfactory for the intended operation.

(*1) FX5-1PSU-5V

(*2) Models except FX5-1PSU-5V

ADDITIONAL TEST Dry heat test at 70°C for 16 hours
Low temperature test at -25°C for 16 hours

DESIGN CODE Manufacturer's specification

RATINGS 100 to 240VAC, 50/60Hz and/or 24VDC

OTHER CONDITIONS a) The certificate attests to the hardware's suitability for the environmental categories stated.
b) 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 Limited of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No. 16/10018 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Certificate No. 16/10018
Issue Date 26 September 2016
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Sheet 6 of 6

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Part 3
Control Units (Part 3)

Producer/Licence No.	Item Description	Technical Details	Category/Additional Tests	Remarks	Cert. No.
Mitsubishi Electric Corporation, Nagoya Works 5-1-14, Yada-minami, Higashi- ku, Nagoya, Aichi, 461-8670, Japan	Programmable Logic Controller MELSEC iQ-F Series comprising of:	Ratings: 100 to 240VAC, 50/60Hz and/or 24VDC	ENV2 (2015) in the "General Power Distribution Zones" (*1) and "Bridge and Deck Zone" (*2) (*1) FX5-1PSU-5V (*2) Models except FX5-1PSU-5V	Expires: 25 September 2021 Design Code: Manufacturer's specification	16/10018
	CPU Modules FX5U-32MR/ES	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, Relay Output: 16 points, 24 VDC sink/ source Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/ source Output: 16 points, Transistor (sink)	Additional Test: Dry heat test at 70°C for 16 hours Low temperature test at -25°C for 16 hours		
	FX5U-32MT/ES	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/ source Output: 16 points, Transistor (sink)			
	FX5U-32MT/ESS	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/ source Output: 16 points, Transistor (source)			
	FX5U-64MR/ES	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 64 points Input: 32 points, 24 VDC sink/ source Output: 32 points, Relay			
	FX5U-64MT/ES	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 64 points Input: 32 points, 24 VDC sink/ source Output: 32 points, Transistor (sink)			
	FX5U-64MT/ESS	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 64 points Input: 32 points, 24 VDC sink/ source Output: 32 points, Transistor (source)			
	FX5U-80MR/ES	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 80 points Input: 40 points, 24 VDC sink/ source Output: 40 points, Relay			
	FX5U-80MT/ES	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 80 points Input: 40 points, 24 VDC sink/ source Output: 40 points, Transistor (sink)			
	FX5U-80MT/ESS	Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 80 points Input: 40 points, 24 VDC sink/ source Output: 40 points, Transistor (source)			



Part 3
Control Units (Part 3)

Producer/Licence No.	Item Description	Technical Details	Category/Additional Tests	Remarks	Cert. No.
	FX5UC-32MT/D	Power supply: 24 VDC Total Number of Point: 32 points Input: 16 points, 24 VDC sink Output: 16 points, Transistor (sink) Power supply: 24 VDC Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Transistor (source) Power supply: 24 VDC Total Number of Point: 64 points Input: 32 points, 24 VDC sink Output: 32 points, Transistor (sink) Power supply: 24 VDC Total Number of Point: 64 points Input: 32 points, 24 VDC sink/source Output: 32 points, Transistor (source) Power supply: 24 VDC Total Number of Point: 96 points Input: 48 points, 24 VDC sink Output: 48 points, Transistor (sink) Power supply: 24 VDC Total Number of Point: 96 points Input: 48 points, 24 VDC sink/source Output: 48 points, Transistor (source)			
	FX5UC-32MT/DSS				
	FX5UC-64MT/D				
	FX5UC-64MT/DSS				
	FX5UC-96MT/D				
	FX5UC-96MT/DSS				
	Options FX5-8EX/ES	Power supply: from CPU Module Total Number of Point: 8 points Input: 8 points, 24 VDC sink/source Power supply: from CPU Module Total Number of Point: 8 points Output: 8 points, Relay Power supply: from CPU Module Total Number of Point: 8 points Output: 8 points, Transistor (sink) Power supply: from CPU Module Total Number of Point: 8 points Output: 8 points, Transistor (source) Power supply: from CPU Module Total Number of Point: 16 points Input: 16 points, 24 VDC sink/source Power supply: from CPU Module Total Number of Point: 16 points Output: 16 points, Relay			
	FX5-8EYR/ES				
	FX5-8EYT/ES				
	FX5-8EYT/ESS				
	FX5-16EX/ES				
	FX5-16EYR/ES				



Part 3
Control Units (Part 3)

Producer/Licence No.	Item Description	Technical Details	Category/Additional Tests	Remarks	Cert. No.
FX5-16EYT/ES		Power supply: from CPU Module Total Number of Point: 16 points Output: 16 points, Transistor (sink) Power supply: from CPU Module Total Number of Point: 16 points Output: 16 points, Transistor (source) Power supply: from CPU Module Total Number of Point: 16 points Input: 8 points, 24 VDC sink Output: 8 points, Transistor (sink) Power supply: from CPU Module Total Number of Point: 16 points Input: 8 points, 24 VDC sink/source Output: 8 points, Transistor (source) Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Relay Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Transistor (sink) Power supply: 100 to 240 VAC, 50/60 Hz Total Number of Point: 32 points Input: 16 points, 24 VDC sink/source Output: 16 points, Transistor (source) Power supply: from CPU Module Total Number of Point: 16 points Input: 16 points, 24 VDC sink Power supply: from CPU Module Total Number of Point: 16 points Input: 16 points, 24 VDC sink/source Power supply: from CPU Module Total Number of Point: 16 points Output: 16 points, Transistor (sink) Power supply: from CPU Module Total Number of Point: 16 points Output: 16 points, Transistor (source) Power supply: from CPU Module Total Number of Point: 32 points Input: 32 points, 24 VDC sink Power supply: from CPU Module Total Number of Point: 32 points Input: 32 points, 24 VDC sink/source			
FX5-16EYT/ESS					
FX5-16ET/ES-H					
FX5-16ET/ESS-H					
FX5-32ER/ES					
FX5-32ET/ES					
FX5-32ET/ESS					
FX5-C16EX/D					
FX5-C16EX/DS					
FX5-C16EYT/D					
FX5-C16EYT/DSS					
FX5-C32EX/D					
FX5-C32EX/DS					

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Part 3
Control Units (Part 3)

Producer/Licence No.	Item Description	Technical Details	Category / Additional Tests	Remarks	Cert. No.
FX5-C32EYT/D		Power supply: from CPU Module Total Number of Point: 32 points Output: 32 points, Transistor (sink)			
FX5-C32EYT/DSS		Power supply: from CPU Module Total Number of Point: 32 points Output: 32 points, Transistor (source)			
FX5-C32ET/D		Power supply: from CPU Module Total Number of Point: 32 points Input: 16 points, 24 VDC sink			
FX5-C32ET/DSS		Power supply: from CPU Module Total Number of Point: 32 points Output: 16 points, Transistor (sink)			
FX5-1PSU-5V		Power supply: from CPU Module Total Number of Point: 32 points Input: 16 points, 24 VDC sink/ source			
FX5-C1PS-5V		Output: 16 points, Transistor (source)			
FX5-CNV-BC		Expansion Power Supply Module			
FX5-CNV-IF		Expansion Power Supply Module			
FX5-CNV-IFC		Connector Conversion for Connecting an Extension Cable			
FX5-CNV-BUS		Connector Conversion			
FX5-CNV-BUSC		FX5 (terminal block) -> FX5 (connector) Connector Conversion			
FX5-232-BD		FX5 (connector) -> FX5 (terminal block)			
FX5-485-BD		Bus Conversion			
FX5-422-BD-GOT		FX5 (terminal block) -> FX3 (terminal block)			
FX5-232ADP		Bus Conversion			
FX5-485ADP		FX5 (connector) -> FX3 (connector)			
FX5-4AD-ADP		For RS-232C Communication Board			
FX5-4DA-ADP		For RS-485 Communication Board			
		For GOT RS-422 Communication Board			
		For RS-232C Communication adapter			
		For RS-485 Communication adapter			
		4 ch analog input adapter			
		4 ch analog output adapter			

