

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Programmable Electronic System**

with type designation(s)

Programmable Logic Controller FX3S Series

Issued to

Mitsubishi Electric Corporation, Nagoya Works
NAGOYA AICHI, Japan

is found to comply with

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards**Application :**

Temperature	B
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to DNV Rules shall be provided

This Certificate is valid until **2016-12-31**.Issued at **Busan** on **2015-07-06**for **DNV GL**DNV GL local station: **Kobe**Approval Engineer: **Eun Sook Kim**-----
Baeg Soon Choi
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

Mitsubishi Electric Corporation FX3S series as listed below:

UNIT	MODEL	Firmware version
Main Units	FX3S-10MR/ES	Ver.1.10
	FX3S-10MT/ES	
	FX3S-10MT/ESS	
	FX3S-14MR/ES	
	FX3S-14MT/ES	
	FX3S-14MT/ESS	
	FX3S-20MR/ES	
	FX3S-20MT/ES	
	FX3S-20MT/ESS	
	FX3S-30MR/ES	
	FX3S-30MT/ES	
	FX3S-30MT/ESS	
	FX3S-30MR/ES-2AD	
	FX3S-30MT/ES-2AD	
	FX3S-30MT/ESS-2AD	
	FX3S-10MR/DS	
	FX3S-10MT/DS	
	FX3S-10MT/DSS	
	FX3S-14MR/DS	
	FX3S-14MT/DS	
	FX3S-14MT/DSS	
	FX3S-20MR/DS	
	FX3S-20MT/DS	
	FX3S-20MT/DSS	
	FX3S-30MR/DS	
	FX3S-30MT/DS	
	FX3S-30MT/DSS	
Special Adapters Connector Conversion adapter	FX3S-CNV-ADP	

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Product certificate

Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1. The certification test is to be performed at the manufacturer of the application system according to an approved test program before the system is shipped to the yard. After the certification the clause for application software control will be put into force.

Type Approval documentation Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

Periodical assessment

The scope of the retention/renewal survey is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the survey are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Retention survey is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE