

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Programmable Electronic System

with type designation(s)

Distributed Input / Output Units ET 200B, ET 200C, ET 200L, L-SC and IM-SC, ET 200M, ET 200S, ET 200X, SC, ET 200 eco, ET 200 pro; ET200 eco PN

Issued to

Siemens AG
Amberg Bayern, Germany

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Temperature D

Humidity B

Vibration A, B*

EMC A

Enclosure Required protection according to DNV GL Rules shall be provided upon installation on board

Issued at **Hamburg** on **2017-07-04**

This Certificate is valid until **2018-08-21**.

DNV GL local station: **Augsburg**

for **DNV GL**

Approval Engineer: **Andrea Grün**

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Joannis Papanuskas
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

Programmable Logic Controller SIMATIC ET

ET200 B:	ET200 C:	ET200 L and ET200L-SC	ET200 M:	ET200 S:
6ES7 131- 6ES7 132- 6ES7 133- 6ES7 134- 6ES7 135- 6ES7 193-	6ES7 141- 6ES7 142- 6ES7 143- 6ES7 144- 6ES7 145-	6ES7 131- 6ES7 132-1 6ES7 133- 6ES7 193- 6ES7 138- 6ES7 127-	6ES7 153- 6ES7 195- 6ES7 157- 6ES7 654- 6ES7 158- 6ES7 197-	6ES7 151- 6ES7 151-1 Compact 6ES7 131- 6ES7 132- 6ES7 134- 6ES7 135- 6ES7 138- 6ES7 193-
ET200 X:	SC:	ET200 eco	ET200 pro	ET200 eco PN
6ES7 141-* 6ES7 142-* 6ES7 143-* 6ES7 144-* 6ES7 145-* 6ES7 147-* 6ES7 148- 6GK7 142-	6ES7 120- 6ES7 121- 6ES7 122- 6ES7 123- 6ES7 124- 6ES7 972-	6ES7 141-* 6ES7 142-* 6ES7 143-* 6ES7 148-* 6ES7 194-*	6ES7 141-* 6ES7 142-* 6ES7 143-* 6ES7 144-* 6ES7 145-* 6ES7 148-* 6ES7 154-* 6ES7 194-* 6ES7 516-*	6ES7 141- 6ES7 142- 6ES7 144- 6ES7 145- 6ES7 194- 6ES7 147- 6ES7 148- (only: IO-Link Master)

Frequency converter FU, 750 W and 1,5 kW**

Power supply: 24 V DC or 120 V AC or 230 V AC

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Modules marked with * : Vibrations with 4g

Modules marked with ** : Temperature Class A

Surge immunity: External protective circuits required for DC systems. See the current system manual (A5E03461486) for recommendations.

This type approval does not cover Wireless communication.

Job Id: **262.1-014721-3**
Certificate No: **TAA00001AR**

Type Approval documentation

Test reports

A&D AS E423-0104/0105/0106/0107	dated 28-05-2001
Specification and Test report A&D AS RD 423-0301	dated 19-05-2003
A&D AS RD ST Type Test – 01/05	dated 16-12-2004
AUT 7- B 8.4P - 9603; 01049WZs	dated 10-05-2001
A&D AS RD ST Type Test - 01/05	dated 18-01-2002
A&D AS RD ST Type Test-0606	dated 23-06-2006
I IA AS R&D ST Type Test – 04/09	dated 28-05-2009
SIMATIC Type Test 2017-03	dated 03-03-2017

Specifications for Type Tests and Test Report of Marine Electrical Equipment	AUT7-B8.4P-9605
	dated 11-12-1996
	Acceptance 09-04-1997

Catalog	ST70-97 / CA 01 04/00SE D
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Operating Instructions	45E01250250-06	dated 09/2010
ET 200M operating instructions	EWA-4NEB 780600601-08	dated 12/2008
Function Manual A5E03461486-AB		dated 06/2014
Operating Instructions ET200pro	A5E35873416-AA	dated 09/2016

Ring binder A&D AS RD ST Type Test	dated 04-04-2016
Ring binder A&D AS RD ST Type Test – 0606	dated 03-07.2006
Ring binder I IA AS RD ST Type Test – 04/09	dated 28-05-2009
Ring binder I IA AS RD ST Type Test-2012-02	dated 18-12-2012

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Periodical assessment

The scope of the periodical assessment 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 assessment 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.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE