DNV·GL

Certificate No:
TAA00002K0

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Programmable Controller

with type designation(s)
TM241C...; TM251M...; TMC4...; TM3... and TM4...

Issued to
Schneider Electric Automation GmbH
Marktheidenfeld, 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	**B**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**Required protection according to DNV GL Rules shall be provided upon installation on board**

Issued at **Hamburg** on **2020-01-27**

This Certificate is valid until **2025-01-26**.
DNV GL local station: **Augsburg**

Approval Engineer: **Didier Girardin**

Digitally Signed By: Rinkel, Marco
for **DNV GL**
Location: Hamburg, on behalf of

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.

Job Id: **262.1-032696-1**
Certificate No: **TAA00002K0**

Product description

PLC logic controller:

TM241C24T TM241C40T	Compact (Brick) 24I/O or 40I/O, Transistor Source
TM241CE24 TM241CE40T	Compact (Brick) 24I/O or 40I/O, Transistor Source + Ethernet
TM241C24U TM241C40U	Compact (Brick) 24I/O or 40I/O, Transistor Sink
TM241CE24U TM241CE40U	Compact (Brick) 24I/O or 40I/O, Transistor Sink + Ethernet

TM241CEC24U	Compact (Brick) 24I/O, Transistor Sink + Ethernet + CANopen Master
TM241CEC24T	Compact (Brick) 24I/O, Transistor Source + Ethernet + CANopen Master
TM251MESC	No Ios + ETH SWITCH + CANopen
TM251MESE	No Ios + ETH SWITCH + ETH
TM241CE40R	AC100V~240V power supply, 40IO, reley output,1 Eth,2 SL
TMC4AI2	2AI 0~10V/0-20mA/4~20mA Analog Input
TMC4AQ2	2AO 0~10V/4~20mA Analog Output
TM241C40R	AC 100V~240V power supply, 40IO, reley output,2 SL
TMC4AI2	2AI 0~10V/0-20mA/4~20mA Analog Input
TMC4AQ2	2AO 0~10V/4~20mA Analog Output
TM4ES4	Left expansion, eth switch*4
TM241CEC24R	AC 100V~240V power supply, 24IO, relay output,1 Eth,2 SL,1 CAN
TMC4TI2 2	Thermocouple or RTD Input
TM241C24R	AC 100V~240V power supply, 24IO, relay output,2 SL
TMC4TI2 2	Thermocouple or RTD Input
TM241CE24R	AC 100V~240V power supply, 24IO, relay output,1 Eth, 2 SL
TM3_XTRA1	TM3 transmitter,1 Eth, 5vdc over internal TM3 bus
TM3_XREC1	TM3 receiver,1 Eth,24 V DC external power supply
TM4PDPS1	TM4 Profibus, 1 Subd9 RS485 modbus

Firmware Version: 4.x

Application/Limitation

Equipment **not** to be installed on vessels contracted for construction on/or after 01.01.2022 according UR IACS E10 Rev. 07

Approval conditions

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.

Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After certification the clause for software control will be put into force.

Software control
All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV GL for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Type Approval documentation

Hidden
Renewal of LGL 13550-14 HH

2666523	15-10-2013,
SDEC13DE0069VNTY	25-12-2013
C13-381-WT	10-01-2014
AOCC-LAB-TF-002 Version No.: 1.1	21-11-2013
AOCC-LAB-TF-002 Version No.: 1.0	11-10-2010
SIQ-LABTF-00 Version No.: 1.0	28-01-2015
201301-442	05-11-2014
201304-443	13-01-2014
T251-0918/13	04-03-2014
M258 - MKT03a00 Version 02	&
M2xx-A-MKT05_Controller	25-06-2012

Requirements
Additional Documentation: SoMachine Software 4.1 SP1 Release Notes dated 12-12-2014

Tests carried out

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

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number

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