DNV·GL

Certificate No:
TAE000038V

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Frequency Converter

with type designation(s)
Sinamics DCM Control Modules

Issued to
Siemens AG Process Industries and Drives Large Drives PD LD
Nürnberg, 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.

Issued at **Hamburg** on **2018-07-01**
This Certificate is valid until **2023-06-30**.
DNV GL local station: **Augsburg**

Approval Engineer: **Maik Gagern**

for **DNV GL**

Arne Schaarmann
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.

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Job Id: **262.1-007907-11**
Certificate No: **TAE000038V**

Product description

Microprocessor based electronic trigger and control section for use to update and change older DC drives

6RA8000-0MV62-0AA0-Z, Microprocessor based electronic trigger and control section for use to update older converters for speed control of DC- motors with phase and phase angle control. SINAMICS DCM control module includes a power section for field supply with a current up to 40 A.

Products covered
Nomenclature :
Without options 6RA8000 – 0MV62 – 0AA0
With options 6RA8000 – 0MV62 – 0AA0 –Z

Technical info:

Rated supply voltage of the armature:	50V / 125V / 250V / 575V / 1000V
Rated supply voltage electronic power supply:	DC24 (DC18-30V)V, I_{in}=5A
Rated supply voltage field:	2AC 480V
Rated frequency:	45 to 65 Hz
Rated DC voltage field:	max. 390VDC
Rated DC current field:	40 A DC
Temperature in operation:	0° to 55°C
Environmental :	3k3
Protection degree:	IP 00
Temperature class:	A
Vibration class:	A
Humidity class:	A
EMC class:	IEC 61800-3 / CN2.4. To be used on EMC class A locations

Application/Limitation

The SINAMICS DCM Control Module must be regarded as a component. The actual installation to be designed according to Siemens Instructions Manual and according to the applicable DNV Rules for the actual application. To be installed in an enclosure with an IP degree in accordance with DNV Rules w.r.t. location.
SINAMICS DCM Control Module can be used in an ambient temperature of 0°C to 55°C.
For details, see Siemens Operating Instructions.

Application Software:
The Type Approval does not cover application software. For application software, the following applies: When the SINAMICS DCM Control Module is used in an application to be classed by DNV, documentation for the actual application is to be submitted for approval in each case.
Reference is made to DNV Rules for Pt.4 Ch.8 Electrical Installations and Pt.4 Ch.9 Instrumentation and Automation.

Clause for application software control:
All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV for evaluation and approval. Major changes in the software are to be approved before being installed in the computer. Software version: V1.4

Type Approval documentation

Tests carried out

Visual inspection, Performance, Power supply failure, Power supply variations, Vibration, Dry heat, Damp heat, Insulation resistance, High voltage.

EMC: The following tests are in accordance with the IEC 601800-3 / CN 2.4: Electrical fast transient (Burst), electrical slow transient (Surge), RF-common mode Voltage, radiated RF-electromagnetic fields, electric discharge (ESD), radiated and conducted emission.

Marking of product

Siemens SINAMICS DCM Control Module – Type designation – Power – Voltage

Place of Production

Siemens Electrical Drives Ltd., Tianjin, P.R. China
No. 1 Haitaichuangxin 5th Road
Huayuan Industry Development Area
Tianjin Hi-Tech Industry Park, 300384, P.R. China

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and 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