

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Programmable Electronic System

with type designation(s)
LOGO!

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

EMC A (B for TD)

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

Issued at **Hamburg** on **2017-09-26**

This Certificate is valid until **2022-09-25**.

for **DNV GL**

DNV GL local station: **Augsburg**

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 LOGO! Including:

LOGO! With suffixes: 12RCL, 12/24RC, 12/24RCo, 12/24RCE, 24, 24RC, 24C, 24o, 24Co, 24L, 24R, 24RCo, 24RCL, 24RCLB11, 230, 230RC, 230RCo, 230RCL, 230RCLB11, 230RCE, 24CE, 24CEo, 24RCE, 24RCEo, 12/24RCE, 12/24RCEo, 230RCE, 230RCEo

Extension modules: DM8 24, DM8 24R, DM8 12/24R, DM8 230R, AM2, AM2 PT100, AM2 RTD, DM16 230R, DM16 24R, DM16 24, AM2 AQ, TDE (Text Display)

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.

Surge Immunity: External Protective circuits required for DC systems. See the current System Manual (A5E03461486) for recommendations.

All 12/24xxx modules only to be used with 24V DC power supply.

LOGO! fulfil the EMC requirements for General Power Distribution Zone.

Exception: LOGO! -0BA8 series + expansion modules -0BA2 series may be used in bridge and deck Zones with filter B84113-C-B30 (or equivalent).

Type Approval documentation

I IA AS RD ST Type Test- 2012-01

dated 2012-01

CD-ROM

dated 06-05-1998

UserManual A5E00119090-01

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