

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Generator Automation System**

with type designation(s)

**MAS G025A Start/Stop Module,
MAS G025B/C Tacho Module,
MAS G026A Autostop Module,
MAS G026B Load Reduction Module**

Issued to

**Emerson Process Management Damcos A/S
NÆSTVED, Denmark**

is found to comply with

**Det Norske Veritas' Rules for Classification of Ships and High Speed and Light Craft
Det Norske Veritas' Offshore Standards****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed
by DNV GL.****Location classes:**

Temperature	B
Humidity	B
Vibration	A
EMC	A
Enclosure	Required protection according to the Rules shall be provided upon installation onboard

This Certificate is valid until **2017-06-30**.Issued at **Høvik** on **2015-07-02**for **DNV GL**DNV GL local station: **Copenhagen**Approval Engineer: **Ståle Sneen**

Odd Magne Nesvåg
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: **262.1-002782-9**
Certificate No: **TAA000000V**

Product description

Diesel generator control modules comprising:

- MAS G025A Start/Stop Module
- MAS G025B/C Tacho Module
- MAS G026A Autostop Module
- MAS G026B Load Reduction Module

Application/Limitation

For use with 4-stroke engines with air start and for non-reversible 2-stroke engines.

Approval conditions

The Type Approval covers hardware listed under Product description.

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- Functional description
- System block diagram
- Power supply arrangement (may be part of the System block diagram)
- List of controlled and monitored points showing alarms and safety functions (including type, range and threshold)
- Test program for certification

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, preferably at the engine/system application maker integrating control, monitoring and safety system, 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

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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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE