DNV·GL

Certificate No:
TAA00002F3

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Actuator

with type designation(s)
ProAct Gen 3 (PAG3), ProAct Gen 3 FLEX (PAG3 FLEX)

Issued to
Woodward Inc.
Fort Collins, CO, USA

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.

Type	Temperature	Humidity	Vibration	EMC	Enclosure
ProAct Gen 3 (PAG3)	**D**	**B**	**B**	**A**	**B**
ProAct Gen 3 FLEX (PAG3 FLEX)	**D**	**B**	**B**	**A**	**B**

Issued at **Hamburg** on **2019-08-07**
This Certificate is valid until **2024-08-06**.
DNV GL local station: **Houston, Approval CMC**

Approval Engineer: **Jens Dietrich**

for **DNV GL**

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.

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Product description

Feature Specification for electrical positioned bi-directional actuators ProAct Gen 3 (PAG3):

Rotary Output: 72.5°

Power Input: 18–32 VDC
Command Input:
PWM: 4–32 V, 300 to 2000 Hz; Analog: 0-25mA, 0-200mA
Position Feedback Output: 0-25mA or 0-5 VDC
CAN (SAE J1939)

Model II:
-Torque Output transient: 5.2 Nm (46 lb-in)
-Torque Output continuous: 2.6 Nm (23 lb-in)
-Max. current transient: 13A
-Max. current steady state: 3.5A

Model III:
-Torque Output transient: 10.4 Nm (92 lb-in)
-Torque Output continuous: 5.2 Nm (46 lb-in)
-Max. current transient: 15A
-Max. current steady state: 6.5A

Model IV:
-Torque Output transient: 20.8 Nm (184 lb-in)
-Torque Output continuous: 10.4 Nm (93 lb-in)
-Max. current transient: 20A
-Max. current steady state: 6.5A

Connections: Plug connector (ProAct Gen 3), Cable glands (ProAct Gen 3 FLEX).

Degree of protection: IP66

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 Ships Pt.4 Ch.9 Control and Monitoring Systems.

Tests carried out

Applicable tests according to DNV GL CG-0339, edition December 2019.

Marking of product

ProAct will be identified using an identification Nameplate with the following information:
- Manufacturer
- Part Number
- E/C Revision
- Serial Number
- Date Code of Manufacture: YYMM
- Manufacturing Location.

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