

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Pressure Transmitter**

with type designation(s)

346 056 550 0, 346 056 551 0, 346 056 553 0, 346 056 555 0, 346 056 750 0

Issued to

**Aventics GmbH
Laatzen, 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.**

Type	Temperature	Humidity	Vibration	EMC	Enclosure
346 056 550 0	B	B	B	B	IP 65
346 056 551 0	B	B	B	B	IP 65
346 056 553 0	B	B	B	B	IP 65
346 056 555 0	B	B	B	B	IP 65
346 056 750 0	B	B	B	B	IP 65

This Certificate is valid until **2022-01-26**.Issued at **Hamburg** on **2017-01-27**DNV GL local station: **Magdeburg**for **DNV GL**Approval Engineer: **Didier Girardin**

**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

E-P converter types:

- 346 056 550 0
- 346 056 551 0
- 346 056 553 0
- 346 056 555 0
- 346 056 750 0

E-P converter for engine remote control systems with alternatively inputs for all types:

- * Current control 0-20 mA, 4-20 mA
 - * Voltage control 0-10 V, 2-10 V
 - * Potentiometer 5-10 kOhm
- 346 056 550 0: 4-20 mA / 0.0-6.0 bar
346 056 551 0: 4-20 mA / 1.5-6.0 bar
346 056 553 0: 4-20 mA / 0.4-6.3 bar
346 056 555 0: 4-20 mA / 0.5-5.0 bar
346 056 750 0: 4-20 mA / 0.0-6.0 bar
- Outputs: Pressure control 0-6 bar, characteristic curves variable;
Medium: Compressed air
Nominal internal diameter: 3 mm
Working pressure: 8 bar, max.
Degree of protection: IP 65

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.

Tests carried out

Applicable tests according to Class Guideline DNVGL-CG-0339, Edition November 2015.

Marking of product

The products to be marked with:

- manufacturer name
- Article number
- Measuring range, output signal, voltage
- Production number.

Job Id: **262.1-023301-1**
Certificate No: **TAA0000119**

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