DNV·GL

Certificate No:
TAA000011Y

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Analog Signal Isolators

with type designation(s)
VariTrans P 270X Y1

Issued to
Knick Elektronische Messgeräte GmbH & Co. KG
Berlin, Germany

is found to comply with
DNV GL rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location class:

Temperature	**B**
Humidity	**B**
Vibration	**B**
EMC	**B**
Enclosure	**A**

Issued at **Hamburg** on **2017-02-28**
This Certificate is valid until **2022-02-27**.
DNV GL local station: **Magdeburg**

Approval Engineer: **Dariusz Lesniewski**

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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Job Id: **262.1-024757-1**
Certificate No: **TAA000011Y**

Product description

Analog Signal Isolators, type VariTrans P 270**X Y1**

In the type designation the digit "**X**" denote signal conversion capabilities.
The digit "**Y**" may be **H** or **F** to denote type of screw terminals:
Type **H1** is connected by means of pluggable screw clamp terminals
Type **F1** by means of fixed screw clamp terminals.

Input signal	uni-/bipolar 20 mV up to 200 V uni-/bipolar 0,1 mA up to 100 mA
Output signal	0 ... +/- 10V, 0 ... +/- 5V, 1 ... 5V, 2... 10 V 0.. +/- 20 mA, 4... 20 mA
Power supply	22 ... 230 V AC/DC; 1W; Class II
Gain error	< 0.08 % of meas value
Temperature coefficient	< 50 ppm/K of final value
Rated isolation voltage	Ui 1000 V (for overvoltage category II and pollution degree 2)
Degree of protection	IP 20

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.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

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