

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, 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.****Location classes:**

Temperature	B
Humidity	B
Vibration	B
EMC	B
Enclosure	A

Issued at **Hamburg** on **2021-04-06**for **DNV GL**This Certificate is valid until **2024-10-21**.DNV GL local station: **Magdeburg**Approval Engineer: **Dariusz Lesniewski****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.



Job Id: **262.1-024757-3**
Certificate No: **TAA000011Y**
Revision No: **3**

Product description

Analog Signal Isolators, type VariTrans P 270X Y1

In the type designation the digit "X" denotes 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 ... +/- 10 V, 0 ... +/- 5 V, 1 ... 5 V, 2... 10 V 0.. +/- 20 mA, 4... 20 mA
Power supply	22 ... 230 V AC/DC; 1W; OVC II
Gain error	< 0.08 % of meas value
Temperature coefficient	< 50 ppm/K of final value
Rated isolation voltage	Ui 1000 V (for OVC 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

Test Report: RS Schwarze Elektronik No. 2001215 dated 2001-12-05
Test Report: Knick dated 2000-11-30
Test Reports: Weidmüller LAB 10460 dated 2001-11-06, LAB 9991 dated 2000-03-12
Test Report: Eurofins Product Service No. GOM-2101-9563-EE01GEN-V01, dated 2021-03-02
Technical drawing 331750 dated 2001
TÜV Test Protocol No. 945/U744/99 dated 1999-08-30
Type approval assessment report issued at Magdeburg on 2019-09-11

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.

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.

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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)

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- 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