

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Standard-Signal Isolator**with type designation(s)
IsoTrans A204xx P0

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

This Certificate is valid until **2024-10-21**.Issued at **Hamburg** on **2021-04-06**for **DNV GL**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: **262.1-021079-3**
Certificate No: **TAA00000AX**
Revision No: **2**

Product description

Standard-Signal isolator for electrical isolation and filtering of 0(4)...20mA standard current signals without additional supply voltage

Variants (...xx): (..01) - one channel
(..02) - two channels
(..1x) - with load stop

Input: 0(4)...20mA / max. 3V (..1x), max. 18V (..0x)

Operating current: approx. 150uA

Voltage drop: approx. 1.7V at 20mA

Overload: 50mA (..1x), 40mA (..0x)

Output: 0(4)...20mA / max. 1.2V (..1x), max. 12V (..0x)

Mounting: for 35mm top-hat rail

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: TÜV Rheinland Group No. 21122369_001

Test reports: Knick EM50616A(-B).doc, Knick 254_201_090-10A.doc; Knick 254_201_090-20A.doc

Test reports: Phoenix TestLab No. U50342a; Phoenix Contact No. 4616/05 and No. 6110/06

Test report: Eurofins Product Service No. G0M-2101-9563-EE01GEN-V01, dated 2021-03-02

Technical description for GL-Approval; Circuit diagrams; Technical drawings

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

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