DNV·GL

TYPE APPROVAL CERTIFICATE

Certificate No:
TAA0000029
Revision No:
1

This is to certify:

That the Electrical Indicators

with type designation(s)
NIR3-.. and NIQ3-.. series stepping motor analogue indicators

Issued to
NORIS Automation GmbH
Nürnberg, Bayern, 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	**D**
Humidity	**B**
Vibration	**B**
EMC	**B**
Enclosure	**C**

This Certificate is valid until **2024-08-30**.
Issued at **Hamburg** on **2019-08-16**

DNV GL local station: **Augsburg**

Approval Engineer: **Holger Jansen**

Digitally Signed By: Rinkel, Marco
for **DNV GL**
Location: Hamburg, on behalf of

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: **262.1-017970-2**
Certificate No: **TAA0000029**
Revision No: **1**

Product description

The Norimeter NIQ3, NIQ31, NIR3 and NIR31 series are microprocessor-controlled stepping motor analogue indicators.

Order Code:

NI	R	3	100	-	I2	-	1234	-	MED	= Indicator example:NIR3-100-I2-1234-MED
Housing type:	Q									Quadratic
	R									Round
Series:		3								Scale angle up to 300° with pointer
		31								Scale angle up to 360° with pointer disc
Housing size:			060							Housing around ø60mm
			080							Housing around ø80mm
			100							Housing around ø100mm
			130							Housing around ø130mm
			072							Housing square 72 x 72mm
			096							Housing square 96 x 96mm
			144							Housing square 144 x 144mm
Input signal:					F1					Pulsating DC voltage, 0.2Hz..140KHz
					F2					AC-Voltage, 0.2Hz ..140KHz
					FD1					Pulsating DC voltage, 0.2Hz ..140KHz with direction
					FD2					AC-Voltage, 0.2Hz ..140KHz with direction
					H1					NTC, 40 ..120°C
					H2					NTC, 5 ..70°C
					H3					NTC, 114 ..200°C
					H0					NTC, special adjustment
					I1					Current, 0 ..20mA DC
					I2					Current, 4 ..20mA DC
					I4					Current, -20mA ..0..+20mA DC
					I0					Current DC, special adjustment
					P1; P1L3; P1L4					PT100, 0 °C..120 °C, 2-;3-;4-conductor
					PT1; PT1L3; PT1L4					PT1000, 0 °C..120 °C, 2-;3-;4-conductor
					P2; P2L3; P2L4					PT100, 0 °C..150 °C, 2-;3-;4-conductor
					PT2; PT2L3; PT2L4					PT1000, 0 °C..150 °C, 2-;3-;4-conductor
					P3; P3L3; P3L4					PT100, 0 °C..200 °C, 2-;3-;4-conductor
					PT3; PT3L3; PT3L4					PT1000, 0 °C..200 °C, 2-;3-;4-conductor
					P4; P4L3; P4L4					PT100, 0 °C..250 °C, 2-;3-;4-conductor
					PT4; PT4L3; PT4L4					PT1000, 0 °C..250 °C, 2-;3-;4-conductor
					P5; P5L3; P5L4					PT100, 0 °C..300 °C, 2-;3-;4-conductor
					PT5; PT5L3; PT5L4					PT1000, 0 °C..300 °C, 2-;3-;4-conductor
					P6; P6L3; P6L4					PT100, 0 °C..400 °C, 2-;3-;4-conductor
					PT6; PT6L3; PT6L4					PT1000, 0 °C..400 °C, 2-;3-;4-conductor
					P7; P7L3; P7L4					PT100, 0 °C..500 °C, 2-;3-;4-conductor
					PT7; PT7L3; PT7L4					PT1000, 0 °C..500 °C, 2-;3-;4-conductor
					P8; P8L3; P8L4					PT100, 0 °C..600 °C, 2-;3-;4-conductor
					PT8; PT8L3; PT8L4					PT1000, 0 °C..600 °C, 2-;3-;4-conductor
					P11; P11L3; P11L4					PT100, -30 °C..120 °C, 2-;3-;4-conductor
					PT11; PT11L3; PT11L4					PT1000, -30 °C..120 °C, 2-;3-;4-conductor
					P12; P12L3; P12L4					PT100, 0 °C..100 °C, 2-;3-;4-conductor
					PT12; PT12L3; PT12L4					PT1000, 0 °C..100 °C, 2-;3-;4-conductor
					P0; P0L3; P0L4					PT100, special adjustment
					PT0; PT0L3; PT0L4					PT1000, special adjustment
					R0					Resistor, special adjustment
					U1					Voltage, 0 ..10V DC
					U2					Voltage, 2 ..10V DC
					U4					Voltage, -10V .. 0 ..+10V DC
					U0					Voltage DC, special adjustment
					UG0					Voltage DC, special adjustment for GE1214
Scale design:							-1234			Scale design
Custom Indicator:							V567			Custom specific device
Optional:									MED	MED approved type

Power: 24V DC

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

MED-certification is not covered by this certificate. Condition for MED-certification listed in valid MED-certificate issued by a notified/recognized Certification Body.

Type Approval documentation

	Document	Rev.
Data sheets:	DB-NIR3_NIQ3_en	1.05
	DB-NIQ31_en	1.04
Manual:	NAN-KD-0020-EN Instruction Manual	1.03
	NAN-KD-0020-1-EN Quick User Guide	1.01
Test reports:	21225502-002, IP-Protection	2014-12-04
	EB/TR 1403240-B, Corrosion	2014-12-03
	EB/TR 1403240-C, Corrosion	2014-11-24
	21218854_003, EMC	2015-01-14
	ECL-EMC No. 17-005, EMC	01, 2017-01-19
	21225452-002, Climatic	2014-11-18
	E 5.214/21152593, Climatic,Vibration&Shock	2010-07-29
	BMP14-002, Electric Power	01, 2015-08-19
Drawings:	HG-NIQ3-072-1	c, 2015-12-14
	HG-NIQ3-096-1	c, 2015-06-19
	HG-NIQ3-144-1	d, 2015-08-19
	HG-NIQ31-096-1	d, 2015-06-18
	HG-NIQ31-072-1	d, 2015-08-04
	HG-NIQ31-144-1	b, 2015-12-14
	HG-NIR3-060-1	c, 2015-12-14
	HG-NIR3-080-1	c, 2015-12-14
	HG-NIR3-100-1	c, 2015-12-14
	HG-NIR3-130-1	c, 2015-12-14

Type Approval Assessment Report, 2019-02-18

Tests carried out

Applicable tests according to DNV GL Class Guideline CG0339, November 2016.

Marking of product

The products to be marked with:
- model name
- manufacturer 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