



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA000029
Revision No:
2

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 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.

Location classes:

Temperature	D
Humidity	B
Vibration	B
EMC	B
Enclosure	C

Issued at **Hamburg** on **2024-08-02**

for **DNV**

This Certificate is valid until **2029-08-30**.

DNV local unit: **Augsburg**

Approval Engineer: **Holger Jansen**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



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, 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 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	1.06
	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
	ECL-EMC No. 20-102	01, 2020-09-04
	Drawings:	HG-NIQ3-072-1
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 (Augsburg), dated 2024-01-16

Tests carried out

Applicable tests according to DNV Class Guideline CG0339, August 2021.

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