
Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	NORIS Automation GmbH
Address	Muggenhofer Strasse 95, Nuernberg, 90429, Germany
Type	Recording And Indicating Instruments
Description	Stepper motor indicator NORIMETER 3 refer to the Appendix for details
Trade Name	N13
Application	Marine applications for use in environmental categories ENV1, ENV2, ENV3, ENV4 and ENV5 (in the front area or for the fullhousing plus hood with cable gland) as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – 2013.
Specified Standard	Manufacturer's specification
Ratings	refer to the Appendix for details
Additional Tests	Low temperature test (-25°C/16 hrs; storage test)
Other Conditions	Equipment has to comply with IACS E10 Rev.7 when intended to be installed on ships contracted for construction on or after 1 January 2022.

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This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document No. HTS/ETS 39916-20/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Appendix

TYPES

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