Certificate No: LR2678170TA
Issue Date: 09/03/2026
Expiry Date: 03/12/2030

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	Friedrich-Barnewitz-Strasse 10, Rostock, 18109, Germany
Type	Transmitters/Transducers
Description	Measurement Transducer for Converting Potentiometer Signal into Electrical Norm Signals/ R-U-I Converter
Trade Name	SA502-3G
Application	Marine applications for use in environmental categories ENV1, ENV2, ENV3 and ENV4 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – 2002.
Specified Standard	Manufacturer's specification IACS unified requirements E10 (Rev.9 Aug 2023)
Ratings	Power Supply: U_{Nom} = 24 VDC, 18 … 32 VDC, galvanic isolated Input: Potentiometer (R = 2…10KOhm; max. ±10%) Digital Outputs: 1x Relay (wire break indication) Analogue Outputs: 1x 0…10 VDC, 1x 0…20 mA, galvanic isolated from power supply

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Thorsten Wolff

Electrical & Control - Senior Specialist to
Lloyd's Register EMEA
A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

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Additional Tests	Low temperature test:	-25°C/ 16 hours
	Mechanical shock test:	half sine, 15g, 11ms Number of load planes: 6 (±X, ±Y and ±Z) Number of shocks per load plane: 3 (in total 18)
Other Conditions	Final functional arrangements are to comply with appropriate Lloyd's Register Rules and will be subject of the Plan Approval process, if applicable.	

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.

Previous Version: LR2112381TA

The Design Appraisal Document TSO-25-050217/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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