Certificate No: LR25230121TA
Issue Date: 21/09/2025
Expiry Date: 20/09/2030

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	Muggenhofer Strasse 95, Nuernberg, 90429, Germany
Type	Control Systems - Speed And S.H.P.S
Description	Non-contacting speed sensor with HALL principle
Trade Name	FA54
Application	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2, ENV3 and ENV4 as defined in Lloyd's Register Type Approval System, Test Specification Number 1 - March 2019.
Specified Standard	Manufacturer's specification IACS unified requirements E10 (Rev.9 Aug 2023)
Ratings	Measuring principle: Hall principle Nominal Voltage: 24 VDC Frequency range: 0 ... 20000Hz Type FAH54 Measuring channel: 1 Output signal: 1 square wave signal Type FAHZ54 Measuring channel: 2 (90° phase shifted)

Downloaded Copy

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

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Certificate No: LR25230121TA
Issue Date: 21/09/2025
Expiry Date: 20/09/2030

Type Approval Certificate

Output signal:	2 square wave signals
Type FAHS54	
Measuring channel:	2 (90° phase shifted)
Outputs:	1 rotation direction signal ; 1 SP "standstill"
Output signal:	2 square wave signals and 2 binary signals
Type FAHD54	
Measuring channel:	2 (90° phase shifted), galvanically isolated
Output signal:	2 square wave signals
Type FAHQ54	
Measuring channel:	2 (90° phase shifted) with 2 inverted signals
Output signal:	4 square wave signals
Type FAHY54	
Measuring channel:	1 with 1 inverted signal
Output signal:	2 square wave signal

Additional Tests Low temperature (-25°C/16h)

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: LR2014972TA

The Design Appraisal Document TSO-25-039275/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Downloaded Copy

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

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.