Certificate No: LR2676568TA
Issue Date: 05/03/2026
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	Multifunctional Device designed for: - Speed Measurement and Signal Processing - Direction of Rotating Detection - Slip Measurement - Offset Measurement
Trade Name	NORISPEED FMN6-1-11-K
Application	Marine, offshore and industrial 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, U_B= 18 … 32 VDC Input Signal: Pick-Up with PNP, NPN or PushPull Output Measurement Range: 1…12.000 Hz Speed Range: 1…10.000 rpm (depending on impulses/rotation) Max.Impulse/ Rotation: 4…500 Impulses (depending on max. speed)

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Two galvanic isolated, short-circuit-proof analogue outputs
Output Voltage: 0…5, -5…5, 0…10 or -10…+10 VDC
Output Current: 0…20 or 4…20 mA
Output Relays: 6 floating relay outputs, max.30 VDC/2 A

Additional Tests

Low temperaturetest: -25°C/ 16h
Mechanical shocktest: 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.
LR Software Conformity Assessment is not a part of this Type Approval and therefore every application of NORISPEED FMN6-1-11-K is to be examined for compliance with LR requirements for programmable electronic systems implementing emergency stop or safety critical functions.

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: LR2110365TA

The Design Appraisal Document TSO-25-050212/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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