



Marine & Offshore

Certificate number: 60349/A0 BV

File number: AP4936

Product code: 3925H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

NORIS Automation GmbH

Nürnberg - GERMANY

for the type of product

MISCELLANEOUS EQUIPMENT FOR SPEED MONITORING

Speed Sensors

FA54 series

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 33

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 21 Dec 2025

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 21 Dec 2020,

Dirk Hoepfner



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 2 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **FA54** series are speed sensors for non-contacting sensing with signal amplifier.

1.1 - Main characteristic

Power Supply: 24V DC
 Distance: 0.2mm to 3mm
 Frequency range: 0 to 20000Hz, S-type: 0.2 to 20000Hz
 Output signal(s): square wave frequency signal(s)
 Degree of protection: IP66 to IP68

1.2 - Variants

FA **a b** 54...

a = H: Hall principle

b = Without code: 1 output signal

Z: 2 output signals (voltage), galvanically connected

D: 2 output signals (voltage), galvanically isolated

Y: 2 output signals (current), galvanically connected, 2nd signal inverted

S: 2 output signals (voltage), galvanically connected with status output

Q: 4 output signals (voltage), galvanically connected

2. DOCUMENTS AND DRAWINGS:

- DB-FA54-EN V01.00 dated 09/10/2019;
 - 42.254.311.001.1 dated 05.07.2019; 42.254.411.001.1 dated 16.07.2019; 42.254.511.001.1 dated 16.07.2019;
 42.254.511.002.1 dated 16.07.2019; 42.854.231.001.1 dated 02.04.2019; 42.854.231.002.1 dated 02.04.2019

3. TEST REPORTS:

- Bureau Veritas Consumer Products Services Germany GmbH: - ECL-EMC-TR-19-122 dated 21.08.2019;
 ECL-ENV-19-043 dated 16.10.2019
 - TÜV Rheinland LGA Products GmbH: 21262501_002 dated 12.12.2016

4. APPLICATION/LIMITATION:

4.1 - Bureau Veritas Rules and Regulations for the Classification of Steel Ships

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT** and **AUT-IMS**.

4.3 - Bureau Veritas Environmental Category, **EC Code: 33**

4.4 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above mentioned speed sensors are to be supplied by **NORIS Automation GmbH** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **NORIS Automation GmbH** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

**NORIS Automation GmbH
 Muggenhofer Strasse 95
 90429 Nürnberg - GERMANY**

6. MARKING OF PRODUCT:

- Maker's name or trademark
 - Equipment type or model identification
 - Date of manufacture and/or serial number

7. OTHERS:

7.1 - It is the responsibility of **NORIS Automation GmbH** to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*** END OF CERTIFICATE ***