



Marine & Offshore

Certificate number: 24997/B0 BV

File number: AP4250

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

Types: FAH11/12/13-, FAHx11/13-, FAJ11/12/13-, FAR12- and FARW12

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 Nov 2022**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 21 Nov 2017,

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.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **FAH11/12/13-**, **FAHx11/13-**, **FAJ11/12/13-**, **FAR12-** and **FARW12-** series are speed sensors for non-contacting sensing with signal amplifier.

1.1 - Main characteristic

Power Supply: 24V DC
 Distance: 0.2/0.5mm to 3/5mm
 Max. body length: 200mm
 Min. diameter: M14x1
 Frequency range: 0.2/5.0Hz to 10/20kHz
 Output signal(s): square wave frequency signal(s)
 Degree of protection: IP65 to IP68

1.2 - Variants

FAabb-

a = H - Difference Hall
 J - Inductive-magnetic
bb = 11 - brass tube
 12 - stainless steel tube
 13 - stainless steel tube

FAabcc-

a = H - Difference Hall
b = Z - 2output signals
 S - 2output signals, status
 D - 2output signals, isolated
 Q - 4 output signals
cc = 11 - Sensor tube, brass
 13 - Sensor tube, stainless steel

FAR12- quick inductive system, stainless steel tube

FARW12 - quick inductive system with +/- output, stainless steel tube

2. DOCUMENTS AND DRAWINGS:

- DB-FAH12-EN V03.00, DB-FAJ11-EN V03.00, DB-FAJ12-EN V03.00 dated 20/05/2014;
 - DB-FAH11-EN V03.00 dated 16/05/2014; 42.111.111.001.1E; 42.111.121.005.1E; 42.111.141.001.1E; 42.111.241.010.1E;
 - 42.112.212.301.1E; 42.312.141.002.1E; 42.312.312.301.1E; 42.812.051.001.1E; SA561-71; SA561-72; SA561-2; SA561-2G;
 - SA561-3; SA561-3G; SA561-4; SA561-4G; SA561-5; SA561-5G; SA562-3; SA562-3G; SA562-4; SA562-4G; SA562-5;
 - SA562-5G;

For B0 version:

- DB-FA11-EN V01.03 dated 29/05/2017, DB-FA13-EN V01.02 dated 25/05/2017

3. TEST REPORTS:

Bureau Veritas Consumer Products Services Germany GmbH: - 14-010 V02.00 dated 2014.07.18;

- 14-017 V01.00 dated 2014.04.07

LGA QualiTest GmbH: - E4.654 Teil A, E4.654 Teil B dated 15. September 2008; 8281115_EMV1, EMV2 dated 27. Juni 2008;

- 8281115_EMV3, EMV4 dated 27. Juni 2008

Noris Group GmbH: - TTBmp14-001 Version 01; Bmp 08-002 Version 01 dated 06.07.2011;

- TTBmp 08-002 Version 01 dated 26.06.2008; TPT08-002 Version 01 dated 13.06.2008

For B0 version:

Bureau Veritas Consumer Products Services Germany GmbH:

- 17-066 V01.00 dated 12.Sep.2017; 17-067 V01.00 dated 12.Sep.2017; 17-181 V01.00 dated 09.10.17

Noris Automation GmbH

- KE1181-TPK1 vers. 1.01 for FA13, FAJ13, FAHD11, FAHS13 dated 20.09.2017

- KE1181-TPV1 vers. 1.01 for FA13, FAJ13, FAHD11, FAHS13 dated 18.09.2017

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**

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**

5.4 - Equipment is to be supplied with manual(s) for installation, use and maintenance.

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.

7.2 - This certificate cancels and replaces the previous one issued by the Society on 25 Nov 2014, under ref. N° 24997/A1 BV.

*** END OF CERTIFICATE ***