



Marine & Offshore

Certificate number: 22486/D0 BV

File number: AP4072

Product code: 3947H

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

Rostock - GERMANY

for the type of product

LIMIT/POSITION/PROXIMITY SENSORS

Angular Sensors

Type: DWA-Q... series

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 33S, 43S

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: 07 Mar 2030

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 07 Mar 2025,

Dirk Hoepfner

This certificate was created electronically and is valid without signature



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 **DWA-Q...** series are angular sensors with ohmic or voltage signal output.

1.1 - Main Characteristics:

Operating Temperature: -25°C to +70°C

Protection Index: IP66, IP68

1.2 - Variant DWA-Q:

Sensor type: DWA **aaa-bb-cc**

aaa=	Rotation:	50°, 70°, 90°, 180°, 240°, 320°
bb=	Design:	Q1: 62x62x115mm housing with terminals and 40mm connector pin Q2: 62x62x66mm housing with cable and 30mm connector pin
cc=	Output signal:	R1: dual potentiometer with resistance 2kOhm U2: 2x 2-10V DC, Supply voltage: 15-30V DC

2. DOCUMENTS AND DRAWINGS:

- DB-DWA-Q-EN, V01.01 dated 15/12/2017

For D0 version:

- NAR-PD-0116-50-en dated 25.08.2021

- 093.002.03.101.B dated 28.11.2017; 093.002.03.102.B dated 28.11.2017

3. TEST REPORTS:

- Treo: 237-17 dated 20-Nov-17; 346-17 dated 25-Jun-18

- Schulle Elektronik: 4393 dated 6.4.20011

- ECL: 16-133 dated 10.06.16; 16-010 dated 02.Nov.2016

For D0 version:

- AMETEK: D/20/4792/01 dated 2021-09-28

4. APPLICATION/LIMITATION:

4.1 - Bureau Veritas Rules 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: 33S, 43S**

4.4 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev 9.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above mentioned products 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:

5.4 - For information, **NORIS Automation GmbH** has declared to Bureau Veritas the following production site:

**NORIS Automation GmbH
Friedrich Barnewitz Str. 10
18119 Rostock - 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.

7.2 - This certificate supersedes the Type Approval Certificate N° 22486/C0 BV issued on 23 Jul 2020 by the Society.

*** END OF CERTIFICATE ***