



CERTIFICATE NUMBER 18-HG1782865-PDA  
EFFECTIVE DATE 01-October-2018  
EXPIRATION DATE 30-September-2023  
ABS TECHNICAL OFFICE  
Hamburg Engineering Department

## CERTIFICATE OF

# Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

**NORIS AUTOMATION GmbH**

located at

**Muggenhofer Strasse 95, D-90429 Nuernberg, Germany**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

**Product** Position Reference Sensor


**Model** DWA, DWA-Q

This Product Design Assessment (PDA) Certificate remains valid until expiration date or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau of Shipping

  
Ulf Numirski  
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

**NORIS AUTOMATION GMBH**

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**Tier: 2 - PDA Issued**

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**Product:** Position Reference Sensor**Model:** DWA, DWA-Q**Intended Service:**

Rotary position sensor for marine applications on AMS, ACC, ACCU, ABCU Classed Vessels.

**Description:**

DWA sensor converts mechanical rotation angle of a shaft into an electrical signal for e.g. measuring rudder angle or adjusting the pitch, available in 3 connection types: ohmic resistor connection, analogue voltage output (-U2), analogue current output (-I2).

**Rating:**

Supply voltage: 15 ... 30 VDC (for -U2), 9 ... 30 VDC (for -I2).

Output signal: 0 ... 2 k Ohm (Type R1), 2 ... 10 VDC (Type U2), 4 ... 20 mA (Type I2)

Operating temperature: -40°C to +70°C

Degree of protection: IP66, IP68

**Service Restriction:**

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

**Comments:**

The manufacturer has provided a declaration about the control of, or the lack of asbestos in this product.

**Notes/Drawing/Documentation:**

Drawing No. 092 002 03 101 A, Dimension Drawing, Revision: -, Pages: 1

Drawing No. 092 002 03 102 A, Dimension Drawing, Revision: -, Pages: 1

Drawing No. 237-17\_V1U-min, Test Report, Environmental, 237-17, TREO, 20/11/2017, Revision: -, Pages: 1

Drawing No. 346-17\_V1Udocx-min, Test Report, Environmental, 346-17, TREO, 25/06/2018, Revision: -, Pages: 1

Drawing No. DB-DWA-Q-EN\_V01 01-min, Technical Data, Rotary piston sensor, Revision: -, Pages: 1

Drawing No. DE008324-1\_ISO 9001\_EN, ISO Certificate, Revision: -, Pages: 1

Drawing No. ECL-EMC-TR-16-133-V01, Test Report, EMC, 16-133, Bureau Veritas, 10/06/2016, Revision: -, Pages: 1

Drawing No. NAR-PB-0116-1-en\_V101, Test Report, Environmental, Noris, 27/06/2018, Revision: -, Pages: 1

Drawing No. SAR54-b\_1A1, Connecting Adapter, Revision: B, Pages: 1

Drawing No. SAR54-b\_2A1, Connecting Adapter, Revision: B, Pages: 1

Drawing No. SAR54-b\_3A1, Connecting Adapter, Revision: B, Pages: 1

Drawing No. em-4394\_MABxx\_ENA, Test Report, 4394, Schville Elektronik, 06/04/2011, Revision: -, Pages: 1

**Terms of Validity:**

This Product Design Assessment (PDA) Certificate 18-HG1782865-PDA, dated 01/Oct/2018 remains valid until 30/Sep/2023 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the

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manufacturer and intended client.

**STANDARDS**

**ABS Rules:**

2018 Steel Vessels Rules: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-9-8/7, 4-9-8/13, 4-9-8/Table 1, 4-9-8/Table 2.

**National:**

NA

**International:**

NA

**Government:**

NA

**EUMED:**

NA

**OTHERS:**

NA