

CERTIFICATE NUMBER EFFECTIVE DATE EXPIRY DATE ABS TECHNICAL OFFICE 25-0052533-PDA 10-Mar-2025 09-Mar-2030 London Engineering Department

CERTIFICATE OF

Product Design Assessment

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

DEIF A/S

located at

FRISENBORGVEJ 33, , SKIVE, Denmark, DK-7800

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: Switchboard Instrument

Model: DQ Series

Endorsements:

Tier: 3 - Type Approved, unit certification not required

This Product Design Assessment (PDA) Certificate remains valid until 09/Mar/2030 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

SBarua

Siddharth Barua, 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)

DEIF A/S

FRISENBORGVEJ 33

SKIVE

Denmark DK-7800

Telephone: 45-9614-9614

Fax: 45-9614-9615 Email: ifl@deif.com Web: www.deif.com

Tier: 3 - Type Approved, unit certification not required

Product: Switchboard Instrument

Model: **DO Series**

Endorsements:

Intended Service:

Voltmeters and Ammeters for use on ABS classed Vessels and Offshore Facilities in accordance with the listed ABS Rules and International Standards.

Description:

The DQ series are either 90 degree or 240 degree moving coil DC current and voltage meters with exchangeable or non-exchangeable scales, designed for switchboard panel mounting, comprising the following list of Models:

DQ 48-x, 96-x, DQ 72-x, DQ 144-x DQ 48-c, 96-c, DQ 72-c, DQ 144-c DQ 48-xc, 96-xc, DQ 72-xc, DQ 144-xc

Rating:

Voltage range: 60 mV to 300 V;

Current range: 1mA-5A-10A-15A-20A-50A, 1mA-600mA (DQ 48 only),

Scale: 0 to 100%

Service Restriction:

- Unit Certification is not required for this product.
- This product is not suitable for hazardous area.

Comments:

- The manufacturer has provided a declaration about the control of, or the lack of asbestos in this product.
- Unless specially directed by Administration, this approval is not to be construed as a substitute for flag

Administration's approval for the purpose of SOLAS (Consolidated Edition 2014), as amended.

- This equipment is classed as a simple/passive sensors and is therefore extempt from type testing under ABS MVR ,4-9-9/13.1. Type testing has not been verifed for this PDA this approval is not to be construed as a substitute for any type testing.

Notes/Drawing/Documentation:

Drawing No. EPC 905_04, 02B RF electromagnetic field immunity, DIEF Laboratory, Revision: r, Pages: 17

Drawing No. EPC 905_03, 16A Radiated disturbance, DIEF Laboratory Revision: r, Pages: 30

Datasheet - DQ-and-VDQ Datasheet Manufacturer Statement No changes

Previous Submitted Drawing
Drawing No. 4921210012S, Data Sheet, Pages: 7
Drawing No. 4910212100F, Type Test, DEIF A/S, Denmark, Date: 04-04-2017, Revision: R, Pages: 47
Drawing No. 49102175010, Type Test, DEIF A/S, Denmark, Date: 27-04-2017, Revision: R, Pages: 39
Drawing No. 4910217527E, Type Test -IP Test, DEIF A/S, Denmark, Date: 27-04-2017, Revision: R, Pages: 5

Drawing No. 4910217507H, Type Test- Common Mode DQ, DEIF A/S, Denmark, Date: 13-11-2009, Revision: 00, Pages: 8

Drawing No. 4910211415B, Type Test- Inclination, DEIF A/S, Denmark, Date: 14-08-2008, Revision: 00, Pages: 18 Drawing No. ISO 9001 – 00007884, ISO Certificate, Lloyd Register Date: 18-09-2018, Revision: 00, Pages: 03

Drawing No. Declaration EQ DQ, Date: 14-08-2008, Date: 08-07-2019, Revision: 00, Pages: 01

Drawing No. 0741-11, 2A Performance test, DEIF A/S, Denmark, Date: 05-07-2019, Revision: R, Pages: 05

Terms of Validity:

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STANDARDS

ABS Rules:

Marine Vessels Rules (2025): 1-1-4/7.7, 1-1-A3, 1-1-A4 which covers the following:

4-9-9 /13.1, 4-9-9 Table 1 (As applicable for passive sensor)

Offshore Rules (2025) 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

4-3-1/11, 4-3-1/15

National:

NA

International:

NA

Government:

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EUMED:

NA

OTHERS:

NA