

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Monitoring Relay**with type designation(s)
ADL 111Q96

Issued to

DEIF A/S
Skive, Midtjylland, Denmarkis found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**Issued at **Høvik** on **2020-10-22**for **DNV GL**This Certificate is valid until **2025-12-19**.DNV GL local station: **Denmark CMC**Approval Engineer: **Nicolay Horn**

Marta Alonso Pontes
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-021020-3**
Certificate No: **TAE00000U7**
Revision No: **2**

Product description

Insulation monitoring relay for DC Networks

Standard versions:

| | | | |
|----------------------|--------------------------|---------------------|---------------------|
| Measuring circuit: | | | |
| Monitoring networks: | 24 VDC | 110 VDC | 220 VDC |
| DC resistance Ri: | 12 kΩ ± 1% | 55 kΩ ± 1% | 110 kΩ ± 1% |
| Measuring voltage: | +/- 12,0V DC +/- 5% | +/- 25,5V DC +/- 5% | +/- 25,5V DC +/- 5% |
| Measuring range: | 50...0 kΩ | 250...0 kΩ | 500...0 kΩ |
| Auxiliary voltage: | 24 VDC/ 110 VDC/ 220 VDC | | |

Advanced versions:

| | | | |
|----------------------|--------------------|--------------------|--------------------|
| Measuring circuit: | | | |
| Monitoring networks: | 24 VDC | 24 VDC | 24 VDC |
| DC resistance Ri: | 11 kΩ ± 1% | 22 kΩ ± 1% | 220 kΩ ± 1% |
| Measuring voltage: | +/- 5,0V DC +/- 5% | +/- 5,0V DC +/- 5% | +/- 5,0V DC +/- 5% |
| Measuring range: | 500...0 kΩ | 1...0 MΩ | 10...0 MΩ |
| Auxiliary voltage: | 24 VDC | | |

Application/Limitation

Pollution degree:

To be installed in a cabinet with an IP degree in accordance with DNV GL Rules w.r.t. location. Anti-condensation heating required. In IP20 or IP21 cabinets, limited to be used in pollution protected rooms (maximum pollution degree II).

Location classes :

| | |
|--------------|---|
| Temperature: | B |
| Humidity: | B |
| Vibration: | A |
| EMC: | B |

Type Approval documentation

Routine test report no. 20201014-120358 dated 2020-10-14.
DNV GL Statement no. 4910216501M rev. 2 dated 2020-05-22.
DEIF TYPE TEST CERTIFICATE RADIATED EMISSION – 16A doc. no. 4910216501M.
DEIF TYPE TEST CERTIFICATE RF E-FIELD IMMUNITY – TEST 02B doc. no. 4910217502N.
Tests reports according to DEIF summary report IPA 0283/ dated 2008-02-08 and IPA 0283-01/ dated 2010-12-21.
Datasheet: Document no 4921230021C and 4921230021D.

Tests carried out


IACS UR E10 rev. 7 (Radiated emission and RF E-Field Immunity test)
Guidelines for the Performance of Type Approvals Part 2, Edition 2003

Marking of product

DEIF, type designation

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.



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The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routines (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Assessment to be performed at 2 and 3.5 year and at renewal.

END OF CERTIFICATE