



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAA000015N**  
Revision No:  
**1**

## This is to certify:

**That the Monitoring System**

with type designation(s)  
**Salinometer series SL80xx**

Issued to

**Daniamant A/S**  
**Slangerup, Denmark**

is found to comply with  
**DNV rules for classification – Ships, offshore units, and high speed and light craft**

## Application :

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.**

## Location classes:

<b>Temperature</b>	<b>B</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>A</b>
<b>EMC</b>	<b>B</b>
<b>Enclosure</b>	<b>B / IP65 (main unit), D / IP68 10 bar (electrode unit)</b>

Issued at **Høvik** on **2022-07-04**

for **DNV**

This Certificate is valid until **2027-06-30**.

DNV local station: **Denmark CMC**

Approval Engineer: **Ståle Sneen**

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**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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Product description

Salinometer series SL80xx for measuring and supervision of salinity in fresh water, comprising:

- Salinometer main unit SL80xx
- Electrode unit 80xx

The cable for the electrode unit is to be of marine approved type.

The salinometer can be delivered in a flame retardant polycarbonate enclosure (IP65), or without enclosure for installation in an existing cabinet/panel.

Salinometer SL80xx key specifications/options:

- Accuracy:  $\pm 10\%$  on displayed value
- Self test function
- 3-digit 7-segment LED display for salinity level readout
- 3-digit 7-segment LED display for alarm setpoint (adjustable)
- Up to two alarm relays
- One 4-20 mA salinity level output

## Place of manufacture

ETK EMS  
Augustenborg Landevej 7  
DK-6400 Sønderborg

## Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

## Type Approval documentation

Design documentation:

User Manual SL8005 version 1.B dated 2017-06-02

Ny elektrode 4723 og 8006 tegning

Test reports:

Type approval test of Salinometer type SL8005, Report No. PX27171-1 dated 2013-04-03,

2013-01-07\_Selektro\_Salinometer\_Additional EMC tests dated 2013-01-07,

Supplementary test for Marine TA of Reset unit 821 and Reset unit 823, Report No. DANAK-19/11798 dtd. 2012-01-19,

Supplementary test EMC to 6 GHz, Report No. P22-0062-2 dated 2022-05-05.

Type approval renewal assessment report for TAA000015N, DNV Denmark CMC 2022-03-03

## Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.

## Marking of product

Manufacturer: Daniamant A/S

Model name: Salinometer SL80xx

Unique serial No.

Power supply: 85-265VAC, 50-60Hz (main unit only)

### **Periodical assessment**

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE