

TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00000RW
Revision No:
1

This is to certify:

That the Liquid Level Monitoring Relay

with type designation(s)
CM-ENS.xxx

Issued to

ABB Stotz-Kontakt GmbH
Heidelberg, Germany

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:

Temperature	B
Humidity	B
Vibration	A
EMC	A/B*
Enclosure	IP 50 (housing) / IP 20 (terminals)

***see: Application/Limitation**

Issued at **Hamburg** on **2021-12-03**

for **DNV**

This Certificate is valid until **2026-12-02**.

DNV local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

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Joannis Papanuskas
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

<u>CM</u>	<u>ENS</u>	<u>X</u>	<u>X</u>	<u>X</u>
I	II	III	IV	V

I CM Range

II Liquid level monitoring relay

III Functions:

- 1 = Drain, adjustable sensitivity range 5 to 100 kΩ, 1c/o
- 2 = Fill and drain, adjustable sensitivity range 0.1 to 1000 kΩ, 1c/o
- 3 = Fill and drain, ON/OFF delay, adjustable sensitivity range 0.1 to 1000 kΩ, 2c/o

IV Power supply range:

- 1 = 24 - 240 Vac/dc (Switch mode power supply)
- 3 = 110V..130V AC / 220V..240V AC (Transformer with center tapping)

V Connection technology:

- P = Push-In connection
- S = Screw connection

Other features:

- o 3 LEDs for the indication of operational states
- o DIN Rail mounting
- o 22,5 mm housing width

Firmware versions:

- o CM-ENS.11 : 1SVR730850S0100_C
- o CM-ENS.21 : 1SVR730850S0200_D
- o CM-ENS.31 : 1SVR730850S0300_D
- o CM-ENS.13 : 1SVR730850S2100_C
- o CM-ENS.23 : 1SVR730850S2200_D

Place of manufacture

ABB STOTZ-KONTAKT GmbH
 Hauptstraße 14-16
 78132 Hornberg
 Germany

Application/Limitation

CM-ENS.x1: Location class for EMC: **A**
 CM-ENS.x3: Location class for EMC: **A, B**

Approval conditions

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

Test Report: paconsult No. 16-7941, dated 07th September 2016.
 Test Report: EMV Rhein-Neckar No. 3808-311, dated 22nd August 2016.
 Test Report: EMV Rhein-Neckar No. 3808-311a, dated 17th November 2021.
 Test Report: UL No. 4786989550, dated 31st August 2015 (IEC 60947-5-1:2003 + A1:2009).
 Test Report (PN): ABB PN_CM-ENS.xyz_21_290_Serie_DNV-Renewal Whitness-Test_A0, dated 2021.11.26.
 Data Sheets: 2CDC 112 228 D0201 (03/2017), 2CDC 112 229 D0201 (03/2017), 2CDC 112 230 D0201 (03/2017).
 Circuit Diagrams: 1SVR730850F0000 (D), 1SVR730854F0000 (D), 1SVR730852F0000 (D).
 Circuit Diagrams: 1SVR730851F0001 (A2), 1SVR730853F0001 (A2).
 Software (Firmware) Documentation (incl. update 2021).
 Type approval assessment report issued at Augsburg on 2021-11-24.

Tests carried out

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

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

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