



Certificate no.:
TAA00003CM

TYPE APPROVAL CERTIFICATE

This is to certify:

that the **Central Alert Management System**

with type designation(s)
Totem BAMS

issued to

Totem Plus Europe GmbH
Hamburg, Germany

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft
IMO Resolution MSC.302(87) Performance standards for Bridge Alert Management
IMO Resolution MSC.252(83) Revised Performance Standards for Integrated Navigation Systems (INS)
IMO A.1021(26) Code on alerts and indicators (2009)
MSC.191(79) Performance standards for presentation of navigation-related information on shipborne navigational displays

Application:

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

Issued at **Høvik** on **2023-12-20**

This Certificate is valid until **2028-12-19**.

for **DNV**

DNV local unit: **Haifa**

Approval Engineer: **Arve Lepsøe**

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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.



Form code: TA 251

Revision: 2023-09

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Product description

The Totem Bridge Alert Management System (BAMS) may be used to indicate Alerts and Indications on a central alert panel on the navigating bridge. The following components are necessary for functioning:

I/O Unit:	CBS 1.0
Touch screen display:	MON1.0
Buzzer:	BZ1.0
Power supply:	DC 24V and AC 230V
Software version:	V6.X (X ≥ 2)

Application/Limitation

Totem BNWAS may be used as integrated part of Totem BAMS but is not covered by this certificate. Totem BNWAS requires its own valid EC-Type Examination certificate.

Approval conditions

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- System block diagram
- Power supply arrangement (may be part of the System block diagram)

The Type Approval covers hardware and software listed under Product description.

As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 [1.2.3] will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

Software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Type Approval documentation

DNV No	Document ID	Rev.	Description
1	TOTEMC 21335 CBAS	1, 2011-05-31	Report: EMC tests acc. to IEC 60945, 9 and 10
2	TOTENV IEC.21323	1, 2010-12-16	Report: Environmental tests acc. to IEC 60945, 8.2 to 8.4, 8.7 and 11.2
3	GL Totem BAMS 2011	2011-08-25	Report: Tests acc. to IEC 60945, 6.1 to 6.4, IEC 62288 Ed.1 and IEC 61924-2
5	-	2.3	Manual: Totem BAMS Installation Manual
6	-	2.3	Manual: Totem BAMS User Manual
9	45079	2018-09-03	Report: Tests acc. to IEC 62288, 4.4.1.2
11	TB-TR-20011	2020-07-20	Report: Tests acc. to IEC 62923-1/-2, IEC 60945, 6.1 to 6.4, 13 to 15 and IEC 62288

Tests carried out

- | | |
|---|---|
| • Alert management testing: | IEC 62923-1 (2018) and IEC 62923-2 (2018) |
| • Environmental testing: | IEC 60945 (2002) incl. Corrigendum 1 (2008) |
| • Serial interface testing: | IEC 61162-1 (2016) and IEC 61162-2 (1998) |
| • Presentation of navigational information: | IEC 62288 (2021) |

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- compass safe distance

Periodical assessment

Periodical assessment is to be performed after 2 years and after 3.5 years. Additionally, a renewal assessment is to be performed at renewal of the certificate.

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

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

END OF CERTIFICATE