

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Public Address and General Alarm System**with type designation(s)
Praesensa

Issued to

Bosch Security Systems B.V.
EINDHOVEN, Netherlands

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft
IMO A.1021(26) Code on alerts and indicators (2009)
LSA Code VII 7.2
IMO MSC Circ 808**Application :****See page 2.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.*****) Call stations have been tested to Temperature- and EMC Class B**

Temperature	A+B*
Humidity	A
Vibration	A
EMC	A+B*
Enclosure	A

Issued at **Høvik** on **2020-06-09**for **DNV GL**This Certificate is valid until **2025-06-08**.DNV GL local station: **Netherlands CMC**Approval Engineer: **Steinar Kristensen**

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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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

The Praesensa Public Address and General Alarm system can be provided as either:

- PA system only
- GA system only
- Integrated PA and GA system

When used for PA on passenger vessels or integrated PA and GA on any vessel, the system shall be duplicated (A+B system). When used for passenger vessels the A and B systems shall be installed in separate fire zones.

Praesensa Public Address and General Alarm System consists of the following equipment ¹⁾:

Equipment type	Description	Type no.
Central Equipment	System Controller Large	PRA-SCL
	Amplifier, 600W, 8 Channels	PRA-AD608
	Amplifier, 600W, 4 Channels	PRA-AD604
	Multifunction Power Supply Large	PRA-MPS3
	End-of-Line device	PRA-EOL
Network Equipment	Ethernet switch	PRA-ES8PS2
	Power supply module, 48V	PRA-PSM48
	Fiber Transceiver Module, Multimode	PRA-SFPSX
	Fiber Transceiver Module, Single Mode	PRA-SFPLX
Call Stations	Call Station Desktop	PRA-CSLD
	Call Station Wallmount	PRA-CSLW
	Call Station Extension	PRA-CSE
Software	Praesensa Software version SW1.1X	

¹⁾ Actual configuration may vary based on requirements for individual installations. Only modules listed in certificate are approved for installation.

Application/Limitation

1. The Praesensa system may be used in cargo ships, passenger vessels, high speed-, light- & naval surface craft and mobile offshore units for compliance with the following codes/rules/regulations:
 - SOLAS
 - HSC Code
 - MODU Code
 - DNV GL Statutory Interpretations, DNVGL-SI-0364 [Feb. 2018]
2. Call Stations which are not used for emergency PA activation shall have a lower priority than GA.
3. Call Stations with functions for activation of Emergency PA and GA are to be installed in locations with access control.
4. Call Stations with functions for activation of Emergency PA and GA shall be provided with means to avoid unintended use, e.g. cover for protection of keys. Keys shall be clearly labelled.
5. When used as combined PA/GA system, a minimum two independent speaker loops are required.
6. Interconnection to other IP network/LAN is subject to separate case-by-case approval.
7. EMC in the range 2 GHz to 6 GHz according to DNVGL-CG-0339, December 2019 has not been documented. EMC up to 6 GHz must additionally be documented for installation on ships contracted for construction on or after 2022-01-01.

Type Approval documentation

DNV GL No	Document ID	Rev.	Description
31	GO017606	0.3	Report: Bosch, Test Results Performance Tests DNV-GL SW1.1.901
26	171201096-001	Ver 2.0.0	Report: Telefication, EN 54-1 test report for Praesensa system
25	M20.001-P20.001 Telefication B.V.	2020-02-03	Report: Sebert Trillingstechniek B.V., Vibration testing of VACIE system
24	BSH/4531/1043 3339/20/S3202	2020-02-17	Report: BSH, Compass safe distance test report for BOSCH PRAESENSA PRA-CSxx call station modules
23	171201096 003	Ver 1.10	Report: Telefication, EMC and environmental test report (DNVGL-CG-0339) for Praesensa system
9		V1.00	Manual: Bosch, PRAESENSA Public Address and Voice Alarm System, Open Interface programming instructions
8		V1.10_2	Manual: Bosch, PRAESENSA Public Address and Voice Alarm System, Installation manual
7		V1.01	Manual: Bosch, PRAESENSA Public Address and Voice Alarm System, Configuration manual

Tests carried out

- Environmental testing: DNVGL-CG-0339 [2016]
- Performance testing: Functional tests according to DNV GL Type Approval program 848.22

Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, reference to Type Approval certificate, safe distance to magnetic compass, power consumption and/or supply voltage.

Job Id: **262.1-032185-1**
Certificate No: **TAA00002RC**

Periodical assessment

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.

The scope of the periodical/renewal assessment is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.

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.dnvgl.com>