



Certificate No:
TAA0000317

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Public Address and General Alarm System

with type designation(s)
ZIZTEL ZEST PAGA SYSTEM

Issued to
Ziztel Limited
Nottingham, United Kingdom

is found to comply with
DNV 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.

Issued at **Høvik** on **2021-09-08**

This Certificate is valid until **2026-09-06**.

DNV local station: **Manchester**

for **DNV**

Approval Engineer: **Frode Nygård**

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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.



Form code: TA 251

Revision: 2021-03

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Page 1 of 3

Product description

The Zistel PAGA system (ZEST-ZX100) is a high Integrity Public Address and General Alarm System.

System is used for delivery of Public Address announcements and alarm tone broadcast.

The components tested are listed below.

Description	Part No
Management Processor Module	ZX100
Audio Power Amplifier	350A
Amplifier Sub Rack c/w built in fan unit	350ASR
Microphone Access Panel	AP100
Microphone Access Panel (Ex – Field unit)	ZAP10-02
Beacon Termination Device	LTD002S
Loudspeaker line monitor	LTD003
Access Unit Termination Device	LTD004
Access Unit Expansion Line Termination Device	LTD020
Audio Bus Termination Device	DL-08
Compact Power Supply	ZAPSU-03
AC Power Management	Z+1 ACM
PABX Interface	ZMR120
I/O Interface Termination Device	ZID-08-34
Distributed Industrial amplifier	PAWS-01-2-1125-R
Mutable Loudspeaker Termination Device	ZLM08
Behringer Digital Processor	DEQ2496

*NOTE: Actual configuration may vary based on requirements for individual installations.
Only modules listed in certificate are approved for installation

Approval conditions

ZEST PAGA will vary in a number of system architectures based on the configured installation.

- A + B, PAGA duplicated/redundant A/B system
- N + 1, architecture based on key components are duplicated.
- N + 2, architecture where entire PAGA system hardware is fully duplicated.
- A + B + N is a combination of A + B and N + 2 for ultimate security.

Correct configuration and set up for each delivery to be tested during commissioning after installation.

Application/Limitation

- The PAGA system main and emergency power supply input shall be fed via an uninterruptable power supply (UPS).
- The PAGA can be connected to external systems via an interface facility extended by the ZX100 on PLC connector or PAWS-01-2-1125-R on PLDE connector. Such interfaces include Fire and Gas detection system to enable auto alarm tone initiation, Supervisory fault reporting of PAGA system trouble, Entertainment system muting during emergency broadcasts etc..
- Any Ex-equipment (equipment to be used in areas with explosive atmosphere) listed in this Certificate is subject to separate Ex-approvals.

Tests carried out

- Environmental tests: IEC 60945 (2002)
- Performance tests: Functional tests according to DNVGL Type Approval program 848.22

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