

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Public Address and General Alarm System

with type designation(s)
Sonix

Issued to

Eaton MEDC Ltd
Sutton-in-Ashfield, Nottinghamshire, 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.

| | |
|--------------------|-----------|
| Temperature | A* |
| Humidity | B |
| Vibration | A |
| EMC | B |
| Enclosure | A* |

* See Application/ Limitation on Page 2

Issued at **Høvik** on **2022-08-12**

for **DNV**

This Certificate is valid until **2025-08-15**.

DNV local station: **Manchester**

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 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

The Sonix 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.

The Sonix Public Address and General Alarm System consists of the below modules ¹⁾:

| Equipment type | Description | Type no. | Firmware |
|-------------------|---|----------------|----------|
| Central Equipment | Control and Matrix Switching Unit | 2Mx | 7.112 |
| | Power Management Unit | Pm10 | 9.127 |
| | 24-48V Power Supply Unit | PD-DC | N/A |
| | Digital Message Store | Ms12 | 7.3 |
| | Pbx to PA/GA record replay unit, interface to Pbx systems | Pbx | 8.8 |
| | Power Amplifier Unit, 350W | 350-d | 18.7 |
| | Hmi Termination Unit, 4 Hmi panels | Hmi-Tu | 15.11 |
| | Hmi Bus Filter | Hmi Bus Filter | N/A |
| | Hmi 5 Safety barrier | Hmi Br | N/A |
| | Beacon Control and Monitoring Unit, 2 loops | Vw2 | 9.7 |
| | Power Amplifier End Of Line unit, 8 speaker loops | Eol8 | N/A |
| | Fibre Optic Extender | E16 | N/A |
| | IG Input/ Output | IG-IO | 1.1 |
| | IG Audio Input | IG-AU | 1.1 |
| | N+1 Tap board | TAP | N/A |
| | Cabinet | Sonix-Rack | N/A |
| Rack DC filter | PXPC362 | N/A | |
| Field equipment | Local loudspeaker mute (Ex or Safe Area) | Hmi-Mute | N/A |
| | Remote End of Line Unit (Ex or Safe Area) | Eol1 | N/A |
| Call Stations | Hmi Access Unit, 5 buttons | Hmi 5 | 6.10 |
| | Hmi Access Unit, 26 buttons | Hmi 26 | 9.16 |

Application/Limitation

1. The Sonix system may be used in cargo ships, passenger vessels, high speed and light craft and mobile offshore units for compliance with the following codes/rules/regulations:
 - SOLAS
 - HSC Code
 - MODU Code
 - DNV Statutory Interpretations [DNV-SI-0364, July 2022]
2. Equipment is to be installed in cabinet as specified in Product Description above.
3. Hmi 5 meets requirements for Enclosure class "C" and Temperature class "D". See page 1 for other location classification.
4. Call Stations which are not used for emergency PA activation shall have a lower priority than GA.
5. Call Stations with functions for activation of Emergency PA and GA are to be installed in locations with access control.
6. 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.
7. When used as combined PA/GA system, a minimum two independent speaker loops are required.
8. Any Ex-equipment (equipment to be used in areas with explosive atmosphere) listed in this certificate are subject to separate Ex- approvals.

Tests carried out

- Environmental testing: DNV-CG-0339 (2021-07)
- Performance testing: Functional tests according to DNV Type Approval program 848.22

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

Type Approval documentation

| DNV No | Drawing No | Rev. | Title |
|--------|------------|------------|--|
| 82 | | F | Report: Eaton, Sonix Public Address & General Alarm- Type Approval Test |
| 78 | 20A255F-f | 2022-04-12 | Report: TesLab, EMC and environmental test report for Sonix PA/GA- Sonix EOL 1 SA |
| 76 | 20A255F-d | 2022-04-12 | Report: TesLab, EMC and environmental test report for Sonix PA/GA- Sonix HMI MUTE SA |
| 75 | 20A255F-c | 2022-04-12 | Report: TesLab, EMC and environmental test report for Sonix PA/GA- Sonix HMI 26 |
| 74 | 20A255F-b | 2022-04-12 | Report: TesLab, EMC and environmental test report for Sonix PA/GA- Sonix HMI 5 |
| 73 | 20A255F-a | 2022-04-12 | Report: TesLab, EMC and environmental test report for Sonix PA/GA- Main Unit |

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, power consumption and/or supply voltage. Safe distance to magnetic compass is to be stated in manuals.

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.dnv.com>