TYPE APPROVAL CERTIFICATE

This is to certify:

That the Public Address and General Alarm System

with type designation(s)
Vingtor Exigo

Issued to

Zenitel Norway AS avd Horten
HORTEN, **Norway**

is found to comply with

IMO Res. A.694(17) General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids
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 **2023-06-26**

for **DNV**

This Certificate is valid until **2025-08-15**.
DNV local unit: **Sandefjord**

Approval Engineer: **Steinar Kristensen**

Frederik Tore Elter
Head of Section

The Vingtor Exigo 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 vessel or integrated PA and GA on any vessel, the system shall be duplicated. When used for passenger vessels the duplicated parts of the system are to be installed in separate main vertical fire zones.

Vingtor Exico Public Address and General Alarm System comprises the following modules [1]:

Equipment type	Description	Module	Article no.	SW	Env.
Central equipment [2]	Exigo System Controller	ESC1	102 3000 000	PSC: 13.0.3.x SSC: 4.10.3.x	Protected
	Processor for ECS1/ Primary System Controller (PSC)	ICX-500	100 2000 100	PSC: 1.2.3.x	
	Exigo Network Amplifier AC, 2x100W	ENA2100-AC	102 3102 100	4.10.3.x	
	Exigo Network Amplifier, 2x120W	ENA2120	102 3102 120	4.10.3.x	
	Exigo Network Amplifier, 2x200W	ENA2200	102 3102 200	4.10.3.x	
	Exigo Network Amplifier, 2x200W	ENA2200-AC2	1023102210	6.3.3.x	
	Exigo Network Amplifier DC, 2x400W	ENA2400-DC	102 3102 400	4.10.3.x	
	Exigo Network Amplifier AC, 2x400W	ENA2400-AC	102 3102 410	4.10.3.x	
	Exigo Network Amplifier AC, 2x400W	ENA2400-AC2	1023102420	6.3.3.x	
	Power Amplifier, 1x400W, 48VDC	P-1670-Basic	234 0100 002	6.5.3.x	
	Power Amplifier, 1x400W, 48VDC, incl. Line Card	P-1670-Line	234 0100 003	6.5.3.x	
	IP Line Connection Module	IP-LCM-A	1008095201	4.10.3.x	
Network Equipment [2]	Exigo Managed Network Switch, 8 PoE ports	ENSIR-8	102 3604 008	NA	Protected
	Exigo Power Supply for ENSIR-8, 120W	EPMN-120	102 3597 000	NA	
	Exigo Power Supply for ENSIR-8, 240W	EPMN-240	102 3597 001	NA	
	Exigo Managed Network Switch, 8 Ports, DIN Mounting	ENSER-8	102 3601 008	NA	
	Exigo Port Expansion Module for ENSER-8	ESEER-8	102 3607 008	NA	
	Power Supply 85-276VAC/48VDC 5A	QS10.481	299 0000 037	NA	
	Exigo Fiber GBIC for ENSIR-8, 1000BaseSX, LC Connector	EFMR-1	102 3616 001	NA	
	Exigo Fiber GBIC for ENSIR-8, 1000BaseSX+, LC Connector	EFMR-2	102 3616 002	NA	
	Flowire - Ethernet Converter, DC Voltage	FCDC1	100 8080 110	NA	
	Flowire - Ethernet Converter, non-PoE	FCDC2	100 8080 210	NA	
	Flowire - Ethernet Converter, DC Voltage	FCDC3	100 8080 310	NA	
	Power supply for Flowire, 48Vdc, 120 Watt	Flowire 120	299 0101 124	NA	
	Power supply for Flowire, 48Vdc, 250 Watt	Flowire 250	299 0101 244	NA	
	Exigo Power Injector, 6 Ports	EPIPR-6	102 3697 006	NA	
	PowerBox PSU, 24 VDC, 120W	Flowire Ex 120	299 0102 120	NA	
	PowerBox PSU, 24 VDC, 250W	Flowire Ex 250	299 0102 240	NA	
	Cisco C1000 Ethernet switch 24port, incl. AC filter	C1000-24-FP-4G-L/IEC60945	2220012401	NA	
	Cisco C1000 Ethernet switch 48port, incl. AC filter	C1000-48-P-4G-L/IEC60945	2220012402	NA	
	Cisco Firepower 1010 NGFW	FPR1010-NGFW-K9/IEC60945	2220012662	NA	

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

[2] Equipment has also been tested for compliance with DNV Standard for Certification 2.4

Equipment type	Description	Module	Article no.	SW	Env.
Network Equipment for rack installation [3)]	Cisco 2960+24PC-L Ethernet switch –IEC60945	2960-24PC-L /DNV	2220012068	NA	Protected
	Cisco SFP transceiver module, 1000Base-SX	GLC-SX-MMD	2220012150	NA	
	Cisco 2911 Integrated Service Router –IEC60945	C2911/ DNV	2220012179	NA	
	HP 2620-24 24-port 10/100 PoE+ switch – IEC60945	ProCurve2620-24/DNV	2220050008	NA	
	HP SFP transceiver, 1G SFP LC SX	J4858C	2220011150	NA	
	24V/48V converter	SD-200B-48	2970020001	NA	
	Power module, 230VAC/ 230VAC	POWMOD-X	1154100010	NA	
	Marine patch panel, 24 ports	BC-24PP	2220040014	NA	

Equipment type	Description	Module	Article no.	SW	Env.
Access Panels [4)]	Exigo Call Panel, PTT Button, Pluggable Microphone, Ethernet	ECPIR-P	102 3200 030	4.10.3.x	Protected
	Exigo Call Panel, PTT + 3 Buttons, Pluggable Microphone, Ethernet	ECPIR-3P	102 3200 033	4.10.3.x	Protected
	Exigo Alarm Panel, 8 Buttons, Ethernet	EAPIR-8	102 3201 008	4.10.3.x	Protected
	Exigo Button Expansion Module, 8 Buttons	EBMDR-8	102 3253 008	NA	Protected
	Exigo Industrial Access Panel, 1 Button, Ethernet	EAPII-1	102 3201 201	4.10.3.x	Exposed
	Exigo Industrial Access Panel, 6 Buttons, Ethernet	EAPII-6	102 3201 206	4.10.3.x	Exposed
	Exigo Industrial Ex Access Panel, 1 Button, Flowire	EAPFX-1	102 3221 511	4.10.3.x	Exposed
	Exigo Industrial Ex Access Panel, 6 Buttons, Flowire	EAPFX-6	102 3221 516	4.10.3.x	Exposed
	Exigo Industrial Ex Access Panel, 1 Button	EAPFX-1-V2	1023221611	6.5.3.x	Exposed
	Exigo Industrial Ex Access Panel, 6 Button	EAPFX-6-V2	1023221616	6.5.3.x	Exposed
	IP Flush Master, Display		100 8031 000	4.10.3.x	Protected
Microphones [4)]	Exigo Handheld Microphone, 1 Button	EMMAR-1H	102 3533 011	NA	Protected
	Gooseneck Microphone	MB-30G	3005020033	NA	Protected
	Exigo Handheld Industrial Microphone, 1 Button	EMMAI-1H	102 3533 311	NA	Protected
	Exigo Handheld Industrial Microphone, Compact	EMMAI-2H	102 3533 312	NA	Exposed
	Exigo Handheld Industrial Ex Microphone, 1 Button	EMMAX-1H	102 3533 511	NA	Exposed
Accessories	Exigo Industrial Line End Transponder	ELTSI-1	102 3540 200	NA	Exposed
	Connection board with relays for Turbine/Exigo Industrial	TA-10	100 8140 100	NA	Protected
	Turbine Kit IP Extended	TKIE-1	100 8132 010	4.10.3.x	Protected
	General Purpose Audio Board	AGA	100 9303 001	NA	Protected
	IP DAK-48 Unit	DAK-48	100 8010 100	NA	Protected
Volume Controllers [5)]	Volume Controller, 1x15W with 4-wire Override, Flush Mount	VM15-R	300 5010 210	NA	Protected
	Volume Controller, 1x50W with 4-wire Override, Flush Mount	VM50-R	300 5010 213	NA	Protected
	Volume Controller, 2x15W Dual with Failsafe Override Relay, Flush Mount	VM15-RDF	300 5010 212	NA	Protected
	Volume Controller, 2x50W Dual with Failsafe Override Relay, Flush Mount	VM50-RDF	300 5010 215	NA	Protected
	Volume Controller, 1x15W Dual with 4-wire Override, Flush Mount	VM15-RD	300 5010 211	NA	Protected
	Volume Controller, 2x50W Dual with 4-wire Override, Flush Mount	VM50-RD	300 5010 214	NA	Protected
	Volume Controller, 15W with 24VDC Override, Flush Mount	VCOR-15	2131000401	NA	Protected

[3)] Network Equipment for rack installation is only approved for installation in equipment racks. Power to all modules is to be provided via Power module POWMOD-X.

[4)] Equipment has also been tested for compliance with DNV Standard for Certification 2.4

[5)] Volume controllers are passive units only. The controllers have not been subject to testing according to IEC 60945, but are included in the certificate as they are integral parts of the system design.

Job Id: **262.1-014324-12**
Certificate No: **TAA000003W**
Revision No: **8**

Equipment type	Description	Module	Article no.	SW	Env.
	Volume Controller, 15W with 24VDC Failsafe Override Relay, Flush Mount	VCOR-15F	2131000403	NA	Protected
	Volume Controller, 60W with 24VDC Override, Flush Mount	VCOR-60	2131000402	NA	Protected
	Volume Controller, 60W with 24VDC Failsafe Override Relay, Flush Mount	VCOR-60F	2131000404	NA	Protected
Network Interface for Speakers	VoIP Intercom Module for integration with passive speakers	TKIS-2	100 8131 020	4.10.3.x	Protected

Application/Limitation

1. The Vingtor Exigo may be used in cargo ships, passenger vessels, high-speed & 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. System shall operate on a dedicated IP network/LAN, consisting of components listed in this certificate. Components listed in certificate for the Vingtor ACM system may also be connected if integrated with Vingtor Exigo.
   Interconnection to other networks is subject to separate case-by-case approval.
3. Any PA panel which is not used for emergency PA activation shall have a lower priority than GA.
4. Access panels with functions for activation of Emergency PA and GA are to be installed in locations with access control.
5. Access panels with functions for activation of Emergency PA and GA shall be provided with means to avoid unintended use. This can be either cover for protection of keys, or keys shall be pressed for minimum 2 seconds to activate function. Keys shall be clearly labelled.
6. When used as combined PA/GA system, minimum two independent speaker loops are required.
7. Any Ex-equipment (equipment to be used in areas with explosive atmosphere) listed in this certificate are subject to separate Ex- approvals.
8. The Vingtor Exigo system may also be installed in combination with Vingtor ACM system, with the same applications and limitations as specified in the Type Approval certificate for that system.

Tests carried out

- Environmental testing: IEC 60945 (2002) incl. Corr.1 (2008)
- Performance testing: Functional tests according to DNV Type Approval programme 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, safe distance to magnetic compass, power consumption and/or supply voltage.

Type Approval documentation

DNV No	Doc. ID	Description	Rev.
1	E14147	Report: Nemko, Environmental test report for Exigo Line End Transponder	00
2	20046	Report: Applica, EMC test report for Exigo ELTSI-1 Line End Transponder	1
3	20047	Report: Applica, Environmental test report for Turbine Compact intercom station	0
4	20146	Report: Applica, EMC and environmental test report for EXIGO PA/GA system	0
5	E13192	Report: Nemko, EMC test report for Flowire Ethernet Converter FCDC1	00
7	A-13392	Certificate: DNV, TA certificate for EDS-series ethernet switches	2013-08-20
8	2013-3236	Report: DNV, EMC test report for TCIS-6 Turbine Compact IP standard-6	00
10	GR 14-001	Report: Zenitel, Turbine TCAS-x EN60945 Compliance	2014-05-28
13	E14083	Report: Nemko, EMC test report for IP-based Intercom and PA-panels	00
14	E14145	Report: Nemko, Environmental test report for FCDC1 - Flowire Ethernet converter	00
15	2014-06-13	Report: Zenitel, Performance test report for Vingtor Exigo system	00
16	A100K11471	Manual: Zenitel, Vingtor Exico Public Address and General Alarm system user manual	
17	E07218.00	Report: Nemko, Radiated emission and immunity test report (1-2GHz) for ACM-48 Exchange cabinet	1.0
18	106916/04	Report: Nemko, EMC test report for IP Flush Master	2008-06-23
19	A100K11460	Manual: Zenitel, VINGTOR Exigo System Manual	06-2014
20	E06067.00	Report: Nemko, EMC test report for ACE-exchanges	1.0
21	2010-3593	Report: DNV, Environmental test report for Vingtor ACM-exchange and IP Flush Master	1
22	GR-2009-11-15	Report: Zenitel, Technical Report ACM-system-EN60945 compliance	4
23	E14084.00	Report: Nemko, EMC and environmental test report for TFIX-X intercom and EAPFX-X Ex access panels	2014-06-12
25	3385306 HH	Certificate: GL, PT5xx-series power supplies	2012-08-27
26	7547909HH	Certificate: GL, Mean Well SDR-240 and SDR-240-48 power supplies	2010-04-12
27	95007-10HH	Certificate: GL, Mean Well SDR-120 and SDR-480 series power supplies	2010-07-21
28	2640005HH	Certificate: GL, Puls QS-series power supplies	2010-04-01
29	A-12242	Certificate: DNV, TA certificate for Cisco IE 3000 Series Ethernet Switches	2011-08-18
30	DANAK-19/14910	Report: DELTA, EMC and environmental test report for networking equipment	2015-01-13
31	20583	Report: Applica, EMC and environmental testing of ENA2400-DC Network Amplifier	0
34	A100K11460	Manual: Zenitel, VINGTOR Exigo Technical Manual	1.7
35	A100K11471	Manual: Zenitel, Exigo User Guide for Access Panels	
41	21072	Report: Applica, EMC and environmental test report for ENA2400-AC Exigo Network Amplifier	0
48	21399	Report: Applica, Vibration test report for IP-LCM IP Line Connection Module	0
51	21318	Report: Applica, EMC and environmental test report for ENA2100-AC PA Amplifier	1
54	E21021.00	Report: Nemko, EMC and environmental test report for ENA2200-AC2 and ENA2400-AC2	00
55	E19125.01	Report: Nemko, Environmental test report for FCDC3	01
56	A100K11957	Manual: Zenitel, Flowire FCDC3 Getting Started Guide	2019-11-10
57	A100K11958	Manual: Zenitel, Flowire FCDC3 Configuration manual	
58	A100K11959	Manual: Zenitel, Flowire FCDC3 Guidelines for Exigo	
59	A100K11960	Manual: Zenitel, Replacing Flowire FCDC3 Converter	2019-11-10
61	E19084.00	Report: Nemko, EMC test report for FCDC3	00

DNV No	Doc. ID	Description	Rev.
68	E21182.00	Report: Nemko, EMC test report for Turbine Ex intercom stations TFIX-1-V2, TFIX-2-V2 and TFIX-3-V2, and Exigo Ex Access Panels EAPFX-1-V2 and EAPFX-6-V2	2022-04-20
69	P21-0145	Report: EKTOS, EMC and environmental test report for Zenitel C1000 + Firewall system	2022-01-31
74	2007-3256	Report: DNV, EMC and environmental test report for MPA1600 Public Address System incl MPA 1670	01
75	21456	Report: Applica, EMC and environmental testing of ICX500 VS Server	0