TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA0000054
Revision No:
3

This is to certify:

that the Automatic Telephone System and Hands Free Voice Talk Back System

with type designation(s)
SeaCom 2100, SeaCom 3000, Alphaconnect 128, AlphaConnect Classic

issued to
Seacom ApS
Åbyhøj, **Denmark**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

See page 2.

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

Type	Temperature	Humidity	Vibration	EMC	Enclosure
SeaCom 2100	B	B	A	B	A
SeaCom 3000	B	B	A	B	A
Alphaconnect 128	B	B	A	B	A
AlphaConnect Classic	B	B	A	B	A

Issued at **Høvik** on **2026-11-03**

This Certificate is valid until **2028-11-02**.
DNV local unit: **Denmark CMC**

Approval Engineer: **Steinar Kristensen**

for **DNV**

This document has been digitally signed and will therefore not have handwritten signature

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 USD 300 000.

Product description

SeaCom automatic telephone system and hands free voice talk back system consists of automatic telephone exchanges and talk back, intercom and telephone stations.
Products are also available in an Alphatron branded version designated as Alphaconnect, consisting of the same hardware and software, but in different colours.
For the talk back, telephone and intercom stations the designation SC xxx represents the SeaCom version of the product, while Pxxx is the Alphaconnect version.
The following products are covered by this Type Approval [1]:

Equipment type	Module	Description	Article no.	SW	Env.*)
Telephone exchanges	SeaCom 3000	Telephone exchange with maximum 144 telephone and communication station positions	10-092-0305_01xx	N.A.	Protected
	AlphaConnect Classic		10-091-0500_01xx	N.A	
	SeaCom 2100	Telephone exchange with maximum 128 telephone and communication station positions	10-092-0200_02xx	N.A.	
	AlphaConnect 128		10-091-0100_06xx	N.A.	
Circuit boards and modules for exchanges	PSU	Power supply unit, 18-32 VDC input,+/- 5V, -48V and 80V AC output	10-110-1020_03xx	02xx	
	CP2	Central processor board, including Ethernet, serial and USB ports [2]	10-110-1011_05xx	OS0301 +CP08xx	
	FIO2 Master	2 line trunk board with master clock and communications on board	10-110-1031_06xx	06xx	
	AEXT8	8 line analogue extension board	10-110-1041_06xx	05xx	
	PIM	Power input module for SeaCom 2100 and AlphaConnect 128	20-110-0060_02xx	N.A.	
	PIM	Power input module, 24V DC Mains and battery input for SeaCom 3000 and AlphaConnect Classic	20-110-0070_03xx	N.A.	
	CTU2	Cable termination unit, 16+2 lines	10-110-1061_02xx	N.A.	
	CTU24-24	Cable termination unit, 24 lines	10-110-1224_01xx	N.A.	
	CTU24-8	Cable termination unit, 8 lines	10-110-1208_01xx	N.A.	
	PDU	Power distribution unit, 24VDC for telephone and intercom stations	10-110-1200_01xx	N.A.	
	FIO4	Trunk Line Interface, 4 lines	10-110-1404_02xx	02xx	
	FIO4-2	Trunk Line Interface, 2 lines	10-110-1402_02xx	02xx	
	AEXT16-8	Telephone Line Interface, 8 lines	10-110-2020_02xx	01xx	
	AEXT16-16	Telephone Line Interface, 16 lines	10-110-2021_02xx	01xx	
	AEXT16-24	Telephone Line Interface, 24 lines	10-110-2022_02xx	01xx	
	Backplane	Backplane	20-110-0030_02xx	N.A.	
	LSP	System processor	10-110-1404_02xx	01xx	
Talk back station	SC 211	Simple water tight telephone station with 3 buttons	10-102-0211_06xx	01xx	Exposed
	P211		10-103-0211_06xx	01xx	Exposed
Telephone station	SC 220	Water tight and salt mist resistant industrial telephone station with built in call relay	10-102-0220_04xx	01xx	Exposed
	P220		10-103-0220_04xx	01xx	Exposed
Telephone and intercom station	SC 411	Flush mount telephone station with display, backlight and hands-free	10-102-0411_02xx	01xx	Protected
	P411		10-103-0411_02xx	01xx	Protected
	SC 421	Water tight telephone station with display, backlight and hands-free	10-102-0421_0300	01xx	Exposed
	P421		10-103-0421_03xx	01xx	Exposed
Accessories	Handset/ cradle	Watertight handset with cradle for use with SC211/P211, SC220/P220 and SC421/P421	10-400-1020_06xx	N.A	Exposed

[1] Actual configuration may vary based on requirements for individual installations. Only modules listed in this certificate are approved for installation.
[2] Ethernet, Serial and USB ports may only be used for connections internally within the system, and are not approved for connection to other systems/ networks

Equipment type	Module	Description	Article no.	SW	Env.*)
	Handset/ cradle	Flush mount, SeaCom Flush mount, Alphatron	10-400-1050_01xx 10-400-1053_01xx	N.A	Protected
	Headset	Noise cancelling headset with 10m cable for use with SC211/P211, SC220/P220 and SC421/P421	10-400-0205_01xx	N.A	Protected

*) Location categories according to IEC 60945 (2002)

Application

The SeaCom/ Alphaconnect automatic telephone system and hands free voice talk back system may be used in cargo ships, passenger vessels and mobile offshore units for compliance with the following codes, rules and regulations:

- SOLAS
- MODU Code
- HSC Code
- DNV Statutory Interpretations DNV-SI-0364 [July 2021]

Type Approval documentation

DNV No	Document Id.	Rev.	Description
46	P21-0149	2021-12-01	Report: EKTOS, Supplementary EMC Test report 2-6GHz for SeaCom SC2100, SC3000, SC220, SC411, Alphatron P211 and P421
40	DOC20160908CJ02	08	Report: SeaCom, TA Test report AlphaConnect Classic and SeaCom3000
28	TMN20170417CJ01	0105	Manual: SeaCom, SeaCom3000 User Manual
26	117-22251-1	2017-11-29	Report: Force Technology, Test for marine type approval of AlphaConnect automatic telephone and intercom system
25	DOC110225CJ01_03	03	Report: SeaCom, Performance type test report for SeaCom communication system
24	TMN100510CJ01_03	0404	Manual: SeaCom, SeaCom system reference manual
23	2010-01-11-SeaCom-addendum	2011-03-22	Report: Jens-EMC, Extreme and excessive power supply conditions
22	20110329	2011-03-28	Report: EKTOS, Environmental test report, additional tests
10	20100902/CNI	2010-09-02	Report: EKTOS, Environmental test report
7	2010-01-11-SeaCom-Alphaconnect P411/ SeaCom411	2010-07-14	Report: Jens-EMC, EMC test report for SeaCom 411/ Alphaconnect P411
6	2010-01-11-SeaCom-Alphaconnect P220/ SeaCom220	2010-07-14	Report: Jens-EMC, EMC test report for SeaCom 220/ Alphaconnect P220
5	2010-01-11-SeaCom-Alphaconnect P211/SeaCom211	2010-07-13	Report: Jens-EMC, EMC test report for SeaCom 211/ Alphaconnect P211
4	2010-01-11-SeaCom-AC48/SeaCom1000 & AC128/SeaCom2100	2010-07-21	Report: Jens-EMC, EMC test report for AC48/SeaCom1000 &/ AC128/SeaCom2100
3	2010-01-11-SeaCom-Alphaconnect P421/ SeaCom421	2010-07-14	Report: Jens-EMC, EMC test report for SeaCom 421/ Alphaconnect P421

Tests carried out

- Environmental testing: DNV-CG-0339 (Jul. 2021) and IACS E10 (Rev 7.0, Oct. 2018)
- Performance testing: Functional tests according to DNV Type Approval programs 848.25 for Automatic Telephone System and 848.26 for Hands Free Voice Talk Back system.

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.

Periodical assessment

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

Manufactured by:

Seacom ApS, Søren Frichs Vej 38 K/1, 8230 Åbyhøj, Denmark