

# EC TYPE-EXAMINATION (MODULE B) CERTIFICATE

## Marine Equipment Directive (MED) 2014/90/EU

**PHOENIX TESTLAB**  
Notified Body Number **0700**

Recognised by



BUNDESAMT FÜR  
SEESCHIFFFAHRT  
UND  
HYDROGRAPHIE

**0800S11/4822/007**

This is to certify that:

PHOENIX TESTLAB did undertake the relevant type approval procedures for the type of equipment identified below which was found to be in compliance with the requirements of Marine Equipment Directive (MED) 2014/90/EU, subject to any conditions in the schedule attached hereto.

<b>Certificate No.</b>	PTL-MED-B-18-111647
<b>Manufacturer</b>	Hemisphere GNSS (USA) Inc.
<b>Address</b>	8515 E. Anderson Drive, Scottsdale AZ, USA 85255
<b>Directive Reference (No &amp; Item designation)</b>	Directive 2014/90/EU, Regulation (EU) 2018/773 MED/4.41 Transmitting heading device THD (GNSS method)
<b>Product Name</b>	V1x3 (V123, V133)

### Specified Standards

IMO Resolution A.694(17)	ISO 22090-3:2014
IMO Resolution MSC.116(73)	IEC 60945 Ed. 4.0 (2002) incl. Corr. 1 (2008)
IMO Resolution MSC.191(79)	IEC 61162-1 Ed. 5.0 (2016-08)
IMO Resolution MSC.302(87)	IEC 61162-2 Ed. 1.0 (1998-09)
	IEC 61162-3 Ed. 1.2 (2014-07)
	Consol. with am1 Ed. 1.0 (2010-11) and am2 Ed. 1.0 (2014-07)
	IEC 62288 Ed. 2.0 (2014-07)

Date of issue

**2018-09-12**

Expiry date:

**2023-09-11**

This certificate remains valid unless suspended, expired or withdrawn, provided the conditions in the attached schedule are complied with.

The attached Schedule of Approval forms part of this certificate. This certificate consists of 4 pages.



Signed by Klaus Knörig  
Notified Body

## Schedule of Approval

### System Components

Component	Description	Part No	Software Version
V123	Antenna and receiver	804-0156-10	5.9Aaxx (xx=00, will increment for minor software changes)
V133	Antenna and receiver	804-0157-10	5.9Aaxx (xx=00, will increment for minor software changes)

### Additional Components

Component	Part No
GNSS Mounting Bracket	710-0126-0
NMEA2000 Adapter Kit	710-0113-000#

### Approval documentation

Description	Document Name	Revision
Instruction Manual	875-0387-000, Vector V123/133 GPS Compass User Guide	Rev. A1 2018-04-18
Operational Description	Description of V1x3, 2 pages	---
Block Diagram	V133 Block Diagram	
PCB Assembly Drawings	Beacon antenna Board, 725-1258-501#_A1_AD	2011-03-10
	Carrier Board, 725-1474-1_A1_AD	2017-04-28
	H220 Vector, 500-1575-0 Rev. A1, LEGEND	
	SBX-4 Beacon Board, 725-1214-00A#_AD	2006-08-22
	Folded Cross Dipole Antenna, 500-1307-501#_A2_FD	2011-07-25
	PCA, LNA, GNSS, A32, PCA Assembly, 725-1501-0_A1_AD, REV A, REL 1	2013-05-28
Bill Of Materials	Beacon antenna Board, 725-1258-501#_A1_BOM	2011-07-06
	Carrier Board, 725-1474-1_Ax1_BOM	2017-04-27
	H220 GNSS Board, 725-1575-0, Rev C, Rel 1	2018-02-08
	SBX-4 Beacon Board, 725-1214-00A#_SL	2006-08-22
	PCA, LNA, GNSS, A32, 725-1501-0, Rev A, Rel 2	2013-12-12



Description	Document Name	Revision
Schematics	Beacon antenna Board, 725-1258-501#_A1_SC	2011-03-11
	Carrier Board, 725-1474-1_A1_SC	2017-04-28
	H220 Vector Board, 725-1575-0_C1_SC, Rev C, Rel 1	2018-02-09
	SBX-4 Beacon Board, 725-1214-00A#_SC	2006-08-03
	PCA, LNA, GNSS, A32, 725-1501-0_A1_SC, REV A, REL 1	2013-05-28
Harness Drawing	Part Number 051-0289-000# 051-0289-000#_a2_AD	2011-03-03
Assembly Drawing	V133 SMART ANTENNA, 804-0157-00, Rev A, Rel 1	2018-02-28
Test Specification	Vector MV123-133/V123-133 Smart Ant IMO, TS-804-0156, Revision 02	2018-04-10
Work Instruction	WI-804-0156, V123 / V133, Revision 01	2018-03-14
Attestation Letter	V1x3 - IEC 60945 ed. 4 (2002) Section 8.12.1 Corrosion - Waiver	2012-01-06
Risk Assessment	V/MV133	---
Declaration of Conformity	Draft DoC, Model Name V123, V133, Model Numbers 804-0156-10, 804-0157-10	---
Photos	Contained in Test Reports	---
Drawing	Drawing of NMEA2000 connector, adaptor 676-0030-000#(676-0030-000)_Rev 01	2011-05-20

### Applied Testing Standards and Test Reports

Testing Standard	Laboratory	Test Report Number / Version
ISO 22090-3:2014	BSH	BSH/4543/001/4413197/18, 2018-05-09
IEC 61162-1 Ed. 5.0 (2016-08) IEC 61162-2 Ed 1.0 (1998-09)	BSH	BSH/4543/001/4413198/18 2018-05-09
IEC 60945 Ed. 4.0 (2002) incl. Corr. 1 (2008), Clause 11.2, Compass safe distance	BSH	Certificate No. 1006, 2018-05-16
IEC 60945 Ed. 4.0 (2002) incl. Corr. 1 (2008) EMC	Electronics Test Centre MPB Technologies Inc.	Report No.: h10e5050 Release 1, 2013-07-09
IEC 60945 Ed. 4.0 (2002) incl. Corr. 1 (2008) Environmental	Electronics Test Centre MPB Technologies Inc.	Report No.: H10p5052 Release 1, 2013-06-27



Testing Standard	Laboratory	Test Report Number / Version
IEC 60945 Ed. 4.0 (2002) incl. Corr. 1 (2008) Environmental	Electronics Test Centre MPB Technologies Inc.	Report No.: H10p4667 Release 4, 2012-02-06
IEC 60945 Ed. 4.0 (2002) incl. Corr. 1 (2008) EMC	Electronics Test Centre MPB Technologies Inc.	Report No.: h10e18a155 Release 1, 2018-04-06
IEC 60945 Ed. 4.0 (2002) incl. Corr. 1 (2008) Environmental	Electronics Test Centre MPB Technologies Inc.	Report No.: h10p18a163 Release 2, 2018-05-01
IEC 61162-3 Ed. 1.2 (2014-07) Consol. with am1 Ed. 1.0 (2010-11) and am2 Ed. 1.0 (2014-07)	NMEA	V123_20180717, 2018-07-17
IEC 61162-3 Ed. 1.2 (2014-07) Consol. with am1 Ed. 1.0 (2010-11) and am2 Ed. 1.0 (2014-07)	NMEA	V133_20180717, 2018-07-17

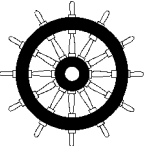
### Limitations / Restrictions

All displays, which are used for the presentation of the THD indications and alerts shall be approved and in compliance with the requirements of:

IEC 60945 Ed. 4.0 (2002) incl. Corr. 1 (2008)  
IEC 61162-1 Ed. 5.0 (2016-08)  
IEC 61162-2 Ed 1.0 (1998-09)  
IMO Resolution MSC.191(79) and IEC 62288 Ed. 2.0 (2014-07)  
IMO Resolution MSC.302(87)

### Notes

1. This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with PHOENIX TESTLAB.
2. Should the specified regulations or standards be amended during the period of validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on the market and on board vessels to which the amended regulations or standards apply.

3.  The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of ANNEX II of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.

