DNV·GL

Certificate No:
MEDB00003HS

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Radar equipment CAT1, CAT2, CAT3; for High Speed Craft CAT 1H/2H ; with a chart option CAT 1C, CAT 2C, CAT 1HC, CAT 2HC

with type designation(s)
OSI Radar HMI

Issued to
OSI Maritime Systems Ltd.
Burnaby BC, Canada

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2017/306,**
item No. MED/4.34. SOLAS 74 as amended, Regulations V/18 & V/19, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), ITU-R M.1177-4 (04/11)
item No. MED/4.35. SOLAS 74 as amended, Regulations V/18 & V/19, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), ITU-R M.1177-4 (04/11)
item No. MED/4.37. SOLAS 74 as amended, Regulation X/3, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), IMO MSC.1/Circ.1349, ITU-R M.1177-4 (04/11)
item No. MED/4.38a. SOLAS 74 as amended, Regulation X/3, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), ITU-R M.1177-4 (04/11)
item No. MED/4.38b. SOLAS 74 as amended, Regulation X/3, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), ITU-R M.1177-4 (04/11)
item No. MED/4.38c. SOLAS 74 as amended, Regulation X/3, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), IMO MSC.1/Circ.1349, ITU-R M.1177-4 (04/11)
item No. MED/4.38d. SOLAS 74 as amended, Regulation X/3, IMO Res. A.278(VIII), IMO Res. A.694(17), IMO Res. MSC.36(63), IMO Res. MSC.97(73), IMO Res. MSC.191(79), IMO Res. MSC.192(79), IMO Res. MSC.302(87), IMO MSC.1/Circ.1349, ITU-R M.1177-4 (04/11)

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2021-09-11**.

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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

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Job Id: **344.1-007687-6**
Certificate No: **MEDB00003HS**

Issued at **Hamburg** on **2019-07-03**

DNV GL local station:
Vancouver

Approval Engineer:
Harald Bluhm

Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudszus
Head of Notified Body

Product Description

Technical data:

1. **Radar Hardware**

Kelvin Hughes		
Mk11 SharpEye X-Band Turning Unit		DTX-A40-xAAA [1],1000071-xx [5]
2.5m X-Band Antenna		LPA-A25-x [2]
Mk11 SharpEye S-Band Turning Unit		DTX-A30-xAAA [1],1000069-xx [5]
3.9m S-Band Antenna		LPA-A3-x [2]
Power Control Unit		DTX-A50 [3]
Man Aloft Switch		NAN-A27-x [4]
Radar Distribution Unit		P-607803 / NTX-A31-20
FURUNO		
Radar Processing Unit		EC-3000
Radar control unit		RCU-025
Trackball control unit		RCU-026
X-band transceiver unit		
RTR-105	12 kW upmast	FAR-3x10
RTR-106	25kW upmast	FAR-3x20
RTR-108	25kW downmast	FAR-3320W
S-band transceiver unit		
RTR-107	30kW upmast	FAR-3x30S
RTR-109	30kW downmast	FAR-3330SW
RTR-111	250W upmast (solid state)	FAR-3x30S-SSD
Scanner		
XN12CF	4 ft	X-band
XN20CF	6.5 ft	X-band
XN24CF	8 ft	X-band
SN36CF	12 ft	S-band
Gear box (24/42 rpm)		
RSB-128	X-band upmast	FAR-3xx0
RSB-130	X-band downmast	FAR-3320W
RSB-129	S-band upmast	FAR-3xx0S
RSB-131	S-band downmast	FAR-3330SW
RSB-133	S-band upmast (solid state)	FAR-3x30S-SSD
Antenna power supply unit		
PSU-014	X/S-Band	X:24/42 rpm / S:24 rpm
PSU-015	S-Band	S-band 42 rpm
PSU-016	S-Band	solid state 24 rpm
PSU-018	S-Band	solid state 42 rpm
Performance monitor		
PM-32A	X-band	
PM-52A	S-band (magnetron)	
PM-52B	S-band (solid state)	

Notes:

[1] x denotes the final colour of the unit; AAAA signifies white, BAAA signifies grey

[2] x denotes the final colour of the unit; -1 signifies white, -2 signifies grey

[3] The Power Control Unit is an optional unit which can be used to protect and control the AC mains supply to the DTX-A40-xAAA and DTX-A30-xAAA turning units. If not used the mains supply should be connected via suitable breakers

[4] x is a numeral signifying different colour variants

[5] -xx Denotes different configuration options

OSI	
ECDIS operator control panel flush mount	P-300109, A-200055, P-300356, P-300387
ECDIS operator control panel Desktop	P-300111, P-300211, A-200050, P-300388
ECDIS operator control panel slide rail mount	P-300488
ECDIS operator control panel MIL-SPEC	P-300137, P-300378
ECDIS operator control panel flush mount	P-300420, P-300576, P-300536, P-300640, P-300665, 1000103-00
Trackball	P-300395
Sensor interface connection unit [1]	A-300093 or A-300245
NavTac DDU, sensor distribution [2]	A-300150 or A-150XXX
KVM, Remote	A-300101
KVM, Local	A-300102
KVM, Power supply	A-300103
KVM, Local w/ Power Supply	A-300105
Primary Backup Switch	A-300038
UPS & Power Distribution Panel	A-300094 & A-300095 or A-300196
Network Switch, Gigabit, 9 Port	P-300347
Network Switch, 24 Port, 10 Gigabit	P-300517
Network Switch, 48 Port, 10 Gigabit	P-300493
Network Switch, 24 Port, 1 Gigabit	P-300577
Radar Distribution Unit	P-607803 / NTX-A31-20

Notes:
[1] with 3 up to 24 serial interfaces according to IEC 61162-1 and IEC 61162-2
[2] Note: XXX Versions with different number and type of serial & network interfaces

2. **Processing Unit**

ECPINS Processor unit, Core i7	A-122XXX
ECPINS Processor unit, Core i3, 4U	A-123XXX
ECPINS Processor Core2 Duo, Fanless	A-124XXX
ECPINS Processor unit, Core i7	A-126XXX
ECPINS Processor unit, Core i7, Fanless	A-127XXX
ECPINS Processor unit, Core i7	A-128XXX
ECPINS Processor unit, Core i7	A-129XXX

Note: XXX Versions with different drives, buzzer and / or memory

3. Display unit (at least one & up to four display units for each processing unit)

CAT 1, CAT 1H, CAT 1C or CAT 2, CAT 2H, CAT2C	
23” Monitor	P-300339
23” Monitor w/ Buzzer	P-300535
26" Monitor, Slim Form Factor	P-300423
26" Monitor, Widescreen	P-300438
26" Monitor, Widescreen	P-300442
46" Monitor, Widescreen	P-300524
CAT 2, CAT 2H, CAT2C	
24" Monitor, Multi Power	P-300425
24" Monitor, Widescreen	P-300437
22” Monitor	P-300413
19” Monitor	P-300379
27" Monitor, Widescreen	P-300439

4. Software:

OSI
ECPINS / Radar HMI version 6.2.x
Operating system:
- MS Windows XP SP2 & SP3,
- MS Windows Embedded XP SP2 & SP3,
- MS Windows 7 SP1,
- MS Windows 7 Embedded,
- MS Windows 10 Pro,
- MS Windows 10 IoT,
- MS Windows Enterprise LTSB / LTSC

KELVIN HUGHES

MantaDigital Core Software	ZM-2144 version 2.10.5
SharpEye Core Software (X-Band)	ZM-2762 version 1.81
SharpEye Core Software (S-Band)	ZM-2808 version 1.21

Note: This approval remains valid for equipment including subsequent minor software amendments

FURUNO

EC-3000	0359266-xx.xx
Transceiver Solid state	0359286-xx.xx
Transceiver magnetron	0359281-xx.xx

5. Documentation:

Radar HMI 6.2 Operator's Manual	A-900513
Radar HMI 6.2 Technician Guide	A-900514
KH-1605-1	X-Band Mk11 Turning Unit Installation, termination, commissioning and maintenance manual
KH-1605-3	S-Band Mk11 Turning Unit Installation, termination, commissioning, operation and maintenance handbook
IME-36240	Installation Manual Chart RADAR- FAR-3230W/-3330SW
IME-36190-Z6	Installation manual FAR-3220S-SSD(-BB))/FAR-3330S-SSD
IME-36180	Installation Manual Chart RADAR- FAR-3230S(-BB)/-3330S
IME-36160	Installation Manual Chart RADAR- FAR-3210/-3220/-3310/-3320
IME-36160-Z2	Installation manual FAR-3210/-3220/(-BB))/-3310/-3320

6. Additional Equipment

Junction Box	RJB-001
LAN signal converter	HMC-200CE-A
AIS operation and display unit	P-300122 or P-603003
AIS transponder unit	P-300123 or P-603002
AIS transponder unit, Secure version	P-603005
Transfer Switch, Automatic, 2 x 230 Vac in, 16 A	A-300199
Transfer Switch, 120 Vac, D38999M	A-300197
Time Server	P-609900 or P-609911

Type Examination documentation

Tests carried out

IEC 62388(2013)

IEC60945(2002),incl.corr.1(2008)
IEC 62288 (2014)
IEC 61162 series:
- IEC 61162-1 (2016)
- IEC 61162-2 (1998)
- IEC 61162-450 (2011), incl. am1(2016).

Marking of product

According to IEC 60945, Sect.4.9:

The product to be marked with following information, where practicable:

- Identification of the manufacturer,
- Equipment type number or model identification under which it was type tested,
- Serial number of the unit,
- Compass safe distance.

Alternatively, the marking may be presented on a display at equipment start-up, and in case of fixed equipment compass safe distance may be given in the equipment manual.

According to Article 10 of the Council Directive (MED):

- Wheel mark to be affixed visibly, legibly and indelibly to the product or to its data plate and, where relevant, embedded in its software. Where that is not possible or not warranted on account of the nature of the product, it shall be affixed to the packaging and to the accompanying documents.
- Wheel mark to be affixed at the end of the production phase.

For specific products, manufacturers may use an appropriate and reliable form of electronic tag instead of, or in addition to, the wheel mark.

END OF CERTIFICATE