

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Bridge Navigational Watch Alarm System (BNWAS)

with type designation(s)
HiWMS-PE

Issued to

Hyundai Electric & Energy Systems Co., Ltd.
ULSAN, Republic of Korea

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2018/773,**

item No. MED/4.57. SOLAS 74 as amended, Regulations V/18 & V/19, IMO Res. A.694(17),
IMO Res. MSC.128(75), IMO Res. MSC.191(79), IMO Res. MSC.302(87), IMO MSC.1/Circ.1474

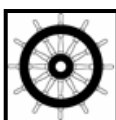
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2024-01-31.**

Issued at **Høvik** on **2019-02-01**

DNV GL local station:
Gimhae Station

Approval Engineer:
Geun Young Park



Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body



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 AS 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.



Product description

HiWMS-PE consists of following components;

Description	Model Name	Location	Software Version	Remark
Operation Process Unit	OPU-10	Protected	V2.3.x	CPU: Samsung S3G6410
I/O Process Unit	IPU-10	Protected	V2.0.x	CPU: ATMEL RISC
Power Relay Unit	PRU-10	Protected	-	-
Bridge Reset Panel	BRP-10 or BRP-20	Protected	-	-
Motion Detector Sensor	MDS-10 or MDS-20	Protected	-	-
Interface Communication Unit	ICU-10 or ICU-11	Protected	-	-
Operator Indicator Unit	OIU-10	Protected	-	-
Time Reset Unit	TSU-10	Exposed	-	-
Watertight Box- Reset & Buzzer	WTB-RB	Exposed	-	-
Watertight Box- Lamp & Buzzer	WTB-LB	Exposed	-	-
Watertight Box- Reset	WTB-R	Exposed	-	-
Watertight Box- Buzzer	WTB-B	Exposed	-	-
Buzzer	DSB-565D or DSB-75W	Protected	-	-

Application/Limitation

- Installation is to be performed according to the manufacturer's manual.
- HiWMS-PE may fulfil the additional DNV GL class notations for BNWAS in DNVGL-RU-SHIP Pt.6 Ch.3 Sec.3 (2018 July), depending on system configuration and installation.
- Additional dimming facility shall be provided for WTB-RB, WTB-LB and WTB-R.

Type Examination documentation

Tests carried out

- Performance testing: IEC 62616 (2010) incl. Corrigendum 1 (2012)
- Serial interface testing: IEC 61162-1 (2010) and IEC 61162-1 (2016)
- Presentation of navigation information: IEC 62288 (2014)
- Environmental testing: IEC 60945 (2002) inc. Corrigendum 1 (2008)
- Performance testing: DNV GL Rules Pt.6 Ch.3 Sec.3 (Edition 2018-07)

Marking of product

The type designation and name and contact address of the manufacturer shall be affixed visibly, legibly and indelibly to the product. In addition the product shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.