Certificate No: LR21320424TA
Issue Date: 28/07/2021
Expiry Date: 27/07/2026

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	**HSD Engine Co., Ltd.**
Address	67, Gongdan-ro, Seongsan-gu, Changwon-si, Gyeongnam, 51561, Republic of Korea
Type	Alarm And Monitoring Systems
Description	B-WACS comprising: - SCU (Signal Capture Unit): IPS (Inductive Capture Unit), RTDS (Resistance Temperature Detector Sensor); - SAU (Signal Analysis Unit): Serial Communication (RS-485); - DMU (Data Monitoring Unit): LCD Monitor with Touch Screen
Trade Name	B-WACS
Application	Marine, offshore and industrial applications for use in environmental categories ENV2 & ENV4 as defined in LR Type Approval System Test Specification No. 1-2020 where the Test Specification is satisfactory for the intended operation.
Specified Standard	Manufacturer's specifications
Ratings	SAU Power Supply: DC 15V to DC 34V

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Seong-Rae Noh

Specialist to Lloyd's Register Asia
A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

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Other Conditions

The certificate attests to the hardware's suitability for the environmental categories stated. This system used in automatic slowdown for propulsion engine is subject to prohibition when placed on Lloyd's Register classed vessels.

Type approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations. If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply. In case of applications other than marine, the application of the type approval certificate will be limited to the relevant scope of the specified standard and acceptance thereof by the local authorities.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Asia of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: 17/40050(E1)

The Design Appraisal Document BTS/ETS/E212066 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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