Certificate No: LR23338324TA
Issue Date: 13/02/2023
Expiry Date: 12/02/2028

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	**MARSEN CO.,LTD.**
Address	5, Saejinmok-gil, Gangseo-gu, Busan, 46717, South Korea
Type	Level Alarm System
Description	Cargo Tank High Overfill Alarm System Model: HAI-2000 comprising units detailed below - HAI-Con-OH: Cargo Tank High & Overfill Monitoring Unit - HAI-F1: Single point High & Overfill Alarm Sensor - HAI-F2: Double point High & Overfill Alarm Sensor - MTL7787+: Shunt Zener Diode Barrier
Trade Name	HAI-2000
Application	Marine and offshore application for use in environmental categories, ENV2 for the monitoring controller and ENV5 for the sensor as defined in LR Type Approval System Test Specification No. 1-2021 where the Test Specification is satisfactory for the intended operation
Specified Standard	Manufacturer's specification, General Specifications
Ratings	HAI-CON-OH(Power Supply : AC 195-240V) HAI-F1& F2 (Contact Rating: AC250V 0.5A)

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Seong-Rae Noh

Electrical & Control - Senior Specialist to
Lloyd's Register Asia
A member of the Lloyd's Register group

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MTL7787+([Ex ia Ga] IIC, certificate no. IECEx BAS 04.0025)

Other Conditions 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. The certificate attests to the hardware's suitability for the environmental categories stated. Suitability of the software and system configuration including safe type equipment is subject to a separate plan appraisal according to the Lloyd's Register Rules and Regulations when placed on Lloyd's Register classed vessels.

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: 19/40040(E1)

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

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