



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00001D3
Revision No:
1

This is to certify:

That the Level Indicating System

with type designation(s)
LEVELMASTER H8, Levelmaster H8 WIM MKII, Levelmaster H8 C

Issued to
Kockum Sonics AB
Malmö, Skåne Län, Sweden

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Temperature	A
Humidity	B
Vibration	A
EMC	B
Enclosure	B

Issued at **Høvik** on **2022-09-20**

for **DNV**

This Certificate is valid until **2026-12-31**.

DNV local station: **Malmö**

Approval Engineer: **Frode Nygård**

Frederik Tore Elter
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Flexible Level gauging systems: Levelmaster® H8, Levelmaster® H8 C and Levelmaster® H8 WIM MKII.
 For installation as water level detector in hold, ballast and dry spaces according to SOLAS XII Reg.12 and SOLAS II-1 Reg.25.

The Levelmaster® H8 comprises the following units:

Description	Maker	Art. No.
Sensor and Control Unit	Kockum Sonics	2700 0004
Power Supply	Kockum Sonics	2472 1205
Solenoid Valve	Alt.1: CAMOZZI	2088 2489
	Alt.2: GEVA	2472 1085
Valve Control Board	Kockum Sonics	2063 3041

Display units:

- Level monitoring: Alarm display unit ¹⁾
- Draft monitoring: Draft Alarm display unit ¹⁾
- Water ingress monitoring: WIM MKII alarm display unit ¹⁾

¹⁾ Hardware is covered by separate type approval certificate TAA000008N (Beijer X2 motion 7 - B2).

Control HMI software version - 1.02. is included in the type approval certificate. Software number and versions are described in "Software Quality Plan".

Approval Conditions

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- Description of scope of delivery, i.e., project specific functions and systems
- System block diagram
- Power supply arrangement (may be part of the System block diagram)
- List of control and monitored points

The Type Approval covers hardware and software listed under Product description.

As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 [1.4] will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

Software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Type Examination documentation

Title	Drw. No.	Rev. / Date
Manual Levelmaster® H8, Kockum Sonics	KSM 657_2028	- / -
Manual Levelmaster ® H8, APPENDIX B-D, WIM Manual	KSM 657_2028 WIM	- / -
Manual Levelmaster ® H8-C, Cargo tank level gauging	KSM 738_1726	- / -
Description data sheet Levelmaster ® H8	KSM 638EN-1433	- / -
User's guide: Levelmaster WIM MKII	KSM-931_2037	2 / 2020-09-09
Software Quality Plan	-	- / -
Levelmaster® WIM MKII witnessed test protocol BV	UTV2002	- / 2020-06-16
Test Report: ENV & EMC test of Levelmaster H8, DELTA	DANAK-198427	- / 2006-07-13
Test Report: Supplementary EMC, IACS E10 testing of Levelmaster H8, Force Technology	119-32982-1	- / 2019-11-25
Test Report: Supplementary test for marine type approval of Levelmaster H8C WIM MK II and SRtP, Force Technology	120-24658-1	- / 2020-05-26
Test Report: DNV Laboratory	98-1195	1 / 1998-05-05
SP Swedish National Testing and Research Institute	F326327	- / 2004-01-12
Water Ingress Monitoring by Calm, Protocol according to procedure	-	- / 2003-12-02
TA renewal assessment report, DNV Malmö, dated 2022-03-02		

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.
Type test according to IACS UI SC180.

Marking of product

The products to be marked with:

- Manufacturer's name
- Type designation
- model name
- serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE