



Certificate no.:
TAA00003T5

TYPE APPROVAL DESIGN CERTIFICATE

This is to certify:

that the **Rudder Angle Indicator**

with type designation(s)
RAIS100

issued to

YDK Technologies Co., Ltd., Morioka Branch
Morioka, Iwate, Japan

is found to comply with

DNV rules for classification – Ships Pt.6 Ch.5 Sec.21 Cyber security [2.2] Exclusion based on negligible risk

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV. This type approval covers the criteria for exclusion from the mandatory application of Pt.6 Ch.5 Sec.21 Cyber security, subject to conditions stated in this certificate.

Issued at **Høvik** on **2026-02-04**

This Certificate is valid until **2028-02-03**.

for **DNV**

DNV local unit: **Japan CMC**

Approval Engineer: **Vinay Bhardwaj**

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

The following components of the RAIS100 Rudder angle indicator system are covered:

Component Description	Type Designation (part number)	OS/Application SW version	Connection/Interface type
Signal Converter	MRT500	V8503ZA	RS-422(4) Protocols: IEC 61162-1, IEC 61162-2

Application/Limitation

The following conditions shall be met when the RAIS100 Rudder angle indicator system is installed on board:
The design as covered by this Type Approval exemption (TADC) has the following measures for negligible risk:

Design Parameter	Conformance	(as in current conditions)
1) no IP-based network connection with other system	Yes	connection via cable in IEC 61162-1 / NMEA0183
2) located in area(s) with restricted and controlled access	Yes	RAIS100 Rudder angle indicator system located on bridge.
3) no accessible physical interface ports	Yes	Only serial connections available.
4) not an integrated control system serving multiple vessel functions	Yes	not integrated nor serving multiple ship functions, neither interact with any other ship services
5) not needed for propulsion and steering, and not include required safety functions	Yes	not be needed for any ship essential services or safety functions
6) not be susceptible by cyber incidents, nor propagate the effect of a cyber incident to other systems	Yes	No remote access. Only serial connections available.
7) known vulnerabilities, threats, attack surface, and potential impacts deriving from a cyber incident have been considered	Yes	the attack surface is therefore limited to physical attack only

Type Approval documentation

Drawing/Doc number	Revision	Title
YDK-D02-AA-24-044	0	Inventory List RAIS100
YDK-D02-AA-24-050	0	RUDDER ANGLE INDICATOR TOPOLOGY DIAGRAM
YDK-D02-AA-25-054	0	Risk Assessment for Exclusion of CBS from the Application of IACS UR E27 (RAIS100)

Tests carried out

NA

Marking of product

The products to be marked with:

- maker
- type designation
- serial number.

Manufactured by:

YDK Technologies Co., Ltd., Morioka Branch
Morioka, Iwate, Japan

Renewal

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>



Job ID: **262.1-045338-1**
Certificate no.: **TAA00003T5**

A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE