

TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MERB00002UG
Revision no.:
2

This Certificate is issued by DNV UK Limited, UKAS accredited certification body no. 6086, based on authorisation of the Maritime & Coast Guard Agency (MCA) as an UK Approved Body (no. 0097) to undertake conformity assessments on marine equipment in accordance with the requirements of the Merchant Shipping (Marine Equipment) Regulations 2025.

This is to certify:

that the **Rudder angle indicator**

with type designation(s)
Rudder Angle Indicator System

issued to

Sperry Marine B.V. - German Branch
Woltmanstr. 19 20097 Hamburg Germany,

is found to comply with the Regulation (UK) **MSN 1874 Amendment 11** for
Item no. **UK/4.20 (Row 2 of 2)**

according to the following requirements:

SOLAS 74 Reg. V/19, IMO Res. A.694(17), IMO Res. MSC.191(79), IMO Res. MSC.302(87), SOLAS 74 Reg. V/18, SOLAS 74 Reg. X/3, IMO Res. MSC.36(63)-(1994 HSC Code) 13, IMO Res. MSC.97(73)-(2000 HSC Code) 13

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

Date of issue: **2026-06-04**

Expiry date: **2027-10-06**

DNV local unit:
**Hamburg – CMC
North/East**

Approval Engineer:
Jörg Rebel



Approved Body No.: **0097**



for **DNV UK Ltd.**

Digitally Signed By:
Kristensen, Steinar
on behalf of

Christine Mydlak-Röder
MER Service Responsible



**Maritime &
Coastguard
Agency**

UK Approved Body Authorised
by the MCA

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the approved body named on this certificate.

During the period of validity of this certificate the applicable regulations (international conventions and the relevant resolutions and circulars of the IMO) and testing standards may change, therefore the product conformity may need to be re-assessed by the Approved 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-control phase module (D, E or F) of Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2025, as amended is fully complied with and controlled by a written inspection agreement with an approved body. In case limitations of use apply, these should be indicated in the Annex.

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Product description

The Sperry Marine B.V. Rudder angle indicator system consists of the following equipment:

Rudder angle calibrator (RAC) P/N: 074849-0000-xxx
 Software Version 1.xxx

Three-face panorama rudder angle indicator for ceiling mounting, IP23, with built-in dimmer, yellow figures with red/green ribbon on black background, with yellow pointer, illuminated:

Rudder angle indicator	Range $\pm 45^\circ$	P/N: 060396-0000-xxx
		or P/N: 061042-0000-xxx
Rudder angle indicator	Range $\pm 70^\circ$	P/N: 060397-0000-xxx
		or P/N: 061043-0000-xxx

Rudder angle indicator in housing with bracket, watertight IP66, with built-in dimmer, red/green figures on white background, with black pointer, illuminated:

Rudder angle indicator	192 mm	Range $\pm 45^\circ$	P/N: 060357-0000-xxx
			or P/N: 061027-0000-xxx
Rudder angle indicator (Panama type)	192 mm	Range $\pm 45^\circ$	P/N: 060332-0000-xxx
			or P/N: 061026-0000-xxx
Rudder angle indicator	192 mm	Range $\pm 70^\circ$	P/N: 060359-0000-xxx
			or P/N: 061028-0000-xxx
Rudder angle indicator (Panama type)	192 mm	Range $\pm 70^\circ$	P/N: 060362-0000-xxx
			or P/N: 061029-0000-xxx
Rudder angle indicator	144 mm	Range $\pm 45^\circ$	P/N: 060327-0000-xxx
			or P/N: 061020-0000-xxx
Rudder angle indicator (Panama type)	144 mm	Range $\pm 45^\circ$	P/N: 060325-0000-xxx
			or P/N: 061018-0000-xxx
Rudder angle indicator	144 mm	Range $\pm 70^\circ$	P/N: 060328-0000-xxx
			or P/N: 061021-0000-xxx
Rudder angle indicator (Panama type)	144 mm	Range $\pm 70^\circ$	P/N: 060326-0000-xxx
			or P/N: 061019-0000-xxx

Rudder angle indicator for console mounting, frontside IP56, yellow figures with red/green ribbon on black background, with yellow pointer, illuminated:

Rudder angle indicator	192 mm	Range $\pm 45^\circ$	P/N: 060352-0000-xxx
			or P/N: 061030-0000-xxx
Rudder angle indicator (Panama type)	192 mm	Range $\pm 45^\circ$	P/N: 060354-0000-xxx
			or P/N: 061032-0000-xxx
Rudder angle indicator	192 mm	Range $\pm 70^\circ$	P/N: 060353-0000-xxx
			or P/N: 061031-0000-xxx
Rudder angle indicator (Panama type)	192 mm	Range $\pm 70^\circ$	P/N: 060355-0000-xxx
			or P/N: 061033-0000-xxx
Rudder angle indicator	144 mm	Range $\pm 45^\circ$	P/N: 060338-0000-xxx
			or P/N: 061022-0000-xxx
Rudder angle indicator (Panama type)	144 mm	Range $\pm 45^\circ$	P/N: 060340-0000-xxx
			or P/N: 061024-0000-xxx
Rudder angle indicator	144 mm	Range $\pm 70^\circ$	P/N: 060339-0000-xxx
			or P/N: 061023-0000-xxx
Rudder angle indicator (Panama type)	144 mm	Range $\pm 70^\circ$	P/N: 060341-0000-xxx
			or P/N: 061025-0000-xxx
Rudder angle indicator	96 mm	Range $\pm 45^\circ$	P/N: 060334-0000-xxx
			or P/N: 061015-0000-xxx
Rudder angle indicator (Panama type)	96 mm	Range $\pm 45^\circ$	P/N: 060331-0000-xxx
			or P/N: 061014-0000-xxx
Rudder angle indicator	96 mm	Range $\pm 70^\circ$	P/N: 060335-0000-xxx
			or P/N: 061016-0000-xxx
Rudder angle indicator (Panama type)	96 mm	Range $\pm 70^\circ$	P/N: 060337-0000-xxx
			or P/N: 061017-0000-xxx

Feedback unit: 4136, 4968, 4132, 4134, 4137

Application/Limitation

None

Type Examination documentation

Document No.	Rev.	Title
06/17	2017-09-22	Manual: Installation instructions for RAI system
056357	C	Manual: Operation, installation and service of RAI system
5014	2009-04-29	Type Approval Test Procedure, Rev. B (IEC 61162)
08/8189-1	2008-12-23	Report: EMV Services, Tests for Rudder Angle Calibrator (RAC) type 5014 according to IEC 60945, Clauses 9 and 10
6628b/08	2009-01-26	Report: BFSV, Tests for RAC type 5014 according to IEC 60945, Clauses 8.2 to 8.4 and 8.7
594/1	-	Certificate: BSH, Compass safe distance for RAC type 5014 acc. to IEC 60945, Clause 11.2
9065 17 69609 157	2017-09-05	Report: DNV GL, Tests for RAI system according to ISO 20673 (2007) and IEC 62288 (2014)
5014-0141-01	A	Report: Sperry Marine, Tests acc. to approved test plan 5014-0113-01 Rev. 01

Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016) and IEC 61162-2 (1998)
- Presentation testing: IEC 62288 (2021) incl. Amendment 1 (2024)
- Performance testing: ISO 20673 (2022)

Note: The Rudder Angle Indicator System does not issue alerts, hence testing according to IEC 62923-1 and IEC 69923-2 is deemed as not being applicable.

Marking of product

According to IEC 60945, Sect.4.9:

The product to be marked with following information, where practicable:

- Identification of the manufacturer,
- Equipment type number or model identification under which it was type tested,
- Serial number of the unit,
- Compass safe distance.

Alternatively, the marking may be presented on a display at equipment start-up, and in case of fixed equipment compass safe distance may be given in the equipment manual.