

# EC CERTIFICATE TYPE EXAMINATION (MODULE B)

DNV·GL

This is to certify that:

DNV GL SE, a Notified Body under the terms of the Marine Equipment Directive 96/98/EC of 20 December 1996, notified by the German Federal Ministry of Transport, Building and Urban Development, did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the requirements of Marine Equipment Directive (MED) 96/98/EC as amended, subject to any conditions in the schedule attached hereto.

Certificate No.	<b>60 963 - 13 HH</b>
Applicant	<b>Northrop Grumman Sperry Marine B.V. German Branch Woltmanstr. 19 20097 Hamburg, GERMANY</b>
Manufacturer	<b>Northrop Grumman Sperry Marine B.V. German Branch Woltmanstr. 19 20097 Hamburg, GERMANY</b>
Product Description	<b>Speed and Distance Measuring Equipment (SDME)</b>
Product Name	<b>NAVIKNOT Types: 350E, 350EE, 450D, 450DD, 550DD, 600S, 600SD, 600SDD, 600SDT, 600SE and SRD500A.</b>
Trade Name	<b>NAVIKNOT Types: 350E, 350EE, 450D, 450DD, 550DD, 600S, 600SD, 600SDD, 600SDT, 600SE and SRD500A.</b>
Specified Standards	<b>IMO Resolution A.824(19), A.694(17), MSC.96(72), MSC.36(63), MSC.97(73), MSC.191(79), IEC 61023(2007), IEC 61162-1 (2010), IEC 61162-2 (1998), EN 60945 (2002) incl. Corr. 1(2008), IEC 62288(2014).</b>
Related Directive	<b>2014/93/EU</b>
Equipment Section	<b>Navigation equipment</b>
Annex A.1 Item No.	<b>A.1/4.7</b>
Date of Re-issue	<b>2016-01-15</b>
Expiry Date	<b>2020-08-20</b>

**DNV GL SE**

**Notified Body No.: 0098**



  
**Christine Mydlak-Röder**

Certificate No: 60 963 - 13 HH

Date of Re-issue: 2016-01-15

## Schedule of Approval

### Further Places of Production

Mikrolab GmbH; Siemensstr. 43; 90766 Fürth, GERMANY

paratus electronic GmbH; Hamburger Chausse 25; 24220 Flintbek, GERMANY

PIKATRON GmbH; Raiffeisenstraße 10; 61250 Usingen, GERMANY

### Approval Documentation

Test report : 07/7003-1-1 (EMC), 6052b/07 (Environmental), GL-07\_05\_01 (IEC 61023), 62288 report dated 13.08.2015 Rev. B, 61023 report dated 14.08.2015 Rev. A.

### Technical Data

Type: 350E, 350EE,  
Single -axis water speed electromagnetic Speed- Log system

Type: 450D, 450DD  
Single -axis water speed Doppler Speed- Log system

Type: 550DD and SRD500A  
Dual -axis water and ground speed Doppler Speed- Log system

Type: 600S  
Dual -axis ground speed satellite Speed- Log system

Type: 600SD, 600SDD, 600SDT  
Single -axis water speed Doppler and dual axis ground speed satellite Speed- Log system

Type: 600SE  
Single -axis water speed electromagnetic and dual axis ground speed satellite Speed- Log system

Main parts: Type: 350E, 350EE, 450D, 450DD, 550DD, 600S, 600SD, 600SDD, 600SDT, 600SE and SRD500A

Control and Display Unit: 5001, 5002 with Software Revision 1.x

Electronics Unit: 5003, 5004 with Software Revision 2.x

With the following output Interfaces:

6x 61162-1, 5x 10, 100, 200, 400 or 20.000 pulses / nm, Analogue speed output (Voltage 0-10V) and (Current 0-20mA), LOG failure and power failure Alarm (n.c.), Speed limit relay output to limit the rudder angle on steering gear and watch alarm trigger output for Bridge Navigational Watch Alarm Systems (BNWAS), bidirectional alert interface acc. to IEC 61924-2

System parts: Type: 350E, 350EE, 450D, 450DD, 550DD, 600S, 600SD, 600SDD, 600SDT, 600SE and SRD500A

Electronics Unit: 1982770

Satellite antenna unit: 60437

Preamplifier: 2863-AA, 5005

Transducer: 2829, 4040, 4077, 4120, 4726, 4874, FNF III 4874, 4910, 4978, 4978-4000, 4983, 5020, 0718-013, 1976121, 1981337, 1981337-VAR, 1982769-VAR, 1982809-VAR



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Adaptor flange: 4978-5000

Options:

Speed Indicators:

Console mounting, 96x96mm, range -5 to +25 kn	Type: 60381
Console mounting, 96x96mm, range -5 to +40 kn	Type: 60382
Console mounting, 96x96mm, range -5 to +60 kn	Type: 60383
Console mounting, 144x144mm, range -5 to +25 kn	Type: 60384
Console mounting, 144x144mm, range -5 to +40 kn	Type: 60385
Console mounting, 192x192mm, range -5 to +25 kn	Type: 60386
In housing with bracket, 144x144mm, range -5 to +25 kn	Type: 60387
Universal Digital Repeater UDR	Type: 4891

Documentation:

Operation, Installation and Service Manual:

Type: 350E	056345
Type: 350EE	056366
Type: 450D	056346
Type: 450DD	056347
Type: 550DD	056354
Type: 600 S	56377
Type: 600 SE	56378
Type: 600 SD	56379
Type: 600 SDT	56380
Type: 600 SDD	56381

Remarks

None

Limitations on the acceptance or use of the product

Speed and Distance through the water only: 350E, 350EE, 450D, 450DD, Speed and Distance over ground only: 600S

Notes:

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE, as the Notified Body, of any modifications or changes to the approved equipment.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

An U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th 2004.



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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body.