DNV·GL

Certificate No:
TAA000026D

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Position Transmitter

with type designation(s)
CyScan Absolute Signature

Issued to
Guidance Marine Ltd.
Leicester, LEICESTERSHIRE, United Kingdom

is found to comply with
DNV GL 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 GL.

Location classes:

Temperature	**D**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**C / IP56**

Issued at **Høvik** on **2019-04-24**
This Certificate is valid until **2021-04-23**.
DNV GL local station: **Manchester**

for **DNV GL**

Approval Engineer: **Jens Erling Bråten**

Jan Tore Grimsrud
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.

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Job Id: **262.1-027408-1**
Certificate No: **TAA000026D**

Product description

CyScan Absolute Signature (AS) is a high accuracy laser sensor that provides positional information to a Dynamic Positioning control system allowing automated approach and or station keeping relative to a structure or a vessel. The system requires one or more reflective targets to be attached to the sides of the structure or vessel. The CyScan AS sensor is compatible with any reflective target, but it will uniquely identify AS prism targets by use of its dual lasers.

System Software: 5.2.0

Nominal power supply: 230 Vac

Compass safe distances
Normal compass: 30 cm
Steering compass: 30 cm

Approval conditions

The Type Approval covers hardware and software listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

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 GL for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Software update notification
When the type approved software is revised (affecting all future deliveries) DNV GL is to be informed by forwarding updated software version documentation. If the changes are judged to affect functionality for which rule requirements apply a new functional type test may be required and the certificate may have to be renewed to identify the new software version.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.
EMC-, vibration-, and compass safe distance tests according to IEC 60945 Ed.4 (2002).
Performance/functional testing witnessed and documented in report A0458255-1 rev. 00, 2019-03-20.

Marking of product

- Guidance Marine, CyScan Absolute Signature Sensor, Part and Serial numbers
- Class 1M Laser Product

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

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

END OF CERTIFICATE