DNV·GL

Certificate No:
TAA00000G5

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Window Wipers

with type designation(s)

Issued to
Scanwipers A/S
Aabenraa, Denmark

is found to comply with
DNV GL rules for classification – Ships

Application :

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

This Certificate is valid until **2019-06-30**.

Issued at **Høvik** on **2016-06-16**

for **DNV GL**

DNV GL local station: **Fredericia**

Approval Engineer: **Frederik Tore Elter**

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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Product description

- XSLW Straight Line Wiper, single arm, externally mounted motor
- TXSLW Straight Line Wiper, twin arm, externally mounted motor
- TXSLWSP Straight Line Wiper, twin arm, externally mounted motor, split park

- ISLW Straight Line Wiper, single arm, internally mounted motor
- TISLW Straight Line Wiper, twin arm, internally mounted motor
- TISLWSP Straight Line Wiper, twin arm, internally mounted motor, split park

- Panto Pantograph Wiper, Internally Mounted Motor

- SW CANbus Scanwipers CANbus Control System

Application/Limitation

- For marine and offshore applications.
- Installation to be performed according to the manufacturers Installation and operation manual. SW CANbus and motor parts for ISLW, TISLW and Panto shall be mounted in protected area.
- When installed on ships with class nautations NAUT- AW, NAUT-OC or NAUT –OSV(A), the window wiper system shall comply with the minimum blade coverage and speed/frequency requirements described in the relevant class notation rules.

Type Approval documentation

DNV GL No	Doc. Ref.	Rev.	Description
25		Rev. 3	Manual: ISLW Internal Straight Line Wiper Installation, Maintenance and Operational Manual
24		Rev. 1	Manual: XSLW External Straight Line Wiper Installation, Maintenance and Operational Manual
19		2016-03-03	Report: TXSLW SP
18			Installation & Operation Manuals (collection of documents)
17	PANTOIMO10W SMW31b	1	Manual: ScanWipers, ScanWipers® Pantograph Wiper: Installation, Maintenance and Operation Manual
16	3388	2010-12-10	Report: PARC, Environmental tests
15	2010-11-10	-	Report: Durability Performance Test report for ScanWipers and SWCANbus equipment
14	TL1432 Issue 02	02	Report: Mariner Systems, Shock Tests -Wipers & Control System
13	Appendix 6		Report: Durabilty-Appendix 6, Log for Wet dry time test
12	Appendix 5		Report: Durabilty-Appendix 5, Log for Twin internal straight line wiper
11	Appendix 1		Report: Durabilty-Appendix 1, Log for External straight line wiper
10	Appendix 4		Report: Durabilty-Appendix 4, Log for Twin external straight line wiper
9	Appendix 2		Report: Durabilty-Appendix 2, Log for Internal straight line wiper
8	Appendix 3		Report: Durabilty-Appendix 3, Log for pantograph wiper
7	ISLWIMO10WS MW31a	1	Manual: ScanWipers, ScanWipers® Single and Twin Internally Mounted Motor Straight Line Wiper: Installation, Maintenance and Operation Manual

DNV GL No	Doc. Ref.	Rev.	Description
6	XSLWIMO10WS MW31a	1	Manual: ScanWipers, ScanWipers® Single and Twin Externally Mounted Motor Straight Line Wiper: Installation, Maintenance and Operation Manual
5	10WSDP09a	1	Manual: ScanWipers, ScanWipers® CANbus Marine Window Wiping Control System: Installation, Maintenance and Operation Manual
4	TL1432 Issue 01	01	Report: Mariner Systems, Wipers & Control System
3			Type Approval Survey Report
2			Application for Type Approval
1			Prototype Test Reports - Mariner Systems (UK) Ltd.

Tests carried out

- Environmental Tests, IEC 60945 (2002)
- Performance Tests, ISO 17899 (2004)

Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.

Periodical assessment

A retention survey is to be performed at least once every second year, and again upon renewal of this certificate.
The scope of the retention/renewal survey is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.