Confirmation of Product Type Approval

Company Name: GREEN INSTRUMENTS A/S

Address: ERHVERVSPARKEN 29 DK-9700 BROENDERSLEV Denmark

Product: Oil Mist Detector

Model(s): G26 Ambient Oil Mist Detector, G26.1 – Opacity Transceiver, G26 – Ex Opacity Transceiver

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	22-2256151-PDA	19-MAY-2022	18-MAY-2027
Manufacturing Assessment (MA)	25-7244114	30-OCT-2025	02-NOV-2030
Product Quality Assurance (PQA)	NA	NA	NA

Tier
3 - Type Approved, unit certification not required

Intended Service
ABS Classed Vessels and Offshore Installations in accordance with the listed ABS Rules and International Standards.

Description
The G26 Ambient oil mist detector is designed to detect small concentrations of oil mist in open spaces in order to provide an early fire hazard or explosion warning.

Ratings
Power Supply Input: 24VDC, 2A (optional: 100-240VAC, 50/60Hz, 1.4A)

Ambient Temperature: 0C - +55C

Ingress Protection:

G26 & G26.1 - IP66

G26 – Ex Opacity Transceiver - IP54

Housing: Aluminum, AISI 316

Ex rated:

Ex ib, op is IIB T4 Gb

Ex ib op is IIIB T135# Db

Service Restrictions

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1. Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

2. Unit certification in accordance with Marine Vessels Rules 4-9-3/9.5 Table 2 and 4-9-9/15.7 Table 2 is required by the user to use this equipment, where this equipment is part of Category II or III computer-based systems as described in Marine Vessels Rules 4-9-3/7.1 Table 1.

3. Certified components G26 Ex Opacity Transceiver are to be used with components according to these specific conditions and the schedule of limitations associated with the components, this certification with suffix “X” can be considered a full Ex certification.

4. Type G26 and G26.1 are not intended to be installed in a hazardous area.

5. Type G26 EX opacity transceiver is intended to be installed in a hazardous area.

Comments
1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

2. This approval is limited to the hardware only. Each particular application/installation and the used application software is to be specifically approved in conjunction with the relevant system in which the units are being used in accordance with MVR 4-9-3 and other application specific requirements

Notes, Drawings and Documentation
Drawing No. 00014, WELDING SOCKET, Revision: 0, Pages: 1

Drawing No. 02825, ALIGNMENT BRACKET, Revision: 0, Pages: 1

Drawing No. 02860, TRANSCEIVER HOUSE, Revision: 0, Pages: 1

Drawing No. 02879 G16 02880 G26, G16 SMOKE DENSITY MONITOR. G26 AMBIENT OIL MIST DETECTOR, Revision: 2, Pages: 1

Drawing No. 02893, ENCLOSURE FOR JUNCTION BOX, Revision: 0, Pages: 1

Drawing No. 02894, CONTROL AND MONITORING UNIT, Revision: 0, Pages: 1

Drawing No. About our application v1, PRODUCT TYPE APPROVAL BRIEF DESCRIPTION, Revision: 0, Pages: 1

Drawing No. Certificate - ISO9001-2016, CERTIFICATTION, Revision: 0, Pages: 1

Drawing No. Correspondence, INCOMING EMAIL - GREEN INSTRUMENTS - DATED 14-2-2017, Revision: 0, Pages: 1

Drawing No. DNV GL TA for G16 and G26 public, TYPE APPROVAL CERTIFICATE, Revision: 0, Pages: 1

Drawing No. Environmental Test report 6P02723-1, ENVIRONMENTAL TEST REPORT, 14-07-2016, Revision: 0, Pages: 1

Drawing No. G16-G26, G16/G26 SW DESCRIPTION, Revision: 0, Pages: 1

Drawing No. G26 Instruction Manual, G26 INSTRUCTION MANUAL, Revision: 0, Pages: 1

Drawing No. Performance Test Report for G16-G26 - with DNV GL approval, PERFORMANCE TEST REPORT FOR G16-G26, 01-December-2016, Revision: 0, Pages: 1

Drawing No. Performance Test result table 1 and 2, PERFORMANCE TEST RESULT TABLE 1, December 2016, Revision: 0, Pages: 1

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Drawing No. Request-Type-Approval-ABS by GI, TYPE APPROVAL REQUEST FORM, Revision: 0, Pages: 1

Drawing No: 103130 – Opacity Transceiver Type G16.1/G26.1, Revision A, Pages:1;

Drawing No: 03456 – G16/G26 Components Overview Ex Opacity Transceiver 316, Revision F, Pages:1;

Drawing No: V.1.1 – 20-04-2021 – GI IP class Assessment Type, Revision -, Pages: 9;

Test Report No: 13-2022 – G16.1/G26.1 Performance test report, issued by Green Instrument dated June 2021, Revision: 1, Pages: 20;

Test Report No: P20-0201-1 – Vibration Test of Opacity Transceiver Type G16.1/G26.1, issued by EKTOS Testing & Reliability Services, dated 28 April 2021, Revision:1 , Pages 13;

Test Report No: P20-0201-3 – Type approval test of Opacity Transceiver, issued by EKTOS Testing & Reliability Services, dated 28 April 2021, Revision:1 , Pages 46;

Test Report No: P21-0036 – Vibration test of G26 accessories to Ex Opacity Transceiver, issued by EKTOS Testing & Reliability Services, dated 28 April 2021, Revision:1 , Pages 10;

Test Report No: P21-0048 – Supplementary Test Report of Transceiver Type G16/G27 Ambient Oil Mist Detector, issued by EKTOS Testing & Reliability Services, dated 28 April 2021, Revision:1 , Pages 12;

Certificate No: IECEx CNEX 21.0001X – Ex Opacity Transceiver Model G16/G26, issued by CNEX-Global BV, dated 22 April 2021, Revision: 0, pages 5;

Certificate No: ExVeritas21PQAN0149 issued by ExVeritas, dated 15 March 2021, pages: 2;

Certificate No: DTI 17ATEX0079X – Ex Opacity Transceiver Model G16/G26 with accessories, issued by Danish Technological Institute dated 2 May 2021, Pages: 4;

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 18/May/2027 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

2022 Rules for Conditions of Classification 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2022 Rules for Building and Classing Marine Vessel Rules: 4-1-1/7.15, 4-9-9/3, 4-9-9/7, 4-9-9/13, 4-9-9/Table 1 and 4-9-9/Table 2;

2022 Rules for Building and Classing Steel Barges: 4-1-3/5.7;

2022 Rules for Conditions of Classification - Light and High Speed Craft 1-1-4/11.9, 1-1-A2, 1-1-A3, which covers the following:

2022 Rules for Building and Classing High Speed Craft: 4-1-1/37, 4-6-1/11, 4-6-1/15, 4-6-1/17, 4-7-9/15, 4-7-9/Table 9 and 4-7-9/Table 10;

2022 Rules for Conditions of Classification – Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the followings:

2022 Rules for Building and Classing Mobile Offshore Units: 6-1-1/9. 6-1-1/13, 4-1-1/7.9, 4-3-1/9,

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4-3-1/11, 4-3-1/15, 4-3-1/17

International Standards
IACS UR E10 Rev.7, 2018;

EU-MED Standards
NA

National Standards
NA

Government Standards
NA

Other Standards
NA

ABS Programs
American Bureau of Shipping
Print Date and Time: 10-Nov-2026 4:19

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the “Intended Service” details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.

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