



CERTIFICATE NUMBER	24-2476396-1-PDA
EFFECTIVE DATE	10-Apr-2024
EXPIRY DATE	15-Jan-2029
ABS TECHNICAL OFFICE	Houston ESD - Electrical

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

RKI INSTRUMENTS, INC.

located at

33248 CENTRAL AVE., , UNION CITY, CA, United States, 94587

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: Gas Detector
Model: Carbon Monoxide (CO) Sensors: 65-2438, 65-2437RK-05, 65-2432RK-05, 65-2646RK-05 & 65-2646XL-05
Endorsements:
Tier: 3 - Type Approved, unit certification not required

This Product Design Assessment (PDA) Certificate remains valid until 15/Jan/2029 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.

American Bureau Of Shipping

Soheni Haque

Soheni Haque, Sr. Managing Principal Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

RKI INSTRUMENTS, INC.

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Web: www.rkiinstruments.com

Tier: 3 - Type Approved, unit certification not required

Product: Gas Detector

Model: Carbon Monoxide (CO) Sensors: 65-2438, 65-2437RK-05, 65-2432RK-05, 65-2646RK-05 & 65-2646XL-05

Endorsements:

Intended Service:

Marine & Offshore Application - Carbon Monoxide (CO) Sensors for use in gas detection systems on ships and offshore platforms.

Description:

Direct Connect Sensor without junction box: 65-2438

Direct Connect Sensor with Junction Box: 65-2437RK-05

"S" Series Sensor: 65-2432RK-05

M2A Series Sensor: 65-2646RK-05

M2A-XL Series Sensor: 65-2646XL-05

Rating:

Model 65-2438 CO Sensor - CSA Certificate 70056548

Permanently mounted with Terminal housing suitable for Class I, Div. 1, Groups B, C and D

Operating Voltage: 10-30Vdc

Measuring Range: 0 to 300 ppm

Operating Temperature: -5 °C to 40 °C

Temperature Code: T6

Models 65-2437RK-05, 65-2432RK-05, 65-2646RK-05 & 65-2646XL-05 consists of Sensor 65-2438 which is mounted in a CSA/UL approved explosion proof enclosure.

Service Restriction:

- 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) Gas detectors are to be tested and certified to performance requirement in accordance with recognized standards by independent third party laboratory for use in floating offshore production platforms, LNG carriers and vessels using gases or other low-Flashpoint fuels.

Comments:

- 1) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- 2) The sensor installation on board is to be in accordance to the manufacturer's manual and to the satisfaction of the attending Surveyor/owner's representative.
- 3) The calibration accessories suitable for the type of gas detectors are to be available on board.
- 4) The sensor calibration and calibration frequency are to be in accordance to the manufacturer's manual.

Notes/Drawing/Documentation:

Drawing No. 70056548 Report, CSA Descriptive Report and Test Results, Revision: 5, Pages: 40

Drawing No. 71-0343 Rev A, 65-2438 Carbon Monoxide Detector Operator's Manual, Revision: A, Pages: 16

Drawing No. COFC_80135484_EN, CSA Certificate of Compliance 70056548 issued on 2024-01-18, Revision: -, Pages: 5

Drawing No. Direct Connect Sensor Brochure Print FO20-2012, Revision: -, Pages: 2

Drawing No. M2A Stand Alone Transmitter FO22-2012, Revision: -, Pages: 4

Drawing No. M2A Transmitter Manual, Revision: X, Pages: 101

Drawing No. S2 Brochure FO26-2012 Explosion Proof Gas Sensor/Transmitter: S Series, Revision: -, Pages: 4

Drawing No. M2A-XL Transmitter Manual, Revision C, Pages 103

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Drawing No. M2A-XL Transmitter Brochure FO22-2012, Revision: -, Pages: 4

Drawing No. CSA Certificate 1750685, Killark outlet boxes and fittings, pages: 4

CSA Certificate 013046, Crouse Hinds Outlet Boxes and Fittings, Pages: 4

UL Certificate E96342, Crouse Hinds Enclosures, Pages: 1

Terms of Validity:

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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.

STANDARDS

ABS Rules:

Rules for Conditions of Classification, Part 1: 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:
2024 Marine Vessel Rules: 4-8-3/1.11.1, 4-8-3/Table 2, 4-8-4/27

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

2024 Mobile Offshore Units: 4-3-1/11, 4-3-1/15, 4-3-1/17.1, 4-3-3/9.3

National:

UL Standard 1203 (Third Edition), Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for use in Hazardous (Classified) Locations

UL Standard 61010-1 (Second Edition), Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements

CSA-C22.2 No. 61010-1-04 (Second Edition), Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements

C22.2 No. 30-M1986 (2016), Explosion-Proof Enclosures for Use in Class I Hazardous Locations.

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA