



CERTIFICATE NUMBER 18-HS1714366-PDA

EFFECTIVE DATE 06-Mar-2018

EXPIRATION DATE 05-Mar-2023

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

MINE SAFETY APPLIANCE-MSA

located at

1000 CRANBERRY WOODS DR. CRANBERRY TOWNSHIP, PA
UNITED STATES 16066

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 Monitor

Model ULTIMA ® X5000 Transmitter, ULTIMA ® X5000 Junction Box, Digital Sensor, ULTIMA ® XIR Plus Sensor

This Product Design Assessment (PDA) Certificate remains valid until 05/Mar/2023 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

Ting Jiang, Engineer/Consultant

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)

MINE SAFETY APPLIANCE-MSA

1000 CRANBERRY WOODS DR.

CRANBERRY TOWNSHIP PA

United States 16066

Telephone: 724-776-8839

Fax: N/A

Email: warren.bennett@msasafety.com

Web:

Tier: 2 - PDA Issued

Product: Gas Monitor

Model: ULTIMA® X5000 Transmitter, ULTIMA® X5000 Junction Box, Digital Sensor, ULTIMA® XIR Plus Sensor

Intended Service:

Marine & Offshore Application

Description:

The Ultima® X5000 Gas Monitor is a fixed gas detection system for combustible, toxic and oxygen gases. The system comprises of an ULTIMA® X5000 Transmitter base unit and an optional ULTIMA® X5000 Transmitter Junction box fitted with an arrangement of up to a pair of two factory configured gas sensors. The two sensor types include a digital catalytic bead sensor and an IR (Infra-red) Sensor.

Rating:

Input : 11 to 30 Vdc, 1.5A (15 W) max;

Output Relay Contacts: 250 Vac, 30 Vdc, 5.0 A max. (dual 0-22 mA outputs);

Operating Ambient Temperature: -40°C to +60°C;

Enclosure Rating: NEMA Type 4X, IP 66 (Configuration Utilizing Digital Sensors are restricted to an enclosure rating of Type 3X, IP 65)

Hazardous Area Classification:

ULTIMA® X5000 transmitter

Ex db IIC T5 Gb(as per IECEx SIR 17.0017X certificate)

Ex tb IIIC T85°C Db*

ULTIMA® X5000 Junction Box

Ex db IIC T6 Gb

Ex nA IIC T6 Gc (as per IECEx SIR 17.0017X certificate)

Ex tb IIIC T85°C Db*

* NOTE Combustible gas detection performance compliance to IEC 60079-29-1 does not cover environments with dust and fibers in suspension in air.

ULTIMA® XIR Plus Sensor

Ex db IIC T5 Gb (as per IECEx SIR 17.0017X certificate)

Digital Sensor

Ex db IIC T5 Gb

Ex tb IIIC T85°C Db (as per IEC Ex SIR 17.0016X certificate)

Also see the attached CSA Certificate of Compliance 70116284 (LR 64969_0_00) covering hazardous area classification for various gas monitor configurations

Also see attached Product Data Sheet for further details

Service Restriction:

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.

Comments:

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

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Notes/Drawing/Documentation:

Ultima X5000 Gas Monitor Data Sheet, Pages:2;

CSA Certificate of Compliance no. 70116284 (LR 64969 0 000), date of issue: 2017-08-21, Pages: 13;

IECEX SIR 17.0017X certificate, date of issue: 2017-10-02, Pages: 8;

IECEX certificate Ref no. GB/SIR/ExTR 17.0204/00,R7014952B, Date of Issue: 2017-09-21, Pages 1;

IECEX SIR 17.0016X certificate, date of issue: 2018-01-08, Pages 11

Terms of Validity:

This Product Design Assessment (PDA) Certificate 18-HS1714366-PDA, dated 06/Mar/2018 remains valid until 05/Mar/2023 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:

Rules for Conditions of Classification, Part 1- 2018 Steel Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2018 Steel Vessels Rules: 4-8-3/1.11.1, 4-8-3/1.17.1, 4-8-3/Table 2, 4-8-3/13;

Rules for Conditions of Classification, Part 1- 2018 Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3 which covers the following:

2018 Mobile Offshore Drilling Units Rules: 4-3-1/15, 4-3-1/17.1, 4-3-3/Table 1, 4-3-3/9.1.

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA