



CERTIFICATE NUMBER
19-HS1843360-PDA

DATE
18 Apr 2019

ABS TECHNICAL OFFICE
Houston ESD - Offshore
Equipment

CERTIFICATE OF Design Assessment

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

MSA INNOVATION, LLC

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: **A-ULTIMA-X-XP / Sensor A-UltX Sens / Power Supplies 10053966 and 10053967**

This Product Design Assessment (PDA) Certificate 19-HS1843360-PDA, dated 18/Apr/2019 remains valid until 17/Apr/2024 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.

AMERICAN BUREAU OF SHIPPING

Tim Kimble
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 the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

MSA INNOVATION

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Tier: 2 - PDA Issued

Product: Gas Monitor

Model: A-ULTIMA-X-XP / Sensor A-UltX Sens / Power Supplies 10053966 and 10053967

Intended Service:

Marine & Offshore Applications - Provide continuous monitoring with indication of the presence and levels of gas concentrations (combustible gas, oxygen, toxic gases) at the installed location (enclosed spaces or open work areas) on board of ships and/or offshore platforms.

Description:

Ultima X Series Gas Monitors consist of various gas sensors (electrochemical, infrared, pelllement, etc.) and microprocessor-based transmitters. The signals from detectors are amplified, fed into a microprocessor for processing, an output signal proportional to the concentration of gas in air is produced for display, alarm and/or control action. The output signals can be the standard 4 to 20 mA analog output or an optional HART (Highway Addressable Remote Transducer) protocol. The units are crafted from 316 Stainless Steel, sensors are interchangeable, scrolling LCD display sensor reading, and gas type, the calibration process includes data stamping and the ability to be performed locally or remotely.

The Ultima XE, XIR gas monitor is an explosion-proof device certified for installation in hazardous locations.

Rating:

Gas Types: XE: Combustibles, Oxygen and Toxics;

XIR: Combustibles

(Details see attached Gas Codes Definitions)

Temperature Range: -40°C to 60°C;

Humidity: XE: 15-95% Non Condensing; XIR: 10--90% Noncondensing

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) Where communicator and/or other connecting devices, which are intended to be used in classified area, are to be certified for the hazardous classification.

3) Where the remote calibration option by using HART digital interface is chosen, the approved calibration kit and explosion-proof accessories are to be used for applications where access to the HART signal is needed in hazardous areas.

Comments:

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

2) Calibration is to be carried out with approved accessories and in accordance with the approved procedures as detailed in the manufacturer's Operating Manual.

Notes/Drawing/Documentation:

Document No. USFMGExTR08, IECEX Test Report Reference No. US-FMG-ExTR08.0009-14, Issue date: 9 May 2014, Pages: 5

Document No. USFMGExTR08, IECEX Test Report Reference No US-FMG-ExTR08.0009-15, Issue date: 6 August 2014, Pages: 6

Document No. FM_302220-3051047, FM Certificate issue date: 25 August 2014, Pages: 13

Document No. IECEX FMG 07.0006, Ultima X Series Controller, Ultima XE Sensor, Ultima XIR Sensor, Issue No. 15, date: 2014-08-08, pages: 6

Document No. MSA 03-06-2019, MSA_Ultima X Series, Declaration of Conformity, Revision: -, Pages: 1

Document No. UltimaX_2015-2018_wb_02, Matrix of Field Failures, Revision: -, Pages: 1

Model # followed by E, followed by 11-17, 25, 31-33, 38-39, 50-53, 58-59, followed by F or I, followed by 1, 2, 3 or 4, followed by N, S or D, followed by 0, 1 or 2, followed by 0, S, or H, followed by 0, 1, 2, 3 or 4, followed by 0 or 1, followed by 0 or 1, followed by any number, followed by any number, followed by 0, CB, CC, CF, or T. SENSOR #

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followed by 11-17, 25, 31-33, 38-39, 50-53, 58-59, followed by 1,2, or 3, followed by 0, CB, CC, CF, or T. FM Listing 3022220 and IECEXFMG 07.0006X

Terms of Validity:

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STANDARDS**ABS Rules:**

2019 Rules for Conditions of Classification - Part 1: 1-1-4/7.7; 1-1-A3, 1-1-A4, which covers the following:

2019 Steel Vessels Rules: 4-8-4/27, 5C-1-7/17.1.4; 5C-1-7/20, 5C-1-7/31.9, 5C-8-13/6, 5C-5-A5/15, 5C-8-A6/17, 5C-8-A8/11.9, 5C-13-6/A3.17, 5C-13-8/6 5C-13-10/A11.9, 5C-13-15/8

2019 Offshore Support Vessels Rules: 4-8-4/27, 5-2-3/9.25, 5-6-4/17.5, 5-7-5/9, 5-10-3/3.13.2, 5-10-4/5.13.7, 5-11-3/7.1, 5-11-3/15.11, 5-12-1/9

2019 Marine Vessels Rules: 4-8-4/27, 5C-1-7/17.1.4; 5C-1-7/20, 5C-1-7/31.9, 5C-8-13/6, 5C-5-A5/15, 5C-8-A6/17, 5C-8-A8/11.9, 5C-13-6/A3.17, 5C-13-8/6 5C-13-10/A11.9, 5C-13-15/8, 5D-2-3/9.25, 5D-6-4/17.5, 5D-7-5/9, 5D-10-3/3.13.2, 5D-10-4/5.13.7, 5D-11-3/7.1, 5D-11-3/15.11, 5D-12-1/9

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

2019 Mobile Offshore Drilling Units: 4-1-1/1.1.2, 5-2-5/3, 6-1-8/9, 7-1-8/15, 7-1-9/11.27

2019 Facilities on Offshore Installations: 3-3/13.3.3, 3-4/5.7 ii), 3-5/5.7 ii), 3-8/7.7, 4-8/7, 5-1/7.1.4 ii)

2019 Mobile Offshore Units: 4-1-1/1.1.2, 6-1-8/9, 7-1-8/15, 7-1-9/11.27, 8-2-1/11.11

National:

FM6310/6320 (2001)

International:

ISA-92.00.01 (2010)

Government:

NA

EUMED:

NA

OTHERS:

NA