



CERTIFICATE NUMBER
15-VC1376397-PDA

DATE
01 Jul 2015

CERTIFICATE OF

ABS TECHNICAL OFFICE
TIV-MEX-Veracruz Engineering
Services

DESIGN ASSESSMENT

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

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 Detection and Alarm System**

Model: **Mod 10C & 12B Controls, X40 Series (140/240/440/840/1640), RD8X, MC32X, MC64X**

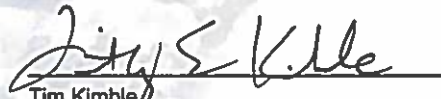
This Product Design Assessment (PDA) Certificate 15-VC1376397-PDA, dated 01/Jul/2015 remains valid until 30/Jun/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

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

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-A/5 9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

DETCON INC.

TECHNOLOGY PROFESSIONAL PLAZA

4055 TECHNOLOGY FOREST BLVD.

The Woodlands TX

United States 77381

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Email: bobmasi@detcon.com

Web: www.detcon.com

Tier: 3 - Type Approved, unit certification not required

Product: Gas Detection and Alarm System

Model: Mod 10C & 12B Controls, X40 Series (140/240/440/840/1640), RD8X, MC32X, MC64X

Intended Service:

Marine & Offshore Application - Safe Areas Only

Description:

Mod 10C & 12B: Single Sensor Card Control Modules; X40 (140, 240, 440, 840, 1640 -N4X) : Single, Dual, Four, Eight & Sixteen Channel Gas Detection Alarm & Control Inputs;

RD8X: Remote Display up to 32 Channels;

MCX-32 & 64: 64 or 128 Active Channels(Analog or Serial Inputs);

Rating:

Mod 10C & 12B:

Range; 1ppm/?% to 1000 ppm/?%;

Input Voltage: 24Vdc, 12 Vdc Optional;

Outputs: Analog 4-20 mA DC, RS-485 Serial;

Relay: Mod 10C- Alarm 1, 2 & Fault. Mod 12B - Alarm 1, 2, 3 & Fault.

X40 (140, 240, 440, 840,1640 -N4X) :

Input Voltage:117/220 Vac and or 11.5 to 28 Vdc;

Inputs: Analog 4-20 mA DC, RS-485 Serial;

Outputs: RS-485 Serial, 4 SPDT Alarm Relays;

RD8X:

Input Voltage:115/230 Vac, 50/60 Hz; 11.5 to 30 Vdc;

Inputs: RS-485 Modbus RTU;

Outputs: RS-485 Modbus Slave, 4 Relays Form C;

MCX-32 & 64:

Capacity: Up to 64 or 128 Analog or Serial Inputs

Inputs: Analog 4-20 mA, RS-485 Modbus RTU;

Outputs:4-20 mA

Power Input: 110-230 Vac , 20-30 Vdc

Operating Temperature Range: -40°F to +167°F (-40°C to +75°C);

Enclosure: NEMA 4X

Please refer to "www.detcon.com" for further Features & Specification 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.

i) Equipment is not to be installed in hazardous areas.

Comments:

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

i) Each installation is to be specifically approved based on ABS Rule requirements.

ii) Application and use are to be in accordance with the manufacturer's instructions.

iii) Tests and approvals are for hardware only.

iv) System design of Control/Monitoring Systems for Propulsion related systems, intended ACC or ACCU vessels are subject to ABS approval for each application.

v) When product is marked for use in hazardous location, pertinent certificate/document is to be submitted to ABS for approval.

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Notes/Drawing/Documentation:
Data Sheet No. R041813 Model X40.

Terms of Validity:

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STANDARDS

ABS Rules:

Rules for Conditions of Classification, Part 1 2015 Steel Vessels Rules 1-1-4/7.7, 1-1-Appendix 3, 1-1-Appendix 4, which covers the following:

Steel Vessel Rules: 4-1-1/Table 3, 4-8-3/1.7, 1.11, 1.17, 4-8-3/Table 2;

Rules for Conditions of Classification, Part 1 – 2015 Offshore Units and Structures 1-1-4/9.7, 1-1-Appendix 2, 1-1-Appendix 3, which covers the following:

Mobile Offshore Drilling Units 4-3-1/11, 15, 17.1.

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA