

CERTIFICATE NUMBER EFFECTIVE DATE EXPIRY DATE ABS TECHNICAL OFFICE 23-2382814-PDA 31-Mar-2023 30-Mar-2028 Houston ESD - Offshore Equipment

CERTIFICATE OF Product Design Assessment

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

TOPWORX located at

3300 FERN VALLEY RD, , LOUISVILLE, KY, United States, 40213

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.

Controllers
T-Series: TVL, TVF, TVH
Self and the
2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 30/Mar/2028 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

Sohail A. Mohammed

Sohail Ahmed Mohammed, 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)

Electronically published by ABS Houston. Reference T2382814, dated 04-APR-2023,

> TOPWORX 3300 FERN VALLEY RD LOUISVILLE KY United States 40213 Telephone: 502-969-8000 Fax: 502-969-5911 Email: info.TopWorx@emerson.com Web: ww.topworx.com Tier: 2 - PDA Issued

Product: Controllers T-Series: TVL, TVF, TVH Model: **Endorsements:**

Intended Service:

Marine & Offshore Application - Telemetering Equipment for use in Hazardous Locations.

Description:

TV Models are a series of Switcboxes for discrete Valve Control & Valve Position Monitoring.

Rating:

TVL- Tropicalized Aluminum base and lid TVF - Tropicalized Aluminum base with clear resin lid TVH-316 Stainless Steel See attached "pdf" for UL, ATEX/IECEx Hazardous Area Locations;

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.

- Duplicate PDA resides with Emerson Machinery Equipment (Shenzhen) - CHINA

Notes/Drawing/Documentation:

- Certificate No. IECEx SIR 12.0088U, IECEx Ex e Enclosure Certificate, Revision: 4, Pages: 1
 Certificate No. IECEx SIR 12.0089X, IECEx Ex nA nC Certificate, Revision: 10, Pages: 1
- Certificate No. IECEx SIR 13.0146X, IECEx Ex ia Certificate, Revision: 9, Pages: 1
- Certificate No. Sira 12ATEX2410X, ATEX Ex ec nC Certificate, Revision: 11, Pages: 1
- Certificate No. Sira 12ATEX3209U, ATEX Ex e Enclosure Certificate, Revision: 8, Pages: 1
- Certificate No. Sira 13ATEX2364X, ATEX Ex ia Certificate, Revision: 9, Pages: 1
- Certificate No. UL File E125326 Volume 1 Section 9, UL Hazardous Locations Report, Revision: n/a, Pages: 1
- UL File E125326, dated 19 March 2018, Telemetering Equipment for use in Hazardous Locations, TV Series Valve Top Controllers & Monitors;
- Certificate No. SIRA 12ATEX4210X, Issue: 7, TV *Switchboxes (TVL,TVF,TVH);
- Certificate No. SIRA , 13ATEX2364X, Issue: 3, Valve Postion Indicators (TVL,TVF,TVH);
 Certificate No. SIRA 12ATEX3209U, Issue: 4, TV* Enclosure(TVL,TVF,TVH);

- Certificate No. IECEx SIR 12.0088U, Issue 4, TV* Enclosure;
 Certificate No. IECEx SIR 12.0089X, Issue 5, TV* Switchboxes;
 Certificate No. IECEx SIR 13.0146X, Issue 2, TV* Series Valve Position Indicators;

- Assessment Report SIRA R25902A/00, dated 07 August 2012, ATEX & IECEx Certification of a TV Enclosure, 21 Pages;

- Assessment Report SIRA R25902B/00, dated 07 August 2012, ATEX & IECEx Certification of a TV *

Switchboxes, 26 Pages;

- Assessment Report SÍRA R28457A/00, dated August 2012, Variation to SIRA 07ATEX2223X & IECEX SIR 10.0136X,19 Pages;

- Topworx Brochure ES02381-1 R1 & ES-03425-1;

Certification Dwgs:

ES-05312-1, Rev. 2; ES-01613-1RC, Rev. 10; CERT-ES-04334-1, Rev. 19; CERT-ES-03351-1, Rev. 16; CERT-ES-03353-1, Rev.19; ES-01751-1, Rev. 10; ES-01860-1, Rev. 11; CERT-ES-03259-1, Rev. 7; ES-01834-1, Rev. 1; ES-01901-1, Rev. 7; ES-02265-1, Rev. 5; ES-02266-1, Rev. 4; ES-02280-1, Rev. 5; ES-02768-1, Rev. 3; ES-02772-1,

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Rev. 4; ES-05312-1, Rev. 2; ES-05312-1, Rev. 2; CERT-ES-03260-1, Rev. 19; ES-00403-1, Rev. 6; ES-00530-1, Rev. 9; ES-01596-1, Rev. 6; S-S01-0037, Rev. 4; ES-01598-1, Rev. 7; ES-1600-1, Rev. 6; PS-00125-1, Rev. 2;

Terms of Validity:

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STANDARDS

ABS Rules:

Rules for Conditions of Classification, Part I - 2023 - 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following: 2023 Marine Vessels Rules 4-8-3/13, 4-8-4/27

Rules for Conditions of Classification, Part I - 2023 - Offshore Units and Structures, 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following: 2023 Mobile Offshore Units Rules 4-3-1/15, 4-3-1/17.1

National: ANSI/ISA-12.12.01-2015

International: EN 600790, EN 6007911, EN 6007931, ANSI/ISA12.12.01

Government: NA

EUMED: NA

OTHERS:

NA



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

EMERSON MACHINERY EQUIPMENT (SHENZHEN) CO., LTD.

located at

BAO HENG TECHNOLOGY INDUSTRY PARK, NORTH HONG LANG 2ND ROAD, DISTRICT 68, BOAN DISTRICT, SHENZHEN, China, 518101

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:	Controllers
Model:	T-Series: TVL, TVF, TVH
Endorsements:	
Tier:	2 - PDA Issued

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EMERSON MACHINERY EQUIPMENT (SHENZHEN) CO., LTD. BAO HENG TECHNOLOGY INDUSTRY PARK NORTH HONG LANG 2ND ROAD DISTRICT 68, BOAN DISTRICT **SHENZHEN** China 518101 Telephone: 86 7552974 6920 Fax: 86 7552974 6904 Email: info.TopWorx@Emerson.com Web: www.topworx.com

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Government: NA

EUMED: NA

OTHERS: NA