CERTIFICATE NUMBER
16-GE1475506-PDA

DATE
19 Feb 2016

ABS TECHNICAL OFFICE
Genoa Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

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

SCHNEIDER AUTOMATION SAS

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: **Programmable Controller**
Model: **Series TSX37 - Micro Range**

This Product Design Assessment (PDA) Certificate 16-GE1475506-PDA, dated 19/Feb/2016 remains valid until 18/Feb/2021 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

Giorgio Barbini
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).

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Tier: 3 - Type Approved, unit certification not required

Product: **Programmable Controller**
Model: **Series TSX37 - Micro Range**
Intended Service:
+ACC and +ACCU Classed Vessels. Programmable control system for monitoring and control functions.

Description:
PLC equipment consisting of:
Models:
TSX 37-05/08 (Base 100-240 ac), TSX 37-101(Base 24 dc), TSX 37-100 (Base 100-240 ac), TSX 37-210/220 (Base 100-240 ac), TSX 37-210/220 (Base 24 dc)
Extension Racks: TSX RKZ 02 (Extendable Racks)
Memory Extension Card:
TSX MRP 032P to 264P (RAM), TSX MFP 032P to 264P (Flash EPROM)
Discrete I/O Modules: 24 V dc
Terminal Blocks: TSX DEZ12 D2, TSX DMZ28 DR, TSX DEZ32 D2, TSX DMZ28 DT, TSX DSZ08 T2, TSX DSZ32 T2, TSX DSZ04 T22
Connectors: TSX DEZ12 D2K, TSX DMZ16 DTK, TSX DMZ28 DTK, TSX DMZ64 DTK, TSX DSZ08 T2K
100-240 V ac
Terminal Blocks: TSX DEZ08 A4, TSX DEZ08 A5, TSX DMZ28 AR
24 V dc or 100-240 V ac
Terminal Blocks: TSX DSZ08 R5, TSX DSZ32 R5
Analogue I/O Modules:
TSX AEZ801, TSX AEZ802, TSX ASZ401, TSX ASZ200 (Analogue inputs/outputs 10V, 0-20mA, 4-20mA), TSX AEZ414 (Thermocouple inputs), TSX AMZ600
Counter Modules:
TSX CTZ 1A, TSX CTZ 2A
Communication Modules:
TSX ETZ 410, TSX ETZ 510 (Ethernet TCP/IP network)

Rating:
Rated Voltage DC: 24V
Rated Voltage AC:100-240V
Rated Frequency: 50-60 Hz

Service Restriction:
1) Test and Approval for hardware only;
2) Unit certification is required by the user to customize this equipment where this equipment is used for Category II or III services in accordance with 4-9-3/Table 1 and Table 2 as applicable;
3) Environmental temperature where this equipment are installed is not more than 55°C;
4) If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:
1) The tests in the presence of the Surveyor are required in accordance with 4-9-8/Table 2 of the Rules "Performance Tests" where it is used for control and monitoring systems of propulsion machinery, propulsion boilers vital auxiliary pumps and electrical generating plants. The performance tests are to be carried out at the assembled plant before installation onboard or after installation onboard.
2) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:
Drawing No.MKTED20512FR TSX Micro FR Ver.1 2016 January
TEST REPORT No.0104S03E

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Tier: 3 - Type Approved, unit certification not required

TEST REPORT No.0104S03e_a1
TEST REPORT No.0104S03e_a2
TEST REPORT No.1405S01C-01
TEST REPORT No.1405S01V-01
TEST REPORT No.1405S02C
TEST REPORT No.1405S02V-01
TEST REPORT No.1405S03E-01
TEST REPORT No.1405S04V
TEST REPORT No.1405S05V
TEST REPORT No.1405S07V
TEST REPORT No.1405S08E
TEST REPORT No.1405S09V
TEST REPORT No.1405S10V

Terms of Validity:
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STANDARDS

ABS Rules:
2016 Steel Vessel Rules 1-1-4/7.7, 1-1 Appendix 3 and 4, 4-9-8/13 (4-9-8/Table 1)
2016 Rules for Conditions of Classification, Part 1 – Offshore Units and Structures 1-1-4/9.7, 1-1 Appendix 2 and 3
2016 Mobile Offshore Drilling Unit Rules 1-1-4/9.7, 1-1 Appendix 2 and 3
2016 Steel Vessels Under 90 Meters (295 Feet) in Length 1-1-4/7.7, 1-1-Appendix 3 and 4, 4-7-4/3.9 (4-7-2/Table 1)
2016 Facilities on Offshore Installations 1-1-4/9.7, 1-1-Appendix 2 and 3
2016 Offshore Support Vessels 1-1-4/7.7, 1-1-Appendix 3 and 4, 4-9-8/13 (4-9-8/Table 1)

National:
NA

International:
NA

Government:
NA

EUMED:
NA

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OTHERS:
NA