Electronically published by ABS New Orleans.
Reference T2053145, dated 08-DEC-2020.

CERTIFICATE NUMBER	20-2053145-PDA
EFFECTIVE DATE	08-Dec-2020
EXPIRY DATE	07-Dec-2025
ABS TECHNICAL OFFICE	New Orleans Eng - Machinery

CERTIFICATE OF

Product Design Assessment

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

SIEMENS INDUSTRY, INC.

located at

RC-US DI FA SRD TE, 1 INTERNET PLAZA, JOHNSON CITY, TN, United States, 37604

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 Control/Monitoring Unit**

Model **SIMATIC S7-1200**

This Product Design Assessment (PDA) Certificate remains valid until 07/Dec/2025 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

Richard H. Barbour iii

Richard Hanson Barbour,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)

Sensitivity: Internal & Restricted

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SIEMENS INDUSTRY
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Web:

Tier: 2 - PDA Issued

Product: **Programmable Control/Monitoring Unit**
Model: **SIMATIC S7-1200**
Intended Service:
Automation Systems (Monitoring and Control Functions) on AMS, ACC, ACCU, ABCU, DPS, classed vessels.

Description:
Components:
Central Processing Units: 6ES7 211-; CPU 1211C; 6ES7 212-; CPU 1212C; 6ES7 214-; CPU 1214C; 6ES7 215-; CPU 1215C; 6ES7 217-; CPU 1217C
Signal Modules: 6ES7 221-, SM 1221; 6ES7 222-, SM 1222; 6ES7 223-, SM 1223; 6ES7 231-, SM 1231; 6ES7, 232-, SM 1232; 6ES7 234-, SM 1234
Communication Module: 6ES7 241-, CM/CB 1241
Signal Boards: 6ES7 221-, SB 1221; 6ES7 222-, SB 1222; 6ES7 223-, SB 1223; 6ES7 231, SB 1231; 6ES7 232-, SB 1232
Power Supply Module: 6EP1 332-, PM 1207
Accessories: 6ES7 297-, Battery Board; 6ES7 954-, Memory Cards
The Automation system SIMATIC S7-1200 is a modular mini-controller system for the lower and medium performance range. An extensive module spectrum is available for optimum adaptation tot he automation task. The S7 controller consist of a power supply, a CPU and input/output modules for digital and analog signals. The system is programmer the software STEP 7 V1x.x

Rating:
Supply voltage: 24V DC or 120/230V AC; Power supply 332: 120/230V AC, 2.5A; Degree of Protection: IP20

Service Restriction:
1) This product does require unit certification in connection with the equipment in which it is used (Computer-based systems Category II or III), but not at its plant of manufacture.
2) Surge Immunity: External Protective circuits required for DC systems. See the current System Manual (A5E02486680) for recommendations
3) The system fulfils the EMC requirements with appropriate filter for installation on the Bridge Deck and Deck Zone. A filter is to be fitted in the power supply lines having the following ratings: (I=3A, C=2x0.47uF, C-4700pF, L= 4x4.7mH, manufactured by Epcos, type B84113-C-B30 or equivalent)
4) Component without filter only to be used in general power distribution zones, but not in bridge and deck zones.
5) Installation of units, as per manufactures instructions.
6) 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:
1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product
2. Equipment suitable for end user to mount on DIN rail or panel with enclosure minimum degree for protection per MVR 4-8-4/1.3 and 4-8-3/15 Table 2 for the specific application.
3. The specific STEP 7 Vx.x software version to be provided to the end user for incorporation into operations manuals for ACC, ACCU, ABCU, and DPS, as applicable.
4. Where used on MOU for ballast control system, back up capability is required per MOU 4-2-4/13.7.2(d) for continued operation upon loss of any single major component.
5. FM approved for use in IP54 assembled unit in hazardous areas, Class 1, Division 2, Gas Groups A, B, C, D, Temperature Class T3C Ta = 60 Deg C; Class 1, Zone 2, IIC, Temperature Class T3 Ta = 60 Deg C; Canadian Class 1, Zone 2 Installation per CEC 18-150 when marked IECEx. FM approval certificates to be included in the booklet of electrical equipment in hazardous areas, as applicable.
6. Production unit certification required for the assembled unit by end user per MVR 4-9-9/13.3 and 4-9-9/15.7 TABLE 2.

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Tier: 2 - PDA Issued

Notes/Drawing/Documentation:
Drawing No. 3, A&D AS RD ST Type Test Calibration List, Revision: -, Pages: 1
Drawing No. 4, Siemens 10-HG622540-1-PDA Markup Suggestion Certificate, Revision: -, Pages: 1
Drawing No. 7.1, Vibration Picture, Revision: -, Pages: 1
Drawing No. 7.2, Vibration S7-1200 X-axis, Revision: -, Pages: 1
Drawing No. 7.3, Vibration S7-1200 Y-axis, Revision: -, Pages: 1
Drawing No. 7.4, Vibration S7-1200 Z-axis, Revision: -, Pages: 1
Drawing No. 8.1, Climatic Test Pictures, Revision: -, Pages: 1
Drawing No. 8.2, Climatic Test, Revision: -, Pages: 1
Drawing No. 9.1, EMC Test, Revision: -, Pages: 1
Drawing No. 9.2, EMC Test, Revision: -, Pages: 1
Drawing No. 9.3, EMC Test Cond. Emi., Revision: -, Pages: 1
Drawing No. A5E0078505A/021, Siemens PM270 Declaration S7-1200 V4.0, Revision: -, Pages: 1
Drawing No. A5E02485580-AJ (Shts 1111-1294), S7-1200 Programmable Controller Sysm Manual Techical Specifications, Revision: -, Pages: 1
Drawing No. A5E02486680-AJ10, S7-1200 Programmable Controller System Manual, Revision: -, Pages: 1
Drawing No. SIMATIC Type Test - 2014-02, Specification for Type Test and Test Report of Marine Electrical Equipment, Revision: -, Pages: 1
Drawing No. SW-doku_S7-1200, Siemens SIMATIC FW / SW System Test Release, Revision: -, Pages: 1

Terms of Validity:
This Product Design Assessment (PDA) Certificate remains valid until 07/Dec/2025 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).

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STANDARDS

ABS Rules:
2020 MVR 4-8-3/1.7, 4-8-3/1.11, 4-8-3/1.17, 4-9-3/11, 4-9-9/7, 4-9-9/13, 4-9-9/15.7 Table 1
2019 MOU 4-1-1/7.7, 4-1-2/9, 4-3-4/1, 4-3-4/5, 4-3-5/3.11.2, 6-1-7/Table 1

National:
UL 508
CSA C22.2

International:
IEC Ex EN60079-0: 2018
EN 60079-15: 2015
EN 61131-2:2007

Government:
NA

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EUMED:

OTHERS:
NA