Marine & Offshore

Certificate number: 37481/C2 BV
File number: AP 4516
Product code: 4501H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

SIEMENS AG - DI FA SIMATIC Type Test

Amberg - GERMANY

for the type of product

PROGRAMMABLE LOGIC CONTROL UNITS

SIMATIC S7-1500 and ET200MP

Requirements:
Bureau Veritas Rules for the Classification of Steel Ships
EC Code: 31 or 31B

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 03 Jul 2028

For Bureau Veritas Marine & Offshore,
At BV HAMBURG, on 20 May 2025,
Dirk Hoepfner

This certificate was created electronically and is valid without signature

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **S7-1500** and **ET200MP** series are modular Programmable Logic Controllers.

Power supplies			
6ES7 505-0KA00-0AB0	PS 25W 24V DC	6ES7 505-0RB00-0AB0	PS 60W 24/48/60V DC HF
6ES7 505-0RA00-0AB0	PS 60W 24/48/60V DC	6ES7 507-0RA00-0AB0	PS 60W 120/230V AC/DC
Central Processing Units			
6ES7 511-1AK02-0AB0	CPU 1511-1 PN	6ES7 516-3AN02-0AB0	CPU 1516-3 PN/DP
6ES7 511-1AL03-0AB0	CPU 1511-1 PN	6ES7 516-3AP03-0AB0	CPU 1516-3 PN/DP
6ES7 511-1CK01-0AB0	CPU 1511C-1 PN	6ES7 517-3AP00-0AB0	CPU 1517-3 PN/DP
6ES7 512-1CK01-0AB0	CPU 1512C-1 PN	6ES7 518-4AP00-0AB0	CPU 1518-4 PN/DP
6ES7 513-1AL02-0AB0	CPU 1513-1 PN	6ES7 518-4AP00-3AB0	CPU 1518-4 PN/DP ODK
6ES7 513-1AM03-0AB0	CPU 1513-1 PN	6ES7 518-4AX00-1AB0	CPU 1518-4 PN/DP MFP
6ES7 513-1RM03-0AB0	CPU 1513R-1 PN	6ES7 513-1RL00-0AB0	CPU 1513R-1 PN
6ES7 515-2AM02-0AB0	CPU 1515-2 PN	6ES7 515-2RM00-0AB0	CPU 1515R-2 PN
6ES7 515-2AN03-0AB0	CPU 1515-2 PN	6ES7 517-3HP00-0AB0	CPU 1517H-3 PN
6ES7 515-2RN03-0AB0	CPU 1515R-2 PN	6ES7 511-1CL03-0AB0	CPU 1511C-1 PN
6ES7 517-3AQ10-0AB0	CPU 1517-3 PN	6ES7 512-1CM03-0AB0	CPU 1512C-1 PN
6ES7 518-3AT10-0AB0	CPU 1518-3 PN		
Interface Modules			
6ES7 155-5AA00-0AA0	IM 155-5 PN BA	6ES7 155-5AA01-0AB0	IM 155-5 PN ST
6ES7 155-5AA00-0AC0	IM 155-5 PN HF	6ES7 155-5BA00-0AB0	IM 155-5 DP ST
		6ES7 155-5MU00-0CN0	IM 155-5 MF HF
Digital Input Modules			
6ES7 521-1BH00-0AB0	DI 16x24VDC HF	6ES7 521-1BP00-0AA0	DI 64x24VDC SNK/SRC BA
6ES7 521-1BH10-0AA0	DI 16x24VDC BA	6ES7 521-1FH00-0AA0	DI 16x230VAC BA
6ES7 521-1BH50-0AA0	DI 16x24VDC SRC BA	6ES7 521-7EH00-0AB0	DI 16x24…125V UC HF
6ES7 521-1BL00-0AB0	DI 32x24VDC HF	6ES7 521-7TH00-0AB0	DI 16xNamur HF
6ES7 521-1BL10-0AA0	DI 32x24VDC BA	6ES7 521-7BH00-0AB0	DI 16x24VDC HS
Digital Output Modules			
6ES7 522-1BF00-0AB0	DQ 8x24VDC/2A HF	6ES7 522-1BP50-0AA0	DQ 64x24VDC/0.3A SNK BA
6ES7 522-1BH01-0AB0	DQ 16x24VDC/0.5A HF	6ES7 522-5EH00-0AB0	DQ 16x24-48VUC/125VDC/0.5A ST
6ES7 522-1BH10-0AA0	DQ 16x24VDC/0.5A BA	6ES7 522-5FF00-0AB0	DQ 8x230VAC/2A ST (Triac)
6ES7 522-1BL01-0AB0	DQ 32x24VDC/0.5A HF	6ES7 522-5FH00-0AB0	DQ 16x230VAC/1A ST (Triac)
6ES7 522-1BL10-0AA0	DQ 32x24VDC/0.5A BA	6ES7 522-5HF00-0AB0	DQ 8x230VAC/5A ST (Relay)
6ES7 522-1BP00-0AA0	DQ 64x24VDC/0.3A BA	6ES7 522-5HH00-0AB0	DQ 16x230VAC/2A ST (Relay)
Digital Input/Output Modules			
6ES7 523-1BL00-0AA0	DI 16x24VDC, DQ 16x24VDC /0.5A BA	6ES7 523-1BP50-0AA0	DI 32x24VDC, DQ 32x24VDC /0.3A BA
Analog Input Modules			
6ES7 531-7KF00-0AB0	AI 8xU/I/RTD/TC ST	6ES7 531-7NF10-0AB0	AI 8xU/I HS
6ES7 531-7LH00-0AB0	AI 16xU BA	6ES7 531-7PF00-0AB0	AI 8xU/R/RTD/TC HF
6ES7 531-7MH00-0AB0	AI 16xI BA	6ES7 531-7QD00-0AB0	AI 4xU/I/RTD/TC ST
6ES7 531-7NF00-0AB0	AI 8xU/I HF	6ES7 531-7QF00-0AB0	AI 8xU/I/R/RTD BA
6ES7 531-7TF00-0AB0	AI 8xHART HF	6ES7 531-7LK00-0AB0	AI 24xCVM
Analog Output Modules			
6ES7 532-5HD00-0AB0	AQ 4xU/I ST	6ES7 532-5NB00-0AB0	AQ 2xU/I ST
6ES7 532-5HF00-0AB0	AQ 8xU/I HS	6ES7 532-5ND00-0AB0	AQ 4xU/I HF
		6ES7 532-8TF00-0AB0	AQ 8xHart HF
Analog Input/Output Module			
6ES7 534-7QE00-0AB0	AI 4xU/I/RTD/TC, AQ 2xU/I ST		
Communication Modules			
6ES7 540-1AB00-0AA0	CM PTP RS422/485 BA	6ES7 541-1AB00-0AB0	CM PTP RS422/485 HF
6ES7 540-1AD00-0AA0	CM PTP RS232 BA	6ES7 541-1AD00-0AB0	CM PTP RS232 H
6ES7 547-1JF00-0AB0	CM 8xIO-Link	6ES7 540-1AB01-0AA0	CM PTP RS422/485 BA
		6ES7 540-1AD01-0AA0	CM PTP RS232 BA
		6ES7 541-1AB01-0AB0	CM PTP RS422/485 HF
		6ES7 541-1AD01-0AB0	CM PTP RS232 HF

Technology Modules			
6ES7 550-1AA00-0AB0	TM Count 2x24V	6ES7 551-1AB01-0AB0	TM Posinput 2
6ES7 550-1AA01-0AB0	TM Count 2x24V	6ES7 552-1AA00-0AB0	TM Timer DIDQ 16x24V
6ES7 551-1AB00-0AB0	TM Posinput 2	6ES7 558-1AA00-0AB0	TM MFP
6ES7 552-1AA01-0AB0	TM TIMER 24x24V DIDQ		
6ES7 553-1AA01-0AB0	TM PTO 4		
Active Backplane			
6ES7 590-0BD00-0AA0	4 slot	6ES7 590-0BL00-0AA0	12 slot
6ES7 590-0BH00-0AA0	8 slot		
Memory Cards			
6ES7 954-8LC03-0AA0	4 MB	6ES7 954-8LP02-0AA0	2 GB
6ES7 954-8LE03-0AA0	12 MB	6ES7 954-8LP03-0AA0	2 GB
6ES7 954-8LF03-0AA0	24 MB	6ES7 954-8LT03-0AA0	32 GB
6ES7 954-8LL03-0AA0	256 MB	6ES7 954-8LP80-0AA0	SD-Card 2 GB
		6ES7 954-8LT80-0AA0	SD-Card 32 GB
		6ES7 954-8LC04-0AA0	SD-Card 4 MB
		6ES7 954-8LE04-0AA0	SD-Card 12 MB
		6ES7 954-8LF04-0AA0	SD-Card 24 MB
		6ES7 954-8LL04-0AA0	SD-Card 256 MB
		6ES7 954-8LP04-0AA0	SD-Card 2 GB
		6ES7 954-8LT04-0AA0	SD-Card 32 GB

Main characteristics:
Power supply: 24V DC or 230V AC
Degree of protection: IP20

2. DOCUMENTS AND DRAWINGS:

- A5E03461182-AC dated 12/2014; A5E03612323-02 dated 08/2013; A5E32346748-AA dated 08/2013
- A5E03461486-AB dated 06/2014

For B0 version:
- System manual: A5E03461182-AE dated 12/2017; A5E44792324-AA dated 03/2019

For B1 version:
- A5E03461182-AG dated 05/2021; A5E47052837-AA dated 09/2020; A5E47052556-AA dated 09/2020; A5E32366632-AC dated 09/2016; A5E36633205-AB dated 09/2016; A5E45488510-AA dated 03/2019; A5E50839840-AA dated 07/2021; A5E48027024-AA dated 07/2020; A5E48025116-AA dated 07/2020; A5E48024569-AA dated 07/2020; A5E48024817-AA dated 07/2020; A5E46240468-AB dated 07/2020; A5E39450002-AC dated 11/2020

For C0 version:
- A5E03461182-AJ dated 11/2022; A5E41814787-AE dated 01/2023; A5E42009333-AD dated 11/2022; A5E42009914-AD dated 11/2022; A5E50840058-AA dated 11/2021; A5E51346434-AA dated 05/2023; A5E52603197-AA dated 04/2023

For C1 version:
- Equipment Manual: A5E03790709-01dated 01.2013; A5E40898741-AB dated 05.2021; A5E51484308-AA dated 04.2024; A5E53268530-AA dated 11.2023; SD-Card 32GB_technical data

For C2 version:
- Equipment Manual: A5E53553217-AA dated 05/2024; A5E53640140-AA dated 11/2024; A5E53640193-AA dated 11/2024; A5E38896703-AB dated 12/2024

3. TEST REPORTS:

- SIMATIC Type Test - 2015-02 dated 17.08.2015; I IA AS RD ST Type Test 2013-03 dated 10.12.2013

For B0 version:
- SIMATIC Type Test - 2016-05 Rev. 01 dated 2019-07-02; SIMATIC Type Test - 2018-04 dated 2019-04-04

For B1 version:
- SIMATIC Type Test - 2021-06_BV dated 2022-03-03; SIMATIC Type Test - 2021-05 dated 2021-10-15

For C0 version:
- SIMATIC Type Test - 2023-02 dated 31.05.2023

For C1 version:
- SIMATIC Type Test 2024-002, dated May 24, 2024
For C2 version:
- SIMATIC Type Test 2025-S002, dated 2025-01-23

4. APPLICATION/LIMITATION:

4.1 - Bureau Veritas Rules for the Classification of Steel Ships
4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
4.3 - Bureau Veritas Environmental Category, **EC Code: 31 or 31B** (see item 4.4, 4.5 and 4.6).
4.4 - The equipment fulfils the EMC requirements for installation on Bridge and Deck Zone by using a filter on power supply lines, order no.: B84113-C-B30 or equivalent with ratings C=2x 0.47µF + 2x 4700pF, L=4x 4.7mH is used.
4.5 - The Manufacturer's installation recommendation described in A5E03461486-AB dated 06/2014 regarding surge protection is to be considered.
4.6 - The modules: TM-Count, TM-PosInput fulfil the EMC requirements for installation in General Power Distribution Zones only.
4.7 - Supply voltage for 6ES7 547-1JF00-0AB0 (CM 8xIO-Link) Ue min 20V DC (not allowed for battery power voltage)
4.8 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev9.
4.9 - In accordance with IACS UR E22 and as applicable to programmable devices for computer based systems of Category II or III, for each ship application:
- Ship specific documentation is to be submitted including software documentation and categorization of the computer based system.
- Inspection and testing before installation onboard is to be performed under the surveillance of the Society.
4.10 - Only Hardware and Firmware / Software successfully tested together in compliance with BV Rules as referred to in page one, according to the declaration of the manufacturer is covered by this certificate.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above mentioned products are to be supplied by **SIEMENS AG- DI FA SIMATIC** Type Test in compliance with the type described in this certificate.
5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
5.3 - **SIEMENS AG- DI FA SIMATIC** Type Test has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
5.4 - For information, **SIEMENS AG- DI FA SIMATI**C has declared to Bureau Veritas the following production sites:

SIEMENS AG - EWA
Werner-von-Siemens-Str. 50
92224 Amberg
GERMANY

SIEMENS AG
Breslauer Str. 5
90766 Fürth
GERMANY

Siemens Industrial Automation Products Ltd.
Chengdu , No. 99, Tian Yuan Road
Sichuan Province
611731 Chengdu City
CHINA

6. MARKING OF PRODUCT:

- Maker's name or trademark
- Equipment type or model identification
- Date of manufacture and/or serial number

7. OTHERS:

7.1 - It is the responsibility of **SIEMENS AG- DI FA SIMATIC Type Test** to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
7.2 - This certificate supersedes the Type Approval Certificate N° 37481/C1 BV issued on 25 Jun 2024 by the Society.

***** END OF CERTIFICATE *****