



**Marine & Offshore  
Division**

**Certificate number:** 37481/A1 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 - DF FA AS**

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 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: 15 Jul 2019**

**For BUREAU VERITAS,**

At BV HAMBURG, on 07 Sep 2015,

Sandro Schmidt



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. 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 Division 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 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.

#### 1.1 - System components:

Type	Order no.	Designation
<b>S7-1500 / ET 200MP</b>		
	6ES7 155-...	IM 155-5 PN ST
	6ES7 155-...	IM 155-5 DP ST
	6ES7 511-...	CPU 1511-1 PN
	6ES7 511-...	CPU 1511C
	6ES7 512-...	CPU 1512C
	6ES7 513-...	CPU 1513-1 PN
	6ES7 515-...	CPU 1515-2 PN
	6ES7 516-...	CPU 1516-3 PN/DP
	6ES7 517-...	CPU 1517-3 PN/DP
	6ES7 518-...	CPU 1518-4 PN/DP
	6ES7 521-...	DI 16x24VDC HF
	6ES7 521-...	DI 16x24VDC SRC BA
	6ES7 521-...	DI 32x24VDC HF
	6ES7 521-...	DI 16x230VAC BA
	6ES7 522-...	DQ 8x24VDC/2A HF
	6ES7 522-...	DQ 16x24VDC/0.5A ST
	6ES7 522-...	DQ 32x24VDC/0.5A ST
	6ES7 522-...	DQ 8x230VAC/2A ST
	6ES7 522-...	DQ 8x230VAC/5A ST
	6ES7 523-...	DI/DQ 16x24VDC/16x24VDC/0.5A
	6ES7 531-...	AI 8xU/I/RTD/TC ST
	6ES7 531-...	AI 8xU/I HS
	6ES7 532-...	AQ 4xU/I ST
	6ES7 532-...	AQ 8xU/I HS
	6ES7 534-...	AI/AQ 4xU/I/RTD/TC, 2xU/I ST
<b>System power supply</b>		
	6ES7 505-...	PS 25W 24V DC
	6ES7 505-...	PS 60W 24/48/60V DC
	6ES7 507-...	PS 60W 120/230V AC/DC
<b>Communication modules</b>		
	6GK7 543-...	CP 1543-1 PROFINET
	6GK7 542-...	CP 1542-5 PROFIBUS
	6GK7 542-...	CM 1542-5 PROFIBUS
	6ES7 540-...	CM PtP RS422/485 BA
	6ES7 540-...	CM PtP RS232 BA
	6ES7 541-...	CM PtP RS422/485 HF
	6ES7 541-...	CM PtP RS232 HF
<b>Technology modules</b>		
	6ES7 550-...	TM Count 2x24V
	6ES7 551-...	TM PosInput 2
	6ES7 552-...	TM Timer DI/DQ 16x24VDC
<b>Load power supply</b>		
	6EP1332-...	PM 70W 120/230V AC
	6EP1333-...	PM 190W 120/230V AC
<b>Accessories</b>		
	6ES7 954-...	SIMATIC Memory Cards

#### 1.2 - 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

**3. TEST REPORTS:****SIEMENS AG:**

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

**4. APPLICATION/LIMITATION:**

- 4.1 - Bureau Veritas Rules and Regulations 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  $C=2x\ 0.47\mu F + 2x\ 4700pF$ ,  $L=4x\ 4.7mH$  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: PM70W, PM190W, TM-Count, TM-PosInput fulfil the EMC requirements for installation in General Power Distribution Zones only.
- 4.7 - Documents relating to each application are to be submitted to the Society's examination prior fitting on board.
- 4.8 - Depending on the Application, Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II or III Equipment.
- 4.9 - Only Hardware and Firmware / Software successfully tested together in compliance with the regulations 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- DF FA AS** 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.
- 5.3 - **SIEMENS AG- DF FA AS** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

**SIEMENS AG- DF FA AS**  
**Werner-von-Siemens-Str. 50**  
**92224 Amberg**  
**GERMANY**

- 5.4 - Equipment is to be supplied with manual(s) for installation, use and maintenance.

**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 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that **SIEMENS AG- DF FA AS - GERMANY**, will accept full responsibility for informing shipbuilders, ship owners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

- 7.2 - This certificate cancels and replaces the previous one issued by the Society on 15 Jul 2014, under ref. N° 37481/A0 BV.

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