Marine & Offshore

Certificate number: 23718/B1 BV
File number: AP4186
Product code: 4482H

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

MARITIME PERSONAL COMPUTERS

SIMATIC IPC627C, IPC627D, IPC647C, IPC647D, IPC677C and IPC827D

Requirements:
Bureau Veritas Rules for the Classification of Steel Ships
EC Code: 31 / 31B (see item 4.x)

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: 22 Jul 2021

For Bureau Veritas Marine & Offshore,
At BV HAMBURG, on 14 Jan 2019,
Dirk Hoepfner

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **SIMATIC IPC627C, IPC627D, IPC647C, IPC647D, IPC677C** and **IPC827D** are computer devices and panels for dedicated applications.

1.1 - Main characteristics:

Power supply:
- 110/230V AC, 50/60Hz
- 24V DC for Box PC and HMI Panel PC

Ingress Protection:
- Box PC: IP20
- 19" Rack PC: IP20 for back side and IP41 for front side of housing
- HMI Panel PC: IP20 for back side and IP54 or IP65 for front side of panel

1.2 - Types:

SIMATIC Box PC Types: Installation with two angle brackets in a locked cabinet or rack.		
SIMATIC IPC627C: 6ES7 647-6C **a b** x - 0/1 **c d** 0 **a = Processor:** A; B; C; D; E; F; G; H; J **b = Memory:** 0; 1; 2; 3; 5; 6 **c = Drive, Mass storage:** J; L; V; X **d = Operating System:** A; B; C; X	**SIMATIC IPC627D:** 6AG4 131-2 **a b c d - e f g h** **a = Processor:** A; B; C; D; E; F; G; H; J **b = Drive:** M; Q **c = Main memory:** 1; 2; 3; 4; 5; 6 **d = Extension (HW):** 0; 1; 2 **e = Extension (HW):** 0; 1; 2; 3 **f = Operating system:** A; B; C; D; X **g = Extension (SW):** A; B; C; X; Y **h = Country specific type / power supply:** 0; 1; 2; 3; 4; 5; 6	**SIMATIC** Box PC **IPC827D:** 6AG4 132 - 2 **a b c d - e f g h** **a = Processor:** A; B; C; D; E; F; G; H; J **b = Drive:** M; Q **c = Main memory:** 1; 2; 3; 4; 5; 6 **d = Extension (HW):** 0 **e = Extension (HW):** 0; 1; 2; 3 **f = Operating system:** A; B; D; X **g = Extension (SW):** A; B; C; X; Y **h = Country specific type / power supply:** 0; 1; 2; 3; 4; 5; 6

SIMATIC 19" RACK PC Types: Installation in a 19" rack, 2HU.		
SIMATIC IPC647C: 6AG4 112-1 **a b c d - e f** x x **a = Processor:** G; H; J; K; L; M; N; P; R **b = Mass storage:** S; T **c = Memory:** 0; 1; 2; 3; 4; 5; 6; 7 **d = Drive:** 0; 8 **e = Extension (HW):** 0; 1; 2; 3; 4; 5; 6; 7 **f = Operating system:** B; E; P; X	**SIMATIC IPC647D:** 6AG4 112 - 2 **a b c d - e f g h** **a = Processor:** D; E; F; G; H; J; K; L; M **b = Drive:** S; T; W **c = Main memory:** 1; 2; 3; 4; 5; 6; 7; 8 **d = Extension (HW):** 0*; 1; 2; 6*; 7; 8 **e = Extension (HW):** 0; 1; 2; 3; 4*; 5* **f = Operating system:** A; B; F; X **g = Extension (SW):** A; B; C; X; Y **h = Country specific type / power supply:** 0; 1; 2; 3; 4; 5; 6 * Not to be combined	**SIMATIC IPC647D PC-S7** 6ES7 660 - 5 **a b c d - e f g h** **a = Processor:** A; B; C; W; D; E; F; X; G; H; J; Y **b = Drive:** P; Q; R; S; T; U; V; W **c = Main memory:** 0; 1; 2; 3; 4; 5; 6; 7 **d = Communication:** 1; 8 **e = PCS7 Version:** 0; 1; 8 **f = Operating system:** A; D; X **g = Extension (HW):** A; B; C; G; H; J **h = Country specific type / power supply:** 0; 1; 2; 3; 4; 5; 6

SIMATIC HMI Panel PC Types: Vertical installation in a cut-out of a locked cabinet or rack
SIMATIC IPC 677C: 6AV7 89 **a** - 0/1 x **b c d - e** A/B **f** 0 **a = Front panel:** 0; 1; 2; 3; 4 **b = Processor:** A; B; C; D; E; F; G; H; J **c = Main memory:** 0; 1; 2; 3; 5; 6 **d = Drive, Mass storage:** 4; 5; 6; 8 **e = Optical drive:** 0 **f = Operating system:** A; B; C; D

2. DOCUMENTS AND DRAWINGS:

Operating Instructions: A5E32990859-AB dated 09/2014; A5E32996306-AA dated 01/2014
- A5E02669068-01 dated: 05/2010, A5E02722710-01 dated: 05/2010 and A5E02669337-02 dated 12/2010

3. TEST REPORTS:

SIEMENS AG: - 15-E006314-BM-A01 dated 19.12.2014; 15-E006314-BM-B01 dated 19.12.2014
- I IA AS RD ST Type Test - 2011-01, dated 28.06.2011; I IA AS RD ST Type Test - 2010-07, dated 02.12.2010
- I IA AS RD ST Type Test - 2010-07a, dated 31.05.2011

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 / 31B**

4.4 - The equipment **IPC627D** and **IPC827D** fulfils the EMC requirements for installation on the Bridge and Deck Zones.

4.5 - The equipment **IPC627C** and **IPC677C** fulfils the EMC requirements for installation on the Bridge and Deck Zone if filter type Corcom xFC10 in AC and DC power line is used.

4.6 - The equipment **IPC 647D** fulfil the EMC requirements for installation on the Bridge and Deck Zone if filter type Epcos B84113C or equivalent in AC and DC power line is used.

4.7 - The equipment **IPC 647C** fulfils the EMC requirements for installation in General Power Distribution Zones if filter type Corcom xFC10 in AC power line is used.

4.8 - Only Hardware and Firmware 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.

4.9 - Depending on the Application, Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II or III Equipment.

4.10 - The minimum safe distance of the equipment to a standard or a steering magnetic compass is to be considered.

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 and as such does not require a BV product certificate.

5.3 - **SIEMENS AG - DF FA AS** has to make the necessary arrangements to have its works recognized by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

<table>
<tr><td align="center">SIEMENS AG
Östliche Rheinbrükenstr. 50
76187 Karlsruhe
Germany</td><td align="center">Siemens Industrial Automation Products Ltd.
No. 99, Tian Yuan Road
Sichuan Province
611731 Chengdu City
CHINA</td></tr>
<tr><td align="center">Siemens Industry Inc.
Customer Services Division
4170 Columbia Road
Lebanon 45036-9699, Ohio
USA</td><td></td></tr>
</table>

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 - It is the responsibility of **SIEMENS AG - DF FA AS - GERMANY** 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° 23718/B1 BV issued on 22 Jul 2016 by the Society.

*** END OF CERTIFICATE ***