



CERTIFICATE NUMBER

DATE

12-HG930337-1-PDA

29 August 2013

ABS TECHNICAL OFFICE

Hamburg Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of
ABB AUTOMATION PRODUCTS GMBH - D-69123 HEIDELBERG

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 Logic Controller**

MODEL: **AC500 / AC500-S / AC500-XC / S500 / AC500-S-XC / S500-S / S500-XC / AC500F / S500 F**


This Product Design Assessment (PDA) Certificate 12-HG930337-1-PDA, dated 29/Aug/2013 remains valid until 28/Aug/2018 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


Wulf-Peter Senebald
Engineer

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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PRODUCT:
Programmable Logic Controller

MODEL:
AC500 / AC500-S / AC500-XC / S500 / AC500-S-XC / S500-S / S500-XC / AC500F / S500 F

Intended Service:

Programmable Control System for control and monitoring functions on AMS, ACC, ACCU, ABCU classed vessels.

Description:

CPU: Two serial configurable interfaces integrated, RS232 / RS485 for COM1 (Terminal block 9-pole) and COM2 (D-SUB),

- 6x 7-segments status displays with background lighting,
- Slot for SD Memory Card,
- Compartment for Lithium Battery TA521
- centrally expandable with up to 10 expansion modules,
- up to 4 external communication modules

Components of CPUs (AC500): PM571, PM571-ETH, PM572, PM573-ETH, PM581, PM581-ETH, PM581-ARC (or EC581-ARC), PM582, PM582-ETH, PM582-ARC, PM583, PM583-ETH, PM590, PM590-ETH, PM590-ARC, PM591, PM591-ETH, PM591-ARC, PM592-ETH, SM560-S.

Component of CPU (AC 500F): PM 783F.

CPU Terminal Bases:

- Slot for CPU, Communication Modules (TB511-xxx: 1 slot, TB521-xxx: 2 slots, TB541-xx: 4 slots),
- Interface for FieldBusPlug,
- Power supply (5-pole terminal block, removable),
- Serial interface COM1 (9-pole terminal block, removable), COM2 (9-pole D-SUB, female),
- Network interface (Ethernet at TB5xx-ETH or ARCNET at TB5xx-ARCNET)

Components of TBs (AC500 / S500): TB511, TB511-ETH, TB511-ARC, TB521, TB521-ETH, TB521-ARC, TB541, TB541-ETH, TB541-ARC; (AC 500F / S500 F): TB 711F.

Terminal Units (AC500 / S500): TU505, TU505-FBP, TU506, TU506-FBP, TU507-ETH, TU508-ETH, TU509, TU510, TU515, TU516, TU517, TU518, TU520-ETH, TU531, TU532, TU541, TU542, TU551-CS31, TU552-CS31, TU582-S (SIL3); (AC 500F / S500 F): TU 705F, TU 706F, TU 715F, TU 716F, TU 731F, TU 732F.

I/O Modules (S500): AC522, AI523, AI531, AI581-S, AO523, AX521, AX522, CD522, CI501/ 502/ 511/ 512/ 592, CI590 CS31-HA, CI541-DP, CI542-DP, CI581-CN, CI582-CN, CI504-PNIO, CI506-PNIO, DA501, DC505, DC505-FBP, DC522/ 523/ 532/ 541/ 551-CS31, DI524, DI581-S, DX522, DX531, DX581-S, PD501; (S500 F): AC 722F, AX 721F, AI 731F, AI 723F, AO 723F, AX 722F, CD 722F, DA 701F, DC 705F, DC 722F, DC 723F, DC 732F, DI 724F, DX 722F, DX 731F.

Communication Couplers (AC500 / S500): CM572, CM572-DP/ 575-DN/ 577-ETH/ 578-CN, CM574-RCOM, CM574-RS, CM579-PNIO, CM579-Ethcat, CM588-CN TA524; (AC 500F / S500F): CM 572F, TA 724F.

Accessories: MC502, TA521, TA522, TA523, TA524, TA525, TA526, TA566, TK501, TK 701F, TK502, TK503, TK504.

Ratings:

Power Supply: 24V DC.

Degree of Protection: IP20.

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Service Restriction:

Unit Certification is required for this product in accordance with 4-1-1/Table 3 item 19 of the Steel Vessel Rules.

Comments:

Each particular application/ installation and the user operating software is to be specifically approved in conjunction with the relevant system in which the units are being used.

System Category III. Manufacturer is to keep evidence of quality plan for software, inspection of hardware components from sub-suppliers and quality control in production. Performance integration, fault simulation, final system factory acceptance tests, on-board system and integration tests to be witnessed by the Surveyor.

Notes / Drawings / Documentation:

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

Term of Validity:

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STANDARDS

ABS Rules:

2013 Steel Vessel Rules, 1-1-4/7.7, 4-1-1/Table 3, 4-9-1/9.1/9.3, 4-9-6/3/7.1/7.3/9, 4-9-6/Table 2, as applicable for inherent basic operating software, 4-9-7/3/7/13.

National:

NA

International:

NA

Government Authority:

NA

EUMED:

NA

Others:

NA