



Marine & Offshore

Certificate number: 36076/C0 BV

File number: AP4451

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

ABB AG

Heidelberg - GERMANY

for the type of product

PROGRAMMABLE LOGIC CONTROL UNITS

AC500-S

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 31

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: 10 Jan 2029

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 10 Jan 2024,

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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **AC500-S** is a safety programmable logic controller with I/O modules.

Type	Designation	Main characteristics	Software
CPU Modules	SM560-S	1MB; with Profinet	V2.1.x
	SM560-S-FD-1	1.3MB; 1x PROFIsafe	V2.1.x
	SM560-S-FD-4	1.3MB; 4x PROFIsafe	V2.1.x
Digital input module	DI581-S	up to 16x DI	V3.0.xx
Digital input/output module	DX581-S	up to 8xDI; 8xDO	V3.0.xx
Analogue input module	AI581-S	up to 4xAI	V3.0.xx
Spring terminal unit	TU582-S	for I/O modules	n/a

Power supply: 24V DC; Degree of protection: IP20

2. DOCUMENTS AND DRAWINGS:

- 1SAP282010F9003-01-A, 1SAP282011F9003-01-A dated 06.06.2011; 3ADR 025 011 B0201 dated 10/12;
- 1SAP280010F9003-01-A0, 1SAP280011F9003-01-A0, 1SAP284020F9003-A0, 1SAP284021F9003-A0 dated 14.07.2011
- 1SAP284120F9003-01-A, 1SAP284131F9003, 1SAP284131F9003-01 dated 14.07.2011

For B1 version:

- 1SAP280010F0003 dated 18.05.2017, 1SAP280011F9003 dated 26.10.12, 3ADR025091M0207 dated 22.03.2018

3. TEST REPORTS:

- ABB Automation Products GmbH: D2012056 dated 17.12.2012
- EMV Rhein-Neckar GmbH: 3893-3113a dated 19.12.2012
- Paconsult GmbH: 12-4737 Rev. 1 dated 14.December 2012
- TÜV Süd Rail GmbH: AH84732T Rev. 1.2 dated 07.02.2013; AH84732C Rev. 1.1 dated 2013-03-18

For B1 version:

- Paconsult GmbH: 18-11059 Rev. 1 dated January 23. 2019
- EMV Rhein-Neckar GmbH: 3893-3131 dated 03.04.2019

For B2 version:

- Nemko: FS-2109-450318-011 dated 26.11.2021

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**
- 4.4 - The product designation of components may be followed by "XC" and additional marked with "*" at the front. These feature leaves the EC Code unchanged.
- 4.5 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zones.
- 4.6 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7.
- 4.7 - 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.
- 4.8 - 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 **ABB AG** 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 - **ABB AG** 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, **ABB AG** has declared to Bureau Veritas the following production site:

ABB Stotz-Kontakt GmbH
Hauptstr. 12-16
78132 Hornberg
GERMANY

6. MARKING OF PRODUCT:

- Maker's name or trademark
- Equipment type or model identification
- Date of manufacture and/or serial number
- The title and version of each software element included in the installed software system shall be either marked or displayed on command on the equipment.
- When the marking and the title and version of the software are displayed only on the display, such information shall also be included in the equipment manual.

7. OTHERS:

7.1 - It is the responsibility of **ABB AG** 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° 36076/B2 BV issued on 17 Jan 2022 by the Society.

*** END OF CERTIFICATE ***