



MARINE DIVISION

Certificate number: 36076/A0 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 Automation Products GmbH

Heidelberg - GERMANY

for the type of product

PROGRAMMABLE LOGIC CONTROL UNITS

AC500-S

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

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: 13 Nov 2018

For BUREAU VERITAS,

At BV HAMBURG, on 13 Nov 2013,

Dirk Hoepfner



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

1.1 - Main characteristics:

Power supply: 24V DC

Degree of protection: IP20

1.2 - Components:

Type	Designation	Main characteristics	Software
CPU Modules	SM560-S	1MB; with Profinet	V1.0.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

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

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

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 - Documents relating to each application are to be submitted to the Society's examination prior fitting on board.
- 4.7 - Depending on the Application, Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II or III Equipment.
- 4.8 - 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 Automation Products GmbH** 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 - **ABB Automation Products GmbH** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

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

For Terminal:
Welco Technology (Shenzhen) Ltd.
Wanfeng Industrial Estate,
34 The East of Wanzhang Pu,
Shajing, Baoan, Shenzhen, Guangdong
CHINA

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.
- 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:

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 **ABB Automation Products GmbH - 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.

*** END OF CERTIFICATE ***