



**Marine & Offshore
Division**

Certificate number: 38658/A0 BV

File number: AP 4518

Product code: 4441H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

COMAS ELECTRONICS
DRAPETSONA - PIRAEUS - GREECE

for the type of product

ALARM AND MONITORING SYSTEMS

Automation Master AM-101

Requirements:

BV 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: 08 Aug 2019

For BUREAU VERITAS,
At BV PIRAEUS, on 08 Aug 2014,
Dimitris DIMITROPOULOS



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 electronic version is available at: <http://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypec.jsp?id=ynpdgl0bt6>

BV Mod. Ad.E 530 May 2009

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **Automation Master** is a modular system, and it consists of **AM-101** (automation master- local unit) units network.

Technical specification:

Functions Alarms	: Ground breaking, self-sufficient alarm (and also expandable alarm device) that are fully controlled both locally and remotely by a PC.
Functions Safeties	: Comprehensive safety system.
Functions Control	: Multiply systems control from one device
Inputs	: 4 isolated inputs : 20 or 40 general purpose inputs dual mode (4-20mA or 0-10V analog inputs)
Outputs	: 6 relay outputs : 2 PID loops : Expansion connector
User interface	: 2x20 display, numeric keypad and function keys : 20 input leds with keys
Operating Voltage	: AC power 80 to 260 volt AC isolated : DC power 18 to 36 volt DC isolated

2. DOCUMENTS AND DRAWINGS:

COMAS:

- Data Sheet Local Unit AM-101
- Manual Local Unit AM-101
- Block Diagram Local Unit AM-101

3. TEST REPORTS:

HEEQAC :

- Test Report No. 503969-E, dated 2014-04-09
- Test Report No. 503970-E, dated 2014-04-09

4. APPLICATION / LIMITATION:

- 4.1 - BUREAU VERITAS Rules 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 equipment fulfils the EMC requirements for installation in General Power Distribution Zone.
- 4.5 - 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 are covered by this certificate.
- 4.6 - The above equipment is not intended to be used in Machinery Protection or Safety Related Systems. To be used for Category II Systems only.
- 4.7 - Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II Equipment.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The above products are to be supplied by **COMAS ELECTRONICS** 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 - **COMAS ELECTRONICS** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

COMAS ELECTRONICS
37 Sokratous str.
18648 DRAPETSONA - PIRAEUS
GREECE

6. MARKING OF PRODUCT:

- Manufacturer's name and Trademark.
- Type and model number.
- Date of manufacture and serial number.
- Equipment type or model identification under which it was type-tested.

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: **COMAS ELECTRONICS - PIRAEUS - GREECE** will accept full responsibility for informing shipbuilders, shipowners 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 ***