



Marine & Offshore

Certificate number: 23170/B1 BV

File number: AP 4127

Product code: 37811

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

Autronica Fire and Security AS
TRONDHEIM - NORWAY

for the type of product

FIRE DETECTION AND FIRE ALARM CONTROL UNITS
Interactive Fire Detection System - Type, AutoSafe Release 4

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.
EN 60945 (2002), Corr.1 (2008)
EN 54-2 (1997) including AC (1999) and A1 (2006)
EN 54-4 (1997) including AC (1999), A1 (2002) and A2 (2006)

EC Code: 31B

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: 05 Sep 2021

For Bureau Veritas Marine & Offshore,
At BV OSLO, on 05 Feb 2018,
Rune MARSTEIN

Rune Marstein



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.

The electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypec.jsp?id=fpql2mlvnd>
BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

- Product model or type designation :
Autronica AutoSafe System, Release 4

- Product description:
Totally distributed Fire Alarm System

1.1 - Panels / Cabinets:

Type	Function	Description
BS-420M/G	Fire Alarm Control Panels	Operating Panels for one or several defined Operation Zones 12 Modules max(Loop-Driver and I/O Modules) per cabinet 512 Detectors and Call-Points maximum AutoFieldBus (AFB), Ethernet and Serial Communication Ports SelfVerify function.
BC-420	Controller	Connection Unit for the Detector Loops, Alarm Sounders, Controls and Inputs. 12 Modules max(Loop-Driver and I/O Modules) per cabinet 512 Detectors and Call-Points maximum AutoFieldBus, Ethernet and Serial Communication Ports
BS-430	Operator Panel	Operating Panel for one or several defined Operation Zones To be connected to a Controller AutoFieldBus (AFB), Ethernet and Serial Communication Ports SelfVerify function.
BU-420	Repeater Panel	Displays and manages alarms and / or information from relevant Operation Zone
BV-420	Information Panel	Displays alarms and / or information from relevant Operation Zone
BP-405	Power Cabinet	1 x 100-240 VAC - 50/60 Hz Input 6 x 24 VDC Outputs AutoFieldBus Interface Available space for 2 x 12V - 18 Ah Batteries
BPS-405 BPS-410	Power Supplies	1 x 100-240 VAC - 50/60 Hz Input 6 x 24 VDC Outputs AutoFieldBus Interface BPS-405: 24V/5A BPS-410: 24V/10A
BU-110	Fire Brigade Loop Panel	Displays and manages alarms and / or information from relevant Operation Zone
BV-110	Information Loop Panel/Repeater Panel	Displays alarms and / or information from relevant Operation Zone

Power Supply : 100-240 VAC - 50/60 Hz

Operating Temperature : -5°C to + 70°C

Protection Class : IP32

Software Version : 4.8.1

1.2 - I/O Modules:

Type	Function	Description
BSD-310/311	Loop-Driver Modules	Connection of Detector Loops 1 x Detector Loop per Module 127 x Loop Units (Detectors, Call-Points, I/O-Units, Sounders) max. per Loop
BSB-310	Output Module	4 x Monitored Outputs
BSJ-310	Output Module	8 x Open Collectors
BSE-310	Input Module	4 x Monitored Inputs
BSE-320	Input Module	8 x non-Monitored Inputs (Galvanic Isolated)
BN-180	AutoKeeper	Interface between Loop Controller (BSD-310) and Detection Loop (Intended to be used in Autosafe Dual Safety Configuration)

2. DOCUMENTS AND DRAWINGS:**Data sheets:**

116-P-BC420/CGB Rev. C, 2011-09-14
 116-P-BS420/CGB Rev. D, 2011-09-14
 116-P-BS430/CGB Rev. E, 2011-09-14
 116-P-BU-BV420/CGB Rev. C, 2011-09-14
 116-P-BP405/CGB Rev. B, 2010-02-01
 116-P-BPS405/CGB Rev. A, 2011-07-08
 116-P-BPS410/CGB Rev. B, 2011-07-08
 116-P-BN-180/CGB Rev. C, 2011-09-27
 116-P-BU110/CGB, 2014-05-15
 116-P-BV110/CGB, 2014-05-15

Specification / Handbooks:

System Description: 116-P-ASAFE-SYSTEM/EGB-Rev. D, 2010-09-14
 Installation Handbook: 116-P-ASAFE-INSTALL/DGB Rev. G, 2011-12-06
 Operator's Handbook: 116-P-ASAFE-OPERATE/FGB Rev. C, 2011-09-14
 Commissioning Handbook: 116-P-ASAFE-COMISS/EGB Rev. D, 2011-09-14
 Menu Structure, AutoSafe Release 4: 116-P-ASAFE-MENUSTR/MGB Rev. B, 2011-06-14
 Release Notes, Release 4.3.1 dated 2011-10-03
 Procedure for Software Control and Traceability, Doc. ID: AFS-07401 Rev. 02 dated 09.09.10
 New Functions in AutoSafe Software between 4.0.1 and 4.3.1
 Type Test Protocol, Fire Alarm Panel AutoSafe4 w/detectors
 List of Tests performed 4.3.1.
 Application Letter for extension of certificate, dated 2014-10-15

For modification B0 version:**Autronica:**

- Release Notes AUTROSAFE SOFTWARE 4.8.0, dated Mar 30, 2016

For modification B1 version:**Autronica:**

- Release Notes AUTROSAFE SOFTWARE 4.8.1, dated May 22, 2017
 - Quality plan: AutoSafe 4.8.1 - 116850080, Doc-1003488 Rev.1

3. TEST REPORTS:**Autronica:**

Type Test Protocol, dated 2012.02.02 (witnessed by BV 's Surveyor)
 SW release notes R4.4.0, R4.4.1, R4.4.2, R4.5.0, R4.5.1 and R4.6.0, dated 2014-06-04

DNV:

Test Report EN54-2 and EN54-4 N° 2009-3710 Rev. No. 01, dated 2010-02-19.
 EMC and Environmental Testing of AutoSafe 4 Components, Test Report N° 2009-3691 Rev. No. 02, dated 21.12.2009
 EMC and Environmental Testing of Power Supplies BPS-405 and BPS-410, Test Report N° 2010-3355 Rev. No. 01, dated 2010-09-22
 EMC and Environmental Testing of BN-180 AutoKeeper and BSS-311, Test Report N° 2010-3362 Rev. No. 01, dated 10.08.2010
 EN 54-4 Testing of Power Supplies BPS-405 and BPS-410, Test Report N° 2010-3386 Rev. No. 01, dated 2011-01-03.

Nemko:

Test Report BU-110 & BV-110 No. E13284.02, dated 2014-06-23
 Test Report BU-110 according to EN54-2 No. E238015-2 r01, dated 2014-10-07
 Test Report BV-110 according to EN54-2 No. E238015-3 r01, dated 2014-10-07

applica:

Test Report SW revision 4.4.1 & 4.4.2 No. 20062 Rev.0, dated 2013-09-17
 Test Report SW revision 4.5.0 & 4.5.1 No. 20264 Rev.0, dated 2014-02-07
 Test Report SW release 4.7.0 according to EN54-2 No.:20630 Rev.0, dated 2015-07-03

For modification B0 version

Test Report SW release 4.8.0 according to EN54-2 & EN54-4 Rev.0, dated May 11, 2016

For modification B1 version

Test Report SW release 4.8.1 according to EN54-2 Report n°21101 Rev.0, dated Apr 26, 2017

Note: Equipment tested in accordance with EN 60945 except salt mist test (not carried out) and the exception of Radiated Electromagnetic Field Immunity and Conducted Radio Frequency Immunity tests (performed according to IEC 60092-504).

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 - Approval also valid for ships having to comply with SOLAS 74 Convention, as amended, and for units having to comply with IMO Resolution A649 (The "MODU Code").

4.4 - BUREAU VERITAS Environmental Category, **EC Code: 31B.**

4.5 - The equipment fulfils the EMC requirements for installation on the Bridge and Deck Zone.

4.6 - Only type approved detectors shown to be compatible with the units should be used with them.

4.7 - Power supply sources wiring:

The main (respective emergency) feeder shall run from the main (respective emergency) switchboard to the changeover switch without passing through any other distributing switchboard.

4.8 - Only Hardware and 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.

4.9 - To be installed in compliance with Regulations and Rules stated on front page of the Certificate.

4.10 - For any application on board a ship, drawings showing the arrangement and grouping of the detectors shall be submitted for Society's approval.

4.11 - The equipment, once installed on board ship, is to be tested in accordance with the above referred Regulations under the supervision of a Society's Surveyor.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **AUTRONICA FIRE AND SECURITY AS** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 - BV product certificate is required.

6. MARKING OF PRODUCT:

- Trade name.

- Date of manufacture and serial number.

- Equipment type number or model identification under which it was type-tested.

- E or C conformity marking, as relevant

- According to EN 54-2/4

- Compass safe distance

- 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 **AUTRONICA FIRE AND SECURITY AS's** responsibility 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 No. 23170/B0 BV issued on 05 Sep 2016 by the Society.

*** END OF CERTIFICATE ***