



Marine & Offshore

Certificate number: 15242/C0 BV

File number: AP 3703

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

safetec Brandes und Niehoff GmbH
Scharnebeck - GERMANY

for the type of product

FIRE DETECTION AND FIRE ALARM CONTROL UNITS
Type ACS-1

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.
SOLAS II-2, MSC/Circ.668/728, IMO Res. A.800(19), MSC/Circ.1387, FSS Code Ch. 9.
EN 54-2 (1997)+A1 (2006).

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: 15 Aug 2027

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 15 Aug 2022,

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.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The ACS-1 is a modular system with alarm and control components for fire detection and fire extinguishing systems.

The system is configurable as:

- Control system for Fixed Water Based Local Application Fire Fighting Systems (FWBLAFFS),
- Alarm panel for sprinkler systems,
- Control System for Gas (e.g. NOVEC) Extinguishing System.

1.1 - Main characteristics:

Main power supply : 230V AC
 Emergency power supply : 230V AC (if required)
 Internal reserve battery : (Option) (if required)
 Output: : 24V for direct connection of valves or motor actuators

1.2 - Main Components of the system:

Type	Description
CP-100	Fire detection panel with adapter module ADP-170/172
CP-110	Fire detection panel with adapter module ADP-174
CP-209	Remote release panel with adapter module ADP-170
CP-410	Display panel for water mist panel with adapter module ADP-170/172
CP-411	Display panel for fire alarm systems with adapter module ADP-170/172
CP-412	Display panel for sprinkler alarm systems with adapter module ADP-170/172
CP-490	Mimic Panel with or without integrated Control Panel CP-110
RP-01	Local release box
MC-304	Module cabinet containing I/O modules
MC-308	Module cabinet containing I/O modules
MC-312	Module cabinet containing I/O modules
MC-316	Module cabinet containing I/O modules

1.3 - Modules installable in the above components:

Type	Description
ACS-OUT48	Output module
ACS-OPTO48-A	Opto coupler module
ACS-OPTO48-R	Opto coupler module
ACS-REL16	Relay module
IO-6300	I/O Module standard, 4 each monitored I/O channels
IO-6302	I/O Module adapter to one Manufacturer's fire detector, 4 each monitored I/O channels
IO-6303	I/O Module adapter to one Manufacturer's fire detectors, 4 each monitored I/O channels
IO-6340	Input Module, 8 input loops adapted to one Manufacturer's fire detectors
IO-6343	Input Module, 8 input loops adapted to one Manufacturer's fire detectors
MEPS-01	Main-/Emergency power supply switch
POW-6510	Battery Charger Module
CAN-REDU-1	CAN-Bus interface module (Isolator and Redundancy)
ACS-OPTO16-A/R	16 opto couplers (working current/quiescent current) with Terminals for End and Alarm Resistors

2. DOCUMENTS AND DRAWINGS:**safetec:**

- DWG01.055 Rev. 2 dated 23.04.08; DWG40.020 Rev. 0 dated 01.04.08; E05.025.01.Rev2 dated 24.04.2011;
- FWBLAFFS Rev. 0 dated 09.11.04;
- Software description ACS-Rev. 1 dated 28.07.2008; Software Quality Manual dated 8.12.2008;
- Software specification & quality plan Rev. 0 dated 01.11.2002
- Manual with Appendix, unreferenced, rev. 2.13, dated 18/10/2004
- PCB06.320, PCB06.300, PCB06.100, PCB06.360, PCB06.500, PCB06.340, PCB06.209, PCB06.210, PCB06.170
- Mechanical Parts:
 - Enclosure for CP-110 No.G06.142.01 Rev.1, dated 11.04.2014
 - Front Panel with cover foil for CP-110 No.E05.060.01 Rev.5, dated 13.01.2015
 - Enclosure for CAN-REDU-1 No.G03.301.01 (Data sheet from Phoenix Contact), dated 07.05.2014
- Manufacturing Instruction:
 - Control Module CM-6110 for CP-110 No.BG06.110.FV-Rev.1, dated 16.03.2015
 - Adapter Module ADP-174 for CP-110 No.BG06.174.FV-Rev.0, dated 18.02.2015
 - CAN-Bus Interface Module CAN-REDU-1 No.IF01.001.FV-Rev.0, dated 12.02.2015
 - Materials List for CAN-REDU-1 No.IF01.001.ML-Rev.1, dated 12.02.2015
 - Circuit Diagram for CAN-REDU-1 No.PCB07.580-4 Rev.4, dated 12.02.2015
 - Control module RP-02 No. BG06.222.BU-Rev.0, dated 12.08.2015
 - I/O Module adapter IO-6302 No. BG06.302.FV-Rev.0, dated 20.07.2015
- General:
 - Main changes between CP-100 and CP-110 Rev.0, dated 08.12.2014
- Drawings:
 - Alarm and Control System ACS-1 with redundant CAN-Bus Rev.0, dated 10.07.2014
 - Cable Diagram: Test Arrangement for Type Approval: CP-110 and CAN-REDU-1 Rev.0, dated 04.10.2014
- Others:
 - Performance Test: CP-110 and CAN-REDU-1 Rev.0, dated 18.09.2014

For modification C0 version:**safetec:**

- Manufacturing Instruction:
 - Battery Charge module POW-6510 No. BG06.510.FV-Rev.3, dated 28-03-2022.
 - I/O Module adapter IO-6303 No. BG06.303.FV-Rev.5, dated 10-03-2020.
 - I/O Module adapter IO-6340 No. BG06.340.FV-Rev.5, dated 24-03-2022.
 - Main-/Emergency power supply switch MEPS-01 No. BG06.303.FV-Rev.3, dated 14-08-2018.
 - 16 opto couplers ACS-OTPT16-A No. BG06.961.FV-Rev.1, dated 11-05-2016.
 - Control Panel CP-110 No.CP01.111.FV- Rev.2, dated 19-10-2016.
 - Mimic Panel CP-490 No. CP-490.FV- Rev.0, dated 18-12-2017.
- Data Sheet:
 - Control Panel CP-110 No.CP01.110.01 Rev.2, dated 26-05-2016.
 - Mimic Panel CP-490, No. CP-490.01 Rev.0, dated 14-12-2017.
 - Module Cabinet Type MC-316, No. MC-316.01 Rev.0, dated 18-08-2017.
 - 16 opto couplers ACS-OTPT16-A No. BG06.961.01 Rev.0, dated 03-05-2016.
 - Adapter ADP-174 for control Panel CP-110 No.BG06.174.01 Rev.1, dated 27-05-2016.
 - CAN-Bus Interface Module CAN-REDU-1 No.BG07.582.01 Rev.0, dated 03-05-2017.
- Manual:
 - Alarm and Control System ACS-1 Manual No.DOK02.201 Rev.1.02, dated 01-10-2018.

3. TEST REPORTS:**RMS Regelungs- und Messtechnik:**

- 01-04/2010 dated 2010-04-27; 03-07/2008 dated 2008-07-18; 01-07/2008 dated 2008-07-18;
- 09-08/2005 dated 31.08.2005; 06-08/2005 dated 31.08.2005; 01-06/2005 dated 30.08.2005;
- 01-08/2003, dated 13.08.2003

EMV Services GmbH&Co.KG:

- 10/1106-1 dated Aug. 03, 2010; 08/8085-2 dated July 21,08; 03/3152-1, dated Mar. 18, 2003

treo:

- Environmental test report No. 190-14 Issue 1, dated Nov 20, 2014

TUV NORD:

- EMC test report No. 15007-1-R00, dated Feb 17, 2015

safetec:

- Performance test report according to EN 54-2No. DOK 21.001 Rev.2, dated Mar 04, 2015, witnessed by DNV-GL
- Supplement to test report according to EN 54-2No. DOK 21.002 Rev.0, dated Mar 16, 2015, witnessed by DNV-GL

For modification C0 version:**TUV NORD:**

- EMC test report No. 19231-1-2-R00, dated 18-12-2019.
- EMC test report No. 19231-1-3-R00, dated 09-12-2019.

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 on the Bridge and Deck Zone by using a ferrite on ribbon cable at CP-410, CP-411 and CP-412, order no.: WE742.

4.5 - Detectors for flame, heat and smoke, are to be type approved.

4.6 - Only Hardware and Firmware / Software successfully tested together in compliance with the regulations as referred to in cover page, according to the declaration of the manufacturer are covered by this certificate.

4.7 - Any modification of the hardware, firmware or software having an impact on the product performance or functionality has to be validated with type testing.

4.8 - 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.

4.9 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.

4.10 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev8.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above product are to be supplied by **safetec Brandes und Niehoff GmbH** 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.

5.4 - For information, **safetec Brandes und Niehoff GmbH** has declared to Bureau Veritas the following production site(s):

safetec Brandes und Niehoff GmbH
Attn. Mr. Brandes
Kringelsburg 2a
21379 Scharnebeck
GERMANY

6. MARKING OF PRODUCT:

- Maker's name or trade mark,
- Serial number of the units,
- Equipment type number or model identification under which it was type-tested,
- Society's brand as relevant.
-  or  conformity marking, as relevant.

7. OTHERS:

7.1 - It is **safetec Brandes und Niehoff GmbH**'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. 15242/B1 BV issued on 18 Nov 2015 by the Society.

*** END OF CERTIFICATE ***