Certificate no.:
TAA00003RF

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Control system for fire extinguishing

with type designation(s)
E-GAS Electrical Release Control System

issued to
safetec Brandes und Niehoff GmbH
Scharnebeck, **Germany**

is found to comply with
SOLAS Consolidated Edition (2014)
DNV rules for classification – Ships

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**Required protection according to the Rules shall be provided upon installation on board.**

Issued at **Hamburg** on **2025-09-11**

This Certificate is valid until **2030-09-10**.
DNV local unit: **Augsburg**

Approval Engineer: **Heinz Scheffler**

for **DNV**

This document has been digitally signed and will therefore not have handwritten signature

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

Electrical Release Control System for Fixed Gas Fire-Extinguishing Systems using Gases other than CO2, regulated by the FSS-Code Chapter 5 (except for paragraphs 2.2 and 2.3 of the Code [CO2 – and steam systems]).

There are two main sorts of gas extinguishing systems regarding to the gas release control method:

- Centralized
- Decentralized
- Standalone

Centralized E-GAS System

Centralized system with sectional valves and a common gas storage (similar to CO_2-based systems), where only one section can be activated at a time.

The main features of the system are:

- Possibility of automatic triggering for the audible alarm device through the remote opening of the section valve
- Permanent self-supervision
- Manual override function for the section valves and the cylinder group valves
- Outputs to the Machinery Alarm System and Auxiliary Systems

1. **Centralized E-GAS System with Release Panel CP-30 (electrical release)**
   CP-30 Release Panel allows to control up to 6 sections from one panel, saving both the space and cabling. The release is carried out entirely electrically.

System Components for E-Gas System with Release Panel CP-30	
Please refer to the manual DOK02.072 for system layouts and general descriptions	
Main System Components:	Firmware
CP-30 Release Panel for max. 6 Sections	SW-CP30-STD-1.05.003
Module Cabinet with different size and electronic build in devices:	
MC-302 Module Cabinet	NA
MC-304 Module Cabinet	NA
MC-308 Module Cabinet	NA
MC-310 Module Cabinet	NA
MC-312 Module Cabinet	NA
MC-316 Module Cabinet	NA
MC-320 Module Cabinet	NA
Modules for different project requirements:	
IO-6303 I/O-Module	A303 V2.03
IO-6340 I/O-Module	A340 V2.03
ACS-OUT48 Output Module	A361 V2.03
ACS-OPTO48-A Opto Coupler Module	NA
ACS-OPTO48-R Opto Coupler Module	NA
ACS-OPTO16-A Opto Coupler Module	NA
ACS-OPTO16-R Opto Coupler Module	NA
ACS-REL16 Relay Module	NA
CAN-REDU-1 CAN Bus Interface Module	SW-CAN-REDU-1-FLAT-VAR V1.00
MEPS-01 Main/Emergency Power Supply Switch	NA
SAFE-01 Safety Module	NA
VBX Interface Module	NA
Power supply modules with DNV type approval and specifications recommended for use in the manufacturer's manual can be used.	DNV Type Approved Modules

2. Centralized E-Gas System with Release Panel CP-240 (electro-pneumatic release)
A single-section release panel CP-240 provides greater flexibility for planning release location. System release using pilot cylinder is possible. The CP-110 control panel provides improved access to settings and enables the planing of larger systems.

System Components for CO2 System with Release Panel CP-240	
Please refer to the manual DOK02.231 for system layouts and general descriptions.	
Main System Components:	Firmware
CP-240 Remote Release Panel with Adapter Module ADP-162	A240 V2.02 A240 V2.01-e
CP-110 Control Panel	SW-CP110-STD V1.04 SW-CP110-STD V1.05
Module Cabinet with different size and electronic build in devices:	
MC-302 Module Cabinet	NA
MC-304 Module Cabinet	NA
MC-308 Module Cabinet	NA
MC-310 Module Cabinet	NA
MC-312 Module Cabinet	NA
MC-316 Module Cabinet	NA
MC-320 Module Cabinet	NA
Modules for different project requirements:	
IO-6303 I/O-Module	A303 V1.27-i
IO-6340 I/O-Module	A340 V1.27-f
ACS-OUT48 Output Module	A361 V1.27-b
ACS-OPTO48-A Opto Coupler Module	NA
ACS-OPTO48-R Opto Coupler Module	NA
ACS-OPTO16-A Opto Coupler Module	NA
ACS-OPTO16-R Opto Coupler Module	NA
ACS-REL16 Relay Module	NA
CAN-REDU-1 CAN Bus Interface Module	SW-CAN-REDU-1-FLAT-VAR V1.00
MEPS-01 Main/Emergency Power Supply Switch	NA
VBX Interface Module	NA
Power supply modules with DNV type approval and specifications recommended for use in the manufacturer's manual can be used.	DNV Type Approved Modules

Decentralized E-GAS system
Decentralized gas extinguishing systems without section valves, where each section can be released independently from others.

The main features of the system are:

- Permanent self-supervision
- Possible redundant release circuit up to the gas cylinder junction box
- Possible separate activation of each individual gas cylinder
- Outputs to the Machinery Alarm System and Auxiliary Systems

1. **Decentralized E-GAS System with Release Panel CP-35 (electrical release)**
   CP-35 Release Panel allows to control up to 5 sections from one panel, saving both the space and cabling. The release is carried out entirely electrically.

System Components for E-Gas System with Release Panel CP-35	
Please refer to the manual DOK02.110 for system layouts and general descriptions.	
Main System Components:	Firmware
CP-35 Release Panel for max. 5 Sections	SW-CP35-STD-1.02.006
JB-5011 Junction Box	N/A
JB-50 Junction Box	N/A
RP-2001 Remote Release Box	N/A
Module Cabinet with different size and electronic build in devices:	
MC-302 Module Cabinet	NA
MC-304 Module Cabinet	NA
MC-308 Module Cabinet	NA
MC-310 Module Cabinet	NA
MC-312 Module Cabinet	NA
MC-316 Module Cabinet	NA
MC-320 Module Cabinet	NA
Modules for different project requirements:	
IO-6303 I/O-Module	A303 V2.03 A303-Exi V2.03
IO-6340 I/O-Module	A340 V2.03
IO-6343 I/O-Module	A343 V2.03
ACS-OUT48 Output Module	A361 V2.03
ACS-OPTO48-A Opto Coupler Module	NA
ACS-OPTO48-R Opto Coupler Module	NA
ACS-OPTO16-A Opto Coupler Module	NA
ACS-OPTO16-R Opto Coupler Module	NA
ACS-REL16 Relay Module	NA
CAN-REDU-1 CAN Bus Interface Module	SW-CAN-REDU-1-FLAT-VAR V1.00
MEPS-01 Main/Emergency Power Supply Switch	NA
GAS-REL Interface Module	NA
VBX Interface Module	NA
Power supply modules with DNV type approval and specifications recommended for use in the manufacturer's manual can be used.	DNV Type Approved Modules

2. Decentralized E-GAS System with Control Panel CP-110 (electrical release)
The CP-110 control panel provides improved access to settings and enables the planning of larger systems.

System Components for E-Gas System with Control Panel CP-110	
Please refer to the manual DOK02.240 for system layouts and general descriptions.	
Main System Components:	Firmware
CP-110 Control Panel	SW-CP110-STD V1.04 SW-CP110-STD V1.05
JB-5011 Junction Box	N/A
JB-50 Junction Box	N/A
RP-2001 Remote Release Box	N/A
Module Cabinet with different size and electronic build in devices:	
MC-302 Module Cabinet	NA
MC-304 Module Cabinet	NA
MC-308 Module Cabinet	NA
MC-310 Module Cabinet	NA
MC-312 Module Cabinet	NA
MC-316 Module Cabinet	NA
MC-320 Module Cabinet	NA
Modules for different project requirements:	
IO-6303 I/O-Module	A303 V2.03 A303-Exi V2.03
IO-6340 I/O-Module	A340 V2.03
IO-6343 I/O-Module	A343 V2.03
ACS-OUT48 Output Module	A361 V2.03
ACS-OPTO48-A Opto Coupler Module	NA
ACS-OPTO48-R Opto Coupler Module	NA
ACS-OPTO16-A Opto Coupler Module	NA
ACS-OPTO16-R Opto Coupler Module	NA
ACS-REL16 Relay Module	NA
CAN-REDU-1 CAN Bus Interface Module	SW-CAN-REDU-1-FLAT-VAR V1.00
MEPS-01 Main/Emergency Power Supply Switch	NA
GAS-REL Interface Module	NA
VBX Interface Module	NA
Power supply modules with DNV type approval and specifications recommended for use in the manufacturer's manual can be used.	DNV Type Approved Modules

3. Standalone Gas Fire Extinguishing System with Release Panel NOV-2-RP (electrical release)
Gas Fire Extinguishing System with NOV-2-RP is standalone 1-section release system.

The main features of the system are:
- Permanent self-supervision
- redundant release circuits
- easy installation
- several local release boxes can be connected to the system

System components for Gas Fire Extinguishing System with NOV-2-RP	
Please refer to the manual DOK02.190 for system layouts and general descriptions.	
Main System Components:	Firmware
NOV-2-RP Gas Release Panel for 1 Section	A209A_NOV2 V1.01 A303_NOV2 V1.01
JB-5011 Junction Box	N/A
RP-2001 Remote Release Box	N/A
Power supply modules with DNV type approval and specifications recommended for use in the manufacturer's manual can be used.	DNV Type Approved Modules

Application/Limitation
The E-GAS release systems are designed for control of fixed gas fire-extinguishing systems as defined in the FSS Code Chapter 5 by the Convention for the Safety of Life at Sea (SOLAS) and DNV Statutory Interpretations, as amended.

This Type Approval certificate provides a general acceptance for design and, manufacture of a electrical release system for Gas Fire Extinguishing System on the basis of the documentation specified under the item “Type Approval Documentation”.

Only the electrical release system concept is approved by this certificate. Actuators, Cylinders, pipes, couplings and other systems components are not cover by this certificate.

The important notice of the Manual is to be observed for Project design, Set to work, Maintenance and Testing.

The system should be periodical tested and inspected acc. to IMO MSC.1/Circ.1318 and Manual. More stringent flag state requirements, if any, prevail.

When the type approved hardware and software is revised (affecting all future deliveries) DNV is to be informed by forwarding updated version documentation. If the changes are judged to affect the environmental requirements and the EMC requirements and the functionality for which rule requirements and international requirements apply a new type test may be required and the certificate may have to be renewed to identify the new versions.

Approval conditions
The Type Approval covers hardware and software listed under Product description.

The current SOLAS interpretation DNV-SI-0364 is to be observed.
The following documentation of the actual application is to be submitted for approval in each case:
- Reference to this Type approval certificate
- Reference to other Type Approval Certificates where applicable
- Functional description incl. description of functions covered by software (DNV I020)
- Application software configuration and Software release (DNV I320)
- System Block diagram (DNV I030)
- User interface description (DNV I040)
- Electrical diagram with interfaces incl. List of control and monitored points (DNV I050 & I110)
- Power Supply arrangement, may be part of the System block diagram (DNVI050)
- Arrangement drawings showing location of devices (may be a part of DNV I030)
- Test program for application software at manufacturer (Z252)

Type Approval documentation

Test Reports and Documents: List of Documents-DL9 Rev.5

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021

Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- Serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval Certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE