



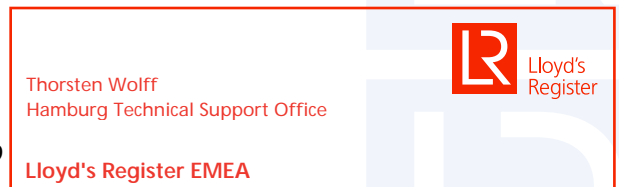
Type Approval Certificate Extension

This is to certify that Certificate No. 09/20030 (E2) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	safetec Brandes und Niehoff GmbH	
PLACE OF PRODUCTION	Arenskule 7-9 21339 Lüneburg Germany	
DESCRIPTION	Electrical Release Control System for Fixed Gas Fire-Extinguishing Systems	
TYPE	E-CO2 comprising of:	
	1) CO2 Remote Release Panel CP-30: Control Module CM-030 Adapter Module ADP-130	BG07.030 BG07.130
	2) Module Cabinet MC2 ^① . ^② ^③ ^④ :	
	① 0 = Module Cabinet	ACS01.308
	1 = Module Cabinet	ACS01.312
	② 1 = Main/Emergency Power Supply Switch MEPS-01	BG06.502
	2 = Battery Charger Module POW-6510	BG06.510
	2 x Lead Batteries Type Powerfit A512/2,0S	E19.033
	③ Number of I/O Module(s) IO-6340	BG06.340
	④ Number of I/O Module(s) IO-6303	BG06.303
	All Module Cabinets: Safety Module SAFE-01	BG07.400
	Power Supply Modules STEP POWER 24V/2,5A or 4,2A	

Certificate No.	09/20030 (E3)
Issue Date	16 March 2015
Expiry Date	21 September 2019
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TYPE (continued)

3) Module Cabinet H06.xxx	
I/O Module(s) IO-6303	BG06.303
I/O Module(s) IO-6340	BG06.340
Output Module ACS-OUT48	BG06.361
Optocoupler Module ACS-OPTO48-A	BG06.960
Optocoupler Module ACS-OPTO48-R	BG06.963
Relay Module ACS-REL16	BG06.965

4) Electric Motor Actuator for Section Valves:	
VB030-MAR	
VB060-MAR	
VB110-MAR	
VB190-MAR	
VB270-MAR	
VB350-MAR	
Interface Module VBX	BG07.420

5) Electromagnetic Release Device for Cylinder Group Valves:
B04425103, B04425131

APPLICATION

Marine applications for use in environmental categories ENV 1, ENV 2 (Bridge and Deck Zone) as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - 2002.

Subject to Plan Approval in compliance with applicable Lloyd's Register Rules and Regulations is to be conducted for every application.

ADDITIONAL TESTS

Dry Heat Test (70°C/16h)
Low Temperature Test (5°C/2h)
Electric Motor Actuators and Electromagnetic Release Device only:
Shock Test (±7g/half-sine/18ms/40 shocks each direction and each axis)

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LR031.1.2013.12

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DESIGN CODE

Spec-Qual-ECO2 Rev.0 (Software Specification and Quality Plan)
 Funktionsbeschreibung_Sicherheitsmodul Rev.3 (Function Description
 Safety Module SAFE-01)
 DRC-CP30 Rev. 3 (Design Requirement Specification E-
 CO2)
 E-CO2-Spec Rev.2 (Specification)
 SQMM Rev.1 (Software Quality Manual)
 QMS-7020 Rev.0 (Software Life Cycle Activities)
 SQMS-7001 Rev.1 (Internal Software Standard)
 CP30-Multiple-Sections Rev.0 (Control of Multiple Sections from one
 Release Panel)
 FSS-Code (Chapter 5)
 EN 12094-1:2003


OTHER CONDITIONS

Requirements for the usage, placement and location of remote control(s) for the release of fire-extinguishing media inside cargo holds/spaces and machinery spaces and other technical rooms are the prerogative of the National Authority with which the ship is registered and these items are not covered by this Type Approval.

The E-CO2 system is to be used with the mentioned type(s) of Section Valve Actuator(s) and Electromagnetic release device(s) for Cylinder Group Valves only. Additionally, the system pipe work including flexible hoses, pipes, valves and fittings are to be Lloyd's Register approved, in accordance with Lloyd's Register Rules, Part 5, Chapter 12.

The minimum operation temperature of -5°C as specified by the manufacturer was neither tested nor supported by documentary evidence.

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**OTHER CONDITIONS
(continued)**

During an Assessment Workshop facilitated by Lloyd's Register the hazards and related causes of the system were determined and the level of compliance with IEC 61508 Part 1, Clauses 7.4, 7.5, 7.6 and 7.10 was evaluated. The software version for the Remote Release Panel after completion of the Assessment Workshop was SW-CP30-STD-1.03 and A303v2.02 for the I/O modules in the Module Cabinet.


This certificate is valid only for the software versions SW-CP30-STD-1.03 , SW-CP30-STD-1.04 and SW-CP30-STD-1.05.

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. HTS/ETS 31314-15 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 09/20030 (E2) to which this extension should be attached.

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