Certificate Number: 15-GE1341469-PDA
21/SEP/2015

Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product.

This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 08/SEP/2020. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 06/AUG/2020 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Product Name: Fire Detection and Alarm System
Model Name(s): S81-HS/M

Presented to:
SCAME SISTEMI S.R.L.
VIA LOMBARDIA, 5
Italy

Intended Service:	Fixed fire detection and fire alarm system for Marine Shipboard and Offshore applications
Description:	S81-U1006-1 - Display board including LED – backlit graphic display provided with: 30 lines of52 character each, 19 LEDs, 23 buttons and one buzzer; 24Vdc S81-U1002-1 - CPU Central processing unit (single or redundant configuration) S81-E2001-2 - Cable connection board; 24Vdc S81-E2002-1 - Communication management card; 24Vdc S81-E2004-1 - 8x slots Terminal board card; 24Vdc S81-F3002-1 - 8x monitored Inputs for conventional detectors (no redundancy); 24Vdc S81-F3002-2 - 8x monitored Inputs for conventional detectors (for redundancy); 24Vdc S81-F3002-3 - 8x monitored Inputs for conventional detectors (no redundancy); 12Vdc S81-F4001-1 - 1x 4-20mA Input module for detector monitoring; (no redundancy); 24Vdc S81-F4001-2 - 1x 4-20mA Input module for detector monitoring; (for redundancy); 24Vdc S81-F4002-1 - 2x 4-20mA Inputs module for detector monitoring; (no redundancy); 24Vdc S81-F4002-2 - 2x 4-20mA Inputs module for detector monitoring; (for redundancy); 24Vdc S81-F4003-1 - 8x 4-20mA Inputs module for detector monitoring; (no redundancy); 24Vdc S81-F4003-2 - 8x 4-20mA Inputs module for detector monitoring; (for redundancy); 24Vdc S81-F5001-1 - 8x 500mA monitored outputs for solenoid drive (no redundancy); 24Vdc S81-F5001-2 - 8x 500mA monitored outputs for solenoid drive (for redundancy); 24Vdc S81-F5002-1 - 16x 250mA non monitored open collector outputs; 24Vdc S81-F5003-1 - 8x 250mA monitored outputs for sounders drive; 24Vdc S81-F5004-1 - 4x 2A monitored outputs for solenoid drive 2A (no

	redundancy); 24Vdc S81-F5004-2 - 4x 2A monitored outputs for solenoid drive 2A (for redundancy); 24Vdc S81-F6001-1 - 10 outputs and seven inputs _control of fire extinguishing system; 24Vdc S81-F6002-1 - Logic module to control S-R Flip flops, Logic Toggles, Timers; 24Vdc S81-F7002-1 - Loop control module for addressable devices. ESP Protocol; 24Vdc S81-F7009-1 - Loop control module for addressable devices. APOLLO Protocol; 24Vdc S81-F7010-1 - Loop control module for addressable devices. SYSTEM SENSOR Protocol; 24Vdc S81-F7011-1 - Loop control module for addressable devices. SB Protocol; 24Vdc S81-F7006-1 - Modbus RTU Master/ Slave protocol communication module- n. 1 RS232, n. 1RS485; 24Vdc S81-T8004-1 - 10 digital In., + 16 open collector out.+ 250mA monitored fire sounder output; 24Vdc S81-T8006-1 - 8x SPDT 4A 30Vdc relay board; 24Vdc S81-T8007-2 - 16x SPDT 4A 30Vdc relay board; 24Vdc SDR-240-24 - Switching power supply unit 240W 24Vdc 10A PU-A0004-1 - Battery charger module 240Vac / 12+12Vdc 4A 65A/h battery (max)
Tier:	3
Ratings:	Power Supply Unit Input Rated Voltage 120-240 Vac Power Supply Unit Inout Rated Frequency 50-60 Hz Power Supply Unit Output Rated Voltage 25 Vdc Cabinet Degree of Protection IP56
Service Restrictions:	Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined. Integrated system for fire and gas detection and alarm systems is allowed for vessels falling under MODU Rules 6-1-8/9 and 6-1-8/Table 1 and/or Facilities on Offshore Installations 3-8/7. Automatic release of fire extinguishing medium is not allowed.
Comments:	The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
Notes / Documentation:	Drawing No. 0051-CPR-0423_ita-eng Drawing No. 20130620122113053, 20130620122120193, 20130620122201294, 20130620122236325, 20130620122318714, 20130620122341012, EC Certificate of Conformity Drawing No. 44AM00028 - centrale antincendio - S81-HS-1-10R Drawing No. 44AM00029.1 - centrale antincendio - S81-HS-1R Drawing No. 44AM00029.2 - centrale antincendio - S81-HS-2R Drawing No. 44AO00033 TR C20 F6003, No. 44AO00034 TR S81 F6001-2R, No. 44AO00035 TR S81 F6001-1R, No. 44AO00036 TR S81 F6001 1-10R, No. 44AO00037 TR S81 1-10R, No. 44AO00038 TR S81 1R, No. 44AO00039 TR S1 2R Drawing No. 8 D4.5P Richiesta di modifica, 1.1 Drawing No. 80SM00262-e, Emission Measurement Drawing No. 80SM00262-i, Immunity Tests Drawing No. Appendix EL884_01_13_RL_2013-11-11 Drawing No. Certificate 100535280, UL Certificate Drawing No. Certificato SIL IMQ Drawing No. Checklist_Fault_Avoidance_Software_IEC61508_2010 R0, 1.1 Drawing No. Conformità azienda TUV N.28708248 Drawing No. Dop S81-HS, Drawing No. E183223-UL-CER, E215312-UL-CER Drawing No. EN12094-1 Test Report O Drawing No. EN54-2 Test ReportR CS R Drawing No. ISO14001 OSHAS18001 SA800 TUEV Austria ing, Drawing No. ISO9001 CSQ-IQNET 2013, Drawing No. Lista documenti di registro modifiche, 5.3 Drawing No. Manuale Qualità R6, Drawing No. PAQ 4.2 Gestione della R&D r2, 1.1 Drawing No. PAQ 8.0 Rintracciabilità del prodotto r1, 4.3 Drawing No. Q7207 st-ecor, No. Q7209 wt, Drawing No. S24857-20121001-report, Drawing No. SDR DIN rail, Drawing No. SDR-240-CB-CER, No. SDR-240-EMC-CER, No. SDR-240-GL-CER,No. SDR-240-SEMI-CER, No. SDR-240-SPEC, No. SDR-240-TUV-CER, Drawing No. ST-038-EN-R1 EN12094-1 standard, Drawing No. ST-048-IT-R4V3 Manuale di Installazione, Drawing No. ST-053-EN-R3 Diagnostic Manual, Drawing No. ST-058-EN-R2V3 S81-HS UL Installation and Operation Manual, Drawing No. ST-071-EN-R2 Safety Manual, Drawing No. ST-072-IT-R6 Descrizione software S81-HS, 2.3 Drawing No. ST-073-IT-R4 Requisiti di sicurezza del software S81-HS, 2.1a Drawing No. ST-075-IT-R4 Piano di verifica del software, 1.1 Drawing No. ST-076-IT S81-U1002 HWSW integration test R4 (esempio), 3.3 Drawing No. ST-076-IT S81-U1002_execution_results_report, 3.2 Drawing No. ST-076-IT S81-U1002_management_report, 3.2 Drawing No. ST-076-IT S81-U1002_test_case_data_reportQ, 3.2 Drawing No. ST-076-IT validation tests Drawing No. ST-076-IT-R8 Report delle verifiche software, 3.8 Drawing No. ST-077-EN Release Notes, 4.3 Drawing No. ST-078-IT Compatibilità Sistema S81,

	5.2 Drawing No. ST-079-IT-R4 Registro_Modifiche_S81-U1002-x_Applicativo, 4.3 Drawing No. ST-105-IT-R0-Fault insertion testing report, 3.6 Drawing No. ST-113-IT-R1 Traceability Matrix, 3.9 Drawing No. STO 4 7 Controllo centrale CPR_FAT_rev7 3.7 Drawing No. STO 4.9 Procedura sviluppo software per applicazioni di sicurezza 1.1 Drawing No. STO-124-R5 3.1 Drawing No. T2_T3-Tool Requirements_TUV R0 2.1b Drawing No. Technical Report TUV EN50402 x S81 n28709180 Drawing No. Teslab 14B210F Test Report Drawing No. TUV SIL Certificate_968_EL_884_01_13_en_el Drawing No. UL File-UOJZ.S24857 - Control Units, System
Term of Validity:	This Product Design Assessment (PDA) Certificate 15-GE1341469-PDA, dated 07/Aug/2015 remains valid until 06/Aug/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.
ABS Rules:	2015 Steel Vessel Rules 1-1-4/7.7, 1-1 Appendix 3 and 4, 4-1-1/Table 3, 4-7-3/11 2015 Rules for Conditions of Classification, Part 1 – Offshore Units and Structures 1-1-4/9.7, 1-1 Appendix 2 and 3 2015 Mobile Ofshore Drilling Unit Rules 1-1-4/9.7, 1-1 Appendix 2 and 3, 6-1-8/9 and 6-1-8/Table 1 2015 Steel Vessels Under 90 Meters (295 Feet) in Length 1-1-4/7.7, 1-1-Appendix 3 and 4, 4-5-2/21 2015 Facilities on Offshore Installations 1-1-4/9.7, 1-1-Appendix 2 and 3, 3-8/7 2015 Offshore Support Vessels 1-1-4/7.7, 1-1-Appendix 3 and 4, 4-7-3/11 2015 Rules for Building and Classing High-Speed Craft 1-1-4/11.9, 1-1 Appendix 2 and 3, 4-5-1/13
National Standards:	
International Standards:	EN 54-2 (1997) including AC (1999) and A1 (2006) EN 54-4 (1997) including AC (1999) and A1 (2002) and A2 (2006) IEC 60533 (1999) IEC 60092-504 (2001) and corrigendum 1 (2011) IEC 61508 (2010) EN 50402 (2005) 1974 SOLAS as amended Reg.II-2/7 and Reg. X/3 2000 HSC Code Chapter 7.7 2007 FSS Code Chapter 9 IMO MSC.1/Circ.1242 dated 30 October 2007
Government Authority:	
EUMED:	
Others:	

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	15-GE1341469-PDA	10/AUG/2015	06/AUG/2020

ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.