

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

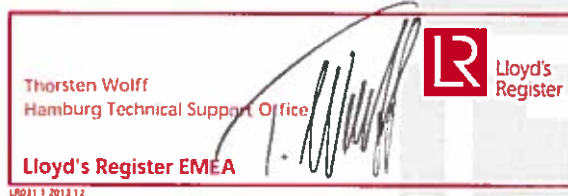
PRODUCER	Autronica Fire and Security AS Stalsbergveien 9 N-3128 Nøtterøy Norway	
DESCRIPTION	High Level and Overfill Alarm System	
TYPE	OAS 5 comprising	
	Field sensor units	HHL8903
	Relays	PLC-RSP-24VDC
	Alarm unit	OAU-01B + Zener barrier unit Ex1-W00
	Common alarm process unit	CU2
	Alarm panel	OAS-5
	Power supply	ML.70.100 + ETA SWB24SC-24
	Rectifying bridges	GBPC3510

APPLICATION Marine, offshore and industrial applications for use in environmental categories ENV1 and ENV2 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - 2002.

ADDITIONAL TESTS Low temperature test: -16°C / 16 hrs.
Dry heat test: 70°C / 16 hrs.
Zener barrier unit Ex1-W00 is certified according to [EEx ia] IIC

SPECIFIED STANDARDS IEC 60945:2002
Manufacturer's specification

Certificate No. 16/20046
Issue Date 13 May 2016
Expiry Date 02 May 2021
Sheet 1 of 2



Thorsten Wolff
Hamburg Technical Support Office
Lloyd's Register EMEA

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS

Lloyd's Register EMEA
is a subsidiary of Lloyd's Register Group

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

OTHER CONDITIONS



Systems comprising the components described above are subject to a separate plan appraisal according to applicable Rules and Regulations when installed on LR classed vessels. Rating for application in hazardous areas for Zener barrier unit Ex1-W00 is to be obtained from Ex certificate Nemko No.: EX 95D072.

The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HTS/ETS 33606-16 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Certificate No. 16/20046
Issue Date 13 May 2016
Expiry Date 02 May 2021
Sheet 2 of 2



Thorsten Wolff
Hamburg Technical Support Office
Lloyd's Register EMEA
LR001 8 2013 12

Thorsten Wolff
Hamburg Technical Support Office
Lloyd's Register EMEA

Lloyd's Register EMEA
71 Fenclurch Street, London EC3M 4BS

Lloyd's Register EMEA
is a subsidiary of Lloyd's Register Group

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



Marine Design Appraisal Document

Lloyd's Register EMEA
Hamburg Technical Support Office
Am Sandtorkai 41
20457 Hamburg
Telephone +49 (0)40 328107 - 0 Fax +49 (0)40 328107 - 480
E-mail: hamburg-technical-support@lr.org

Date
13 May 2016

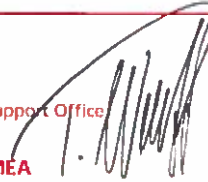
Please quote this reference number on all future communications
HPC1662022/33606-16/TW/ND/MCG

THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, PROCEDURE TA14 (JUNE 2015)
ISSUED TO: AUTRONICA FIRE AND SECURITY AS
FOR: HIGH LEVEL AND OVERFILL ALARM SYSTEM
TYPE: OAS 5
TYPE APPROVAL CERTIFICATE NO. 16/20046

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register's Type Approval System, Procedure TA14 (June 2015) and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

2502TA	Application Checklist	undated
NO-900776	ISO 9001:2008, IQNet	27.05.2014
2008-3542	Technical Report Rev.01	06.11.2008
OSL1600153	Production Quality Assessment Form	15.04.2016
TA11/70001(E3)	Marine Design Appraisal Document for TA Certificate NO. 11/70001 (E3)	22.05.2011

Thorsten Wolff
Hamburg Technical Support Office

Lloyd's Register EMEA



Thorsten Wolff
Senior Specialist
Electrotechnical Systems
Hamburg Technical Support Office
Lloyd's Register EMEA
T +49 (0)40 328107-445
E thorsten.wolff@lr.org

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

Lloyd's Register EMEA
Is a member of Lloyd's Register group

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Lloyd's Register EMEA
Hamburg Technical Support Office
Am Sandtorkai 41
20457 Hamburg
Telephone +49 (0)40 328107 - 0 Fax +49 (0)40 328107 - 480
E-mail: hamburg-technical-support@lr.org

Date
13 May 2016

Please quote this reference number on all future communications
HPC1662022/33606-16/TW/ND/MCG

Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

Lloyd's Register EMEA
Is a member of Lloyd's Register group

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Part 3
Level Detection Alarm and System (Part 3)

Producer/Licence No.	Item Description	Technical Details	Category/Additional Tests	Remarks	Cert. No.
Autronica Fire and Security AS Stalsbergveien 9 N-3128 Nøtterøy Norway	High Level and Overfill Alarm System <u>Type:</u> OAS 5 comprising Field sensor units HHL8903 Relays PLC-RSP-24VDC Alarm unit OAU-01 +Zener barrier unit Ex1-W00 Common alarm process unit CU2 Alarm panel OAS-5 Power supply ML.70.100 + ETA SWB24SC-24 Rectifying bridge GBPC3510	Power Supply: 230V - 50/60Hz	ENV1 ENV2 (2002) Dry heat test: 70°C /16 hrs. Low temperature test: -16°C /16 hrs. Zener barrier unit Ex1-W00 is certified according to [EEx ia] IIC	Expires: 2 May 2021 Systems comprising the components described above are subject to a separate plan appraisal according to applicable Rules and Regulations when installed on LR classed vessels. Rating for application in hazardous areas for Zener barrier unit Ex1-W00 is to be obtained from Ex certificate Nemko No.: EX 95D072. Complies with: IEC 60945:2002 IACS UI SC180 (in parts) Manufacturer's specification	16/20046