



MARINE DIVISION

Certificate number: 03006/H0 BV

File number: AP1394

Product code: 3971H

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

Siemens AG - IC BT CPS
Rastatt - GERMANY

for the type of product

FLAME DETECTION SYSTEMS FOR BOILER BURNERS

Flame safeguard unit: LFE10 and
flame detector: QRA2

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.

This certificate is issued to attest that BUREAU VERITAS 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: 20 Jun 2018

For BUREAU VERITAS,

At BV HAMBURG, on 20 Jun 2013,

Dirk Hoepfner



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. 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 Division 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 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 :

Flame safeguard unit type **LFE10** with UV flame detector type **QRA2** are for the supervision and detection of gas or blue-burning oil flames for burners with intermittent operation.

Main characteristics:

	LFE10
Power supply:	230V, 50/60Hz or 110V, 50/60Hz
Degree of protection:	IP40

2. DOCUMENTS AND DRAWINGS :

- 7712E dated: Apr. 1993, 7781E dated: Feb. 1991, 7781 series 2 dated: 01/06/1999,
- CC1N7781 (LFE10) dated: 20.04.2006, CC1N7712 (QRA..) dated: 01.02.2007,
- CC1N7781en (LFE10) dated 15.10.2012.
- CC1N7712en (QRA2...) dated 11.05.2011.

3. TEST REPORTS :

- Report No. 145/SI/Sa dated 5 March 1986 from Bureau Veritas filed in AP1394.
- TUV Rheinland Energie und Umwelt GmbH**
 - OA 7 2010 T2 dated: 25th of October 2010

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 - Dual-supervision of burners - supervision of the main flame or of the ignition and main flame by 2 identical or different detectors. (Each plant needs: 2 LFE10 + 2 QRA2)

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The above mentioned components are to be supplied by **Siemens AG - IC BT CPS** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320.

5.3 - **Siemens AG - IC BT CPS** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products :

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Berliner Ring 23
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GERMANY

5.4 - Each equipment is to be supplied with manual (s) for installation, use and maintenance.

6. MARKING OF PRODUCT :

- Maker's name or trademark.
- Equipment type or model identification.
- Date of manufacture and/or serial number.

7. OTHERS :

7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the equipment at any time, and that **Siemens AG - IC BT CPS - GERMANY** will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 03006/G0 BV issued on 22 April 2008 by the Society.

*** END OF CERTIFICATE ***