



MARINE DIVISION

Certificate number: 04895/G0 BV

File number: AP 1662

Product code: 3992H

*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*

**Littelfuse SELCO A/S**

Roskilde - DENMARK

*for the type of product*

**SUB-ALARM SYSTEMS**

Alarm Annunciator Type M1000C

**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: 02 Feb 2017**

For BUREAU VERITAS,

At BV FREDERICIA, on 02 Feb 2012,

Jesper BRAAGAARD

*J. B. Nielsen*



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:

**M1000C** is a compact 10 channels programmable (DIP switches or RS232 interface) Alarm Annunciator and Controller. **M1000C** may be used on genset or other equipment where alarm annunciation is necessary.

### Main Specifications:

<b>ALARM ANNUNCIATOR Type M1000C</b>
<ul style="list-style-type: none"> <li>- Supply Voltage: 12-24VDC or 48-110VDC</li> <li>- 10 Alarm Input Contacts, NO and NC contacts</li> <li>- 10 Open Collector Outputs, 150 mA max.</li> <li>- 2x10 LEDs for Alarms Indication.</li> <li>- RS232 Interface for PC based Configuration</li> <li>- RS485 Interface for Field-bus Communication</li> <li>- Siren Relay Contact: 220V AC/2A, 30V DC /2A</li> <li>- Degree of Protection of Front Side: IP 32 or IP 54</li> <li>- Insulation Monitoring with insulation test available.</li> <li>- Voltage Monitoring</li> <li>- Cable Monitoring</li> <li>- Firmware Version: 021008</li> </ul>

### 2. DOCUMENTS AND DRAWINGS:

According to documents filed under BV N° 1662 AP.  
Process MAP (FAT) No. 201 Production dated 16-04-2008.

### 3. TEST REPORTS:

- 3.1 - DELTA test report N° K251196-3 - Rev. 2 dated 2001-01-08.
- 3.2 - GL - Type Approval Software ref. SW-E-AK3.doc 19.01.96.
- 3.3 - DELTA test report N° DANAK-198611 dated 20 December 2006.

### 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 - BUREAU VERITAS Environmental Category, **EC Code: 33.**
- 4.4 - The equipment fulfils the EMC requirements for installation on the Bridge and Deck Zone.
- 4.6 - Only Hardware and Software successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.
- 4.7 - The M1000C is not intended to be used in Machinery Protection.
- 4.8 - Factory Acceptance and On-board Tests are to be performed in accordance with requirements for Category II Equipment.

### 5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The **M1000C** are to be manufactured, examined and tested by **Littelfuse SELCO A/S** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.
- 5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **Littelfuse SELCO A/S** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.
- 5.3 - **Littelfuse SELCO A/S** has declared to Bureau Veritas that the type of product described in this certificate may be manufactured at the following production site:

**Littelfuse SELCO A/S  
Betonvej 10  
DK-4000 Roskilde  
DENMARK**

### 6. MARKING OF PRODUCT:

- 6.1 - Trade name  
Date of manufacture and serial number,  
Equipment type or model identification under which it was type-tested.
- 6.2 - The title and version of each software element included in the installed software system shall be either marked or displayed on command on the equipment.

**7. OTHERS:**

7.1 - This approval is given with the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that:

**Littelfuse SELCO A/S  
Betonvej 10  
DK-4000 Roskilde  
DENMARK**

will accept full responsibility for informing shipbuilders, ship-owners 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° 04895/F1 BV issued on 22 Aug. 2006 by the Society.

**\*\*\* END OF CERTIFICATE \*\*\***