

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Monitoring and Alarm System**with type designation(s)
SB-2001

Issued to

Jiangsu SIBO Electric Co., Ltd.
Dafeng Jiangsu, China

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Location classes:**

Temperature	B
Humidity	B
Vibration	A
EMC	A
Enclosure	A

Issued at **Hamburg** on **2017-08-08**This Certificate is valid until **2022-08-07**.DNV GL local station: **Shanghai**for **DNV GL**Approval Engineer: **Dariusz Lesniewski**

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Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

Alarm and monitoring system SB-2001 consisting of:

Host Computer Unit	Rack-360 (IEI)
Display	17" (Philips)
Printer	LQ-300+ (Epson)
UPS	1000VA (SANTAK)
Operating Panel	KFT
Alarm Lamp Panel	SB-BJ-512
Communication Module	UT2018 (YUTAI)
I/O Unit	H5IO.1
Monitoring and Alarm Software	SB-2001 Vers. 2.00000.00.1.P5
Power Unit	SX-0
Binary Output Module	XSPF.2
Analogue Output Module	D/A
Distributed Processing Unit	SB-3000
LC Display and Control Panel	SB-3000-II
Extension Alarm Panel	SB-3000-III
Digital Signal Terminal Board	SB-205A, K/Int. Power-2
4..20mA Current Signal Terminal Board	SB-204A, I/Input-2
Pt100 Resistance Signal Terminal Board	SB-202A, R/Input-2, R/Input I/Output
Voltage Signal Terminal Board	SB-203A, U/Input-2
Frequency Signal Terminal Board	SB-206, F/Input-2

Power supply: AC220V, DC24V

Application/Limitation

System configuration variants: SB-2001-I or SB-2001-II

Approval conditions

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- Functional description
- System block diagram
- User interface description
- Power supply arrangement (may be part of the System block diagram)
- List of control and monitored points
- Description of functions covered by software
- Test program for application software at manufacturer

The Type Approval covers hardware listed under Product description.

Product certificate

Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1. The Certification is to be performed at the manufacturer before the system is shipped to the yard. After certification the clause for software control will be put into force.

Software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV GL for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Job Id: **262.1-024236-1**
Certificate No: **TAA000019H**

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE