



DET NORSKE VERITAS TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-9992

This Certificate consists of 4 pages

This is to certify that the

Monitoring System

866.80

with type designation

3500 Series Vibration Monitoring System

Manufactured by

BENTLY NEVADA LLC

MINDEN, NV 89423, United States

is found to comply with

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and
Det Norske Veritas' Offshore Standards

Application

Location classes:

Type	3500 Series Vibration Monitoring System
Temperature	A
Humidity	B
Vibration	A
EMC	A*

Enclosure Required protection according to the Rules shall be provided upon installation on board

*Module 3500/60 tested for EMC class B.

Place and date
Høvik, 2007-12-06
for Det Norske Veritas AS

This Certificate is valid until
2009-12-31

Odd Magne Nesvåg
Head of Section

Local Office
DNV Long Beach

Ståle Sneen
Surveyor

Product description

3500 Series Vibration Monitor, consisting of:

Unit	Part Number	FW Rev.
Rack (18" Rack Mount)	3500/05	NA
Rack (12" Rack Mount)	3500/05	NA
Low Voltage DC Power Supply	3500/15	NA
Low Voltage AC Power Supply	3500/15	NA
Rack Interface and I/O module	3500/20	2.10
Transient Data Interface	3500/22M	1.52
Keyphasor® and I/O module	3500/25	3.30
Relay and I/O module	3500/32	2.01
16 Channel Relay Modules	3500/33	1.01
Prox/Seismic and I/O Module	3500/42M	4.01
AeroDerivative and I/O Module	3500/44M	4.01
Tachometer and I/O Module	3500/50	1.23
Overspeed Detection and I/O module	3500/53	1.10
Temperature Monitor and I/O Module	3500/60	3.20
Temperature Monitor and I/O Module	3500/61	3.20
Process Variable and I/O Module	3500/62	3.20
Dynamic Pressure and I/O Module	3500/64M	4.01
Communication Gateway and I/O Module	3500/92	1.30

Approval conditions

The equipment is to be ordered with Bently-Nevada Modification Kit No. 164965 and installed in accordance with the supplied instructions.

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

- Reference to this Type Approval Certificate

- System block diagram
- Power supply arrangement (may be part of the System block diagram)

The Type Approval covers hardware and software listed under Product description.

As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 A 202 will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all major changes are to be forwarded to DNV for evaluation and approval.

Major changes in the software are to be approved before being installed in the computer.

An Application Software Test may be required for the particular vessel.

Tests carried out

Applicable tests according to Standard for Certification No. 2.4.

Type Approval documentation

Certificate retention survey

The scope of the retention/renewal survey 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 survey 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

Retention survey is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

DET NORSKE VERITAS AS · VERITASVEIEN 1, 1322 HOVIK, NORWAY · TEL: (+47) 67 57 99 00 · FAX: (+47) 67 57 99 11