



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-10743
This Certificate consists of 3 pages

This is to certify that the
Peripheral Equipment

with type designations
HP ProCurve Switches 1400-8G/1400-24G/1700-8/1700-24

Manufactured by
Mariner Systems (UK) Ltd.
WOKINGHAM RG41 2FD, United Kingdom

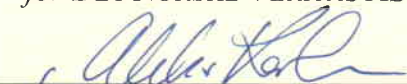
is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and
Det Norske Veritas' Offshore Standards

Application
Location classes:

Type	1400-8G/1400-24G/1700-8/1700-24
Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to DNV Rules shall be provided upon instalation on board

Approved **only** together with Mariner Kits shown on page 2.


Place and date
Høvik, 2008-05-19
for DET NORSKE VERITAS AS


for Odd Magne Nesvåg
Head of Section



Local Office
DNV Newcastle-upon-Tyne

This Certificate is valid until
2012-06-30


Ståle Sneen
Surveyor

Notice: 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.

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.



Cert. No.: A-10743
File No.: 899.60
Job ID: 262.1-005039-1

Product description

HP ProCurve Ethernet Switches as listed below:

Model name	Kit	Description
1400-8G (J9077A)	MS650	Unmanaged 8-port 10/100/1000 Ethernet Switch
1400-24G (J9078A)	MS660	Unmanaged 24-port 10/100/1000 Ethernet Switch
1700-8 (J9079A)	MS650	Managed 8-port 10/100/1000 Ethernet Switch
1700-24 (J9080A)	MS660	Managed 24-port 10/100/1000 Ethernet Switch

Type Approval valid **ONLY** with marinizing kit Mariner MS650 / MS660 installed.

For approval status of the ProCurve Switches, refer to Mariner Systems Internet page:
<http://www.marinersystems.com/>.

Place of manufacture

Hewlett Packard (France)
Blvd. Steve Biko
38090, Villefontaine, Lyon, France

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Compass safe distances for all models:
Standard Compass Safe Distance: 70 cm, Steering Compass Safe Distance: 50 cm

Type Approval documentation

Data sheets: QuickSpecs ProCurve Switch 1400 Series DA 12733 Ver.2 dated 2007-11-02
QuickSpecs ProCurve Switch 1700 Series DA 12734 Ver.2 dated 2007-11-02
Drawings: MS650_A issue 1 and MS660_A issue 1, both dated 25. March 2008
Test report: Mariner Systems (UK) Ltd. Test File No. TL1200, dated 25. March 2008



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Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.
For the bridge mounted components the 'Acoustic noise and signals' and the 'Compass safe distance' were measured according to sections 11.1 and 11.2 of IEC 60945, 4th edition (2002).

Marking of product

- All products are marked with:
- Manufacturer and product name – HP ProCurve
 - Model name as defined in Product description
 - Serial number
 - Voltage rating from 100 VAC to 240 VAC

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