



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. A-9928

This Certificate consists of 3 pages

This is to certify that the
Personal Computer

with type designations

**EPC PM 1700tc nautic, EPC PM 1900tc nautic,
EPC PM 2100tc nautic, EPC PM Box nautic**

Manufactured by

Elektronik Systeme Lauer GmbH & Co.KG
Unterensingen, Germany

is found to comply with

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

Application

| | |
|-------------|---|
| Temperature | A |
| Humidity | B |
| Vibration | A |
| EMC | B |
| Enclosure | A |

Place and date

Høvik, 2006-07-20

for DET NORSKE VERITAS AS

Knut Svein Ording
Head of Section



Local Office
DNV Essen

This Certificate is valid until
2008-12-31

Andrzej Gdaniec
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-9928
File No.: 899.30

Product description

Industrial Panel Personal Computer.

Type designation:

| 24VDC Panel PC's | |
|-------------------------------------|----------------------|
| Elektronik Systeme Lauer GmbH&Co.KG | SAM Electronics GmbH |
| EPC PM 1700tc nautic | Panel-PC PPC17 |
| EPC PM 1900tc nautic | Panel-PC PPC19 |
| EPC PM 2100tc nautic | Panel-PC PPC21 |
| EPC PM Box nautic | PCM 2200L1 |

| 230VAC Panel PC's | |
|-------------------------------------|----------------------|
| Elektronik Systeme Lauer GmbH&Co.KG | SAM Electronics GmbH |
| EPC PM 1700tc- 230 nautic | Panel-PC PPC17- 230 |
| EPC PM 1900tc- 230 nautic | Panel-PC PPC19- 230 |
| EPC PM 2100tc- 230 nautic | Panel-PC PPC21- 230 |
| EPC PM Box- 230 nautic | PCM 2200L1- 230 |

Application/Limitation

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.

For installation on the bridge the 'Compass safe distance' shall be ensured according to IEC60945 section 11.2.

Type Approval documentation

Datasheets: LAUER data sheet EPC PM 1700tc nautic
LAUER data sheet EPC PM 1900tc nautic
LAUER data sheet EPC PM Box nautic
LAUER data sheet EPC PM 1700tc- 230 nautic
LAUER data sheet EPC PM 1900tc- 230 nautic
LAUER data sheet EPC PM Box- 230 nautic



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SAM Electronic data sheet Panel-PC PPC17
SAM Electronic data sheet Panel-PC PPC19
SAM Electronic data sheet Panel-PC PPC17- 230
SAM Electronic data sheet Panel-PC PPC19- 230
SAM Electronic data sheet PC-Module PCM2200L1- 230

Test Reports: Regelungs- und Messtechnik (RMS) Test Report
No. 03 - 04 / 2005, dated 2005-04-23
MeßTechnik Nord GmbH Test Report; EMC- Tests
No. 04991.046.05, dated 2005-04-11
Regelungs- und Messtechnik (RMS) Test Report
No. 05 - 01 / 2006, dated 2006-02-13
MeßTechnik Nord GmbH Test Report; EMC- Tests
No. 05153.020.06, dated 2006-01-30
Sound Level/Compass safe distance measurement
No. 05094.121.05, dated 2005-09-06

Tests carried out

Applicable tests According to Standard for Certification No. 2.4, April 2001,
Acoustic Noise and Compass Safe Distance Test acc. to IEC60945 for installation in bridge
area.

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.

Survey to be performed at renewal of this certificate.