



# DET NORSKE VERITAS TYPE APPROVAL CERTIFICATE

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**CERTIFICATE NO. A-10729**

This Certificate consists of 5 pages

*This is to certify that the*

**Peripheral Equipment**

899.60

*with type designations*

**Slim Line and emPower Line panels**

As stated on page 2

*Manufactured by*

**Sütron electronic GmbH**

Filderstadt, 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*

Location classes:

Type	Slim Line and emPower Line panels
Temperature	A*
Humidity	B
Vibration	A
EMC	B
Enclosure	Required protection according to DNV Rules shall be provided upon installation on board

\* Tested in 70 degrees Celsius for 16 hours

*Place and date*  
Høvik, 2008-04-21

*This Certificate is valid until*  
2010-06-30

Odd Magne Nesvåg  
Head of Section

Local Office  
DNV Essen

Øyvind Vestmoen  
Surveyor

## Product description

emPower Line touchscreen panels, with type designation in the following format:

*Device type -HK / P F SS S FF M*

Device type = max. 7 digits (see table below for an explanation)

-HK = 3-digit Hardware identification (option)

P = 1-digit Processor type (this certificate covers only processor type XScale PXA255)

F = 1-digit for function of the panel (Control-, Grafik- or Web-panel)

SS = 2-digit for type of I/O devices (Ethernet, USB, DI, DO etc)

S = 1-digit for type of memory

FF = 2-digit for color on front of panel

M = 1-digit for mounting type

This type approval certificate covers the following device types of the emPower Line series:

Device type	Variants	LCD Size	Operation
TPM057x	TPM057M, TPM057S, TPM057T	5,7"	Touch
TPM104T	TPM104T	10,4"	Touch
TPM121T	TPM121T	12,1"	Touch
TPM151T	TPM151T	15,1"	Touch

M = Monochrome F-STN display S = passive color C-STN display T = TFT display

Slim Line button and touchscreen panels, with type designation in the following format:

*Device type / SS S FF M*

Device type = max. 8 digits (see table below for an explanation)

SS = 2-digit for type of I/O devices (Ethernet, USB etc.)

S = 1-digit for type of memory

FF = 2-digit for type of color on front of panel

M = 1-digit for mounting type

This type approval certificate covers the following device types of the Slim Line series:

Device type	Variants	LCD Size	Operation
BTM03Ax	BTM03AM	3"	18 key
BTM05Ax	BTM05AM	3"	30 key
BTM07Ax	BTM07AM	3,8"	36 key

BTM21Ax	BTM21AM, BTM21AS	5,7"	40 key
BTM70Ax	BTM70AT	7"	40 key
TPM11Ax	TPM11AM, TPM11AT	3,8" (AM), 3,5" (AT)	Touch
TPM21Ax	TPM21AM, TPM21AS, TPM21AT	5,7"	Touch
TPM70Ax	TPM70AT	7"	Touch
TPM104Ax	TPM104AT	10,4"	Touch

M = monochrom F-STN Display S= passive color C-STN Display T = TFT Display

## 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.

### Product certificate

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

### 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 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.

## Type Approval documentation

### Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

### Marking of product

Each panel is marked with:

- Manufacturer's name: Süttron
- Model name: Device type as listed under Product description above
- Serial number: 12-digit number
- Supply voltage: 24VDC

### 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

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**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.

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