DNV·GL

Certificate No:
TAA000016S

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
SIMATIC HMI / Panel System OP ..., TP ..., MP ..., KP ..., KTP ... Basic, KP/KTP... Comfort, KP/TP... Comfort, KTP... Basic, KTP... Mobile, Connection Box...

Issued to
Siemens AG
Amberg Bayern, Germany

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.

Type	Temperature	Humidity	Vibration	EMC	Enclosure
SIMATIC HMI / Panel System OP ..., TP ..., MP ...	B	B	A	B (see page 2)	C (panel front only)
KP ..., KTP ... Basic, KP/KTP... Comfort, KP/TP... Comfort	B	B	A	B (see page 2)	C (panel front only)
KTP... Basic	B	B	A	B (see page 2)	C (panel front only)
KTP... Mobile, Connection Box...	B	B	A	B (see page 2)	C (panel front only)

Issued at **Hamburg** on **2017-05-02**
This Certificate is valid until **2022-05-01**.
DNV GL local station: **Augsburg**

Approval Engineer: **Andrea Grün**

for **DNV GL**

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.

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Product description

SIMATIC Operator Panel Systems covering:

- OP 270, MP 270, MP 370 6AV6 542
- TP 270, MP 270, MP 370, TP 170 6AV6 545
- OP 73micro, TP 177micro-6 6AV6 640
- OP 73, OP 77 6AV6 641
- TP 177A, TP 177B, OP 177B, TP 177B-4", MP 177-6" 6AV6 642
- OP 277, TP 277, MP 277T, MP 277K 6AV6 643
- MP 377-15" Daylight 6AV6 644
- KP300 Basic, KTP400/600 Basic, KTP1000 Basic 6AV6 647
- KP/KTP400 Comfort, KP/TP700 Comfort, KP/TP900 Comfort, KP/TP1200 Comfort 6AV2 124
- KTP400 Basic, KTP700 Basic, KTP900 Basic, KTP1200 Basic 6AV2 123
- KTP700 Mobile, KTP900 Mobile 6AV2 125
- KP8 PN 6AV3 688

- Connection Box Standard, Connection Box Advanced, Connection Box Compact 6AV2 125

Application/Limitation

SIMATIC Panel System fulfils the EMC requirements for installation on the Bridge and Deck Zone with appropriate filter and/or protection as listed below.

A filter is to be fitted in the power supply lines:

- TP170 is to be fitted with filter Corcom 3EQ1 (tested) or equivalent
- MP 377-15" Daylight can be installed without filter
- KP300 Basic is to be fitted with common mode choke 20 mH WÜRTH 744821120 (tested) or equivalent.
- KP/KTPxxx Basic/ Comfort with filter B84113C
- KTP700/900 Mobile Bridge and Deck zone with filter B84113C
- KP8 PN power supply and signal line are to be fitted with common mode choke WÜRTH 742 716 22 (tested) or equivalent

Surge Immunity: External Protective circuits required for DC systems.
See the current System Manual (A5E03461486) for recommendations.
Installation of the units described in manufacturer's instructions.

MP370 are only to be used with EMC Protection manufactured by Bartec.

- MP370 Key 12": MP370-12K 05-0042-0016
- MP370 Touch 12": MP370-12T 05-0042-0015
- MP370 Touch 15": MP370-15T 05-0042-0017

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Product certificate
If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. 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 GL 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 Class Guideline DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:

- model name
- manufacturer name
- serial number

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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE