

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
KVM Systems Series 600

Issued to

R. Stahl HMI Systems GmbH
Köln, Germany

is found to comply with
DNV GL rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Temperature	D
Humidity	B
Vibration	A
EMC	A
Enclosure	Required protection according to the Rules shall be provided upon installation on board.

This Certificate is valid until **2021-11-03**.

Issued at **Hamburg** on **2016-11-04**

for **DNV GL**

DNV GL local station: **Magdeburg**

Approval Engineer: **Heinz Scheffler**

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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.

Job Id:
Certificate No: **TAA00000BK**

Product description

The KVM Systems Series 600 transfer technology is used for the point-to-point connection between a PC and ET-6x7 Display.

Display:

Function / equipment	ET-667	ET-677	ET-687
Window	Glass		
Display type	TFT color display 16.7 million colors		
Display Size	56 cm (22")	61 cm (24")	61 cm (24"WU)
Resolution in pixels	WSXGA+ 1680 x 1050	Full HD 1920 x 1080	WUXGA 1920 x 1200
Picture format	16:10	16:09	16:10
LVDS Clock [MHz]	60	74.25	77
Frame Rate [Hz]	60	60	59.95
Power supply	100 - 240 VAC, 50 - 60 Hz		

Data transfer via KVM-DVI3 Switch

Point-to-point data connection from a PC outside to HMI ET-667 / ET-677 / ET 687.

Power IEC connector power supply: 100 - 240 VAC

DVI / VGA in: DVI-I connector (connection to the PC)

DVI / VGA out: DVI-I connector (connection to the screen)

USB: USB plug type B USB (connection to the PC)

Serial Interface: Sub-D 9 pin socket (RS-232,)

Audio out: 3.5mm TRS socket

Audio in: 3.5mm TRS socket

Data: Optical fibre connection type LC Duplex connector.

Maximal cable length:

- USB, RS-232 and Audio: max. 3 m
- Data optical fibre MM: up to 500 m via 50/125 µm optical fibre cable,
up to 300 m via 62.5/125 µm optical fibre cable
- Data optical fibre SM: up to 10,000 m via a 9/125 µm optical fibre cable

Application/Limitation

Please observe the "Marking of product".

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.

Type Approval documentation

Test Reports: U154383E1; E154383E1.

Data sheets: DS_ET_667_en; DS_ET_677_en; DS_ET_687_en.

Operating instructions: OI_ET_xx7_en_V_01_03_02; OI_KVM_units_en_V_01_00_01.

Documents overview: 154383_2016-11-02_01.

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2015.

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Marking of product

The products to be marked with:

- Model name: Display ET/MT-6x7-DVI3-yM-FO-TFT-TG-AC-O30-AL
KVM Switch 6x7-KVM-DVI3-yM-FO
x: 6 = 56 cm / 22" display; 7 = 61 cm / 24" display; 8 = 61 cm / 24"WU display.
y: M=with direct optical fibre connection multi-mode;
S=with direct optical fibre connection single mode.
- 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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE