DNV·GL

Certificate No:
TAA00001E6

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
Panel PCs: ET-438, ET-498, ET-538, ET-598, MT-438, MT-498, MT-538, MT-598

Issued to
R. Stahl HMI Systems GmbH
Köln, 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
ET-438	D	B	A	B*	C
ET-498	D	B	A	B*	C
ET-538	D	B	A	B*	C
ET-598	D	B	A	B*	C
MT-438	D	B	A	B*	C
MT-498	D	B	A	B*	C
MT-538	D	B	A	B*	C
MT-598	D	B	A	B*	C

***) see page 4**

Issued at **Hamburg** on **2017-11-27**
This Certificate is valid until **2022-11-26**.
DNV GL local station: **Essen**

Approval Engineer: **Jens Dietrich**

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

Type Code Display-Box-Modules:

	Modul Code	xT	-	xx8	-	x	x	x	Bx	Cx	x	-	Dx	Tx	Ox	E0x0
Key Code	**Description**															
ET	Device for Zone 1, Zone 21, EPL Gb, Db															
MT	Device for Zone 2, Zone 22, EPL Gc, Dc															
-	"Delimiter"															
x38	Displaysize 15"															
x98	Displaysize 21,5"															
-	"Trennzeichen"															
x	"Placeholder"															
x	"Placeholder"															
x	"Placeholder"															
B0	No Bluetooth															
B1	Bluetooth integrated															
C0	No integrated reader interface															
C1	Integrated reader interface 13.56 MHz and RFID															
x	"Placeholder"															
-	"Delimiter"															
D0	Display Type TFT															
D1	Display Type Sunlight Readable															
T0	No Touch															
T3	Capacitive Multi-Touch (Glas)															
O0	Outdoor Installation -10° C															
O4	Outdoor Installation -40° C															
E000	Housing Design Exicom with Camera															
E001	Housing Design Siemens															
E010	Housing Design Exicom without Camera															

Continued on next page

Type Code E-Box-Modules:

	Module Code	xT	-	xx8	-	xxX	xC	Wxx	x	x	X00	-	Px	Rx	Mx	Ix
Key Code	**Description**															
ET	Device for Zone 1, Zone 21, EPL Gb, Db															
MT	Device for Zone 2, Zone 22, EPL Gc, Dc															
-	"Delimiter"															

4x8	E-Box SERIES 4x8
5x8	E-Box SERIES 5x8
-	"Delimiter"
1TX	1x 1000Base-TX Copper Ethernet
2TX	2x 1000Base-TX Copper Ethernet
2FX	2x 100Base-FX FO Ethernet
AC	AC Powersupply 100 - 240 VAC
DC	DC Powersupply 24 VDC
W00	No WLAN Interface
W02	WLAN Interface RF 2,4 GHz
W05	WLAN Interface RF 5 GHz
W22	WLAN Interface 2x RF 2,4 GHz
W55	WLAN Interface 2x RF 5 GHz
W25	WLAN Interface RF 2,4 GHz and 5 GHz
x	"Placeholder"
x	"Placeholder"
X00	Optionsbox
-	"Delimiter"
P2	Processor AMD GX-217GA
P3	Processor Intel Core i7-3517UE
R3	4 GB RAM
R4	8 GB RAM
M3	16 GB Memory
M5	60 GB Memory
M6	80 GB Memory
M9	128 GB Memory
MB	160 GB Memory
MC	240 GB Memory
MD	300 GB Memory
I0	No additional interface
I4	CAN-Bus Interface (open CAN)

Application/Limitation

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 classification of ships Pt.4 Ch.9 Control and monitoring systems.

*) Types with card reader (option -C5, -C6) are not to be used on bridge / open deck.
Other types have to be mounted outside 5m radius of the magnetic compass.
The stated explosion protection and zone classification is just referenced and not covered by this type approval.

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.

Tests carried out

Applicable tests according to Class Guideline DNV GL CG-0339, Nov. 2016.

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 3.5 years and at renewal of this certificate.

END OF CERTIFICATE