



Certificate No:
TAA000039W

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Position Switch

with type designation(s)
Ex ES/EM 97, Ex ES/EM 98, Ex ES/EM 99

Issued to

steute Technologies GmbH & Co. KG
Löhne, Germany

is found to comply with

DNV 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.

Location classes:

Temperature D

Humidity B

Vibration B

EMC N/A

Enclosure Required protection according to the DNV rules shall be provided upon installation on board

Issued at **Hamburg** on **2023-08-11**

This Certificate is valid until **2028-08-10**.

for **DNV**

DNV local unit: **Essen**

Approval Engineer: **Holger Jansen**

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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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2022-12

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Product description

Position switch Ex ES/EM 97
Nomenclature: Ex E* 97 ** *** ****

E*:	ES:	Position Switch series ES97- slow action
	EM:	Position Switch series EM97-snap action
**:	Actuator:	W: Plunger R: Roller RL: Roller (Long) WH: Roller lever WHKR: Roller lever plastic clip type WHKD: Roller lever plastic metal reinforced WHLM: Long metal roller lever with collar WPH: Parallel roller lever D: Rocking lever D50: Rocking lever 50mm DD: Adjustable rocking lever DS: Rod lever TK: Spring rod TKK: Spring rod plastic TFK: Spring rod ball knob AZ: Separate actuator AZ/90°: Separate actuator 90° position XXX: Adapter/Actuator Head
***:	Contacts:	11: 1NC/1NO 02: 2NC 20: 2NO 11U: 1NC/1NO c/o 12: 1NO/2NC 21: 2NO/1NC
****:	Temperature	-20°C: Ambient temperature -40°C: Ambient temperature -60°C: Ambient temperature

Position switch Ex ES/EM 98
Nomenclature: Ex E* 98 ** *** ****

E*:	ES:	Position Switch series ES98- slow action
	EM:	Position Switch series EM98-snap action
**:	Actuator:	without: Plunger R: Roller H: Roller lever PH: Parallel roller lever D: Rocking lever DL: Adjustable rocking lever DS: Rod lever DD: Adjustable rocking lever TK: Spring rod with plastic tip SB: Hinge ST: Key
***:	Contacts:	11: 1NC/1NO 02: 2NC 20: 2NO 11U: 1NC/1NO c/o 12: 1NO/2NC 21: 2NO/1NC
****:	Temperature	-20°C: Ambient temperature -40°C: Ambient temperature

Position switch Ex ES/EM 99
 Nomenclature: Ex E* 99 ** ***

E*: ES: Position Switch series ES98- slow action
 EM: Position Switch series EM98-snap action

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Actuator:	S:	Plunger
	R:	Roller
	H:	Roller lever
	PH:	Parallel roller lever
	D:	Rocking lever
	DD:	Adjustable rocking lever
	DS:	Rod lever
	TK:	Spring rod
	ST:	Separate actuator
	ST/90°:	Separate actuator 90° position

***:

Contacts:	11:	1NC/1NO
	02:	2NC
	20:	2NO
	11U:	1NC/1NO c/o
	12:	1NO/2NC
	21:	2NO/1NC

****:

Temperature	-20°C:	Ambient temperature
	-40°C:	Ambient temperature
	-60°C:	Ambient temperature

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.

Type Approval documentation

Tests carried out

Applicable tests according to DNV Class Guideline CG0339, August 2021.

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