



Certificate no.:
TAA00003H2

TYPE APPROVAL CERTIFICATE

This is to certify:
that the Position Switch

with type designation(s)
ES/EM 97, ES/EM 98, 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 **2025-04-17**

This Certificate is valid until **2030-04-16**.

for **DNV**

DNV local unit: **Essen**

Approval Engineer: **Holger Jansen**

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 USD 300 000.

Product description

Position switch ES/EM 97

Nomenclature: 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
		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
		WHM: Metal roller lever, C ≤ 10pF
		WHLM: Long metal roller lever, C ≤ 10pF
		WHKM: Metal roller lever, C ≤ 10pF
		WPHM: Long metal roller lever, C ≤ 10pF
		WHK/90°: Roller lever plastic with collar 90° position
		SB: Hinge actuation
***:	Contacts:	XXX ⁽¹⁾ : Adapter/Actuator Head ⁽¹⁾ Various acc. to Type Code / 97 Extreme document)
		11: 1NC/1NO
		02: 2NC
		20: 2NO
		11U: 1NC/1NO c/o
		12: 1NO/2NC
		21: 2NO/1NC
****:	IP protection:	IP69: IP protection IP69 (Extreme version)

Position switch ES/EM 98

Nomenclature: E* 98 ** *** ***** *****

E*:	ES:	Position Switch series ES98- slow action
	EM:	Position Switch series EM98-snap action
**:	Actuator:	S: Plunger
		R: Roller
		H: Roller lever
		PH: Parallel roller lever
		D: Rocking lever
		DL: Long rocking lever
		DS: Adjustable rocking lever
		DD: Rod lever
		TK: Spring rod
		ST: Separate actuator
		SB: Hinge guards
		SR: Belt-alignment
***:	Contacts:	11: 1NC/1NO
		02: 2NC
		20: 2NO
		11U: 1NC/1NO c/o
		12: 1NO/2NC
		21: 2NO/1NC
****:	Temperature:	-40°C: Ambient temperature
		+90°C: Ambient temperature
*****:	IP protection:	IP66: IP protection IP66
		IP69: IP protection IP69
*****:	Extreme:	Extreme version

Position switch ES/EM 99

Nomenclature: E* 99 ** *** ****

E*:	ES:	Position Switch series ES99- slow action
	EM:	Position Switch series EM99-snap action
**:	Actuator:	S: Plunger
		R: Roller
		H: Roller lever
		PH: Parallel roller lever
		D: Rocking lever
		DS: Adjustable rocking lever
		DD: Rod lever
		TK: Spring rod
		ST: Separate actuator
		SR: Belt alignment
***:	Contacts:	11: 1NC/1NO
		02: 2NC
		20: 2NO
		11U: 1NC/1NO c/o
****:	IP protection:	IP69: IP protection IP69 (Extreme version)

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