



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA0000255
Revision No:
1

This is to certify:
that the Position Switch

with type designation(s)
Control switches, Series S1

issued to
K.A. Schmersal GmbH & Co. KG
Wuppertal, 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 B
Humidity B
Vibration A
EMC NA
Enclosure B

Issued at **Hamburg** on **2024-02-16**

for **DNV**

This Certificate is valid until **2029-02-15**.

DNV local unit: **Essen**

Approval Engineer: **Heinz Scheffler**

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: 2023-09

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Product description

Position switches and limit switches serve as a functional component for detecting the position as well as monitoring moving parts of a whole system or machine.

Types: T.422..yk, T.441..yk, M.441..yk, T.452..yk, T.461..yk, M.461..yk, T.470yk, T.422 Oly-1090

Casting:	Cast-iron casting		
Action:	T	slow action	
	M	snap action	
Actuation:	S	yk	Rounded plunger
	R	yk	Roller lever
	K/J	yk	One-way roller lever
	L/D	yk	Roller rocking lever
	Oly	1090	Roller rocking lever made of marine special brass
Contacts:	4	xyk	x = number of no (1 to 3)
	4	xyk	x = number of nc (1 to 3)
Rated insulation voltage:	Ui	500 V (T...yk.)	250 V (M...)
Rated impuls withstand voltage:	Uimp	4 kV	6kV
Utilization category:		AC 15	AC 15
Rated operational current:	Ie	4 A	4 A
Rated operational voltage:	Ue	400 V	230 V AC
..4...yk y:	Degree of protection:		IP 65
..4...yk k:	ceramic insulation		

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.

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.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Type Approval documentation

Test Reports: No MT441_20040715_Typ, dated 2004-07-20; No MT441_20040707_Typ, dated 2004-11-18
 Documents: Operating Instructions Position and limit switches 2015-11-26

Tests carried out

Applicable tests according to Class Guidelines DNV-CG-0339, August 2021.
 Due to the nature of the product EMC testing has not been performed.

Marking of product

The products to be marked with:

- manufacturer name
- type designation
- batch 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