

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Position Switch**

with type designation(s)
Control Switches, Series M 330

Issued to

K.A. Schmersal GmbH & Co. KG
Wuppertal, 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.

Temperature B
Humidity B
Vibration A
EMC NA
Enclosure B

Issued at **Hamburg** on **2019-01-16**

for **DNV GL**

This Certificate is valid until **2024-01-15**.

DNV GL local station: **Essen**

Approval Engineer: **Marco Rinkel**

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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.



Product description

The position switches are suitable for sliding and hinged guards.

Types:

MS-, MR-, MV7H-, MV8H-, MV10H-, MV.-, M3V4D-330-11 y
M2S-, M3S-, M3R-, MK-, M3K-, MAF-330-11 y

Type: MS-, MR-330-11 y	Actuation: Plunger type
MV8H-, MV7H-330-11 y	Roller rocking lever
MV10H-330-11 y	Rod rocking lever
M2S-, M3S-, M3R-330-11 y	Plunger type
MK-, M3K-330-11y	One way roller lever
MV. (H-, 2H-, 3H-, 4H-, 8H-, 9H-)	Rocking lever
M3V4D-330-11 y	Fork roller lever

Casting	AL pressure die casting
M	snap action
Contacts	1 no and 1 nc

Rating insulation voltage	Ui=250 V AC
Rating operational voltage	Ue=220 V AC
Rating current	2.5 A
Degree of protection:	IP 65

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNVGL, 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 Excertificate issued by a notified/recognized Certification Body.

Type Approval documentation

LOVAG Test Report No MT441_20040715_Typ dated	2004-07-20
LOVAG Test Report No MT441_20040707_Typ dated	2004-11-18
Operating instructions Position switches	2018-08-07

Tests carried out

Applicable tests according to Class Guidelines DNVGL-CG-0339, November 2016.
Due to the nature of the product EMC testing has not been performed.

Job Id: **262.1-029714-1**
Certificate No: **TAA0000256**

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