



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA00003MB
Revision No:
2

This is to certify:
that the Level Switches

with type designation(s)
ZELOS C01 LS (type 408401)

issued to
JUMO GmbH & Co. KG
Fulda, Hessen, 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	B
Enclosure	B (IP67/69)

Issued at **Hamburg** on **2025-05-26**

This Certificate is valid until **2030-05-25**.
DNV local unit: **Hamburg – CMC North/East**

Approval Engineer: **Holger Jansen**



for **DNV**

Digitally signed by: Dariusz Lesniewski
Location: DNV SE, Germany

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

ZELOS C01 LS (Type 408401)

Capacitive level switch measures the point of solid and liquid media.

Voltage supply:	DC 24V
Electrical connection:	M12 plug connector 4-pole
Process connection:	G 3/4 G1/2, M24 x 1,5, PEKA, G1/2 sliding connections
Ambient temperature range:	-40°C ... +85°C
Process temperature range:	-40°C...+115°C
	-40°C ... +200°C (G1/2 sliding connections)
Outputs:	IO-Link, PNP, NPN, push-pull

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 RU SHIP Pt.4 Ch.9. 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

Datasheet : 40840100T10Z001K000, Vers. 2.00 dated 2025-01-27
Operating Manual: 40840100T90Z001K000 Vers. 2.00 dated 2025-01-27
Overview diagrams and drawings JUMO ZELOS Vers. 01 dated 2025-04-29
Test reports: EW-4294.DNV-CG-0339.ZELOS_Report.1.0 dated 2025-04-24
EW-4294.DNV-CG-0339.ZELOS_Appendix.1.0 dated 2025-04-24
WP.23.02.27 dated 2023-05-02
Type Approval Assessment Report issued at Augsburg on 2024-04-16

Tests carried out

Applicable Tests according to Class Guideline DNV CG-0339, August 2021

Marking of product

Manufacturer name, type designation (408401), 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 this certificate.

END OF CERTIFICATE