



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00001X0
Revision No:
1

This is to certify:

That the **Level Switch**

with type designation(s)
CLS50/55 Capacitive Level Switch

Issued to
BEDIA Motorentechnik GmbH & Co.KG
Altdorf b. Nürnberg, Bayern, Germany

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Location classes:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Temperature	D
Humidity	B
Vibration	B
EMC	A
Enclosure	D (Depending on connector/cable)

Issued at **Hamburg** on **2023-06-07**

for **DNV**

This Certificate is valid until **2028-06-06**.

DNV local unit: **Augsburg**

Approval Engineer: **Didier Girardin**

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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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Job Id: **262.1-008684-5**

Product description

CLS50/55 Capacitive Level Switches

Voltage:	HV: 9 to 36 VDC LV: 4.5 to 18 VDC
Media:	0: Oil 1: Water 2: Oil Special with Oil Shield 2
Process Connection:	xx - Depending on type
Housing:	2: Stainless Steel
Electrical Connection:	xxxx - Depending on type
Cable / Cable Gland:	xxxx - Depending on type
Type of Cable:	xx - Depending on type
Length of Cable:	00000 - Without cable xxxxx - Length in mm
Sensor Output:	1: HSS: High Side Switch - 1A (HV type only) 2: LSS: Low Side Switch - 1A (HV type only) 3: LSS: Low Side Switch - 0.5A (LV type only) 4: AOU - Analogue Output Voltage 5: AOP - Analogue Output Proportional
Operation Mode:	1: Minimum OC (Operation Current) 2: Minimum QC (Rest Current) 3: Maximum OC (Operation Current) 4: Maximum QC (Rest Current)
Switch Point:	1xxx - mm From Seal Edge (long feeler) 2xxx - mm From Seal Edge (short feeler) 1028 - Default value
Response Delay:	xxxx in Seconds
Self Test Function:	xxxx in Seconds
Analogue Values:	xxx/xxx

Place of manufacture

BEDIA Motorentechnik GmbH & Co. KG
Gewerbepark an der A6
Im Erlet 1
90518 Altdorf
Germany

Approval conditions

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

Application/Limitation

When used on tanks containing flammable liquids within machinery space an isolating valve shall be fitted between tank and sensor. This application is not a part of Type Approval and should be approved for each case.

Fixed cable to be of approved type.

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Type Approval documentation

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Design Documentation: BEDIA Motorentechnik
- Description of CLS50/55 dated 2006.03.10
- Variants CLS50/55, V1.4 dated 2009.05.05
- Overview CLS50 Sensors: CLS_006_001V2 dated 2009.08.27, Cross Section CLS50 Sensors CLS_007_001V2 dated 2009.08.27, CLS-H_V1_5 dated 2008.09.17, 1F002 V4_6 dated 2008.12.18, CLS-A V2.0 dated 2008.04.08,
- Marking of the product: BES_CLS50_001V3 dated 2010-03-05
Data Sheets: 500131, 500158, 500159, 500162, 500163, 500164
Test Reports: Climatic and Mechanical Test Report LGA No.: E4.964-I dated 25.08.2009, ECL-EMC Test Report No. 08-192 v.03 dated 15.12.2009, Test Druckfestigkeit CLS50 Gehäuse dated 21.04.2009, Performance-Testprotokoll_500131, 500159, 500162, 500163, 500164.
IACS E10 rev.07 compliance Report 20-081 dated 15.07.20

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