Certificate No: **2606101839166354**
TL Project No: **25-1044**

TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This is to certify that the

Level Sensing Element

Manufacturer : **HACI AYVAZ ENDÜSTRİYEL MAMULLER SANAYİ VE TİCARET ANONİM ŞİRKETİ**

Address : **Hadımköy Atatürk Sanayi Bölgesi, Hadımköy, Mustafa İnan Cd. No: 44, 34555 Arnavutköy/İstanbul**

Product Type : **AU-21, AU-22**

Reference Rule : **TL Rules, Part E, Chapter 103 - Metallic Materials, Special Materials for Naval Ships, 01.01.2022**

TL Rules, Part E, Chapter 105 - Naval Ship Technology, Electrical Installations, 01.01.2022

TL Rules, Part E, Chapter 107 - Naval Ship Technology, Ship Operation Installations and Auxiliary System, 01.01.2022

TL Rules, Part B, Chapter 5, Electric , 01.01.2024

TL Rules, Part A, Chapter 2, Material, 01.07.2024

TL Rules, Part B, Chapter 4, Machinery, 01.07.2024

IACS UR E10 Rev.9 , 09.08.2023

Subject to the conditions referred to in the following pages, this certificate is valid until **14.04.2030**
Surveyor: **Abdullah DEMİRCİ**
-

Issued at **İstanbul** on **24.06.2026**

This document is electronically signed and does not require a manual signature

Click here for the verification website

Emrah SÖĞÜTÇÜ
New Building Division Manager
TÜRK LOYDU

Expire Date of Previous Certificate: 14.04.2025

For Information Only

This certificate is subject to terms and conditions described below:
Any significant change in design or construction may render this Certificate invalid. Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. This certificate is not valid for products without marking above mentioned. The manufacturer should notify TÜRK LOYDU of any modifications or changes to equipment in order to obtain valid certificate. This certificate shows that tested specimens as representative of the product complies of the TÜRK LOYDU rules, and relevant international instruments that apply to it.

Product Description	**: AU-21&22 Level Sensing Element (with relay circuit unit), float switch for vertical mounting. Output signal can be controlled by its float and float movements change its analog out-put signals. AU-21 works according to physical principles that are buoyancy force, pull and push force of electromagnetic.**
Type Designation	**: AU-21:Level Controler with 2 Contacts (Change Over with NO/NC)** **AU-22:Level Control with 3 Contacts (On/Off Type Relay)** **Max. Operating Temperature: 125 ºC** **Max. Operating Pressure : 16 bar**
Material Used	**: Flange: PN16 DN100 Stainless Steel or Carbon Steel** **Tube: Stainless Steel** **Float: Stainless Steel or Teflon** **Cover: Aluminium Injection with anti-corrosive paint** **Sensor System: Permanent Magnet and Reed Switch**
Size	**: AU21 L: 100, 200, 300, 400, 500, 700 mm** **AU22 L: 300, 500, 700, 1000, 1200, 1500, 2000 mm**
Approval No / Date	**: PAE-EPAS/021605/25-1081/VA/16.06.2025** **PAE-EPAS/022961/25-1081/NB/07.11.2025** **PAE-EPAS/023031/25-1081/NB/17.11.2025**
Voltage	**: Max. 24V -1A, 400VAC/DC (Max. Switch Voltage)**
Ex-Proof Availability	**: II 1/2 G Ex ma/db IIA T6 Ga/Gb**
Purpose of Use	**: Engine room, bilge well, pump room, bilge well alarms.**
Documentation	**: Environmental Test Report(Dry Heat, Damp Heat) for AU-21, Issued By AYVAZ, Report Nr.: 4452, 22-04-2021** **Environmental Test Report(Vibration) for AU-21, Issued By AYVAZ, Report Nr.: 4453, 22-04-2021** **Environmental Test Report(Cold) for AU-21, Issued By AYVAZ, Report Nr.: 4454, 22-04-2021** **Environmental Test Report(Dry Heat, Damp Heat) for AU-22, Issued By AYVAZ, Report Nr.: 4460, 22-04-2021** **Environmental Test Report(Vibration) for AU-22, Issued By AYVAZ, Report Nr.: 4461, 22-04-2021** **Environmental Test Report(Cold) for AU-22, Issued By AYVAZ, Report Nr.: 4462, 22-04-2021** **Environmental Test Report(Salt Mist) for AU-21, Issued By AYVAZ, Report Nr.: 6909, 31.03.2026** **Environmental Test Report(Salt Mist) for AU-22, Issued By AYVAZ, Report Nr.: 6910, 31.03.2026** **EU-Type Examination Certificate for AU22, Issued By Energy Petroleum Institute, Cert. Nr.:IEP 14 ATEX 0222, 17.05.2019** **EU-Type Examination Certificate for AU21, Issued By Energy Petroleum Institute, Cert. Nr.:IEP 14 ATEX 0223, 22.01.2020**
Performed Tests	**: Quality Audits** **Review of Calibration and Sub Component Certificate** **Review of IP Degree Test Report** **Review of ATEX (Explosion Proof) Certificate** **Control According to Approved Documentations** **Visual Inspection** **Performance Test** **Functional Testing During Environmental Test Sequences** **Vibration Test** **Insulation Resistance Test** **Damp Heat Test** **Dry Heat Test** **Low Temperature Test**

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	Dielectric Withstand Test **High Temperature Test** **Salt Mist Test**
Test Place	**: Atatürk San. Bölgesi, Hadımköy Mh. Mustafa İnan Cd. No.:44 Arnavutköy/İstanbul**
Others	**: Ingress Protection (IP) Information: Level Sensor Probe: IP68 (AU-21/AU-22) Electrical Connection Box: IP66 (AU-22)**
Approval Conditions	**: - Approval also valid for ships to be granted with the notations: AUT, AUT-nh,AUT-C and R.** **- Ex installations to be approved in each case according to Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.** **- Ex-certification is not covered by this certificate, which is for information only, is based on information received from the manufacturer, but not verified by TÜRK LOYDU.** **- Applications other than the "Type Designation" mentioned in this certificate are not covered by this type approval certificates.**

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