



Marine & Offshore

Certificate number: 10225/E0 BV

File number: AP 3314

Product code: 3741H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

HACI AYVAZ END. MAMULLER SAN. VE TIC. A.S.
ISTANBUL - TURKEY

for the type of product

LEVEL TRANSMITTERS

LEVEL CONTROL DEVICE - Types: C-4, AU-18, AU-20, AU-21, AU-22 & EG-11.

Requirements:

BV Rules for the Classification of Steel Ships.

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 05 Oct 2025

For Bureau Veritas Marine & Offshore,

At BV ISTANBUL, on 05 Oct 2020,

Gurcan Yilmaz



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Product model or type designation:

C-4, AU-18, AU-20, AU-21, AU-22 & EG-11.

Product description:

AU21 is intended to engine room, bilge well, pump room, bilge well alarms.

AU22 & EG-11 are intended to engine room tanks, peak tanks, cargo area high level, cargo area high level alarms.

Magnetic level switches with following specifications:

| Type | AU-18 | AU-20 | AU-21 | AU-22 | EG-11 |
|-------------------|--|--|--------------------------------|---|---|
| Dia. mm | 8 | 12 | 12 | 16 | 16 |
| Drawing no | 704.950.000.155 704.950.000.156 704.950.000.157 704.950.000.158 | 704.950.000.110 704.950.000.111 704.950.000.112 704.950.000.113 | 704.950.000.005 | 704.400.000.035 704.400.000.040 704.400.000.041 | 704.300.000.025 704.300.000.027 704.300.000.028 |
| Working Condition | Normal open | Normal open / change over | Change over | Normal open / change over | Normal open |
| Switch no | 1 | 1 | 1-2 | 1-4 | prp |
| Float No | 1 | 1 | 1-2 | 1-4 | 1 |
| Electricity | Max. 1 A, 24 V | Max. 1 A, 24 V | Max. 1 A, 24 V | Max. 1 A, 24 V | Max. 1 A, 24 V |
| Tamb. | -10/+125 | -10/+125 | -10/+125 | -10/+125 | -10/+100 |
| Ex Approval | II 1/2 G Ex ma IIA T6 GA/Gb | II 1/2 G Ex ma IIA T6 GA/Gb | II 1/2 G Ex ma IIA T6 GA/Gb | II 1/2 G Ex ma/db IIA T6 GA/Gb | II 1/2 G Ex ma/db IIA T6 GA/Gb |

| Type | C-4 | AU - EG |
|--|---|-----------------------------------|
| Mounting | Side | Vertical |
| Wetside Material | Stainless Steel AISI 304 (except float: AISI 316L) | Stainless Steel AISI 304 |
| Temperature Range | up to 150° C | -10°C to 125°C |
| Maximum Working Pressure for wetside parts | 16 Bar | 16 Bar |
| Switch Voltage Max | 125VDC / 480VAC | 400VAC/DC |
| Switching Capacity | 0.5A (VDC) - 15A (VAC) | N.O.: 3.0 A Change Over: 1.0 A |

2. DOCUMENTS AND DRAWINGS:

According to documents and drawings filed in AP 3314, including:

Drawing No: 7040003 for C-4 and No 704.300.000.015 for AU-EG, the letter dated 23.11.2007.

AYVAZ :

- Fact Sheet "Au-EG" (2 pages, undated and unreferenced).
- Double relays control panel using instruction, dated Mar 2011
- EG11-2R control panel montage instruction, dated Mar 2014
- Manufacturer declaration letter, dated 2015.01.30

IEP ATEX :

- Ex certificate No. IEP 14 ATEX 0222, dated .2014-05-28
- Ex certificate No. IEP 14 ATEX 0223, dated .2014-05-28

3. TEST REPORTS:

- Test Report No. A030142-CLE1&2, issued by the Laboratoire National d'Essais (LNE) on 06th June 2000.
- Test Report No. TL1310, issued by Mariner Systems (UK) Ltd. on 31 March 2009.

4. APPLICATION / LIMITATION:

4.1 - BV Rules for the Classification of Steel Ships.

4.2 - Approval also valid for ships to be granted with the notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - Magnetic Level Switches Type C-4 may not be used for oil and liquid fuel tanks on board passenger ships where penetration below tank top would be necessary.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **HACI AYVAZ END. MAMULLER SAN. VE TIC. A.S.** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **HACI AYVAZ END. MAMULLER SAN. VE TIC. A.S.** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **HACI AYVAZ END. MAMULLER SAN. VE TIC. A.S.** has declared to Bureau Veritas the following production site(s):

**HACI AYVAZ END. MAMULLER SAN. VE TIC. A.S.
ATATURK SAN. BOLGESI
MUSTAFA INAN CAD. NO:36
HADIMKOY, 34860 ISTANBUL
TURKEY**

6. MARKING OF PRODUCT:

- Maker's name or trade mark
- Serial number of the units
- Equipment type number or model identification under which it was type-tested.

7. OTHERS:

7.1 - It is **HACI AYVAZ END. MAMULLER SAN. VE TIC. A.S.**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate No. 10225/D0 BV issued on 28 Sep 2015 by the Society.

*** END OF CERTIFICATE ***