



Marine & Offshore

Certificate number: 23604/C0 BV

File number: AP 4169

Product code: 3840H

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
APLISENS S.A.
 WARSZAWA - POLAND

for the type of product
LEVEL SWITCH
 Float Level Switches
 Type: ERH-01...04-06/07/16/16.1
 ERH-07...09-06/07/16/16.1

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
 EC Code: 31S

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: 20 Jul 2027

For Bureau Veritas Marine & Offshore,

At BV KATOWICE, on 20 Jul 2022,

Wojciech Lubojanski

This certificate was created electronically and is valid without signature



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.

The electronic version is available at: <https://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=ggythntgw1>

BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

- Product model or type designation :

Type: ERH-01...04-06/07/16/16.1

ERH-07...09-06/07/16/16.1

- Product description:

The Float Level Switches types ERH are designed for automatic control, signalling or controlling of fixed liquid level limit value in open or closed (pressure) vessels.

1.1 - Main Characteristics:

Float Level Switch Types	ERH-01 to 04-06	ERH-01 to 04-07	ERH-01 to 04-16/16.1
Pressure:	4 MPa	0.2 MPa	4MPa 0.2MPa for 16.1
Maximum Fluid Temperature	250°C	70°C	100°C 70°C for 16.1
Nominal switching voltage			
AC-15	Ue=400V	Ue=24V	Ue=230V
DC-13	Ue=220V	Ue=24V	Ue=220V
Nominal Switching Current			
AC-15	Ie=AC1-10A	Ie=2.5A	Ie=2.5A
DC-13	Ie=0.6A	Ie=2.5A	Ie=0.3A
Ambient Temperature:	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
Explosion proof class symbol	-	-	II 1/2G c Ex de IIB T4 Ga/Gb
Ingress Protection:	IP66	IP68	IP66 (IP68 for 16.1)

Float Level Switch Types	ERH-07 to 09-06	ERH-07 to 09-07	ERH-07 to 09-16/16.1
Pressure:	4 MPa	0.2 MPa	4MPa 0.2MPa for 16.1
Maximum Fluid Temperature	250°C	70°C	100°C 70°C for 16.1
Nominal switching voltage			
AC-15	Ue=400V	Ue=24V	Ue=230V
DC-13	Ue=220V	Ue=24V	Ue=220V
Nominal Switching Current			
AC-15	Ie=AC1-10A	Ie=2.5A	Ie=2.5A
DC-13	Ie=0.6A	Ie=2.5A	Ie=0.3A
Ambient Temperature:	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C
Explosion proof class symbol	-	-	II 1/2G c Ex de IIB T4 Ga/Gb
Ingress Protection:	IP66	IP68	IP66 (IP68 for 16.1)

2. DOCUMENTS AND DRAWINGS:

- Technical Product Documentation Level Switches Type ERH-01...04-16 Ref: ER5-1543 dated August 2010.

- Technical Acceptance Specifications Ref ER5-1029/1046/1542/1588 Electric Two-Term Level Controllers ERH01/04-07 dated 09.2007

Drawing Number	Title	Date
ER3-1446	ERH-01 to 04-07	04.2005
ER3-1464	ERH-01 to 04-04/06/07	10.1995
ER3-1465	ERH	07.1995
ER3-1466	ERH-02-06	08.1995

ER3-1467	ERH-01 to 04-16	08.1995
ER3-1468	ERH-04-06	12.1996
ER3-1567	ERH-01 to 04-16	12.2004
ER4-1003	ERH-01-06	09.1998
ER4-1004	ERH-02-06	09.1998
ER4-1005	ERH-03-06	09.1998
ER4-1006	ERH-04-06	09.1998
ER4-1042	ERH-01-07	09.1998
ER4-1043	ERH-02-07	09.1998
ER4-1044	ERH-03-07	09.1998
ER4-1045	ERH-04-07	09.1998
ER4-1540	ERH-01-16	04.2004
ER4-1547	ERH-02-16	08.2005
ER4-1548	ERH-03-16	04.2004
ER4-1549	ERH-04-16	04.2004

2. DOCUMENTS AND DRAWINGS (to be continued):

For modification B0 version:

Aplisens:

- Declaration of compliance with ATEX Directive for ERH-01_04-16.1 No. ER-1769, dated Apr 20, 2016
- Datasheet Level Switch Ref.: ERH, dated Mar 2016

For C0 version:

- Technical Acceptance Specifications, No. ER5-1029, dated 03.03.2021.
- Technical Acceptance Specifications, No. ER5-1046, dated 03.03.2021.
- Technical Acceptance Specifications, No. ER5-1542, dated 03.03.2021.
- Drawing No. ER3-1876-, dated 11.20.
- Drawing No. ER3-1877-, dated 11.20.
- Drawing No. ER3-1878-, dated 11.20.

3. TEST REPORTS:

- Test Report of the Electric Liquid Level Controllers type ERH-01-07 No. 4/2000 reviewed and accepted on 31/01/2011.
- Supplementary Certificate No.3 to the Certificate of "WE" Type Test KDB 04ATEX 352 dated 30th March 2011.

For C0 version:

- Test Report No. 07/2022, dated April 2022.
- Test Report No. LL/070/2022, dated 20/04/2022.
- IP test report No. 146/LBS-897/2006, dated 24 November 2006

4. APPLICATION / LIMITATION:

- 4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - BUREAU VERITAS Environmental Category, **EC Code: 31S.**
- 4.4 - Float Level Switches may not be used for oil and liquid fuel tanks on board passenger ships where penetration below tank top would be necessary.
- 4.5 - Ex-certification is not covered by this certificate, Applications in hazardous areas are to be approved in each case according to the Rules and Conditions for Safe Use specified in a valid Ex-Certificate issued by a Notified or Recognised Certification Body.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The above products are to be supplied by **APLISENS S.A.** 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 - **APLISENS S.A.** 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 - **APLISENS S.A.** has declared to Bureau Veritas the following production site:

APLISENS S.A.
ul. Morelowa 7
03-192 WARSZAWA
POLAND

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
- Alternatively, the marking may be presented on a display at equipment start-up.

7. OTHERS:

7.1 - It is **APLISENS S.A., Warszawa - Poland**'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. 23604/B0 BV issued on 18 Nov. 2016 by the Society.

***** END OF CERTIFICATE *****