



CERTIFICATE NUMBER	20-2004764-PDA
EFFECTIVE DATE	09-Jun-2020
EXPIRY DATE	08-Jun-2025
ABS TECHNICAL OFFICE	Hamburg Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

ENDRESS & HAUSER SE & CO. KG

located at

HAUPTSTR. 1, D-79689 MAULBURG, Germany

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product Level Switch

Model Liquiphant FTL31

This Product Design Assessment (PDA) Certificate remains valid until 08/Jun/2025 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Efstratios Maliatsos, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

ENDRESS & HAUSER SE & CO. KG

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Germany

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Email: info@pcm.endress.com

Web: www.endress.com

Tier: 2 - PDA Issued

Product: Level Switch

Model: Liquiphant FTL31

Intended Service:

Liquid level limit monitoring (point level switch) for liquid tanks and pipelines (alternative to float switches).

Description:

Electronic limit switch, stainless steel housing 316L (1.4404/1.4435), G 1/2"/ 3/4"/ 1", thread mounted.
Presence of liquid is measured by resonant frequency of mechanical vibration.

Rating:

Power supply: 20...253V AC or 10...30V DC.

Temperature of medium: -40°C to 100°C or -40°C to 150°C (version dependant)

Ambient temperature: -40°C to 70°C

Max. pressure: 40 bar or 25 bar (version dependant)

Density range: > 0.7 g/cm³ (option: > 0.5 g/cm³)

Degree of protection: IP65 or IP65/67 or IP 66/68 (version dependent)

Service Restriction:

1. Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
2. The sensing devices are to be fitted with valves or arranged such that they may be isolated and removed without emptying tanks or without impairing the integrity of pressurized systems.
3. For passenger vessels, level switches are not to be installed on flammable oil tanks where they require tank wall penetration below the tank top.
4. Equipment not suitable for installation in hazardous areas.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Each particular application and installation is to be specifically approved in conjunction with the relevant system, locations and environmental conditions.

Notes/Drawing/Documentation:

Drawing No. 07310.185.14 Test Report_PAConsult GmbH_Liquiphant FTL3-1(230VAC)_V1.0, EMC Testreport, MessTechnikNord GmbH, 27-Aug-2014, Revision: 1, Pages: 1

Drawing No. 14-5891a-BE-Liquiphant FTL31 (Endress Hauser Messtechnik), Enviromental Testreport, Salt Mist Test, Paconsult GmbH, 07-Jan-2015, Revision: 1, Pages: 1

Drawing No. 14-6106-BE- Liquiphant FTL 31 (Endress und Hauser Messtechnik GmbH), Enviromental Testreport, Paconsult GmbH, 20-Aug-2014, Revision: 1, Pages: 1

Drawing No. 960016245--, Drawings DC version, Revision: 1, Pages: 1

Drawing No. 960016246--, Drawings DC version, Revision: 1, Pages: 1

Drawing No. 960016247--, Drawings DC version, Revision: 1, Pages: 1

Drawing No. 960016248--, Drawings DC version, Revision: 1, Pages: 1

Drawing No. 960016249--, Drawings DC version, Revision: 1, Pages: 1

Drawing No. 960016250--, Drawings DC version, Revision: 1, Pages: 1

Drawing No. 960016251--, Drawings DC version, Revision: 1, Pages: 1

Drawing No. 960016662--, Drawings DC version, Revision: 1, Pages: 1

Drawing No. 960016744--, Drawings DC version, Revision: 1, Pages: 1

Drawing No. 960016793--, Drawings AC version, Revision: 1, Pages: 1

Drawing No. 960016794--, Drawings AC version, Revision: 1, Pages: 1

Drawing No. 960016795--, Drawings AC version, Revision: 1, Pages: 1

Drawing No. 960016796--, Drawings AC version, Revision: 1, Pages: 1

Drawing No. 960016797--, Drawings AC version, Revision: 1, Pages: 1

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Drawing No. 960016798--, Drawings AC version, Revision: 1, Pages: 1
Drawing No. 960016799--, Drawings AC version, Revision: 1, Pages: 1
Drawing No. 960016800--, Drawings AC version, Revision: 1, Pages: 1
Drawing No. 970004180--_FTL31_IP6x, IP Rating Testreport, E&H Internal, 14-Feb-2014, Revision: 1, Pages: 1
Drawing No. 970004181--_FTL31_IPx6, IP Rating Testreport, E&H Internal, 13-Feb-2014, Revision: 1, Pages: 1
Drawing No. 970004182--_FTL31_IPx8, IP Rating Testreport, E&H Internal, 14-Feb-2014, Revision: 1, Pages: 1
Drawing No. 970004183--_FTL31_Type4, IP Rating Testreport, E&H Internal, 13-Feb-2014, Revision: 1, Pages: 1
Drawing No. 970004184--_FTL31_Type6P, IP Rating Testreport, E&H Internal, 14-Feb-2014, Revision: 1, Pages: 1
Drawing No. BA01285FA2_0315, Operating Instructions, Revision: 1, Pages: 1
Drawing No. EG_14_002_d, EU Declaration of Conformity, Revision: 1, Pages: 1
Drawing No. Flammschutz, Material Datasheets, Revision: 1, Pages: 1
Drawing No. Komponentenarchitektur_Liquiphant_FTL3x_15001873_V02R00, Software Development Information, Revision: 1, Pages: 1
Drawing No. LiY11Y 3xAWG20-19+PA 1,5-2,5mm, Material Datasheets, Revision: 1, Pages: 1
Drawing No. SQS_en_9001_14001_45001, ISO 9001 certificat, Revision: 1, Pages: 1
Drawing No. Solvay RADEL R-5000, Material Datasheets, Revision: 1, Pages: 1
Drawing No. Statement on Asbestos, Statement on Asbestos, Revision: 1, Pages: 1
Drawing No. TI01147FEN_0316, Technical Information, Revision: 1, Pages: 1
Drawing No. U125167E3, Enviromental Testreport, Phoenix Testlab, Salt Mist,10-Jun-2013, Revision: 1, Pages: 1
Drawing No. ULUG000794-DAB_ULUG000794 Li12Y11Y 4xAWG20-19, Material Datasheets, Revision:1, Pages:1
Drawing No. ULUG000803-DAB_LiY11Y 5xAWG20-7 PA 1,5-2,5mm..., Material Datasheets, Revision:1, Pages:1
Drawing No. Valox 357 XUweatherpdf, Material Datasheets, Revision: 1, Pages: 1
Drawing No. Zertifikate, Material Datasheets, Revision: 1, Pages: 1
Drawing No. fortron 1140L4.pdf0, Material Datasheets, Revision: 1, Pages: 1

----- 2020 Revalidation-----

Drawing No. 970007893_AK mit US, EMC Testreport FTL31 AC Version, E&H Internal, 25-May-2020, Revision:1, Pages:1

Drawing No. 970007894_AK mit US, EMC Testreport FTL31 DC Version, E&H Internal, 25-May-2020, Revision:1, Pages:1

Terms of Validity:

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STANDARDS

ABS Rules:

2020 Marine Vessel Rules: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-2/9.11.3, 4-6-4/11.7, 4-6-4/13.5.6(d), 4.6.4/15.3.4(d), 4-8-3/1.7, 4-8-3/1.11, 4-8-3/1.13, 4-8-3/1.17.1, 4-9-9/13.1, 4-9-9/Table 1

2020 Mobile Offshore Units Rules: 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-2-3/3.7, 4-2-4/13.7.6, 4-3-1/11, 4-3-1/15, 4-3-1/17.1

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Tier: 2 - PDA Issued

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA