



CERTIFICATE NUMBER 21-2085827-PDA
EFFECTIVE DATE 08-March-2021
EXPIRATION DATE 07-March-2026
ABS TECHNICAL OFFICE Singapore Engineering Services

CERTIFICATE OF Product Design Assessment

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

GOLDEN MOUNTAIN ENTERPRISE CO., LTD.

located at

**NO.9, LANE 133, XING-HUA ST., CHIEN-CHEN DISTRICT,
, KAOHSIUNG, Taiwan, R.O.C.-80673**

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 Magnetic Float Level Switch, Horizontal Magnetic Level Switch

Model LS series, LR series, SLS series, LT series, Models LT201, LT202, LT203, LT204, LT205, LXT201, LXT203S, LXT203F, LXT204, LXT205, SN series, M series, Models LT206H, LT206V, EDW series, EDX series, Models VLS5000, VLS5500 and CPLS1000

This Product Design Assessment (PDA) Certificate remains valid until 07-March-2026 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

Vibin Chandrabose, Senior Engineer

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

GOLDEN MOUNTAIN ENTERPRISE CO.

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Email: info@new-flow.com

Web: www.new-flow.com

Tier: 3 - Type Approved, unit certification not required

Product: Magnetic Float Level Switch, Horizontal Magnetic Level Switch
Model: LS series, LR series, SLS series, LT series, Models LT201, LT202, LT203, LT204, LT205, LXT201, LXT203S, LXT203F, LXT204, LXT205, SN series, M series, Models LT206H, LT206V, EDW series, EDX series, Models VLS5000, VLS5500 and CPLS1000

Endorsements:

Intended Service:
Liquids Level Control and Monitoring

Description:

These level switches, controls or transmitters are manufactured for top or side mounting on a tank as one of the components within control or monitoring system; following is the Manufacturer's self-explanation based on Manufacturer's catalog for each of product:

LS series: The vertical float level switch consists of a float with a built-in permanent magnet, and guide tube built in reed switch (one or more).

LR series of float-operated level switch suitable for control the liquid level with horizontal mounting.

SLS series: Float type liquid level controls.

LT series: The vertical float level transmitters consist of a float with a built-in permanent magnet, and guide tube built in many reed switch and resistances becoming a measuring sensor.

LT201 and LXT201 are horizontal magnetic float type level switch with thread type connection.

LT202 is horizontal magnetic float type level switch with Square Type Flange.

LT203 and LXT203F are horizontal magnetic float type level switch with flange type connection for high temperature.

LXT203S is horizontal magnetic float type level switch with thread type connection for high temperature.

LT204 and LXT204 are horizontal magnetic float type level switch with flange type connection.

LT205 and LXT205 are vertical magnetic float type level switch with flange type connection.

SN series: Application for none and low viscosity liquids system. In equipment for oil, food, beverages, medical, petrol chemical, water.

M series magnetic level gauge, level switch consists of an un-magnetic chamber, magnetic float and with a built-in magnet strips, a vertical chamber connected a tank with two ends. The float raised or falls in the chamber. It turns to the indicative strips to provide an indication of the tank level. This series also provide accessories such as switch and measuring sensor with converter turn to a 4-20mA (2 wires) DC output signal. To provide a liquid level control function.

LT206H and LT206V are float-operated with test device level switches suitable for controlling liquid level at horizontal mounting. The float equipped with an extended arm moves a couple magnetic mechanisms to actuate a micro switch to offer an ON-OFF contact for application.

EDW and EDX series: Displacer Level Switches are made to fit wide range applications such as pump control, wastewater level and deep open tank. They are designed for high corrosive resistance and long service life. 100-Series, 200-Series, 300-Series, and 602-Series are one stage control and easy to install, 601-Series have multiple set points and are easy to install and low cost.

VLS5000 is assembled with a tuning fork and energized sensor. It vibrates frequently with mechanical resonance to detect the liquid level when the tuning fork is immersed into process liquid.

VLS5500 is assembled with a tuning fork and energized sensor. It vibrates frequently with mechanical resonance to detect level of powders or granular bulk solids.

CPLS1000 is used for measuring process vessel at the specific one point for using level alarms or for interlocking level control system. CPLS1000 has the ability to detect and measure both conductive and non-conductive media.

CPLS1000 can be used in many industries for a wide range of applications such as water, oils, and a variety of corrosive materials.

Rating:
LS Series:

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Tier: 3 - Type Approved, unit certification not required

- Switching Capacity Max.: 40 W/VA, 60 W/VA, 20 W/VA;
- Switching Voltage Max.: 230V AC/DC, 250V AC/DC, 150V AC/DC;
- Switching Current Max.: 2A, 1A, 1A;
- Carrying Current Max.: 3A, 2A, 2A;
- Working Temperature: -20 deg.C to 130 deg.C

LR Series:

- Switching Capacity Max.: 40 W/VA, 10 W/VA, 20 W/VA;
- Switching Voltage Max.: 230V AC/DC, 100VDC/250VAC, 150V AC/DC;
- Switching Current Max.: 2A, 1A, 1A;
- Carrying Current Max.: 3A, 1.5A, 2A

SLS Series:

- Switching Capacity Max.: 60 W/VA, 20 W/VA;
- Switching Voltage Max.: 250V AC/DC, 150V AC/DC;
- Switching Current Max.: 1A, 1A;
- Carrying Current Max.: 2A, 2A;
- Working Temperature: -20 deg.C to 130 deg.C

LT Series:

- Output Signal: 4-20mA DC;
- Power Supply: 11V-30V DC;
- Max. Range: 6000mm;
- Limiting Operating Temperature: -20 deg.C to 100 deg.C;
- Limiting Operating Pressure: 3-30 kg/cm²

LT201 & LXT201:

- Temperature Limits: -20 deg.C to 150 deg.C;
- Pressure Limits: 3.0 MPa up to 4.5 MPa;
- Switch Rating: 3A/250VAC, 5A/125VAC, 4A/30VDC;

LT202:

- Temperature Limits: -20 deg.C to 150 deg.C (Standard), -20 deg.C to 200 deg.C & -20 deg.C to 350 deg.C (High Temperature);
- Pressure Limits: 3.0 MPa up to 4.5 MPa (Without Test Device), 6 kg/cm² (With Test Device);
- Switch Rating: 3A/250VAC, 5A/125VAC, 4A/30VDC

LT203, LXT203F & LXT203S:

- Temperature Limits: -20 deg.C to 200 deg.C, -20 deg.C to 350 deg.C;
- Pressure Limits: 3.0 MPa up to 4.5 MPa;
- Switch Rating: 3A/250VAC, 5A/125VAC, 4A/30VDC;

LT204 & LXT204:

- Temperature Limits: -20 deg.C to 150 deg.C;
- Pressure Limits: 3.0 MPa up to 4.5 MPa
- Switch Rating: 3A/250VAC, 5A/125VAC, 4A/30VDC;

LT205 & LXT205:

- Temperature Limits: -20 deg.C to 150 deg.C;
- Pressure Limits: 3.0 MPa up to 4.5 MPa (diameter 40 float), 2.0 MPa (diameter 50 float)
- Switch Rating: 3A/250VAC, 5A/125VAC, 4A/30VDC;

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SN Series:

- Temperature Limits: -20 deg.C to 90 deg.C;
- Pressure Limits: 10 kg/cm²

M Series:

- Temperature Limits: 0 deg.C to 50 deg.C (PVC, PP), -30 deg.C to 100 deg.C (PVDF), -20 deg.C to 150 deg.C (Stainless Steel), -20 deg.C to 300 deg.C (Stainless Steel);
- Pressure Limits: 5 kg/cm² (PVC, PP), 7 kg/cm² (PVDF), 20 kg/cm² up to 50 kg/cm² (Stainless Steel), up to 100 kg/cm² (Titanium Float);

LT206H & LT206V:

- Temperature Limits: -25 deg.C to 100 deg.C;
- Pressure Limits: 0.3 MPa;
- Switch Rating: 15 A 125/250VAC or 480VAC;

EDW & EDX Series (100, 200, 300):

- Max. Temperature: 250 deg.C;
- Max. Pressure: 50 kg/cm² at 25 deg.C;
- Switch Rating: 5A/125VAC, 5A/250VAC, 2A/30VDC;

EDW 601 & EDX 601:

- Max. Temperature: 200 deg.C;
- Max. Pressure: 40 kg/cm² at 25 deg.C;
- Switch Rating: AC 125V 0.5A, DC 100V 10W, Max. DC 250V < 1mA;

EDW 602 & EDX 602:

- Max. Temperature: 200 deg.C;
- Max. Pressure: 40 kg/cm² at 25 deg.C;
- Switch Rating: 5A/125VAC, 5A/250VAC, 2A/30VDC;

VLS5000:

- Working Temperature: -30 deg.C to 80 deg.C;
- Working Pressure: Max. 100 kg/cm² up to 400 kg/cm²;
- Power Supply: 110VAC, 220VAC, 24VDC;
- Contact Rating: 20A/125VAC, 12A/250VAC;

VLS5500:

- Working Temperature: -30 deg.C to 80 deg.C;
- Working Pressure: Max. 100 kg/cm² up to 400 kg/cm²;
- Power Supply: 110VAC, 220VAC, 24VDC;
- Contact Rating: 20A/125VAC, 12A/250VAC;

CPLS1000:

- Working Temperature Limit: -20 deg.C to 120 deg.C;
- Working Pressure Limit: 20 kg/cm²;
- Power Supply: 110VAC, 220VAC, 25VDC;
- Contact Rating: 10A/5A 120VAC (NO/NC), 7A/5A 240VAC (NO/NC);

See attached Ex table for Ex ratings.

Service Restriction:

1. Unit Certification is not required for these products. If the manufacturer or purchaser request an ABS Certificate for

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compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

2. If the tank level switches are installed at tank locations where they are subject to a static head of liquid, they are to be arranged such that they may be removed without emptying the tank.

3. ATEX certified equipment is not to be installed in hazardous areas on U.S vessels unless it can be proved to have been tested to the applicable IEC 60079 series standards by an independent laboratory accepted by the U.S Coast Guard. USCG notice 01-12 (February 7, 2012).

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

2. The subject components are to bear permanent identification, such as the manufacturer's name or trademark, material identify, pressure rating, etc. at which the manufacturer guarantees these components to meet the requirements of the manufacturer' standards. Such markings may be cast or forged integral with, stamped on, or securely affixed by nameplate on the component, and are to serve as a permanent means of identification of the component throughout its service life in accordance with 4-6-1/7.1.3 and 4-6-1/7.1.4 of ABS Marine Vessels Rules 2021.

3. Where fitted on a remote level indicating system, plans showing the arrangements and details of the system, along with particulars of the sensing and transmitting devices, are to be submitted for review in each case.

Notes/Drawing/Documentation:

Drawings and Documentation:

Drawing No.: 1, LS Series, Revision: -, Pages: 35

Drawing No.: 2, LR Series, Revision: -, Pages: 3

Drawing No.: 3, SLS Series, Revision: -, Pages: 3

Drawing No.: 4, LT Series, Revision: -, Pages: 4

Drawing No.: 5, LT201 Series, Revision: -, Pages: 1

Drawing No.: 6, LXT201 Series, Revision: -, Pages: 1

Drawing No.: 7, LT202 Series, Revision: -, Pages: 2

Drawing No.: 8, LT203 Series, Revision: -, Pages: 1

Drawing No.: 9, LXT203F Series, Revision: -, Pages: 1

Drawing No.: 10, LXT203S Series, Revision: -, Pages: 1

Drawing No.: 11, LT204 Series, Revision: -, Pages: 1

Drawing No.: 12, LXT204 Series, Revision: -, Pages: 1

Drawing No.: 13, LT205/LXT205 Series, Revision: -, Pages: 1

Drawing No.: 14, SN Series, Revision: -, Pages: 2

Drawing No.: 15, M Series, Revision: -, Pages: 6

Drawing No.: 16, LT206 Series, Revision: -, Pages: 2

Drawing No.: 17, EDW/EDX 100 Series, Revision: -, Pages: 1

Drawing No.: 18, EDW/EDX 200 Series, Revision: -, Pages: 2

Drawing No.: 19, EDW/EDX 300 Series, Revision: -, Pages: 2

Drawing No.: 20, EDW/EDX 601 Series, Revision: -, Pages: 1

Drawing No.: 21, EDW/EDX 602 Series, Revision: -, Pages: 1

Drawing No.: 22, VLS5000, Revision: -, Pages: 2

Drawing No.: 23, VLS5500, Revision: -, Pages: 2

Drawing No.: 24, CPLS1000, Revision: -, Pages: 2

Drawing No.: 25, SIRA 14ATEX1107U, Revision: -, Pages: 3

Drawing No.: 26, CESI 03 ATEX 108, Revision: -, Pages: 6

Drawing No.: 27, Ex Certificate (2016) 00225, Revision: -, Pages: 3

Drawing No.: 28, Ex Certificate (2016) 00226, Revision: -, Pages: 3

Drawing No.: 29, Ex Certificate (2015) 00196, Revision: -, Pages: 2

Drawing No.: 30, Ex Certificate (2015) 00197, Revision: -, Pages: 2

Drawing No.: 31, Ex Certificate (2019) 07-00213U, Revision: -, Pages: 1

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Drawing No.: 32, Ex Certificate (2019) 07-00212U, Revision: -, Pages: 1

Drawing No.: 33, IECEX FTZU 12.0017U, Revision: -, Pages: 5

Drawing No.: 34, Ex Certificate (2016) 00114, Revision: -, Pages: 1

Drawing No.: 35, Ex Certificate (2017) 00105, Revision: -, Pages: 1

Drawing No.: 36, IECEX UL 13.0039U, Revision: -, Pages: 11

Drawing No.: 37, Ex Table, Revision: -, Pages: 1

Terms of Validity:

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STANDARDS

ABS Rules:

Rules for Conditions of Classification (2021) – 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

Rules for Building and Classing Marine Vessels: 4-6-2/9.11.3, 4-6-4/11.7, 4-6-4/11.9, 4-6-4/13.5.6(d), 4-6-4/15.3.4(d)

Rules for Conditions of Classification (2021) – Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

Rules for Building and Classing Mobile Offshore Units: 4-2-1/11.31, 4-2-3/3.1, 4-2-3/3.7, 4-2-4/13.7.6

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA