

[1]

EU-TYPE EXAMINATION CERTIFICATE

[2] Product Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

[3] EU-Type Examination Certificate Number: **DNV 22 ATEX 34311X** **Issue 0**

[4] Product: **Smart Pressure Transmitters**

[5] Manufacturer: **NOVA Smar S/A**

[6] Address: **Av. Dr Antonio Furlan Jr
1028 Sertãozinho-SP
14170-480, Brazil**

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] DNV Product Assurance AS, notified body number 2460, in accordance with Article 17 and Article 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in confidential reports listed in item 16.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with: **EN IEC 60079-0:2018 and EN 60079-1:2014.**

Where additional criteria beyond those given here have been used, they are listed at item 18 in the Schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

 **II -/2 G Ex db IIC T6 Gb Tamb -20°C to + 60°C**

Date of issue:
2022-12-21



Bjørn Spongsveen
For DNV Product Assurance AS
The Certificate has been digitally signed.
See www.dnv.com/digitalsignatures for info



[13] **Schedule**

[14] **EU-Type Examination Certificate No:** DNV 22 ATEX 34311X Issue 0

[15] **Description of Product**

LD400 HART (SIS) is a Smart Pressure Transmitter for the below various functions

- a) Differential, Gage, Absolute Pressure and Differential Pressure for High Static Pressure.
- b) Level Measurement.
- c) Level with Extended Probe Measurement.
- d) Sanitary Measurements.
- e) Gage Inline Measurement.

It consists of Housing and Pressure sensor which forms together flameproof enclosure. Housing has two interconnected compartments for electronic components arrangement. Bigger compartment contains electronic board with LED screen and cover with glass window. The joint between the glass and cover is cemented. Housing contains two threaded openings for use of certified cable glands. The enclosure could be made either from Aluminium (Al351 or Al6351) or from Stainless steel AISI 316.

Surface treatment and painting applied to protect the enclosure from atmospheric influences as corrosion.

The pressure sensor is made from Stainless steel only.

The pressure sensor element is outside the hazardous area and the space between the element and sensor electronic is cemented to create a zone barrier.

Type Designation for the following variants

- a) Differential, Gage, Absolute Pressure and Differential Pressure for High Static Pressure.
- b) Level Measurement.
- c) Level with Extended Probe Measurement.
- d) Sanitary Measurements.
- e) Gage Inline Measurement.

LD400 - *** - X1* - ***** - *** - X2** - X3X4D2*/*

X1 – Communication protocol (H = HART 4 to 20 mA, _ = without communication)

X2 – Electrical connection (0 = ½ -14NPT, A = M20x1.5)

X3 – Housing material (A and B = Aluminium, I and J = 316 SST)

X4 – Painting (0 = Gray Munsell N6,5 Polyester, 8 = without painting, 9 = Safety Blue Epoxy - Electrostatic painting, C = Safety Blue Polyester – Electrostatic.

Differential Pressure - LD400D and LD400H

Pressure is applied to high and low side and differential pressure is measured. High static pressure is supported for LD400H models.

Flow - LD400D and LD400H

The differential pressure is generated by a primary flow element and the square root function computes the flow measurement.

Absolute Pressure - LD400A

The pressure is measured at the high side of the transmitter and the low side is at zero absolute pressure to a sealed chamber with vacuum.

Gage Pressure - LD400M

The pressure is measured at the high side of the transmitter and the low side is open to the atmosphere, providing true local atmospheric reference.

Level - LD400L and LD400I

The transmitter has a flange-mounted unit for direct installation on vessels. Extended diaphragms are also available. The closed tank low side can compensate for ullage pressure.

In-line Gauge Pressure Transmitter – LD400G

This model uses the Low-Cost Differential Capacitive Sensor with the Lower Side Input opened to atmosphere. Therefore, this model measures the pressure relative to atmosphere and the output function can be linear or linearized by the linearization table.

Sanitary - LD400S

LD400S is especially designed for food and other applications where sanitary connections are required. With threaded or "tri-clamp" connections, it allows quick and easy cleaning and maintenance.

The flush connection enables deposit removal without disconnecting the seal.

[16] **Report No.:** 370460

[17] Specific Conditions of Use

- 1) Repairs of the flameproof joints must be made in compliance with the structural specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in tables 3 of EN/IEC 60079-1.
- 2) For cover and sensor thread form and quality of fit, contact the manufacturer for proper details.

[18] Essential Health and Safety Requirements

In addition to clause [9] above also the clauses of 5.3.1.7, A.2 and figure A.1 in EN 13617-1:2004+A1:2009 has been applied in the type examination.

[19] Drawings and documents

Number	Title	Rev.	Date
LD400 Version 1	Operation and maintenance instruction manual: LD400ME	2	May 2022
101-A-0637-06	Vidro do visor rectificado	6	2011-12-13
101-A-6107-03	Vidro do visor retif p resinagem	3	2011-12-13
102A160600	LD400-HART-SIS Boards Arrangement	0	2008-11-26

102A160601	LD400-HART-SIS Boards Arrangement	0	2008-11-26
102B007311	Field Devices capacitive sense board GLL910	11	2007-06-06
102B085004	Field Devices terminal block HART 400 series GLL1302	4	2007-07-11
102B091902	Field Devices main board SIS line 400 GLL1353	2	2013-01-07
102B092000	Field Devices 1 channel capacitive sense board GLL1358	0	2008-07-29
102B092100	Field Devices 1 channel capacitive sense board GLL1359	0	2008-07-28
101-B-4524-02	Dimensional da Plaqueta de Identificacao	2	2014-01-28
102A191601	LD400 HART marking plate - Pressure Transmitter for Differential, Gage, Absolute Pressure and Differential Pressure for High Static Pressure.	0	2014-01-14
102A191701	LD400 HART SIS marking plate - Pressure Transmitter for Differential, Gage, Absolute Pressure and Differential Pressure for High Static Pressure	0	2014-01-14
102A191801	LD400 HAR marking plate - Pressure Transmitter for Level measurement	0	2014-01-14
102A191901	LD400 HART SIS marking plate - Pressure Transmitter for Level measurement	0	2014-01-14
102A192001	LD400 HAR marking plate - Pressure Transmitter for Level with Extended probe measurement	0	2014-01-14
102A192101	LD400 HART SIS marking plate - Pressure Transmitter for Level with Extended probe measurement	0	2014-01-14
102A192201	LD400 HAR marking plate - Pressure Transmitter for Sanitary measurement	0	2014-01-14
102A1912301	LD400 HART SIS marking plate - Pressure Transmitter for Sanitary measurement	0	2014-01-14
102A1912401	LD400 HAR marking plate - Pressure Transmitter for Gage line measurement	0	2014-01-14
102A1912501	LD400 HART SIS marking plate - Pressure Transmitter for Gage line measurement	0	2014-01-14
101-E-0479-00	LD400 SIS	0	2022-04-28
102B110401	FIELD DEVICES DIGITAL BOARD HART SIS REVAMP GLL1475 (Sheet 12)	0	2020-05-04

[20] **Certificate History**

Issue	Description	Issue date	Report no.
0	Original issue	2022-12-21	370460

END OF CERTIFICATE