

# [1] EC-TYPE EXAMINATION CERTIFICATE

[2] Equipment or Protected System Intended for use  
in Potentially explosive atmospheres  
Directive 94/9/EC

[3] EC-Type Examination Certificate Number: **Nemko 13ATEX1574X** Issue 1

[4] Equipment or Protective System: **Pressure Transmitter**

[5] Applicant/ Manufacturer: **Smar Equipamentos Industriais Ltda.**

[6] Address: **Av. Dr. Antonio Furlan Jr., 1028  
Sertãozinho -SP-14160.000  
Brazil**

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

[8] Nemko AS, notified body number 0470 in accordance with Article 9 of Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. **D0000308**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 60079-0: 2012, EN 60079-1: 2007**

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC.

Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:



**II 2G**

**Ex d IIC T6 Gb Ta : -20°C to +60°C**

Oslo, 2016-04-19

**Asle Kaastad**  
Certification Manager, Ex-products

## [13] Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE No**    **Nemko 13ATEX1574X**    **Issue 1**

[15] **Description of Equipment or Protective System**

The Pressure Transmitter LD290 Series and LD300 Series use the same physical structure in terms of electronic boards and mechanical enclosures and consist in housing, 2electronic circuit and sensor. To measure the applied pressure, the LD300 Series uses the differential capacitive sensor and the LD290 Series the gauge in-line capacitive sensor.

The model LD290 is a pure 4-20 mA transmitter, the models LD291 and LD301 offer digital communication based in HART®, the models LD292 and LD302 offer digital communication based in Foundation™ Fieldbus and the models LD293 and LD303 PROFIBUS PA.

The superior part is a Flameproof Housing, manufactured in AISI316/CF-8M or SAE305 or SAE336/ANSI356, closed by removable screwed covers with M76 x 1,27 threads, with or without visor, and the cable entry for electronic circuits is mounted in the wall of the housing with options ½"-14 NPT or M20x1,5.

Under the one cover, being equipped with an inspection glass, an alphanumeric LCD-display is arranged optionally; under the other cover, terminals for the signal-circuit are arranged. The inferior part is the sensor structure connected through a M46 x 1, 27 thread.

This certificate shall be considered in conjunction with Ex d requirements only.

**Type Designations**

LD 290, 291, 292 & 293

LD 301, 302 & 303

**Technical Data**

28 V DC,

12mA quiescent current consumption: 12 mA for Fieldbus/ Profibus protocol.

**Ingress Protection Code**

IP66W and IP68W

10m for a period of 24 hours for IP68. Tested in a saturated solution of NaCl 5% w / w, at 35°C for a period of 200 h.

[16] Report No. D0000308

**Descriptive Documents**

Title:	Drawing No.:	Rev. Level:	Sheet	Date:
Boards Arrangements LD290/291	102A-0417	06	1	12-09-19
Boards Arrangements LD301	102A-0337	04	1	12-09-19
PCB Interconnection LD290/291	102B-0445	06	1	12-09-20
PCB Interconnection LD301	102B-0438	04	1	12-09-20
LM LD290	LM-102-0514	18	1	12-10-18
LM LD291	LM-102-0515	18	1	12-10-18
LM LD301	LM-102-0516	17	1	12-10-18
LM General Components Hart	LM-102-0161	04	1	06-05-10
Label Plate LD290 NEMKO-EXAM/BVS IP66	102A-1455	03	1	14-09-08
Label Plate LD290 NEMKO-EXAM/BVS IP66W	102A-1511	03	1	14-09-08
Label Plate LD291 NEMKO-EXAM/BVS IP66	102A-1457	03	1	14-09-08
Label Plate LD291 NEMKO-EXAM/BVS IP66W	102A-1513	03	1	14-09-08
Label Plate LD301 NEMKO-EXAM/BVS IP66/68	102A-1313	03	1	14-09-08
Label Plate LD301 NEMKO-EXAM/BVS IP66/68W	102A-1491	03	1	14-09-08
Mechanical Drawing LD290/291 NEMKO	101-E-0056	06	1	13-09-13
Mechanical Drawing LD301 NEMKO	101-E-0029	07	1	13-09-13
Boards Arrangements LD292/293	102A-0599	03	1	14-11-05
Boards Arrangements LD302/303	102A-0338	05	1	14-11-04
PCB Interconnection LD292/293	102B-0639	03	1	14-11-04
PCB Interconnection LD302/303	102B-0439	05	1	14-11-04
LM LD292/293/302/303	LM-102-1129	00	1	14-11-05
LM General Components Fieldbus/Profibus PA	LM-102-0232	03	1	06-11-13
Label Plate LD292 NEMKO-EXAM/BVS IP66	102A-1459	03	1	15-02-04
Label Plate LD292 NEMKO-EXAM/BVS IP66W	102A-1515	03	1	15-02-04
Label Plate LD293 NEMKO-EXAM/BVS IP66	102A-1462	03	1	15-02-04
Label Plate LD293 NEMKO-EXAM/BVS IP66W	102A-1518	03	1	15-02-04
Label Plate LD302 NEMKO-EXAM/BVS IP66/68	102A-1312	03	1	15-02-04
Label Plate LD302 NEMKO-EXAM/BVS IP66/68W	102A-1490	03	1	15-02-04
Label Plate LD303 NEMKO-EXAM/BVS IP66/68	102A-1467	03	1	15-02-04
Label Plate LD303 NEMKO-EXAM/BVS IP66/68W	102A-1523	03	1	15-02-04
Mechanical Drawing LD292/293 NEMKO	101-E-0062	04	1	13-09-13
Mechanical Drawing LD302/303 NEMKO	101-E-0015	06	1	13-09-13

**Certificate History and Associated Nemko Reports**

Issue	Date	Report	Description
0	2013-12-13	189620	Prime Certificate released
1	2016-04-18	D0000308	Inclusion of new PCB and descriptive documents updations.

**[17] Special Conditions for Safe Use**

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 1 and 2 of EN/IEC 60079-1.

**[18] Essential Health and Safety Requirements**

See item 9