

[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 03ATEX1430X**

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

[5] Manufacturer and applicant: **Smar Equipamentos Industriais Ltda**

[6] Address: **Av. Antonio Furlan Jr., 1028
Sertazinho 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. 13154

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
CENELEC EN 50014: 1997 + A1: 1999 + A2: 1999
CENELEC EN 50020: 2002
CENELEC EN 50284: 1999
CENELEC EN 50281-1-1: 1998

[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 1 G
II 1 D

EEx ia IIC T4
T 62°C

Oslo, 2003-09-26



Rolf Hoel
Certification Department

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Postal address:
P.O.Box 73 Blindern
N-0314 OSLO, NORWAY

Office address:
Gaustadalléen 30
0373 OSLO

Telephone:
+47 22 96 03 30
Fax:
+47 22 96 05 50

Enterprise number:
NO 974404532

[13] Schedule**[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 03ATEX1430X****[15] Description of Equipment or Protective System**

Pressure transmitters for gauge or differential pressure using capacitive sensors for conversion of a pressure into an electrical signal and transmission to unspecified equipment via certified diode safety barriers. The transmitter comprises an aluminium or stainless steel enclosure with a terminal compartment and a compartment containing main electronic board, sensor board and display. Sensor with diaphragm and process adaptor/flange made of stainless steel. Process connections with various thread options and sizes.

Type Designations

LD292	Gauge pressure transmitter- Fieldbus
LD293	Gauge pressure transmitter- Profibus
LD302	Pressure transmitter for differential, absolute, gauge, level and flow measurements- Fieldbus
LD303	Pressure transmitter for differential, absolute, gauge, level and flow measurements- Profibus

Safety Parameters for Intrinsic Safety

Maximum input voltage.	U_i :	22,5V
Maximum input current.	I_i :	208mA
Maximum input power.	P_i :	1,15W
Maximum internal capacitance.	C_i :	5nF
Maximum internal inductance.	L_i :	6 μ H

[16] Report No. 13154 and the listed Descriptive Documents.**Descriptive Documents**

Number	Rev.	Date	Title /Description	Sheets
101-A-6211-01	01	2003-09-18	LD302 Marking Nemko ATEX	1
101-A-6212-01	01	2003-09-18	LD303 Marking Nemko ATEX	1
101-A-6343-01	01	2003-09-18	LD292 Marking Nemko ATEX	1
101-A-6344-01	01	2003-09-18	LD293 Marking Nemko ATEX	1
101E006200	-	2000-02-14	LD292 Dimensional Drawing with Indicator	1
101E012800	-	2000-02-14	LD293 Dimensional Drawing with Indicator	1
101 ^E 001502	2	1998-04-06	LD 302/303 Dimensional Drawing	1
102A022601	1	2000-12-07	GLL910 (PCB)	6
102A022702	2	2000-02-17	GLL802 (PCB)	4
102A032004	4	2003-03-25	GLL1000 (PCB)	4
102A033802	2	2003-03-25	LD292/303 Board arrangement	1
102A059900	-	2000-03-25	LD292/293 Boards Arrangement	1
102A0981	00	2003-08-11	Equipment LD292/LD293/LD302/LD303 Control Drawing	1
102B004305	5	2000-01-21	Display GLL802	2
102B007308	08	2000-12-07	Field Devices Capacitive sense Board GLL910	2
102B020510	10	2003-03-27	GLL 1000 (Schematics)	4
102B030700	-	1997-01-21	Transformer General Information	1
102B030800	-	1997-01-21	Transformer General Information	1
102B043902	2	2000-08-25	LD302/303 Circuit board interconnection	1
102B050601	01	1998-12-21	Field Devices terminal block	2

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102B050701	01	1998-12-21	Field Devices Terminal Block	2
102B063900	-	2000-08-28	LD292/293 Printed circuit Board Interconnection	1
80000586-5	5	2003-09-18	Parts List	9
80000607-1	1	2003-09-18	Parts List	1

[17] Special conditions for safe use.

1. The transmitters are marked with three options for the indication of the protection code.
The certification is valid only when the protection code is indicated in **one** of the boxes following the code.
The following options apply:
 - 1.a. EEx d IIC T6 () with **X** ticked in the parenthesis:
The EEx d IIC T6 protection according to certificate Nemko 02ATEX035X/02ATEX149X applies for the specific transmitter. Certified EEx d IIC cable entries shall be used.
 - 1.b. EEx ia IIC T4 () with **X** ticked in the parenthesis:
The EEx ia IIC T5 protection according to certificate Nemko 03ATE1430 X applies for the specific transmitter. Certified diode safety barriers shall be used.
 - 1.c. EEx d IIC T6 / EEx ia IIC T4 () with **X** ticked in the parenthesis:
The transmitter has a double protection. Both EEx d IIC T6 and EEx ia IIC T5 protection apply for the specific transmitter according to certificates Nemko 02ATEX035X/02ATEX149X and Nemko 03ATEX1430X
In this case the transmitter shall be fitted with appropriate certified cable entries EEx d IIC and the electric circuit supplied by a certified diode safety barrier as specified for the protection EEx ia IIC T4
2. For enclosures of the transmitters made of aluminium impact and friction hazards shall be considered when the transmitter is used in category II 1 G according to EN 50284 clause 4.3.1
4. The diode safety barrier shall have a linear resistive output characteristic.
5. The pressure of the potentially explosive atmosphere surrounding the transmitter shall be within the range 0,8 mbar to 1,1mbar

[18] Essential Health and Safety Requirements

Covered by the standards listed under [9]

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SUPPLEMENT 1 TO EC-TYPE EXAMINATION CERTIFICATE**[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 03ATEX1430X****[15] Description of Equipment or Protective System**

This certificate covers the following changes:

- Revised documents
- Technical changes that do not affect the intrinsic safety.

[16] Report No. 63400**Descriptive Documents**

Name/Title	Drawing No.	Rev.	Date	Sheets
GLL802 (PCB Layout)	102A022703	02	2004-08-24	4
GLL1000 (PCB Layout)	102A032005	05	2004-03-30	4
FIELD DEVICES CAPACITIVE SENSE BOARD GLL910	102B007310	10	2005-01-25	1
FIELD DEVICES TERMINAL BLOCK	102B050703	03	2004-03-30	1
TRANSFORMER GENERAL INFORMATION	102B030802	02	2004-02-25	1
FIELD DEVICES MAIN BOARD GLL1000	102B020512	12	2004-03-30	4
MARKING NEMKO – ATEX (LD292)	101A634302	02	2005-12-29	1
MARKING NEMKO – ATEX (LD293)	101A634402	02	2005-12-29	1
MARKING NEMKO – ATEX (LD302)	101A621102	02	2005-12-29	1
MARKING NEMKO – ATEX (LD303)	101A621202	02	2005-12-29	1

[18] Essential Health and Safety Requirements

See item 9 in main certificate

Oslo, 2006-05-31

**Rolf Hoel**
Certification Department*This certificate may only be reproduced in its entirety and without any change, schedule included.*

SUPPLEMENT 2 TO EC-TYPE EXAMINATION CERTIFICATE**[14] EC-TYPE EXAMINATION CERTIFICATE No Nemko 03ATEX1430X****[15] Description of Equipment or Protective System**

This certificate covers the following changes:

- Revised documents
- Technical changes that do not affect the intrinsic safety.

[16] Report No. 70156**Descriptive Documents**

Name/Title	Drawing No.	Rev.	Date	Sheets
TRANSFORMER GENERAL INFORMATION	102B030701	01	2002-12-18	1

[18] Essential Health and Safety Requirements

See item 9 in main certificate

Oslo, 2006-07-13

**p.p. Rolf Hoel
Certification Department***This certificate may only be reproduced in its entirety and without any change, schedule included.*