Translation

(1) # EC-Type Examination Certificate

(2) **- Directive 94/9/EC -**
Equipment and protective systems intended for use in potentially explosive atmospheres

(3) ## DMT 01 ATEX E 059

(4) **Equipment:** **Pressure Transmitter Type LD 29* ****-**-**-****

(5) **Manufacturer:** **smar Equipamentos Industriais Ltda**

(6) **Address:** **BR 14160 -000 Sertaozinho-SP (Brazil)**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8) The certification body of Deutsche Montan Technologie GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment 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 the test and assessment report BVS PP 01.2059 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 50014:1997+A1-A2 General requirements
EN 50020:1994 Intrinsic Safety "i"
EN 50284:1999 Category 1G
EN 50303:2000 Category M1

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment 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 in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate

(12) The marking of the equipment shall include the following:

II 1/2G EEx ia IIC T4
I M1 EEx ia I

Deutsche Montan Technologie GmbH
Essen, dated 15. May 2001

Signed: Jockers
DMT-Certification body

Signed: Dill
Head of special services unit

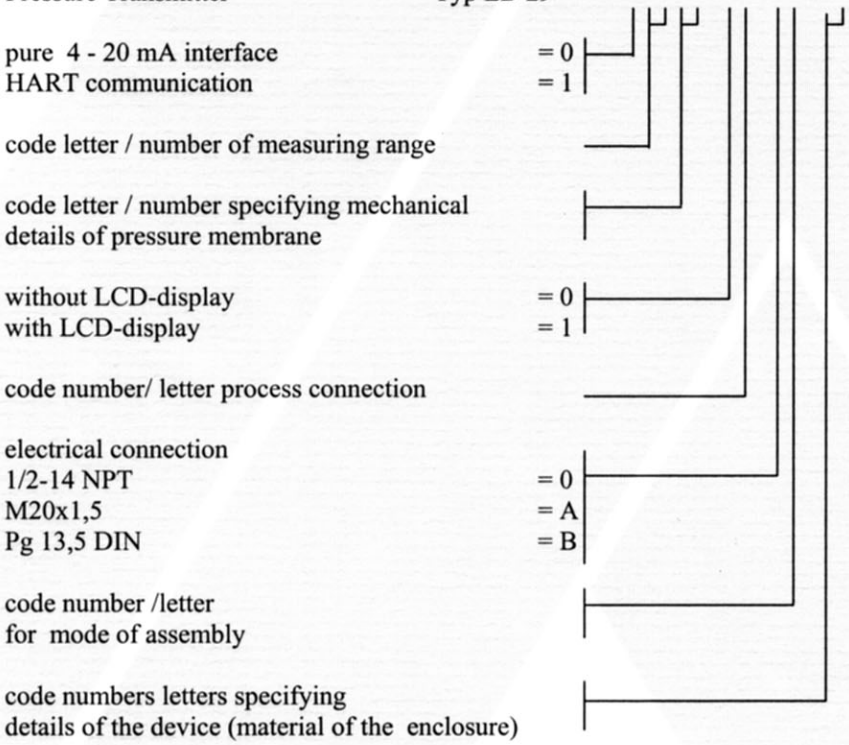
(13) Appendix to

(14) # EC-Type Examination Certificate

DMT 01 ATEX E 059

(15) 15.1 Subject and type

Pressure Transmitter Typ LD 29* **** - ** - ** - **



15.2 Description

The Pressure Transmitter type LD 29* ****-**-**-** is an intrinsically safe supplied pressure meter designated for continuous measurement of gas- or liquid-media in hazardous areas requiring category 1/2G, 2G or M1 apparatus.

The Pressure Transmitter comprises a tubular light alloy or stainless steel enclosure, which contains printed circuit boards with electronic components closed by means of screwed caps.

The wall of the enclosure is flanged to a cast steel enclosure, which comprises a mechanical pressure gauge and printed circuit boards with electronic components, embedded in sealing compound.

The light alloy enclosure shall be installed in hazardous areas requiring category 2G equipment.

The stainless steel enclosure will be installed in hazardous areas requiring category 2G or M1 equipment.

The process connections is installed in the separation wall (wall of a vessel / pipe) separating areas from each other which require category 1G or category 2G equipment

DMT

15.3 Parameters

15.3.1 Supply and signal circuit

for the connection to an intrinsically safe 4 to 20 mA current loop

voltage	U_i	DC	28 V
current	I_i		93 mA
effective internal capacitance	C_i	≤	5 nF
effective internal inductance	L_i		negligible

15.3.2 Maximum permissible power for certified intrinsically safe supply and signal circuits as a function of ambient temperature and temperature class

max.ambient-temperature T_a	temperature-class	power P_i
85°C	T 4	700 mW
50°C	T 5	700 mW
55°C	T 5	650 mW
60°C	T 5	575 mW
65°C	T 5	500 mW
70°C	T 5	425 mW
40°C	T 6	575 mW

15.3.3 Ambient temperature range: $-40\,°C \leq T_a \leq +85°C$

(16) Test and assessment report
BVS PP 01.2056 EG as of 15.05.2001

(17) Special conditions for safe use

None

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

45307 Essen, 14. May 2001
BVS-Schä/Mi A 20010232

Deutsche Montan Technologie GmbH

DMT-Certification body

Head of special services unit

DEKRA

Translation

1st Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 01 ATEX E 059

Equipment: **Pressure Transmitter Type LD29* ****-**-**-****

Manufacturer: **smar Equipamentos Industriais Ltda.**

Address: **BR 14170-480 Sertaozinho-SP (Brazil)**

Description

The pressure transmitter can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2006	General requirements
EN 60079-11:2007	Intrinsic safety 'i'
EN 60079-26:2004	Equipment Group II Category 1G
EN 50303:2000	Equipment Group I Category M1

The marking of the equipment shall include the following:

II 1/2G Ex ia IIC T4/T5/T6
I M1 Ex ia I

Parameters

1. Supply and signal circuit
   Designed for the connection to an intrinsically safe 4 to 20 mA current loop

Voltage	U_i	DC	28	V
Current	I_i		93	mA
Effective internal capacitance	C_i	≤	5	nF
Effective internal inductance	L_i	negligible		

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(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

2. Maximum permissible power for certified intrinsically safe supply and signal circuits as a function of ambient temperature and temperature class

Max. ambient-temperature T_a	Temperature-class	Power P_i
85 °C	T 4	700 mW
75 °C	T 4	760 mW
44 °C	T 5	760 mW
50 °C	T 5	700 mW
55 °C	T 5	650 mW
60 °C	T 5	575 mW
65 °C	T 5	500 mW
70 °C	T 5	425 mW
40 °C	T 6	575 mW

3. With regard to explosion protection requirements the Pressure-Transmitter is suitable for operation in the following ambient temperature range:

$-40°C \leq T_a \leq +85°C$

Special conditions for safe use

None

Test and assessment report

BVS PP 01.2056 EG as of 02.03.2009

DEKRA EXAM GmbH
Bochum, dated 02. March 2009

Signed: Simanski
Certification body

Signed: Dr. Eickhoff
Special services unit

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We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 02. March 2009
BVS-Scha / Her A 20070676

DEKRA EXAM GmbH

Certification body

Special services unit

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