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(1) **EC TYPE EXAMINATION CERTIFICATE**

(2) **Equipment or protective system intended for use
in potentially explosive atmospheres
Directive 94/9/EC**

(3) EC type examination certificate number: **ISSEP07ATEX012X**

(4) Equipment or protective system:
Option I4, I6, C6 and C7 load cells.

(5) Applicant – Manufacturer – ~~Authorized representative in the Community:~~
SENSY S.A.

(6) Address: Z.I. Jumet
Allée Centrale
B - 6040 JUMET

(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) ISSEP, notified body n° 492 in accordance with article 9 of the 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 n° 07063.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
IEC 60079-0 : 2004 IEC 61241-0 : 2004
IEC 60079-11 : 2006 IEC 61241-1 : 2004
IEC 60079-26 : 2004

(10) If the symbol "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.

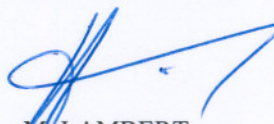
(11) This EC TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of this Directive may apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

(12) The marking of the equipment or protective system shall include the following indications:

 II 1 GD Ex ia IIC T6 to T4
Ex tD A20 IP6X T80°C

Colfontaine, the 14.06.2007

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M. LAMBERT,
Manager.

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(13)

SCHEDULE

(14)

EC TYPE EXAMINATION CERTIFICATE N^R ISSEP07ATEX012X

(15) Description of the equipment or protective system:

Options I4, I6, C6 and C7 load cells.

Possible and admissible variations :

- XXXX-I4 Resistive compensation cell – standard version
- XXXX-I6 Resistive compensation cell – bridge of 1000 Ω
- XXXX-C6 Cell with integral 4-20 mA conditioner
- XXXX-C7 Cell with 4-20 mA conditioner on the cable

Electrical parameters : see symbol X

Routine tests :

The manufacturer shall make the routine verifications and tests necessary to ensure that the electrical apparatus produced complies with the specification submitted to the testing station together with the prototype or sample (clause 27 of IEC 60079-0).

Eventual prescriptions : Tamb : -20°C à +60°C
IP6X

(16) Report n^o 07063 of 08.06.2007

Composed in total of 35 pages, completed by the following descriptive documents :

- "Manuel d'instructions générales pour capteur à jauges de contrainte"
- Particular instruction "Fabrication aux normes Ex" (2 pages)
- "Protections et famille de capteurs selon fermeture" du 05.06.2007 (6 pages)
- "Amplificateur dans le capteur Modèle AMPLI C" du 22.05.2003
- "Option C Version : Amplificateur sur le câble 4-20 mA 2 fils" du 22.05.2003
- "Adaptation carte 71000-01" du 17.02.2003

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SCHEDULE

EC TYPE EXAMINATION CERTIFICATE N^R ISSEP07ATEX012X

Number	Rev.	Pg	Date	Description
DFX\ELECTRON\5510PROT	1		09.01.96	
DFX\ELECTRON\5510CABL	1		09.01.96	
DFX\ELECTRON\4500PROT	1		15.04.96	
DFX\ELECTRON\4500CABL	1		15.04.96	
DFX\ELECTRON\3100PMON	1		01.10.96	
DFX\ELECTRON\3100PPRO	1		01.10.96	
DFX\ELECTRON\3100PCAB	1		15.04.96	
DFX\ELECTRON\3100PPRO	1		15.04.96	
DFX\ELECTRON\3100PCAB	1		01.10.96	
ICA5 518-908	1		13.04.07	Bottom Layer
ICA5 518-908	1		20.03.07	
ICA5 518-908	1		13.04.07	Top Layer
ICA5 518-908	1		20.03.07	Top ident
518-908	1		02.04.07	ICA5
CI-5510-1999			14.09.99	Circuit 5510-1999
CI-2000S-2001			18.04.01	Circuit 2000S-2001
CI-2022-1999			22.09.99	Circuit 2022-1999
CI-2712			16.09.98	Circuit 2712
CI-2712U			01.03.00	Circuit 2712U
CI-5000-2001			03.09.01	Circuit 5000-2001
CI-206L-15			08.09.98	Circuit 206L-15
CI-9102 -2001			03.09.01	Circuit 9102 -2001
DI-71000-4-20mA			21.05.03	Dimensions carte 71000 4-20mA + Détails
CA-420mA-2fils			20.05.03	Schéma de câblage capteur 4/20mA 2 fils
71000-01	C		16.12.02	Nomenclature Carte 4 20 mA
71000-02			23.12.98	Schéma de principe carte 4/20 mA
71000-02-B			19.05.03	Schéma de principe carte 4/20mA pour capteur à jauges de contrainte 4500-5000 ohms
71000-05			23.12.98	Vue du CI face de dessus carte 4/20 mA
71000-06			23.12.98	Vue du CI face de dessous carte 4/20 mA
71000-07			23.12.98	Schéma d'implantation face de dessus carte 4/20 mA
71000-08			23.12.98	Schéma d'implantation face de dessous carte 4/20 mA
71000-14	a		16.12.02	Nomenclature carte 4 20 mA SI

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SCHEDULE

EC TYPE EXAMINATION CERTIFICATE N^R ISSeP07ATEX012X

(17) Special conditions for safe use :

-) The metallic enclosure shall be connected to the earth.
-) If the enclosure contains light alloys, all precautions shall be taken in order to avoid all impact or friction which can ignite the explosive atmosphere
-) The options I4 and I6 load cells (without signal conditioner) shall be supplied by :
 - a) Power supply input:
 - one certified diodes safety barrier with 2 channels having the following electrical parameters (for each channel) :
U_o=12V - I_o=160mA - P_o=0.96W
 - optionally, a supplementary certified diodes safety barrier with 2 channels connected in parallel on the first one and called "SENSE" having the following electrical parameters (for each channel) :
U_o=9V - I_o=26mA - P_o=0.2W.
 - b) Signal output :
 - one certified diodes safety barrier with 2 channels having the following electrical parameters (for each channel) :
U_o=9V - I_o=26mA - P_o=0.2W
-) The options C6 and C7 load cells (with 4-20 mA signal conditioner) shall be supplied with a certified associated apparatus having the following maximum electrical parameters : U_o=28V - I_o=100mA - P_o=0.7W
-) The electrical parameters of the cables shall be less or equal to :
 - # for options I4 and I6 load cells
C_c=14nF - L_c=10μH
 - # for options C6 and C7 load cells
C_c=53nF - L_c=150μH
-) Temperature class in relation to the ambient temperature range :
 - # for the option I4 load cells

Ambient temperature range	Temperature class
-20°C to +40°C	T5
-20°C to +60°C	T4

for the options C6, C7 and I6 load cells

Ambient temperature range	Temperature class
-20°C to +60°C	T6

-) When the apparatus is used in dust atmosphere, the used plug shall have a protection degree of at least IP6X

(18) Essential Health and Safety Requirements: Covered by the Standards listed in (9)

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VARIATION

EC TYPE EXAMINATION CERTIFICATE N^R ISSeP07ATEX012X/1

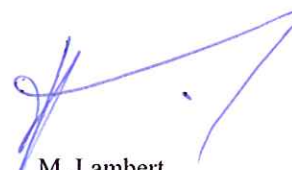
- (14) Equipment or protective system:
Options I4, I6, C6 and C7 load cells
- (15) Object of the variation:
- To permit the certificate updating following the last editions of the Standards in force
EN 60079-0 : 2012 (IEC 60079-0 : 2011)
EN 60079-11 : 2012 (IEC 60079-11 : 2011)
EN 60079-26 : 2007 (IEC 60079-26 : 2006)
 - The codes are modified as follow:

 II 1 G Ex ia IIC T6...T4 Ga
 II 1 D Ex ia IIIC T80°C Da
- Electrical parameters: Unchanged
- Eventual prescriptions: Unchanged
- (16) Report n^r : 13023 of 15.03.2013
Composed in total of 28 pages, completed with the following documents:
- General instruction manual for load cells with strain gauges (English and French versions)
 - Load cells user's guide appendix
 - The drawings :

ET-EXI-GD-T4 of 11.03.2013
 ET-EXI-GD-T5 of 11.03.2013
 ET-EXI-GD-T6 of 11.03.2013
- (17) Special conditions for safe use:
The conditions imposed by the original certification are completed by:
-) All precautions shall be taken in order to avoid dust layers on the equipment when used in dust atmospheres
- (18) Essential Health and Safety Requirements: Covered by the Standards listed in (15)

Colfontaine, 15.03.2013

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M. Lambert
Directeur

This document may not be used without the original certificate

VARIATION

EC TYPE EXAMINATION CERTIFICATE N^R ISSeP07ATEX012X/3

- (14) Equipment or protective system:
Options I4, I6, C6 and C7 load cells
- (15) Object of the variation:
To permit the use of the equipment at minimum temperature of -40 °C
- Electrical parameters: Unchanged
- Eventual prescriptions: Unchanged
- (16) Report n^r : 14028 of 09.04.2014
Composed in total of 5 pages, completed with the following documents:
- « General Instructions Manual for Load Cells with Strain Gauges » rev. 1 of 07.04.2014 (5 pages), French and English versions.
- (17) Special conditions for safe use:
The special condition for a safe use about the temperature class is modified as follow:

-) Temperature class in relation to ambient temperature :

for the option I4 load cells

Ambient temperature range	Temperature class
-40°C to +40°C	T5
-40°C to +60°C	T4

for the options C6, C7 and I6 load cells

Ambient temperature range	Temperature class
-40°C to +60°C	T6

- (18) Essential Health and Safety Requirements: Covered by the Standards listed in variation 1

Colfontaine, 16.04.2014

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Directeur

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VARIATION

EC TYPE EXAMINATION CERTIFICATE N^R ISSeP07ATEX012X/4

(14) Equipment or protective system:

Load Cell option I4, I6, C6 and C7

(15) Object of the variation:

To permit the use of the resistive cells (I4 and I6) at a maximum ambient temperature of +180°C

The codes are, for the I4 and I6 cells  II 1G Ex ia IIC T6... T2 Ga

II 1D Exia IIIC T80°C...T200°C Da

Electrical parameters: Unchanged

Eventual prescriptions: Unchanged

(16) Report n^r 15014 of 23.02.2015

Composed in total of 9 pages, completed with the following documents:

- « Manuel d'instructions générales pour capteur à jauges de contraintes » rev. 4 of 03.02.2015 (5 pages), French and English versions.
- « Annexe au manuel d'utilisation capteurs » of 19.02.2015
- « Capteurs résistants aux hautes températures » IP-Option W180, rev. 2 of 20.02.2015
- The drawings :
 - o ET-EXI-GD-T2-52x30-I of 30.01.2015
 - o ET-EXI-GD-T2-80x50-I of 30.01.2015

This document may not be used without the original certificate

VARIATION

EC TYPE EXAMINATION CERTIFICATE N^R ISSeP07ATEX012X/4

(17) Special conditions for safe use:

The special condition for a safe use about the temperature classes imposed by the original certification is modified as follow:

-) Temperature class in relation to ambient temperature :

for the option I4 load cells

Ambient temperature range	Temperature class for gas (Ga)	Temperature class for dust (Da)
-40°C to +40°C	T5	T80°C
-40°C to +60°C	T4	T80°C
-40°C to +180 °C	T2	T200°C

for the options I6 load cells

Ambient temperature range	Temperature class for gas (Ga)	Temperature class for dust (Da)
-40°C to +60°C	T6	T80°C
-40°C to +180°C	T2	T200°C

for the options C6 and C7 load cells

Ambient temperature range	Temperature class for gas (Ga)	Temperature class for dust (Da)
-40°C to +60°C	T6	T80°C

(18) Essential Health and Safety Requirements: Covered by the Standards listed in (15) from the variation 1

Colfontaine, 04.03.2015

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