(1) EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT

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

(3) Supplement nr. **7** to EC-Type Examination Certificate number **LOM 03ATEX2030 X**

(4)	Equipment or protection system	Load cells Mark UTILCELL, types 300, 340, 350 and 650
(5)	Manufacturer	Técnicas de Electrónica y Automatismos, S.A.
(6)	Address	Espronceda, 176-180 08018-BARCELONA SPAIN
(7)	Test report nr.:	**LOM 14.141 XP**

(8) Variations included in this certificate

1 To include dimensional changes in the model 350

2 Replace the printed circuit board to use surface mount components on all models

(9) Changes in marking

Without changes

(10) Changes in the special conditions for a safe use

Without changes

(11) Descriptive documents

	Rev.	Date
- Technical dossier:	-	2014-03-07

Getafe, 2014-09-19

Carlos Fernández Ramón
Responsible of the Certification Committee

This supplement must be an inseparable part together with the base certificate **LOM 03ATEX2030 X**

This Certificate is a translation from the original in Spanish. The LOM liability applies only on the Spanish text

UNIVERSIDAD POLITÉCNICA DE MADRID
ENSAYOS E INVESTIGACIONES DE MATERIALES Y EQUIPOS PARA ATMÓSFERAS EXPLOSIVAS Y MINERÍA
(Real Decreto 334/1992 de 3 de Abril - BOE 1992-04-29)
Eric Kandel, 1 - 28906 GETAFE (MADRID) • (34) 91 4421366 • (34) 91 4419933 • lom@lom.upm.es

LABORATORIO OFICIAL J. M. MADARIAGA

(1) EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT

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

(3) Supplement nr. **6** to EC-Type Examination Certificate number **LOM 03ATEX2030 X**

(4) Equipment or protection system: Load cells
Mark UTILCELL, types 300, 340, 350 and 650

(5) Manufacturer: Técnicas de Electrónica y Automatismos, S.A.

(6) Address: Espronceda, 176-180
08018-BARCELONA
SPAIN

(7) Test report nr.: **LOM 11.483 RP**

(8) Variations included in this certificate

- To increase the range of the model 350 that includes the capacities of 7500 Kg and 10000 Kg.
- Update to the standard EN 60079-11:2012

(9) Changes in marking

Without changes

(10) Changes in the special conditions for a safe use

Without changes

(11) Descriptive documents

	Rev.	Date
- Description:	-	2010-07-19

Getafe, 2013-12-02

Carlos Fernández Ramón
Responsible of the Certification Committee

This supplement must be an inseparable part together with the base certificate **LOM 03ATEX2030 X**

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LABORATORIO OFICIAL J. M. MADARIAGA

(1) EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT

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

(3) Supplement nr. **5** to EC-Type Examination Certificate **LOM 03ATEX2030 X**

(4) Equipment or Protection System: Load cell
Mark UTILCELL, types 300, 340, 350 and 650

(5) Manufacturer: Técnicas de Electrónica y Automatismos, S.A.

(6) Address: Espronceda, 176-180
08018-BARCELONA
SPAIN

(7) Test report nr.: **LOM 10.254 KP**

(8) Variations included in this certificate

- To include an application as category 1D using the type of protection by enclosures and the assessment update based on standards EN 60079-0:2009 and EN 60079-31:2009. Load cells can be used alternatively either in intrinsically safe circuits or as equipment protected by enclosure type of protection, the last when used in flammable dusts environment.
- To increase the range of the model 300 that include the capacities of 5 Kg and 500 Kg.

Specific parameters with "Ex ta" type of protection: Maximum voltage supply: 25 V

The specific parameters as intrinsically safe equipment remain unchanged.

(9) Changes in marking

II 1 G Ex ia IIC T4..T6 Ga
II 1 D Ex ia IIIC T135 ºC..T85 ºC Da
II 1 D Ex ta IIIC T85 ºC Da

(10) Changes in special conditions for safe use

When load cells are used with a mode of protection by enclosure "Ex ta" the cable and the same cells must be mechanically protected. The power supply of the load cells must be fitted with a fuse of up to 1 A according to IEC 60127 with a breaking capacity not less than 10 kA.

(11) Descriptive documents

		Rev.	Date
- Drawings nr.:	HM-0347	0	2010-12-21
	HM-0348	0	2010-12-21
	HM-0349	0	2010-12-21
	HM-0350	0	2010-12-21

OFICIAL LABORATORIO J.M. MADARIAGA LOM

Madrid, 2010-12-22

Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY

Angel Vega Remesal
Head of ATEX area

This supplement must be an inseparable part together with the base certificate **LOM 03ATEX2030 X**

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RCPCER 07.4/2
Rev. 0

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LABORATORIO OFICIAL J. M. MADARIAGA

(1) EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT

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

(3) Supplement nr. **4** to EC-Type Examination Certificate number **LOM 03ATEX2030**

(4) Equipment or Protection System — Load cells
Mark UTILCELL, type 300, 340, 350 and 650

(5) Applicant — Técnicas de Electrónica y Automatismos, S.A.

(6) Address — Espronceda, 176-180
08018-BARCELONA
SPAIN

(7) Test report nr.: **LOM 09.335 BP**

(8) Variations included in this certificate

- Assessment update to the standards EN 60079-0:2006 and EN 60079-11:2007
- To include the temperature class T4 resulting the following specific parameters of the type of protection

Temperature class	Specific paramentes according type	
	300 / 340	350 / 650
T4	Pi: 2,5 W	Pi: 1,3 W
T5	Pi: 2,5 W	Pi: 0,8 W
T6	Pi: 1,69 W	Pi: 0,53 W

(9) Changes in marking

II 1GD Ex ia IIC T4..T6

(10) Descriptive documents

		Rev.	Date
- Description	-	-	2009-03-30
- Drawings nr.:	HM-0258	-	2009-03-30
	HM-0259	-	2009-03-30
	HM-0260	-	2009-03-30
	HM-0261	-	2009-03-30

OFICIAL LABORATORIO J.M. MADARIAGA LOM

Madrid, 2009-10-13

Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY

Angel Vega Remesal
Head of ATEX area

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Rev. 0

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LABORATORIO OFICIAL J. M. MADARIAGA

(1) EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT

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

(3) Supplement nr. **3** to EC-Type Examination Certificate number: **LOM 03ATEX2030**

(4) Equipment or Protection System: Load cells
Mark UTILCELL, types 300, 340, 350, and 650

(5) Applicant: Técnicas de Electrónica y Automatismos, S.A.

(6) Address: Espronceda, 176-180
08018-BARCELONA
SPAIN

(7) Test report no.: **LOM 06.226 MP**

(8) Variations included in this certificate

To include a new variant type 650 having the same constructive and metrological characteristics than type 350.

Rated characteristics

Rated supply voltage:	10 Vdc
Maximum supply voltage:	22 V (ac o dc)
Input resistance:	400±20 Ω ... 1150±60 Ω
Output resistance:	350±3 Ω ... 1000±9 Ω
Rated load (type 650):	250,500,1000,2000,5000 and 7500 kg

Type of protection specific parameters are identical to type 350

(9) Variations in marking

The corresponding to type reference.

(10) Descriptive documents

		Rev.	Date
- Description		-	2006-04-06
- Drawings nr.:	HM-0218	-	2006-03-13
	HM-0219	-	2006-03-13
	HM-0221	-	2006-03-13
	HM-0222	-	2006-03-13
	HM-0238		2006-04-06

OFICIAL LABORATORIO J.M. MADARIAGA LOM

Madrid, 14th June, 2006

Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY

Angel Vega Remesal
Head of ATEX area

This supplement must be an inseparable part together base certificate **LOM 03ATEX2030**

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ENAC INSPECCIÓN Nº 23/E1037

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LABORATORIO OFICIAL J. M. MADARIAGA

(1) EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT

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

(3) Supplement nr. **2** to EC-Type Examination Certificate number: **LOM 03ATEX2030**

(4) Equipment or Protection System — Load cells
Mark UTILCELL, types 300, 340 and 350

(5) Applicant — Técnicas de Electrónica y Automatismos, S.A.

(6) Address — Espronceda, 176-180
08018-BARCELONA
SPAIN

(7) Test report no. — **LOM 03.636 WP**

(8) Variations included in this certificate

Changing in ingress protection marking to IP68, tested at 1 m during 100h, by application of the standard EN 60529:1991.

(9) Variations in marking

Ex II 1 GD	EEx ia IIC T5..T6	IP68	T85ºC

OFICIAL LABORATORIO J.M. MADARIAGA LOM

Madrid, 13 January de 2004

Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY

Angel Vega Remesal
Head of ATEX area

This supplement must be an inseparable part together base certificate **LOM 03ATEX2030**

ENAC INSPECCIÓN Nº 23/EI037

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LABORATORIO OFICIAL J. M. MADARIAGA

(1) EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT

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

(3) Supplement nr. **1** to EC-Type Examination Certificate number: **LOM 03ATEX2030**

(4) Equipment or Protection System: Load cells
Mark UTILCELL, types 300, 340 and 350

(5) Applicant: Técnicas de Electrónica y Automatismos, S.A.

(6) Address: Espronceda, 176-180
08018-BARCELONA
SPAIN

(7) Test report no. **LOM 03.469 LP**

(8) Variations included in this certificate
Alternative use of other type and value of strain gauges and also compensating resistors that affects rated characteristics of load cells:

Input impedance: 400±20...1150±60 Ω
Output impedance: 350±1...1000±3 Ω

Other characteristics are not affected:

(9) Descriptive documents

	Rev.	Date
- Description, pages 1/15, 2/15 and 15/15	-	2003-02-21

Madrid, 22 October de 2003

Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY

OFICIAL LABORATORIO J.M. MADARIAGA LOM

Angel Vega Remesal
Head of ATEX area

This supplement must be an inseparable part together base certificate **LOM 03ATEX2030**

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ENAC INSPECCIÓN Nº 23/E1037

UNIVERSIDAD POLITÉCNICA DE MADRID
ENSAYOS E INVESTIGACIONES DE MATERIALES Y EQUIPOS PARA ATMÓSFERAS EXPLOSIVAS Y MINERÍA
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LABORATORIO OFICIAL J. M. MADARIAGA

(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: **LOM 03ATEX2030**

(4) Equipment or Protection System: Load cells
Mark UTILCELL, types 300, 340 and 350

(5) Applicant: Técnicas de Electrónica y Automatismos, S.A.

(6) Address: Espronceda, 176-180
08018-BARCELONA
SPAIN

(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) Laboratorio Oficial J.M. Madariaga (LOM), notified body number 0163 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament 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 nr. **LOM 03.074 GP**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
– Standards **EN 50014:1997 + A1:1999 + A2:1999**
EN 50020:2002
EN 50281-1-1:1998 + A1:2002

(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 and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of the Directive applies to the manufacture 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:

Ex II 1 GD EEx ia IIC T5..T6 IP65 T85ºC

Madrid, 18 Mars 2003

Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY

OFICIAL LABORATORIO J.M. MADARIAGA LOM

Angel Vega Remesal
Head of ATEX area

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ENAC INSPECCIÓN Nº 23/EI037
UNIVERSIDAD POLITÉCNICA DE MADRID
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(A1) SCHEDULE

(A2) EC-Type Examination Certificate: : **LOM 03ATEX2030**

(A3) Description of equipment or protective system

Strain gauge load cells that include a permanent cable mounted by the manufacturer with a maximum length of 20 m.

Rated characteristics

Nominal voltage supply:	10 Vdc
Maximum voltage supply:	22 V (ac o dc)
Input resistance:	400±20 Ω
Output resistance:	350±3 Ω
Rated load (type 300):	10, 20, 30, 50, 75, 100, 150, 200, 250 and 300 kg
Rated load (type 340):	15, 30, 50, 75, 100, 150, 200, 250, 300, 500, 750, 1000 and 1500 kg
Rated load (type 350):	300, 500, 750, 1000, 1500, 2000, 3000 y 5000 kg

Temperature Class	Specific parameters according type	
	300 / 340	350
T5	Pi: 2,5 W	Pi: 0,8 W
T6	Pi: 1,69 W	Pi: 0,53 W

(A4) Test report nr: **LOM 03.074 GP**

(A5) Special conditions for safe use

None

(A6) Individual tests

None

(A7) Essential Health and Safety Requirements

Explosion safe requirements are covered by application of the standards indicated in page 1/2 of this certificate.

(A8) Descriptive documents:

		Rev.	Date
- Description (2 pp.)		-	2001-09-06
- Drawings nr.:	HM-0002	-	2003-02-21
	HM-0003	-	2003-02-21
	HM-0004	-	2003-02-21
	HM-0005	-	2003-02-21
	HM-0006	-	2003-02-21
	HM-0007	-	2003-02-21
	HM-0008	-	2003-02-21
	HM-0009	-	2003-02-21
	HM-0010	-	2003-02-21
	HM-0011	-	2003-02-21
	HM-0012	-	2003-02-21
	HM-0013	-	2003-02-21

LABORATORIO OFICIAL J.M. MADARIAGA LOM

(1) EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT

(2) Equipment of category 3 intended for use in potentially explosive atmospheres Directive 94/9/EC

(3) Supplement nr. **1** to Type Examination Certificate number **LOM 13ATEX4094**

(4)	Equipment or protection system	Load cells Mark UTILCELL, types 300, 340, 350, 650, 450, 460 and 750
(5)	Manufacturer	Técnicas de Electrónica y Automatismos, S.A.
(6)	Address	Espronceda, 176-180 08018-BARCELONA SPAIN
(7)	Test report nr.:	**LOM 14.141 XP**

(8) Variations included in this certificate

1 To include dimensional changes in the model 350

2 Replace the printed circuit board to use surface mount components on the models 300, 340, 350 and 650

(9) Changes in marking

Without changes

(10) Changes in the special conditions for a safe use

Without changes

(11) Descriptive documents

	Rev.	Date
- Technical dossier:	-	2014-03-07

Getafe, 2014-09-19

Carlos Fernández Ramón
Responsible of the Certification Committee

This supplement must be an inseparable part together with the base certificate **LOM 13ATEX4094**

This Certificate is a translation from the original in Spanish. The LOM liability applies only on the Spanish text

UNIVERSIDAD POLITÉCNICA DE MADRID
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LABORATORIO OFICIAL J. M. MADARIAGA

TYPE EXAMINATION CERTIFICATE

(2) Equipment of category 3 intended for use in potentially explosive atmospheres Directive 94/9/EC

(3) Type Examination Certificate nr **LOM 13ATEX4094**

(4) Equipment or protection system: Load celss
Mark UTILCELL, Types 300, 340, 350, 650, 450, 460 and 750

(5) Manufacturer: Técnicas de Electrónica y Automatismos, S.A.

(6) Address: Espronceda, 176-180
08018 BARCELONA
SPAIN

(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) Laboratorio Oficial J.M. Madariaga (LOM) certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment of category 3 intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in confidential report nr. **LOM 13.626 CP**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

- Standards **EN 60079-0:2009** **EN 60079-15:2010** **EN 60079-31:2009**

(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 Type Examination Certificate relates only to the design and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of the Directive apply to the manufacture 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 3GD Ex nA IIC T6 Gc
Ex tc IIIC T 85ºC Dc

Getafe, 2013-12-13

Carlos Fernández Ramón
Responsible of the Certification Committee

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UNIVERSIDAD POLITÉCNICA DE MADRID
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Eric Kandel, 1 – 28906 GETAFE (MADRID) • (34) 91 4421366 • (34) 91 4419933 • lom@lom.upm.es

SCHEDULE

(A2) Type Examination Certificate nr: **LOM 13ATEX4094**

(A3) Description of equipment or protective system

Strain gauge load cells that include a permanent cable mounted by the manufacturer with a maximum length of 22 m and connection with 4 or 6 wires.

Rated characteristics

Type	Input resistance (Ω)	Output resistance (Ω)	Nominal load
300	400±20..1150±60	350±3..1000±9	5, 10, 20, 30, 50, 75, 100, 150, 200, 250, 300, 500 kg
340	400±20..1150±60	350±3..1000±9	15, 30, 50, 75, 100, 150, 200, 250, 300, 500, 750, 1000, 1500 kg
350	400±20..1150±60	350±3..1000±9	300, 500, 750, 1000, 1500, 2000, 3000, 5000, 7500, 10000 kg
650	400±20 … 1150±60	350±3..1000±9	250, 500, 1000, 2000, 5000, 7500 kg
450	800±100	700±10	2, 5, 7, 10, 15, 20 t
460	800±100	700±10	5, 10, 15, 20, 30, 50, 75, 100 t
750	800±100	700±10	7.5, 10, 15, 20, 25, 30 t

Nominal voltage supply : 10 V
Maximum voltage supply : 22 V

(A4) Test report nr. **LOM 13.626 CP**

(A5) Special conditions for a safe use

None

(A6) Individual tests

None

(A7) Essential Health and Safety Requirements

Explosion safe requirements are covered by application of the standards indicated in first page of this certificate.

(A8) Descriptive documents

	Rev.	Date
- Technical dossier (37 sheets):	-	2012-07-16