



TEST CERTIFICATE
 Number E-07.02.C03

LOAD CELL TYPE TT

Issued by: Secretaria d'Indústria i Empresa - Generalitat de Catalunya
 (Notified Body number 0315)
 Avinguda de la Diagonal, 405 bis
 E-08008 BARCELONA SPAIN

In accordance with: Paragraph 8.1 of the European Standard "Metrological aspects of non-automatic weighing instruments" EN 45501:1992(+AC:1993). The applied error fraction p_i with reference to paragraphs 3.5.4 and 4.12 of this standard is 0,7. Following paragraph 4.12 of this standard, the tests have been performed according to the OIML International Recommendation, OIML R 60 (2000).

Issued to: ASCELL SENSOR, S.L.
 Avinguda Congost, 56, nau 3, Polígon Industrial Congost
 E-08760 MARTORELL SPAIN

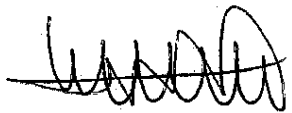
In respect of: The model of a **load cell**, tested as part of a non-automatic weighing instrument.
 Manufacturer: ASCELL SENSOR, S.L.
 Type: TT.

Characteristics:

Classification	C3↓					--
Maximum number of LC verification intervals n_{LC}	3000					--
Maximum capacity E_{max}	2000	3000	5000	6000	10000	kg
Ratio minimum LC verification interval $Y = E_{max}/V_{min}$	10000					--
additional marking	temperature limits	rated output	impedance input	minimum dead load	safe overload	
--	-10°C/+40°C	C = 2 mV/V	$R_{LC} = 1100 \Omega$	$E_{min} = 0 \text{ kg}$	$E_{lim}/E_{max} = 120\%$	

The main characteristics are shown in the descriptive annex, which is an integral part of the test certificate and consists of 7 pages.
 The type is described in the submitted technical documentation, identified with number 06/07.
 The summary of tests involved can be found in the descriptive annex.

For delegation
 of Secretari d'Indústria i Empresa
THE HEAD OF THE SERVICE
OF AUTOMOBILES AND METROLOGY


 Joan Pau Clar i Guevara

Barcelona, 12 April 2007


 Generalitat de Catalunya
 Departament d'Innovació,
 Universitats i Empresa
Secretaria d'Indústria i Empresa
 Subdirecció general de Seguretat Industrial
 Servei d'Automòbils i Metrologia

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 This test certificate refers only to metrological requirements.
 This test certificate cannot be used without applicant's authorization.



Descriptive annex to test certificate number E-07.02.C03

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Descriptive annex to test certificate number E-07.02.C03

1.- Name and type of the instrument.

Load cell type TT.

Manufactured by:

ASCELL SENSOR, S.L.
 Avinguda Congost, 56, nau 3, Polígon Industrial Congost
 E-08760 MARTORELL SPAIN

It is using any concrete trade mark.

2.- Functional description.

Load cell type TT is a traction load cell, based on a structure type S (according to table 2 of Welmec 2.4). The principle of measurement is that of strain gauges, as a full bridge, in an elastic element.

Load cell type TT has an only one version.

Reference is made to Figure 1 (drawing LH-400) of this descriptive annex.

3.- Technical characteristics.

3.1.- Metrological characteristics.

Load cell type TT has the following metrological characteristics and information for compatibility of modules:

Classification	C3↓					--	
Additional marking	---					--	
Maximum number of LC verification intervals	n_{LC}	3000				--	
Maximum capacity	E_{max}	2000	3000	5000	6000	10000	t
Minimum dead load, relative	E_{min}/E_{max}	0				%	
Ratio of minimum LC verification interval	$Y = E_{max}/v_{min}$	10000				--	
Minimum dead load output return	$Z = E_{max}/2DR$	3000				--	
Rated output	C	2				mVV	
Maximum excitation voltage		15				V	
Input impedance	R_{LC}	1100				Ω	
Minimum limit temperature rating	T_{min}	-10				$^{\circ}C$	
Maximum limit temperature rating	T_{max}	+40				$^{\circ}C$	
Safe overload	E_{lim}/E_{max}	120				%	
Fraction maximum permissible error	ρ_{LC}	0,7				--	





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Load cell type TT can have other maximum capacities from 2000 kg to 10000 kg, respecting always its metrological and constructive characteristics, according to OIML R60 (2000).

Another characteristics are:

Constructive material	Steel	--
Tolerance of nominal sensitivity	$\pm 0,2$	mV/V
Tolerance of input impedance	± 110	Ω

3.2.- Additional characteristics.

Load cell type TT has the following additional characteristics:

Output impedance	1000	Ω
Tolerance of output impedance	± 10	Ω
Reference excitation voltage	10	V

4.- Connections.

The connection is a four-wire system or a six-wire system. Maximum length fixed by manufacturer is 1 m for a four-wire system. The cable is shielded, with the shielding not connected to the load cell, and with remote sense.

The connection code is the following:

System	Four-wire	Six-wire
Positive input	Red	Red
Negative input	Black	Black
Positive output	Green	Green
Negative output	White	White
Positive sense	--	Violet
Negative sense	--	Grey

Reference is made to Figure 2 (drawing LH-401) of this descriptive annex.

5.- Location of the indications.

The indications required according to point 4.6 of OIML R 60 (2000) are in the Figure 3 (plano LH-402) in a label named *characteristics label*. The location of in a label named *characteristics label* is shown in Figure 3 (drawing LH-402) of this descriptive annex.





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6.- Conditions for use.

No property of this instrument, whether described or not, may be in conflict with the standard and international recommendation mentioned in the test certificate.

7.- Tests performed.

Tests have been performed with load cells with the following identification and characteristics:

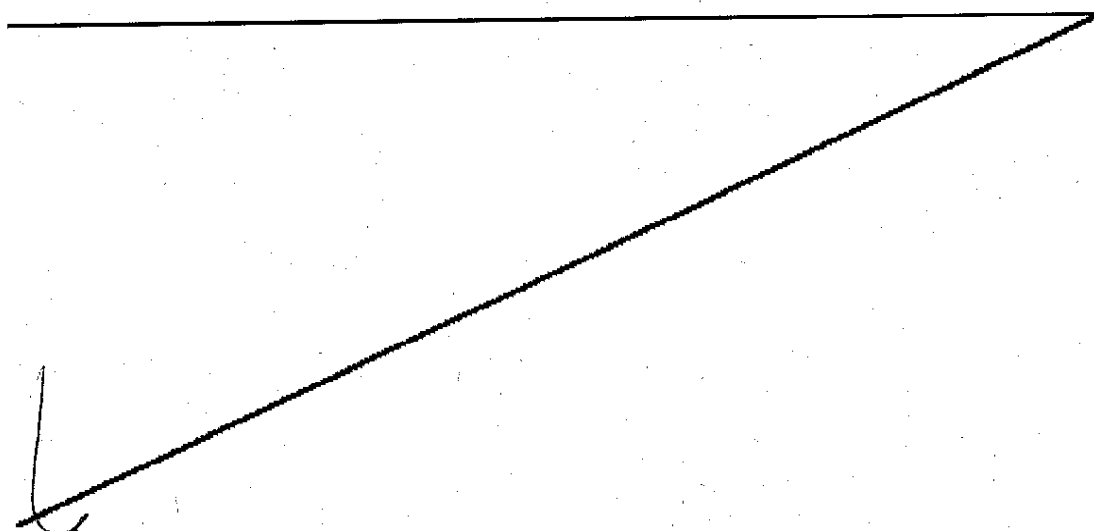
Type	Serial number	E_{max}	$Y = E_{max} / v_{min}$	$Z = E_{max} / 2DR$	n_{LC}
TT	9974159	2000 kg	10000	3000	3000

Tests performed with load cell:

General tests for load cells	R60 No.	approved
Temperature test and repeatability (at 20, 40, -10 and 20°C)	5.1.1, 5.4; A.4.1	+
Temperature effect on minimum dead load output (at 20, 40, -10 and 20°C)	5.5.1.3; A.4.1	+
Creep test (at 20, 40 and -10°C)	5.3.1; A.4.2	+
Minimum dead load output return (at 20, 40 and -10°C)	5.3.2; A.4.3	+
Barometric pressure effects at room temperature	5.5.2; A.4.4	+
Humidity test, cyclic: CH-marked (or without marked)	5.5.3.1; A.4.5	+
Humidity test, static: SH-marked	5.5.3.2; A.4.6	-

8.- Drawings.

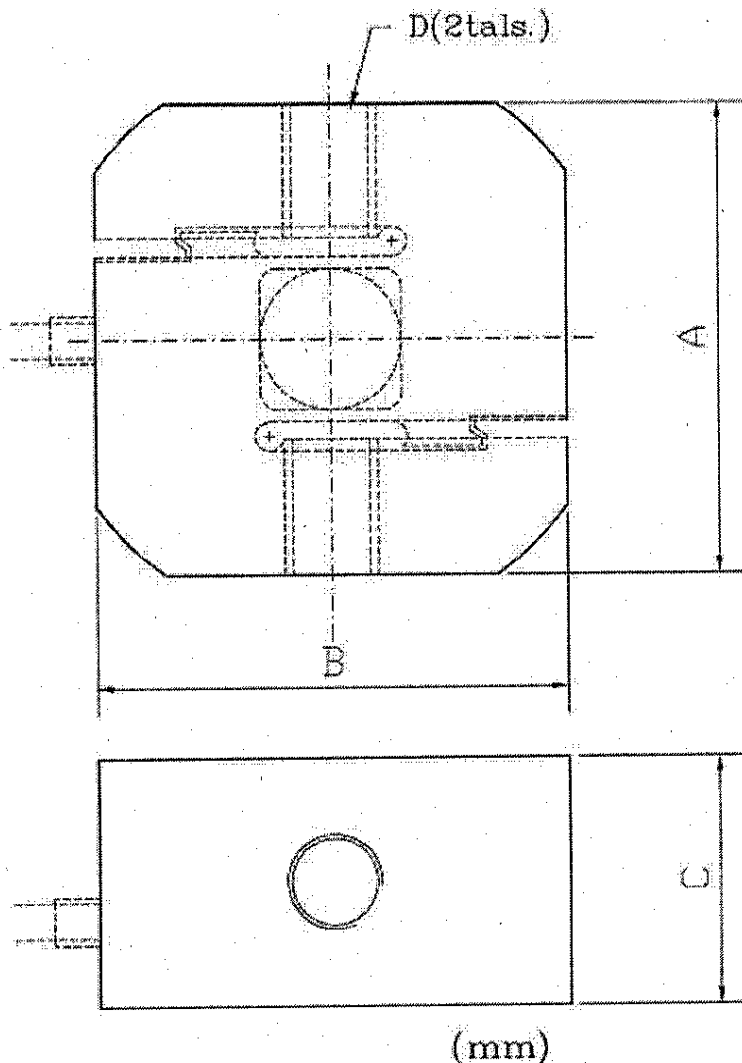
Dimensions indicate in this drawings are given in millimeters.





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Figure 1.- Drawing LH-400.



(mm)

Emax. (t)	A	B	C	D
2 / 10	60/100	60/100	30/60	M12/M16/M24/M30

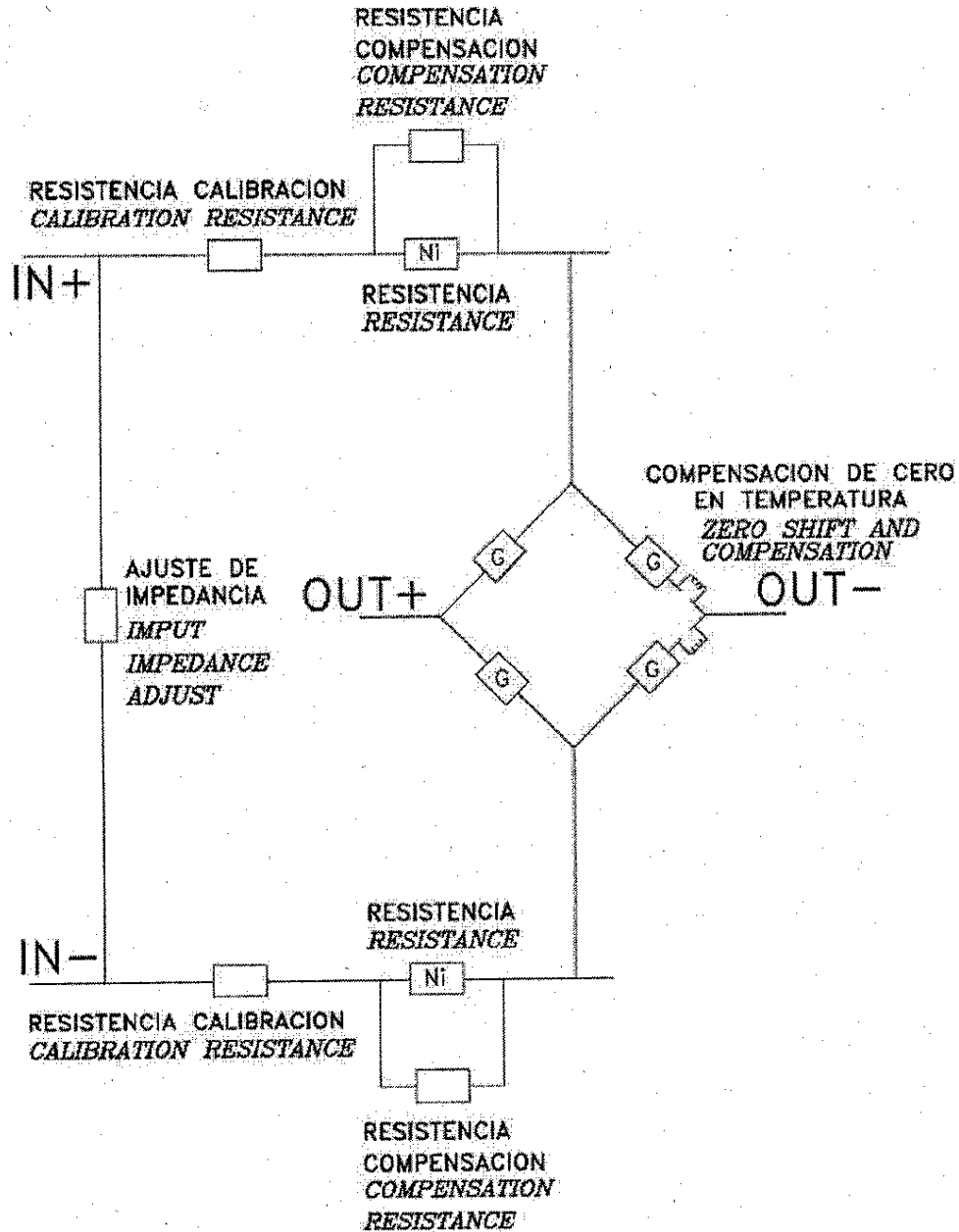
LH-400
 DIMENSIONES TT/ DIMENSIONS TT

h



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Figure 2.- Drawing LH-401.



LH-401
 ELECTRIC DIAGRAM TT/ DIAGRAMA ELECTRICO TT

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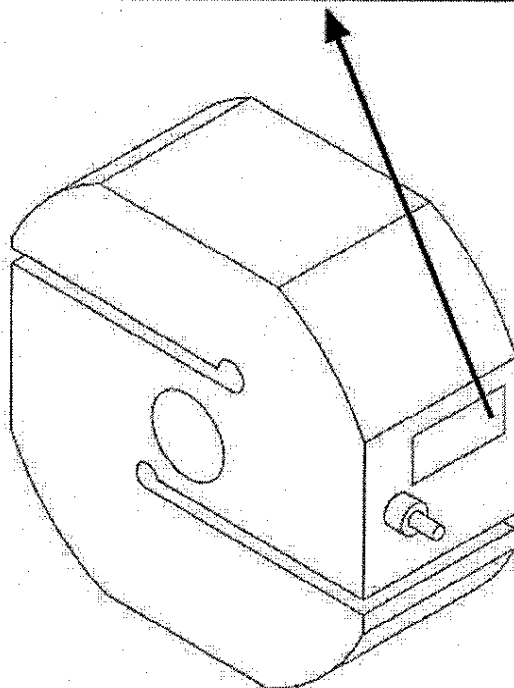




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Figure 3.- Drawing LH-402.

ASCELL SENSOR, S.L.
Model: TT Emax=
Serial n°0000001 /2007 C3 \updownarrow
Cert. n° **E-07.02.C03**
Emax/Vmin=10000
Emin=0



LH-402
LABEL TT/ ETIQUETA TT

