



Generalitat de Catalunya
 Departament d'Indústria, Comerç i Turisme
Direcció General de Consum i Seguretat Industrial
 Servei d'Automòbils i Metrologia
 Secció de Metrologia

TEST CERTIFICATE

First addition to number E-97-02.C05

LOAD CELL SENSOCAR TYPE BL

Issued by: Direcció General de Consum i Seguretat Industrial de la 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 (1991).

Issued to: SENSOCAR, S.A.
 Calle Sant Gaietà, 121 E-08221 TERRASSA SPAIN

In respect of: The model of a **load cell**, tested as part of a non-automatic weighing instrument.
 Manufacturer: SENSOCAR, S.A.
 Type: BL.
 This first addition complements the test certificate number E-97-02.C05, with changes relating to addition of a new version (BL-C), addition of two new maximum capacities, addition of a new number of verification intervals, change of ratio to minimum verification interval, change of rated output, and change of ratio of minimum dead load output return.

Characteristics:

Classification	C5↓		C6↓					
Maximum number of verification intervals n_{LC}	5000		6000					
Maximum capacity E_{max}	10	15	18	20	30	36	40	kg
Minimum verification interval $Y = E_{max}/v_{min}$	5000		18000					
additional marking (-)	temperature limits (-10°C/+40°C)	rated output C=(2 mV/V)	impedance input $R_{LC}=(390 \Omega)$	minimum dead load $E_{min}=(0 \text{ kg})$	safe overload $E_{lim}/E_{max}=(150\%)$			

The main characteristics are shown in the descriptive annex, which is an integral part of the test certificate and consists of 6 pages.

The type is described in the submitted technical documentation, identified with number 6/97. The changes covered by this addition are described in the submitted additional technical documentation, identified with number 36/01.

For delegation of Director General de Consum i Seguretat Industrial according to resolution 7th October 1996 (DOGC 13.11.1996)

THE HEAD OF THE SERVICE OF AUTOMOBILES AND METROLOGY

Joan Pau Clar Guevara

Barcelona, 18 September 2001



Generalitat de Catalunya
 Departament d'Indústria,
 Comerç i Turisme
 Direcció. Gral. de Consum i Seguretat Industrial
 Servei d'Automòbils i Metrologia
 Barcelona

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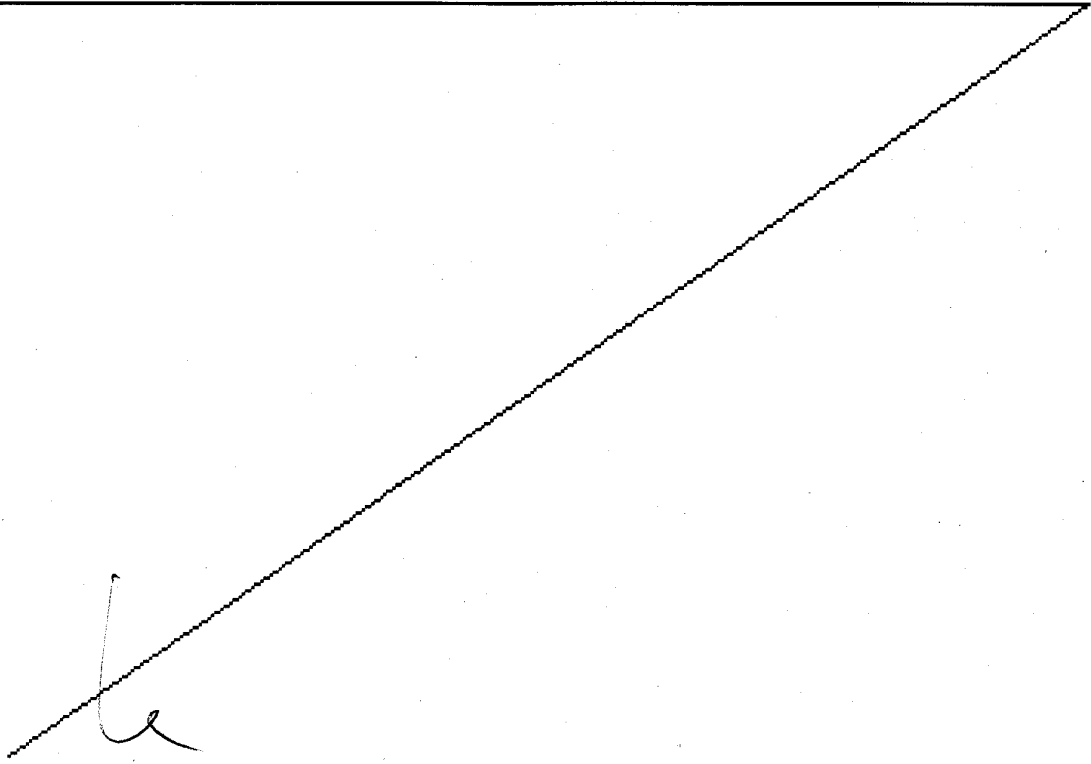
Av. Diagonal, 405 bis
 08008 Barcelona
 Téléfon (93) 484 92 95
 Telefax (93) 484 94 10



Descriptive annex to first addition to the test certificate number E-97-02.C05.

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Descriptive annex to first addition to the test certificate number E-97-02.C05.

1.- Name and type of the instrument.

Load cell type BL.

Manufactured by:

SENSOCAR, S.A.
Carrer Sant Gaietà, núm. 121
E-08221 Terrassa SPAIN

using the mark:

SENSOCAR.

2.- Description of the modification.

This annex to first addition to the test certificate number E-97-02.C05 describes a modification of the type BL.

This first addition to the test certificate number E-97-02.C05 affects to:

- Addition of a new version (BL-C).
- Addition of two new maximum capacities.
- Addition of a new number of verification intervals.
- Change of ratio to minimum verification interval.
- Change of rated output.
- Change of ratio of minimum dead load output return.

This first addition to the test certificate number E-97-02.C05 affects paragraphs 2, 3.1, 3.2 and 7 and Figure 1 of the annex to the test certificate number E-97-02.C05.

3.- Text after modification.

Paragraph 2 of the annex to the test certificate number E-97-02.C05 becomes in new paragraph 3.1 of this descriptive annex.

Paragraph 3.1 of the annex to the test certificate number E-97-02.C05 becomes in new paragraph 3.2 of this descriptive annex.





Descriptive annex to first addition to the test certificate number E-97-02.C05.

Paragraph 3.2 of the annex to the test certificate number E-97-02.C05 becomes in new paragraph 3.3 of this descriptive annex.

Paragraph 7 of the annex to the test certificate number E-97-02.C05 becomes in new paragraph 3.4 of this descriptive annex.

Figure 1 of the annex to the test certificate number E-97-02.C05 becomes in new Figure 1A and new Figure 1B of this descriptive annex.

3.1.- Functional description.

The load cell type BL is a bending load cell, which admits eccentric loads, based on a double beam joined at the ends. The principle of measurement is that of strain gauges, as a full bridge, in an elastic element.

The load cell is clamped on the lower part and can be fixed on the load application zone.

The load cell type BL has two versions. Their difference is in their geometry. Type BL becomes in version BL and new lower version becomes in version BL-C.

Reference is made to Figure 2 of the annex to the test certificate number E-97-02.C05, and Figure 1A and Figure 1B of this descriptive annex.

3.2.- Metrological characteristics.

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

Classification	C5↓	C6↓						--	
Additional marking	---							--	
Maximum number of LC verification intervals n_{LC}	5000		6000						--
Maximum capacity E_{max}	10	15	18	20	30	36	40	kg	
Minimum dead load, relative E_{min}/E_{max}	0							%	
Rated output C	2							mV/V	
Maximum excitation voltage	15							V	
Ratio to minimum LC verification interval $Y = E_{max}/V_{min}$	5000		18000						--
Minimum dead load output return $Z = E_{max}/2DR$	5000		6000						--
Input impedance R_{LC}	390							Ω	
Minimum limit temperature rating T_{min}	-10							$^{\circ}C$	
Maximum limit temperature rating T_{max}	+40							$^{\circ}C$	





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Safe overload	E_{lim}/E_{max}	150	%
Cable length		1	m
Fraction maximum permissible error	ρ_{LC}	0,7	--

Another characteristics are:

Constructive material	Steel	--
Tolerance of nominal sensitivity	$\pm 0,1$	mV/V
Tolerance of input impedance	± 12	Ω

3.3.- Additional characteristics.

Load cell type BL has the following additional characteristics:

Output impedance	$350 \pm 3,5$	Ω
Reference excitation voltage	10	V

3.4.- Tests performed.

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

Version	Serial number	Maximum capacity E_{max}	$Y = E_{max}/V_{min}$	$Z = E_{max}/2DR$	n_{LC}
BL	1	20 kg	5000	5000	5000
BL-C	2	18 kg	18000	6000	6000

Tests performed with load cell:

Tests	R60/R60A No.	approved
Temperature test and repeatability (at 20, -10, 40 and 20°C)	15.1&5.1&9.0/A1,A2,A3	+
Temperature effect on minimum dead load output (at 20, -10, 40 and 20°C)	15.1&10.1.3/A1,A4	+
Creep test (at 20, -10 and 40°C)	15.2&7.1/A5	+
Minimum dead load output return (at 20, -10 and 40°C)	15.3&7.3/A5	+
Barometric pressure effects at room temperature	15.4&10.2/A6	+
Humidity test, cyclic: CH*-marked (or without marked)	15.5&7.3/A7	+
Humidity test, static: SH*-marked	15.6 (2on Comittee Draft*)	-

* = EN45501 N° B.2.2

4.- Figures and drawings.

Dimensions are given in millimeters.

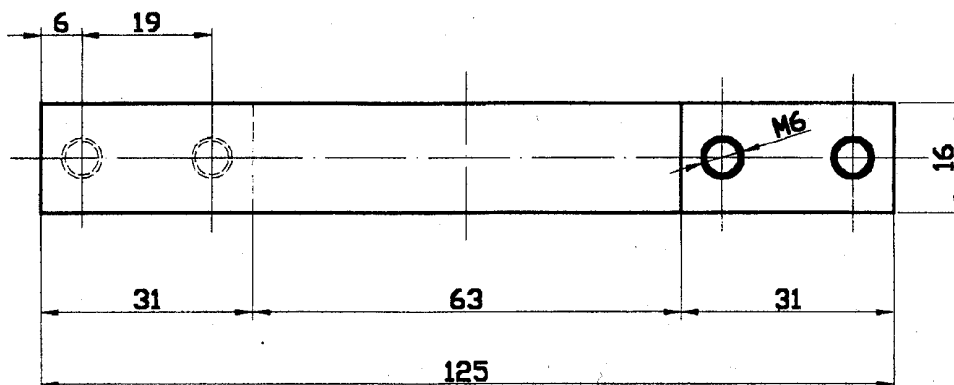
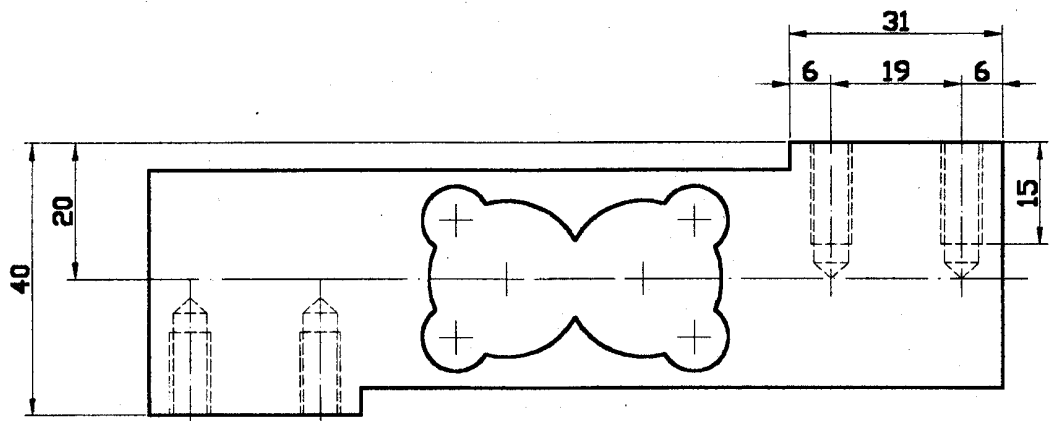
Av. Diagonal, 405 bis
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 Telefax (93) 484 94 10





Descriptive annex to first addition to the test certificate number E-97-02.C05.

Figure 1A.- Drawing B-1: version BL.



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Descriptive annex to first addition to the test certificate number E-97-02.C05.

Figure 1B.- Drawing B-2: version BL-C.

