



## TEST CERTIFICATE

Number E-08.02.C07

### LOAD CELL TYPE CP-8

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: TRANSDUTEK, S.A.  
 Carrer Joan Miró, 11  
 E-08930 SANT ADRIÀ DE BESOS SPAIN

In respect of: The model of a **load cell**, tested as part of a non-automatic weighing instrument.  
 Manufacturer: TRANSDUTEK, S.A.  
 Type: CP-8.

#### Characteristics:

Classification	C4↓						
Maximum number of LC verification intervals $n_{LC}$	4000						
Maximum capacity $E_{max}$	18	20	25	30	35	50	t
Ratio minimum LC verification interval $Y = E_{max}/V_{min}$	15000						
additional marking	temperature limits	rated output	impedance input	minimum dead load	safe overload		
--	-10°C/+40°C	C = 2 mV/V	$R_{LC} = 800 \Omega$	$E_{min} = 0 \text{ kg}$	$E_{lim}/E_{max} = 125\%$		

The main characteristics are shown in the descriptive annex, which is an integral part of the test certificate and consists of 9 pages.

The type is described in the submitted technical documentation, identified with number 14/08.

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,  
 PRODUCTS AND METROLOGY**

Joan Pau Clar i Guevara

Barcelona, 17 July 2008



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

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

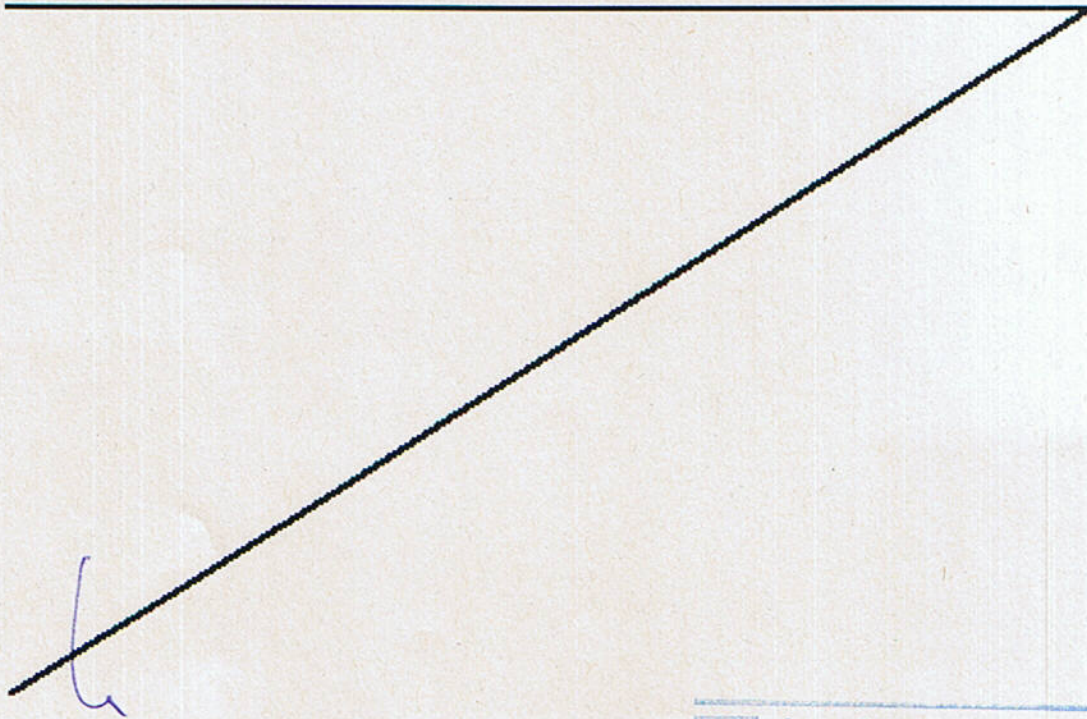




**Descriptive annex to test certificate number E-08.02.C07**

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**Descriptive annex to test certificate number E-08.02.C07**

**1.- Name and type of the instrument.**

Load cell type CP-8.

Manufactured by:

TRANSDUTEK, S.A.  
 Carrer Joan Miró, 11  
 E-08930 SANT ADRIÀ DE BESOS SPAIN

It is using any concrete trade mark.

**2.- Functional description.**

Load cell type CP-8 is a compression load cell, based on a free column with pendulous structure. The principle of measurement is that of strain gauges, as a full bridge, in an elastic element.

Load cell type CP-8 has an only one version.

Reference is made to Figure 1 (CP8-02) and Figure 2 (drawing CP8-03) of this descriptive annex.

**3.- Technical characteristics.**

**3.1.- Metrological characteristics.**

Load cell type CP-8 has the following metrological characteristics and information for compatibility of modules:

Classification		C4↓						--
Additional marking		---						--
Maximum number of LC verification intervals	$n_{LC}$	4000						--
Maximum capacity	$E_{max}$	18	20	25	30	35	50	t
Minimum dead load, relative	$E_{min}/E_{max}$	0						%
Ratio of minimum LC verification interval	$Y = E_{max}/V_{min}$	15000						--
Minimum dead load output return $Z = E_{max}/2DR$		4000						--
Rated output	C	2						mV/V
Maximum excitation voltage		18						V
Input impedance	$R_{LC}$	800						$\Omega$
Minimum limit temperature rating	$T_{min}$	-10						°C
Maximum limit temperature rating	$T_{max}$	+40						°C
Safe overload	$E_{lim}/E_{max}$	125						%
Fraction maximum permissible error	$\rho_{LC}$	0,7						--







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Load cell type CP-8 can have other maximum capacities from 18000 kg to 50000 kg, respecting always its metrological and constructive characteristics, according to OIML R60 (2000).

Other characteristics are:

Material	Stainless steel	--
Tolerance of nominal sensitivity	$\pm 0,2$	mV/V
Tolerance of input impedance	$\pm 30$	$\Omega$

**3.2.- Additional characteristics.**

Load cell type CP-8 has the following additional characteristics:

Output impedance	700	$\Omega$
Tolerance of output impedance	$\pm 14$	$\Omega$
Reference excitation voltage	10	V

**4.- Connections.**

The connection is a four-wires or six-wire system. Manufacturer's maximum length and section are 15 m and 0,25 mm<sup>2</sup> in a four-wires system. The cable is shielded, with the shielding not connected to the load cell, and with remote sense.

The connection code is the following:

	Four-wire system	Six-wire system
Positive input	Red	Red
Negative input	Black	Black
Positive output	Green	Green
Negative output	White	White
Positive sense	---	Yellow
Negative sense	---	Blue

Reference is made to Figure 3 (drawing CP8-05) of this descriptive annex.

**5.- Location of the indications.**

The indications required according to OIML R 60 (2000) are engraved on the body of the load cell.

Reference is made to Figure 4 (drawing CP8-07) and Figure 5 (drawing CP8-06) 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:

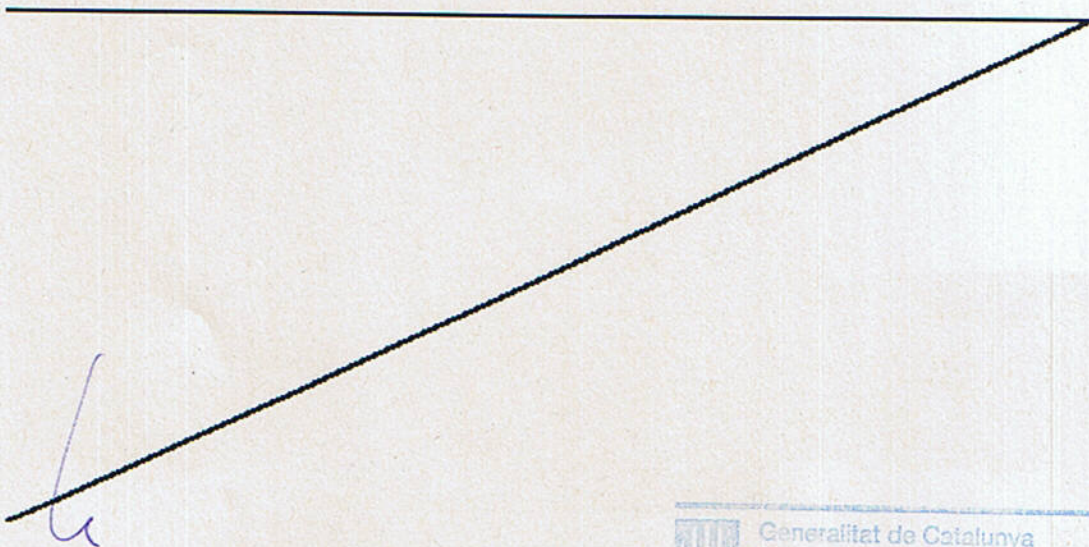
Type	Serial number	$E_{max}$	$Y = E_{max} / v_{min}$	$Z = E_{max} / 2DR$	$n_{LC}$
CP-8	144939	18000 kg	15000	4000	4000

Tests performed with load cell:

Tests	R60 Ref.	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.

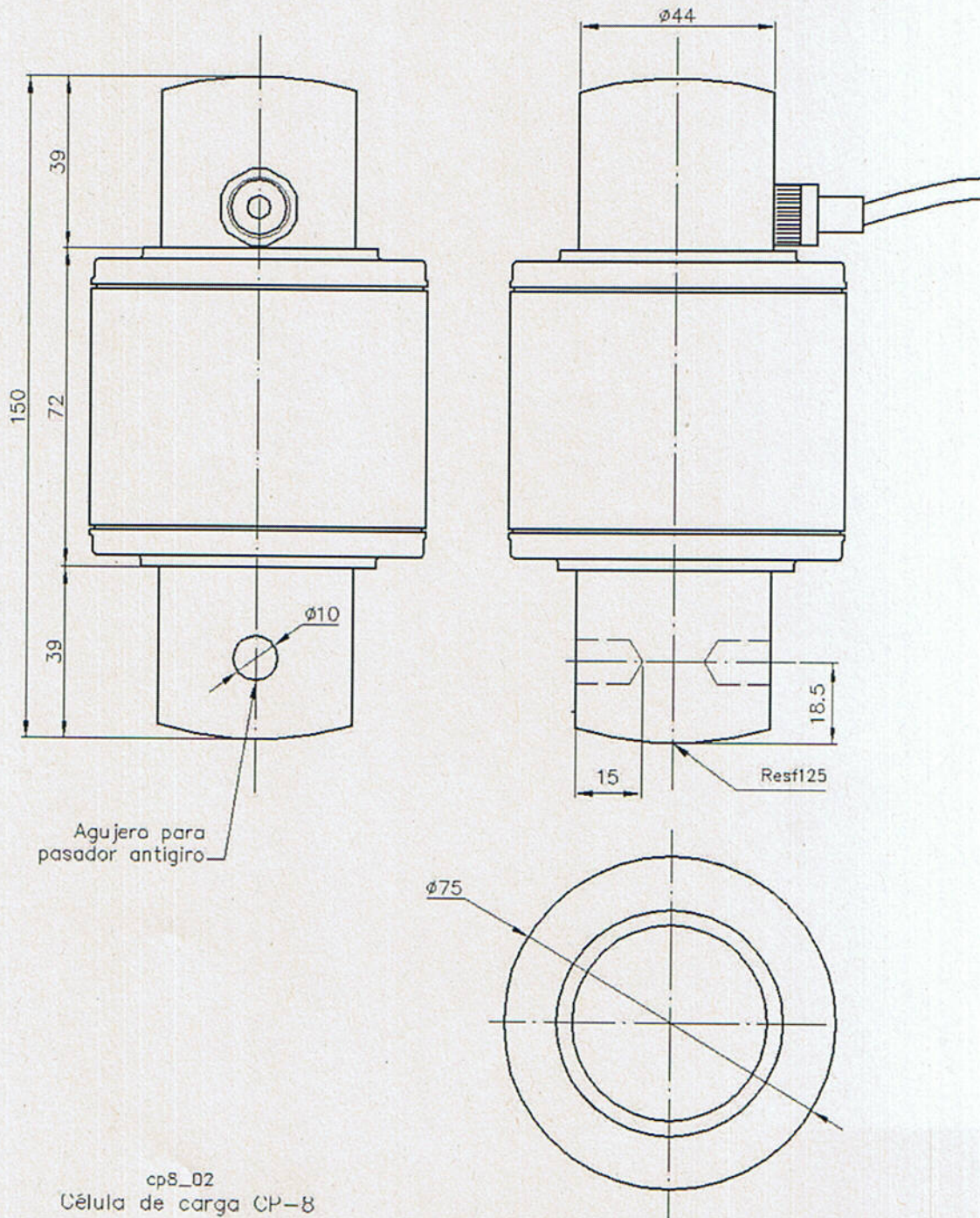






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Figure 1.- Drawing CP8-02.



cp8\_02  
Célula de carga CP-8

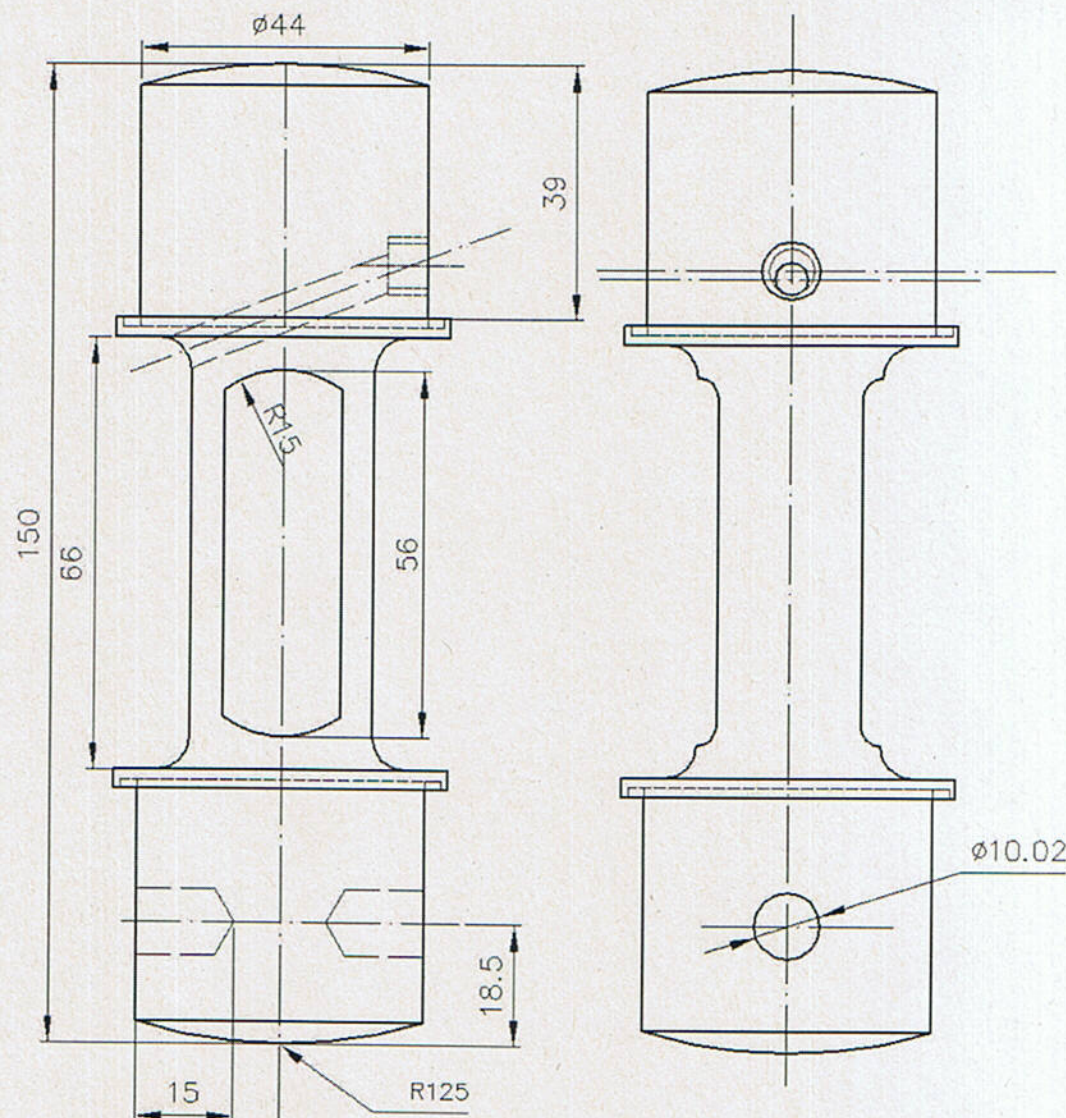




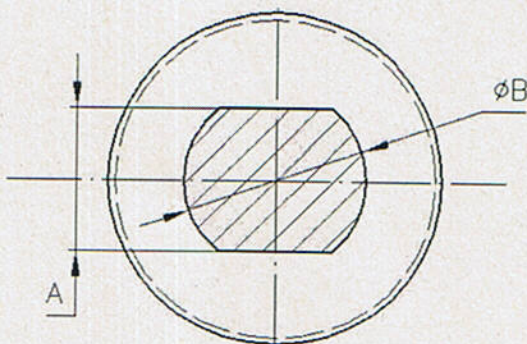


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Figure 2.- Drawing CP8-03.



cp8\_03  
 Diseño célula de carga CP-8



C.N. Kg	A	$\phi B$
18000	21	28
20000	22	28
25000	25	29
30000	26	32
35000	29	32

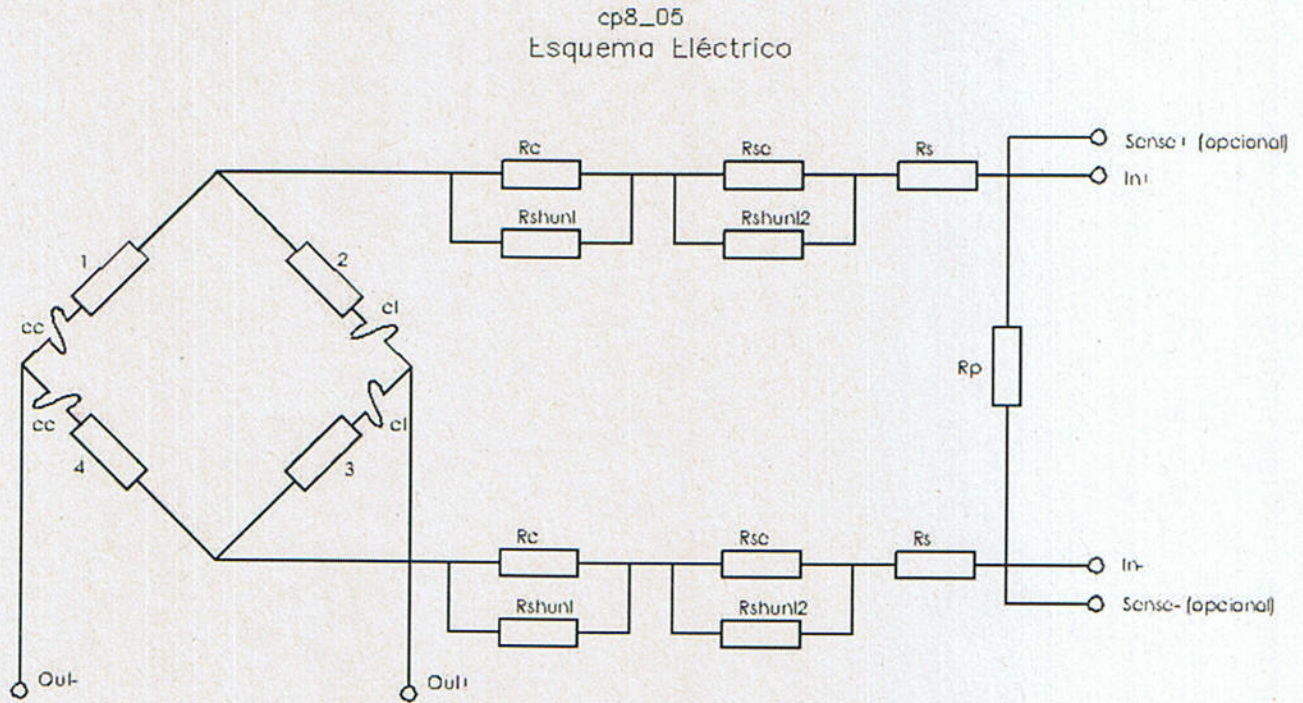






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**Figure 3.- Drawing CP8-05.**



1,2,3,4	Bandas Extensiométricas
Rc	Resistencia de compensación de módulo en temperatura
Rs	Resistencia de compensación de sensibilidad
Rp	Resistencia de compensación de impedancia de entrada
Rse	Resistencia semiconductora ajuste linealidad
cc	Compensación de la señal de salida en cero
cl	Compensación de la desviación de cero en temperatura

**Código colores conexasiónado:**

**4 hilos:**

Rojo ----- In+  
Negro ----- In-  
Blanco ----- Out-  
Verde ----- Out+

**6 hilos (opcional)**

Rojo ----- In+  
Negro ----- In-  
Blanco ----- Out-  
Verde ----- Out+  
Amarillo ----- Sense+  
Azul ----- Sense-







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Figure 4.- Drawing CP8-07.

cp8\_07

Descripción placas y marcas

<b>TRANSDUWEC</b>		
C/ JOAN MIRO, 11 08930 SANT ADRIA DE BESOS BARCELONA - SPAIN Tel.+34 933810004 Fax.+34 934620599		
Designation:	CP-8	2008
Number:	98601	
Year:	2008	<b>E-08.02.C07</b>

<b>C4</b>	<b>-10/40</b>
Emin:0	Emax:18000 Kg
Vmin: 1.2 Kg	Sensitivity: 2 mV/V
Range of excitation: 5..18 V	
Rin: 800 ±2%	Rout: 700 ±2%

↓	<b>IN+ RED</b>
↓	<b>S+ YELLOW</b>
↓	<b>IN- BLACK</b>
↓	<b>S- BLUE</b>
↑	<b>OUT+ GREEN</b>
↑	<b>OUT- WHITE</b>

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**Figure 5.- Drawing CP8-06.**

