

**FIRST-WEIGH**

MANUFACTURING

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**FIRST-WEIGH  
INDICATOR WITH PLATFORM**

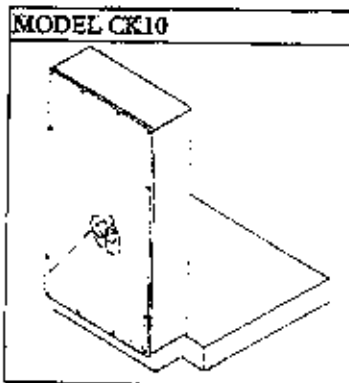
**+/- CK-10**

**INSTALLATIONS  
AND  
CALIBRATION**

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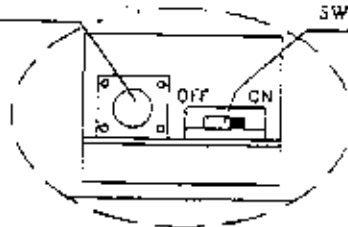
# 1. ACCESS TO CALIBRATION MODE

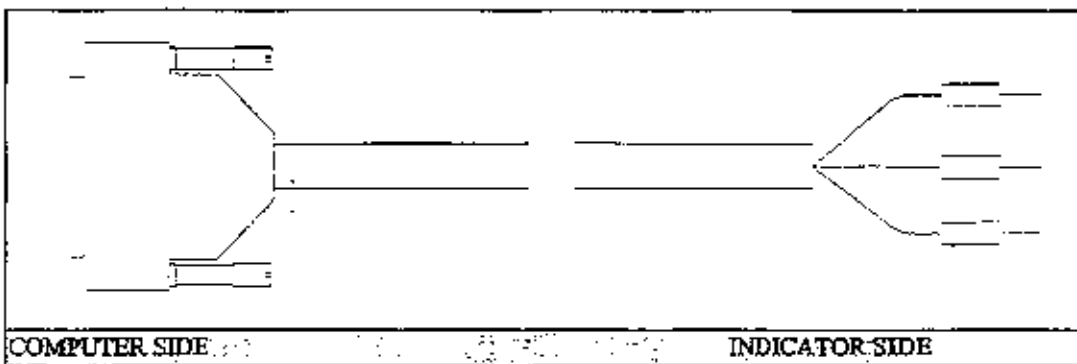


## REMOVE THE LID OF ACCESS TO CALIBRATION

ACCESS CALIBRATION  
BUTTON.

MEMORY  
PROTECTION  
SWITCH





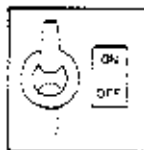
COMPUTER DELTA 9 PINS	COMPUTER DELTA 25 PINS	INDICATOR LEAD
7	5	GND
2	3	RXD
3	2	TXD

RELAYS BOARD OPTION		
LOW RELAY	RELAY 1	1 20
NOMINAL RELAY	RELAY 2	2 21
HIGH RELAY	RELAY 3	3 22

NOTE: The manufacturer reserves the right of changing the operations and characteristics of these indicators without previous notification.

1

Switch on the equipment.

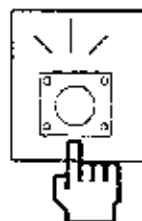


2

During the warming up initial sequence press the access to calibration button.

00000

11111



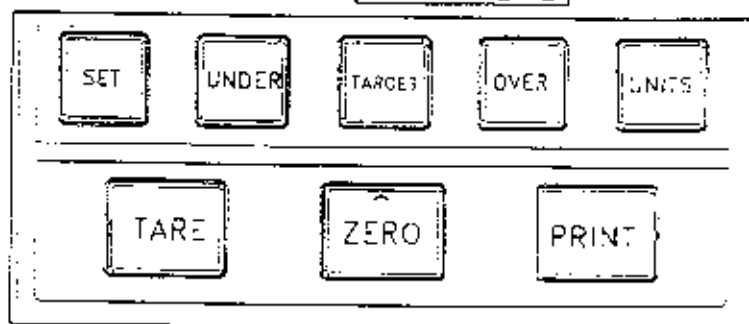
0.000

Calibration mode.

## 2. KEYBOARD FUNCTIONS

- FROM CALIBRATION MODE :

0.000



- It validates the values.



- Calibration parameters.



- Operative parameters.



- Conversion speed.



- CLEAR



- TEST.



- ZERO.



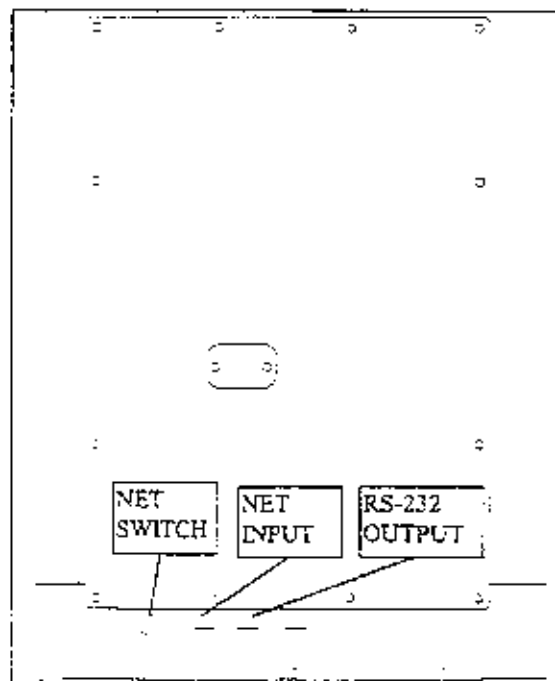
- Series channel parameters.

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## 15. CONNECTIONS

- BACK PANEL CK-10



### INTERNAL CONNECTOR RS-232

○	○	DSR
○	○	GND
○	○	OTR
○	○	RXD
○	○	TXD

## 14. GENERAL TABLE OF ERRORS

Err. 1	→	• Too high weight sign.
Err. 2	→	• Too low weight sign.
Err. 12	→	• Negative weight.
Err. 13	→	• Null weight.
Err. 14	→	• Unstable weight.
Err. 40	→	• There is no communication.
Err. 50	→	• Data cannot be recorded in E2PROM.
Err. 51	→	• Data cannot be written in NOVAM.
Err. 52	→	• NOVAM is not protected.
Err. 60	→	• Incompatible enter of programmed data.
Err. 61	→	• The quantity is too much.
Err. 62	→	• The quantity is too little.
Err. 64	→	• Incorrect key.

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UNDER

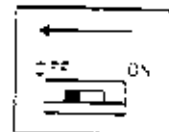
## 3. METHOD OF CALIBRATION

- FROM CALIBRATION MODE:

0.0000

1

Change the memory protections switch to the OFF position.



2

No. OF DIVISIONS OF THE BOTTOM OF THE SCALE.

PRESS



2.3000

Possible values between 100 and 9999.

ZERO

- It changes the intermittent digit value.

2.3000

TARE

PRINT

- It changes the digit.

2.3000

SET

- It validates the introduced value and it goes on to digital division.

51.2


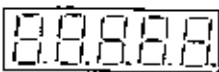
UNITS

- It returns to calibration mode without modifying the previous value.



0.0000

TARE

**10. DISPLAY TEST**


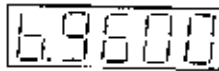
PRESSING   - All the leds of the display and the indication bar are turned on during 3 seconds.


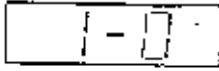
During the display test

PRESSING  It returns to weight mode. 


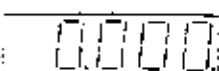
PRINT

**11. RS TEST**

PRESSING   -It shows the Series Channel Speed.

PRESSING   - The RS test is carried out.

1 = Number of attempts. 0 = Number of errors. If the communication channel works right E00 = 0.

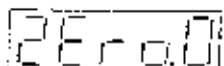
PRESSING  It returns to calibration mode. 

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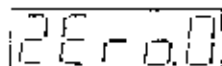
ZERO ADJUST.



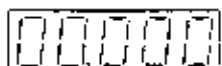
Possible values. 0 = Zero is not adjusted.  
A = Zero adjusted.

- Check there is no weight on the platform and that the indicator "  " is ON.

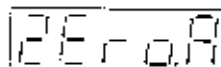
ZERO NOT ADJUSTED



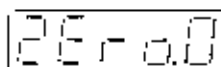
- It adjusts the zero of the platform.



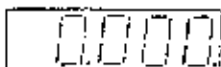
ZERO ADJUSTED



- Erases the adjustment of the previous zero.



- It validates the zero without modifying it.



## 8. PROTOCOL OF COMMUNICATION TO A COMPUTER IN RS-422

When there is a Net communication type there are various equipments connected.

This circumstance makes it necessary to have a control which can determine which equipment can have access to the line and this way we avoid having two or more equipments occupying the line at the same time.

This function of control is fulfilled by the computer, with sends some orders to the equipments connected to the line to indicate them in which moment they can occupy the line. These orders are called **SYNCRONISMS**.

To establish the communication the computer sends two types of synchronism to the equipments:

SYNCRONISMS	COMPUTER	EQUIPMENT	ACTIONS	
QUESTION SYNCRONISMS  ( $80H+n^{\circ}$ equipment) ( $n^{\circ}$ equipment = $0 \div 31$ ) ( $80H...9FH$ )	80H	⇒ ⇐	80H	If there is no outstanding transmission, the equipment responds with the same synchronism that the computer sends.
	80H  ACK	⇒ ⇐ ⇒	ANSWER	If there is an outstanding transmission, the equipment sends the answer after receiving a question synchronism. The computer returns an ACK indicating The received answer.
ORDER SYNCRONISMS ( $A0H+n^{\circ}$ equipment) ( $n^{\circ}$ equipment = $0 \div 31$ ) ( $A0H...BFH$ )	A0H	⇒ ⇐	A0H	If the equipment has no outstanding transmission it responds with the same synchronism that the computer send to it
	REQUEST	⇒ ⇐	ACK	The computer sends a request to the equipment and the latter responds with and ACK indicating the received answer.

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## 4. INTERNAL PARAMETERS

There are two kinds of internal parameters:



**METROLOCIC PARAMETERS:** Only modifiable from Calibration Mode.

**OPERATIVE PARAMETERS:** Modifiable from Calibration Mode and under KEY.

No. ORDER	INDICATION	PARAMETER	POSSIBLE VALUES
1	ESL 10	STABILIZATION TIME.	Between 0,1 and 9,9.
2	ESL 05	STABILIZATION DIVISIONS.	Between 0,1 and 9,9.
3	1A0E1	INITIAL AUTOZERO.	0 = There is no autozero. 1 = There is autozero.
4	2E002	ZERO TOLERANCE.	Between 0 and 99%.
5	2E0 10	ZERO TIME.	Between 0 and 65 seg.
6	2E 05	AUTOZERO DIVISIONS.	Between 0,5 and 9,9.
7	003E5	ZERO CORRECTION.	YES, NO.
8	F 1020	FILTERING CRITERIA.	Between 1 and 100%.
9	5E000	STAND-BY TIME	Between 0 and 999 seg.

OVER

## 5. ADJUST OF CONVERSION SPEED

-FROM CALIBRATION MODE :

0000

c.e.f.5t

- Fast speed ( from 15 to 25 conversions per second).

c.e.m.e.d

- Medium speed ( from 10 to 17 conversions per second).

c.e.s.l.o

- Slow speed ( from 7 to 13 conversions per second). Value by default

PRESSING

ZERO

It changes the selection .

PRESSING

SET

It validates the function and it returns to calibration mode.

0000

PRESSING

UNITS

It returns to calibration mode without saving the changes made.

0000



! IF YOU WANT TO MODIFY THE SPEED, THE EQUIPMENT CANNOT BE ADJUSTED.

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12

PRINT

## 6. ADJUST OF SERIES CHANNEL PARAMETERS

- FROM CALIBRATION MODE:

0000

PRESS

PRINT

t.p.p.m

ZERO

- Change between parameters Printer and Computer.

FROM PRINTER PARAMETERS :

t.p.p.m

PRESS

SET

p.e.16m

- Printer IBM.

SET

Ad.05

- Advance the paper Between 0 and 99.

PRESS

ZERO

p.e.10p

- Printer IDP.

SET

Ad.05

- Advance the paper Between 0 and 99.

PRESS

ZERO

p.e.188

- Printer IDP8.

SET

Ad.05

- Advance the paper Between 0 and 99.

PRESS

ZERO

p.e.c6m

- Printer CBM.

SET

C.O.F.F

- Cut the paper. ON and OFF.

PRESS

ZERO

p.e.c6m

- Printer TM3.

SET

C.O.F.F

- Cut the paper. ON and OFF.

FROM

C.O.F.F










SET

Ad.05

- Advance the paper. Between 0 and 99

FROM COMPUTER PARAMETERS:



EP07P


- PRESS  6.9500 - Communication speed. (150, 300, 600, 1200, 2400, 4800, 9600).
- PRESS  8006.8 - Number of Bits. (7, 8).
- PRESS  Parity - Kind of parity. (None, Even, Odd).
- PRESS  5STOP.1 - Number of Stop Bits. (1, 2).
- PRESS  ECFEY - Type of communication. (Key, Red).
- PRESS  EHALF - Type of connection. (Half, Full1, Full2).
- PRESS  GROSS.1 - Weight Trace, Gross. (0 = It is not sent, 1 = It is sent)
- PRESS  NET.1 - Weight Trace, Net. (0 = It is not sent, 1 = It is sent)
- PRESS  TARE.1 - Weight Trace, Tare. (0 = It is not sent, 1 = It is sent)

<b>22</b>	<b>LANG</b>	LANGUAGE. SPA, ENG.
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**4.1 METHOD TO CHANGE THE PARAMETERS' VALUE**

From the previous list there are 2 kinds of internal parameters:


-  **METROLOGIC PARAMETERS.**- Once the equipment is sealed they cannot be modified.
-  **OPERATIVE PARAMETERS.**- They can be modified from calibration mode and from key mode.

 - It validates to the next parameter.


- Parameters with predefined values :

When pressing successively  It changes the value sequentially.

- Parameters with changing values:

 - It changes the intermittent digit value.

  - It changes the digit.

 - It returns to calibration mode without modifying the previous value.

58.000


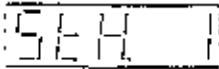

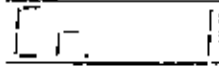

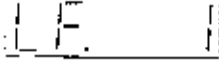

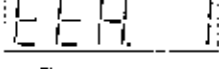




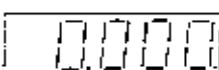
58.000

0.000



10	SELOO	INDICATION BAR.	LOG, LIN, NOR.
11	6.6.6Ar	BAR FORMAT.	PUN, BAR, SEM.
12	6Lnor	BAR LOGIC OUTPUT.	NOR, INV.
13	6EYES	BEEPER <del>ACOUSTIC INDICATOR</del>	YES, NO.
14	EALEO	KIND OF TARE.	0 and 1.
15	E-ALEO	AUTOMATIC TARE CLEARING.	0 and 1.
16	FLOFF	RELAYS ON/OFF.	ON, OFF.
17	Lr.nor	RELAYS LOGIC.	NOR, INV.
18	dr. 05	RELAYS DIVISIONS.	Between 0 and 10 div.
19	Er. 10	RELAYS TIME	Between 0 and 60 sec.
20	Ca. 762	SECRET CODE.	Between 0 and 999.
21	UC. no	CHANGE OF UNITS (If it has one).	YES, NO.

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- PRESS   - Weight Trace, STX. (0 = It is not sent, 1 = It is sent)
- PRESS   - Weight Trace, CR. (0 = It is not sent, 1 = It is sent)
- PRESS   - Weight Trace, LF. (0 = It is not sent, 1 = It is sent)
- PRESS   - Weight Trace, ETX. (0 = It is not sent, 1 = It is sent)
- PRESSING  It changes the value of the function.
- PRESSING   It validates the function and it returns to calibration mode
- PRESSING   It returns to calibration mode without saving the changes made.

## 7. PROTOCOL OF COMMUNICATION TO A COMPUTER IN RS-232

PRESS  The equipment sends 

Where: The possible request from computer to indicator are the following:

Computer REQUEST	Indicator's ANSWER
" S " (24b) Weight request.	"WEIGHT TRACE", It will depend on the Communication format chosen in section 9.

**6 WEIGHT ADJUST WITH REFERENCE WEIGHT.**

00.0000

Place a reference weight on the platform equivalent to 70% of the maximum capacity. (see table in section 14).

- Introduce the values with the keys

ZERO

TARE

PRINT

ZERO

- It changes the intermittent digit value.


00.0000

TARE

PRINT

- It changes the digit.

00.0000

- Check that the indicator "  " is ON.

SET

- It validates the introduced value.

05.0000

UNITS

- It returns to calibration mode without modifying the previous value:

00.0000



: If you want to make a new calibration it is recommended to clear the adjust memory (E2P) in order to reinitialize all the metrologic parameters.

3

CX-10-V03-S

La structure of the messages both of REQUEST and of ANSWER is the following:

STX	REQUEST / ANSWER	CHECK 1	CHECK 2	ETX
-----	------------------	---------	---------	-----

Where: The possible request from Computer to indicator as the following

Computer's REQUEST	Indicator's ANSWER
" \$ " (24h) Weight request.	"WEIGHT TRACE". It will depend on the Communication format chosen in section 9.

**CHECK CALCULATION:**

<STX> XOR <REQUEST / ANSWER> XOR <Characters No. REQUEST / ANSWER+1> =XYH  
 CHK1 = X+30H; CHK2 = Y+30H.

**9. COMMUNICATION FORMAT TO COMPUTER**

WEIGHT TRACE Standard Format											
Trace	STX	State	Weight							CR	
No. of Bytes	1	1	8							1	
Hexa Example	02	41	20	20	20	32	2E	30	30	30	0D
ASCII Example	STX	A				2		0	0	0	CR

**STATE CALCULATION:** The state is obtained by adding the values of the pilots that are on to 20H  
 Gross = 1H; Net = 2H; Zero = 8H; Stable = 20H.

### 3 DIGITAL DIVISION.

50. 2

Possible values 1, 2, 5, 10, 20, 50, 100, 200, 500.

ZERO

- It changes the value sequentially. 1 → 2 → 5 → 10 → 20 → 50 → 100 → 200 → 500

SET

- It validates the introduced value and it goes on to decimal position.

UNITS

- It returns to calibration mode without modifying the previous value.

### 4 DECIMAL POINT POSITION.

DEC. 3

Possible values 0, 1, 2, 3, 4.

ZERO

- It changes the value sequentially. 0 → 1 → 2 → 3 → 0 ...

SET

- It validates the introduced value and it goes on to zero adjust.

UNITS

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6

## 12. E2PROM ERASURE

PRESSING

OVER

6.0000

PRINT

ERASE2

PRESSING

SET

- The E2PROM clearing will be made restarting the equipment.

## 13. SPECIAL MODE UNDER CODE

1

Switch the equipment ON.



60700 kg

2

During the starting initial sequence press the series of keys of the CODE.

00000



SET

UNITS

TARE

PRINT

OVER

UNITS

PRINT

TARE



00000

00000

ZERO



• It passes to modify the communication parameters. (See paragraph 6).

00000

SET



• It passes to modify the operative parameters. (See paragraph 4).

### 3 DIGITAL DIVISION.

Possible values 1, 2, 5, 10, 20, 50, 100, 200, 500.

- It changes the value sequentially. 1 → 2 → 5 → 10 → 20 → 50 → 100 → 200 → 500

- It validates the introduced value and it goes on to decimal position.

- It returns to calibration mode without modifying the previous value.

### 4 DECIMAL POINT POSITION.

Possible values 0, 1, 2, 3, 4.

- It changes the value sequentially. 0 → 1 → 2 → 3 → 0 ...

- It validates the introduced value and it goes on to zero adjust.

CK-10-V03-S

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## 12. E2PROM ERASURE

PRESSING

PRESSING

- The E2PROM clearing will be made restarting the equipment.

## 13. SPECIAL MODE UNDER CODE

1

Switch the equipment ON.



2

During the starting initial sequence press the series of keys of the CODE.




• It passes to modify the communication parameters. (See paragraph 6).



• It passes to modify the operative parameters. (See paragraph 4).