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INSTRUCTION MANUAL

CD11 INDICATORS with CHAMP BASES

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Declaration of Conformity We, Ohaus Corporation, declare under our sole responsibility that the instrument models listed below marked with "CE" - are in conformity with the directives and standards mentioned.

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Instrument Type/Waagentyp/Type de instrument/Modelo de instrumento/Tipo di strumento **CD-11 Indicator**

Marked with: Gekennzeichnet mit: Munis de la mention: Con el distintivo: Contrassegnati con la Marcatura:	Directive Richtlinie Directive Directiva Direttiva	Standard Norm Norme Norma Norma
CE	EU 73/23 Low Voltage EU 73/23 Niederspannung EU 73/23 Basse tension EU 73/23 Baja tensión EU 73/23 Bassa tensione EU 89/336, 92/31, 93/68 Electromagnetic compatibility EU 89/336, 92/31, 93/68 Elektromagnetische Verträglichkeit EU 89/336, 92/31, 93/68 Compatibilité électromagnétique EU 89/336, 92/31, 93/68 Compatibilidad electromagnética EU 89/336, 92/31, 93/68 Compatibilità elettromagnetica	IEC1010-1 & EN60950:1992 Safety Regulations IEC1010-1 & EN60950:1992 Sicherheitsbestimmungen IEC1010-1 & EN60950:1992 Consignes de sécurité IEC1010-1 & EN60950:1992 Disposiciones sobre seguridad IEC1010-1 & EN60950:1992 Prescrizioni . di sicurezza EN55022:1987 Emissions EN50082-1:1992 Immunity NOTE: The displayed value may be adversely affected under extreme electromagnetic influences, eg. when using a radio unit in the immediate vicinity of the device. Once the interference has been rectified, the product can once again be used for its intended purpose. EN55022:1987 Funkstörungen EN50082-1:1992 Immunität Hinweis: Unter extremen elektromagnetischen Einflüssen z.B. bei Betreiben eines Funkgerätes in unmittelbarer Nähe des Gerätes kann eine Beeinflussung des Anzeigewertes verusacht werden. Nach Ende des Störeinflusses ist das Produkt wieder bestimmungsgemäss benutzbar. EN55022:Emissions parasites EN50082-1:1992 Immunité Remarque: Dans des conditions d'influences électromagnètiques extrêmes, par exemple en cas d'exploitation d'un appareil radio à proximité immédiate de l'appareil la valeur d'affichage risque d'être influencée. Une fois que l'influence parasite est terminée, le produit peut être de nouveau utilisé de manière conforme aux prescriptions. EN55022:1987 Radiointerferencias EN50082-1:1992 Inmunidad Nota: Bajo influencias electromagnèticas extremas, p.ej. cuando funciona una radio en las inmediaciones del aparato, se pueden alterar los valores del display. Cuando concluye el efecto perturbador, el producto puede ser utilizado de nuevo, de acuerdo con lo estipulado. EN55022:1987 Radiointerferenze EN50082-1:1992 Immunità Nota: Il valore visualizzato può essere influenzato negativamente dalla presenza di forti interferenze elettromagnetiche, per esempio quando viene usata una radio in prossimità della bilancia. Eliminata la fonte dell'interferenza, il prodotto può essere nuovamente utilizzato per le funzioni cui è preposto.

James Ohaus
President

NOTE: THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

THIS DIGITAL APPARATUS DOES NOT EXCEED THE CLASS A LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS AS SET OUT IN THE INTERFERENCE-CAUSING EQUIPMENT STANDARD ENTITLED “DIGITAL APPARATUS”, ICES-003 OF THE DEPARTMENT OF COMMUNICATIONS.

CET APPAREIL NUMERIQUE RESPECTE LES LIMITES DE BRUITS RADIOELECTRIQUES APPLICABLES AUX APPAREILS NUMERIQUES DE CLASSE A PRESCRITES DANS LA NORME SUR LE MATERIEL BROUILLEUR : “APPAREILS NUMERIQUES”, NMB-003 EDICTEE PAR LE MINISTRE DES COMMUNICATIONS.

Unauthorized changes or modifications to this equipment are not permitted.

Before plugging in the Indicator, make sure that the voltage of the power adapter and plug match.

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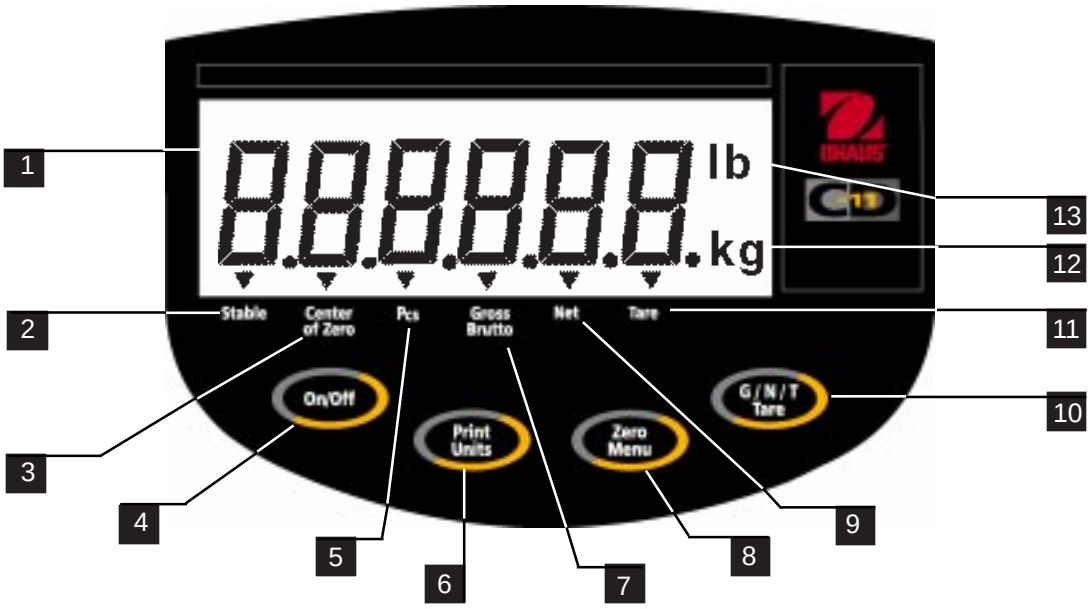
OVERVIEW OF CONTROLS AND INDICATOR FUNCTIONS



No.	Designation	Function
1	Display	LCD display, indicates weight, modes and setup information.
2	Stable	LCD indicator prompt, indicates that the measured value has become stable.
3	Center of Zero	LCD indicator prompt, indicates center of zero.
4	ON/OFF button	When pressed, turns Indicator on or off.
5	Pcs	LCD indicator prompt, indicates parts counting function.
6	Print/Units button	Short press, prints data which is displayed on the Indicator. Long press, changes unit of measure.
7	Gross Brutto	LCD indicator prompt, indicates gross weight.
8	Zero/Menu button	When pressed, zero's display. Long press allows entry into menus.
9	Net	LCD indicator prompt indicates net weight.
10	G/N/T button Tare	Repeated presses, select either gross, net or tare weight to be displayed. Long press enters tare value into memory.
11	Tare	LCD indicator prompt indicates tare function.
12	kg g	LCD indicator, when lit, indicates weight in kilograms. LCD indicator, when lit, indicates weight in grams.
13	-lb	LCD indicator, when lit, indicates weight in pounds.

1. GETTING TO KNOW YOUR INDICATOR

1.1 Introduction

Thank you for deciding to purchase a CD-11 Indicator from Ohaus. The Ohaus CD-11 Indicator is a rugged, reliable, electronic weight indicator designed for easy operation. The CD-11 Indicator has been NTEP tested and complies with Class III and IIIL requirements of NIST HB44 for 1:5000 performance in pounds, kilograms, or grams. The CD-11 Indicator can drive up to four 350 ohm load cells and provides capacity selections up to 20,000 lb/kg with a maximum resolution of 1:20,000.

The CD-11 operates from six Alkaline “C” batteries and can also be powered externally using the AC adapter supplied. A six digit LCD display is 1.0 inches/2.5 centimeters in height provides easy visibility when working at distances from the indicator. Four switches mounted on the front panel enable simple set up procedures. A menu lockout switch can be set to lock out various functions of the indicator to prevent settings from being changed. An RS232 Interface is built in. Accessories are available which permit the Indicator to be table, wall, or tower mounted.

Behind your instrument stands OHAUS, a leading manufacturer of precision Indicators, Scales and Balances. An Aftermarket Department with trained instrument technicians is dedicated to providing you with the fastest service possible in the event your instrument requires servicing. OHAUS also has a Customer Service Department to answer any inquiries regarding applications and accessories.

To ensure you make full use of the possibilities offered by your CD-11 Indicator, please read the manual completely before installation and operation.

2. INSTALLATION

2.1 Unpacking and Checking

Open the package and remove the instrument and the accessories. Check the completeness of the delivery. The following accessories are part of the standard equipment of your new Indicator.

- Remove packing material from the instrument.
- Check the instrument for transport damage. Immediately inform your Ohaus dealer if you have complaints or parts are missing. Your Indicator package should contain:
    - Indicator CD-11
    - AC Adapter, 9 V dc output
    - Warranty card
    - Capacity label
    - Screw driver
    - Instruction Manual
- Store all parts of the packaging. This packaging guarantees the best possible protection for the transport of your instrument.

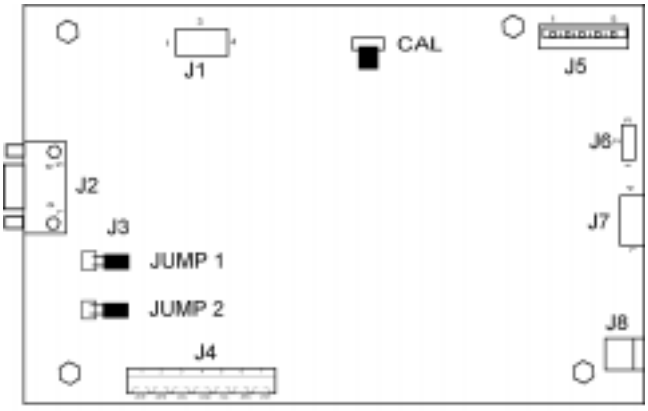
2.2 Selecting the Location

The Indicator should be used in an environment which is free from corrosives, vibration, temperature or humidity extremes. These factors will affect displayed weight readings. Scale bases used with the Indicator should be located on a stable level surface and kept away from vibrating sources such as large machinery. Maximum accuracy will be achieved when the area is clean and vibration free.

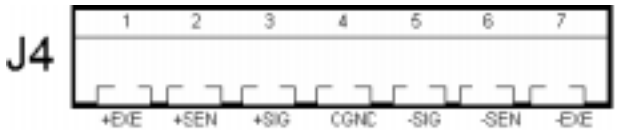
2.3 Connecting the Indicator to a Scale Base

- Turn the Indicator over and using a screw driver, remove the four screws which secure the rear cover. Two screws are under the battery box's cap.
- Remove the rear cover.
- Remove batteries if installed.
- Pass the load cell cable through the liquid tight connector on the left side of the housing.
- Refer to the color code of the load cell cable and connect the wires to Terminal Strip J4. Tighten all screws securely. The connections are shown for a 6 wire cable. When a 4 wire cable is used, The Jump 1 and Jump 2 jumpers on the PC board must be positioned as shown in the illustration.

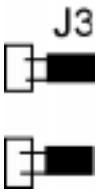
  For obtaining better performance, it is recommended to keep both JUMP 1 and JUMP 2 jumpers open when a 6-wire load cell is connected to the CD-11.



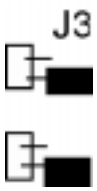
Printed Circuit Board Connector Locations.



Connector J4 Terminations.



4-Wire Jumper Connections.



6-Wire Jumper Connections.

2.4 Cautionary Notes

- Model CD-11 Indicator **must not be operated in hazardous areas** with the standard-supplied AC adapter.
- Before connecting the AC adapter, verify that the voltage printed on it corresponds to the local mains voltage. If this is not the case, please contact your local Ohaus dealer.
- Model CD-11 Indicator may only be used in a dry environment.

2.5 Connecting Power

The CD-11 Indicator may be operated using the AC Adapter supplied, or 6 Alkaline C-type batteries (not supplied).

2.5.1 AC Adapter

- Connect the AC Adapter connector to the receptacle located at the right-hand side of the Indicator and plug the adapter into a convenient outlet.

NOTICE:
The socket/outlet must be installed near the equipment and shall be easily accessible.

2.5.2 Battery Installation

- Open the battery cover on the bottom of the housing.
- Insert 6 Alkaline C-type batteries into the two battery sleeves (3 in each sleeve) making sure the batteries are all facing in the same direction.
- Place the batteries into the two slots in the housing. Orient the batteries so that the positive (+) ends are against the reeds and the negative (-) ends rest against the springs.

NOTE: It is recommended that when the CD-11 is operated from batteries, the Auto-Off Timer feature be turned on to extend battery life. When setting up the Indicator, refer to Intial Setup,Readout menu, paragraph 2.7.5.

2.5.3 Operating the Indicator

Once the Indicator and Scale Base are connected and installed, follow the setup procedure outlined below.

Power On/Off

- With the Indicator connected to an appropriate power supply, press the **On/Off** button. The Indicator performs a self-test, indicates the software revision momentarily and then goes to a weighing mode. At this point, the Indicator is on and ready for initial setup.

Stabilization

Before initially using the Indicator, allow time for it to adjust to its new environment. Recommended warm up period is five (5) minutes.

2.6 Setup Protection

The CD-11 Indicator is equipped with menus which permit certain functions to be locked out (not changed) during operation. If you intend to lock out changes to the setup selections you make, **do not** re-assemble the indicator. You will need to access the menu lockout jumper located on the circuit board following the setup procedure. Keep the four case screws in a safe place until you have completed the setup procedure for the Indicator. Once you have completed all setup procedures, you may replace the four case screws.

2.7 Initial Setup

For first time setup, step through all menus and set the parameters as desired. As the last step, enter the CAL menu and calibrate the system.

The indicator has five menus; CAL, SETUP, READ, PRINT and LOCSW which are entered by pressing and holding the **Zero/Menu** button until MENU is displayed, then releasing it. The display then switches to CAL. To access the rest of the menus, the **Print/Units** button is repeatedly pressed until the desired menu is reached.

2.7.1 Control Functions

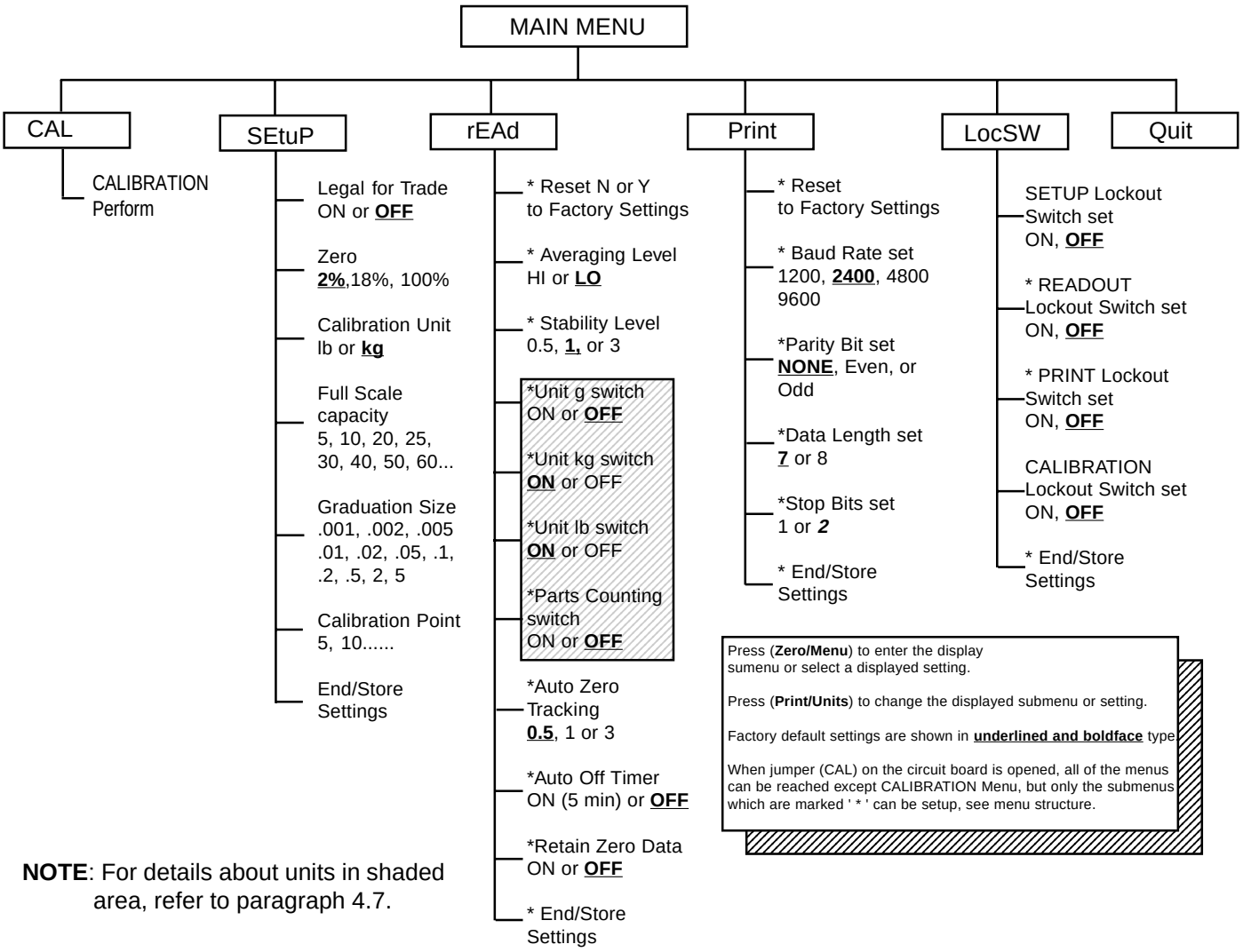
During setup, only the **Print/Units** and **Zero/Menu** buttons are used.

Print/Units Button
Change between menus horizontally or change sub-menu parameters.

Zero/Menu Button
Press and hold to enter menu. Enters menu and steps through sub-menus vertically.

2.7.2 Menu Structure

The following table illustrates the menu structure in the CD-11 Indicator.



NOTE: For details about units in shaded area, refer to paragraph 4.7.

2.7 Initial Setup (Cont.)

2.7.3 Load Cell Capacity Information

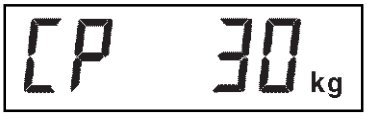
Review the specifications of the scale base to be used with the Indicator. Make sure the settings you select in the indicator are compatible with the scale base. Below is a Load Cell Scale Capacity (lb or kg) table. Use this table to determine the settings of the Indicator based on the capacity and resolution of the scale base.

Grad	LOAD CELL SCALE CAPACITIES (LB OR Kg)											
	1000d	1200d	1500d	2000d	2500d	3000d	4000d	5000d	6000d	7500d	10000d	20000d
0.001	-	-	-	-	-	-	-	5	-	-	10	20
0.002	-	-	-	-	-	-	-	10	-	-	20	40
0.005	5	-	-	10	-	-	-	20	25	30	50	100
0.005	5	6	7.5	10	12.5	15	20	25	30	37.5	50	100
0.01	10	-	-	20	25	30	40	50	60	75	100	200
0.02	20	-	30	40	50	60	-	100	120	150	200	400
0.05	50	60	75	100	-	150	200	250	300	-	500	1000
0.1	100	120	150	200	250	300	400	500	600	750	1000	2000
0.2	200	-	300	400	500	600	-	1000	-	1500	2000	-
0.5	500	600	750	1000	-	1500	2000	2500	3000	-	5000	10000
1	1000	1200	1500	2000	2500	3000	4000	5000	-	7500	10000	20000
2	2000	-	3000	-	5000	-	-	10000	-	-	20000	
- 5	5000	-	7500	10000	-	-	20000	-	-	-	-	-

2.7 Initial Setup (Cont.)

2.7.4 Setup Menu

The CD-11 Indicator Setup Menu ***must be entered the first time*** the Indicator is used to set the scale base parameters to match the Indicator. **Do not attempt to calibrate the Indicator** before setting up the Setup Menu. All other menus should be entered and set up the first time the Indicator is used.



Procedure

- With the Indicator ON, press and hold the **Zero/Menu** button until MENU is displayed. When you release **Zero/Menu** button, CAL is displayed when the CAL jumper on the PC board is in place. When the CAL jumper is removed, the Indicator will not permit calibration. This jumper should be in place initially.
- Press **Print/Units** button, SETuP is displayed.
- Press **Zero/Menu** button, LFTOFF is displayed. legal for trade selections are:
  'ON' - LFT is ON
  'OFF' - LFT is OFF.
- Press **Print/Units** button and select either ON or OFF.
- Press **Zero/Menu** button, 0 2 is displayed. This is the Zero 2%, 18% or 100% setting. 2% - zero operation range is - 2% to + 2%. 18% - zero operating range is -2% to +18%, 100% - zero operation range is -2% to +100%. **NOTE:** If LFT is ON, only 2% and 18% are available.
- Press **Print/Units** button, and select either 2%, 18% or 100%.
- Press **Zero/Menu** button, CAL Un kg is displayed. This is the calibration unit setting. Selections are:
  'lb' - calibration unit is lb
  'kg' - calibration unit is kg.
- Press **Print/Units** button, and select either kg or lb.
- Press **Zero/Menu,** F xx is displayed**.** This is full scale capacity selections. xx= value last set. Selections are:
  5, 10, 20, 25, 30, 40, 50, 60, 75, 100, 120, 200, 250, 300, 400, 500, 600, 750, 1000, 1500, 2000, 2500, 3000, 5000, 7500, 10000, 20000 (lb or kg).
- Press **Print/Units** button until desired capacity value is reached.
- Press **Zero/Menu** button, Gd0.01 is displayed. This is the graduation size. Refer to paragraph 2.7.3 Load Cell Capacity Information table. For available selections, press **Print/Units** button until desired graduation value is reached.
- Press **Zero/Menu** button, CP 30 kg is displayed. This is the full scale calibration point setting. The range is from 20% to 100% Full scale capacity. Press **Print/Units** button until desired calibration value is reached.
- Press **Zero/Menu** button to end this block, END is displayed.
- Press **Zero/Menu** button, rEAD is displayed which is the next menu or press **Print/Units** button to return to Setup menu.

The Indicator is now matched up with the scale base and the Indicator parameters may now be set and calibrated.

2.7 Initial Setup (Cont.)

2.7.5 Readout Menu

The Readout menu is used to adapt the Indicator to environmental conditions, set measuring units on/off, parts counting, auto zero tracking, timer on/off and retain zero data. It contains 10 submenus. Review all of the settings available before proceeding.

Procedure

To select any of the items in the Readout menu, proceed as follows: **NOTE**: If you have entered from the preceeding menu, disregard the first step.

- With the Indicator ON, press and hold the **Zero/Menu** button until MENU is displayed. When you release the **Zero/Menu** button, CAL is displayed, then press **Print/Units** button, until rEAd is displayed.

- Press **Zero/Menu** button, rESETn is displayed. This allows resetting the readout menu to factory defaults. rESETn = no does not reset settings. rESETy= yes will reset the entire readout menu as follows: AL Lo, StAb 0.5, UnOff g, Un On kg, Un On Lb, AZt 0.5, Aot Off, rZd Off.

- Press **Print/Units** button,and select N or Y.

AVERAGING LEVEL

Averaging level compensates for vibration or excessive air currents on the scale base. During operation, the indicator continually takes weight readings from the load cell. Successive readings are then digitally processed to achieve a stabilized display. Using this feature, you specify how much processing you need.

HI and LO settings are available.

HI setting:
More processing, greater stability and slower stabilization time.

LO setting:
Less processing, less stability and faster stabilization time.

- Press **Zero/Menu** button, AL LO is displayed. This is averaging level settings. Selections are:
  'Lo' - Averaging level is low
  'Hi' - Averaging level is high.

- Press **Print/Units** button,and select LO or HI.

STABILITY

The stability range specifies the weighing results and must be within a preset tolerance limit for a certain time to turn the stability indicator ON. When a displayed weight changes beyond the allowable range, the stability indicator turns OFF, indicating an unstable condition. Factory default setting is shown in bold type.

.5d Smallest range: stability indicator is ON only when displayed weight is within .5 divisions.
1d Normal
3d More stable course

2.7 Initial Setup (Cont.)
2.7.5 Readout Menu (Cont.)

Procedure

STABILITY (Cont.)

- Press **Zero/Menu** button, StAb1 is displayed.The stability range specifies the weighing results and must be within a preset tolerance limit for a certain time to turn the stability indicator ON. When a displayed weight changes beyond the allowable range, the stability indicator turns OFF, indicating an unstable condition. 0.5 d smallest range, stability indicator is ON only when displayed weight is stable within 0.5 divisions. 1 d- stable within 1 division. 3 d-largest range, stability indicator is ON even though displayed weight changes 3 divisions. Factory default setting is 1.

- Press **Print/Units** button,and select 0.5, **1**, or 3. Normal 1d stability is default/recommended.

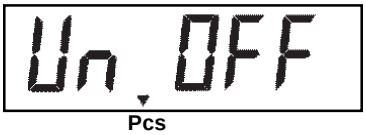
UNITS SELECTION

- Press **Zero/Menu** button, Un OFF g is displayed. This displays only when graduation is preset in grams.

- Press **Print/Units** button, and select ON or OFF. OFF is the default setting.

- Press **Zero/Menu** button, Un ON lb is displayed. This is unit pounds which can be turned ON or OFF. This will be displayed when CAL UNIT kg was selected. When lb was selected as calibration unit, kg will display.

- Press **Print/Units** button,and select ON or OFF. ON is the default setting.



- Press **Zero/Menu** button, Un (Pcs) OFF is displayed. This is the Parts Counting function which can be turned ON or OFF. Default setting is OFF.

- Press **Print/Units** button,and select ON or OFF.

AUTO ZERO

- Press **Zero/Menu** button, AZt 0.5 is displayed. This is the Auto Zero Threshold setting. Auto Zero minimizes the effects of temperature changes and small disturbances on the zero reading. The Indicator maintains the zero display until the threshold is exceeded. Settings are shown as follows:

  0.5d Sets threshold to 0.5 divisions.
  1d Sets threshold to 1 division.
  3d Sets threshold to 3 divisions.

  Factory default setting is 0.5d.

- Press **Print/Units** button,and select 0.5, 1 or 3.

2.7 Initial Setup (Cont.)
2.7.5 Readout Menu (Cont.)

Procedure

AUTO POWER OFF

- Press **Zero/Menu** button, AOtOFF is displayed. This is the Auto Off Timer. When set ON, the Indicator will shut off automatically after 5 minutes has elapsed on the condition that no button is pressed and the scale base is stable during that period.

- Press **Print/Units** button,and select ON or OFF. OFF is the default setting.

RETAIN ZERO DATA

- Press **Zero/Menu** button, Un rZdOFFis displayed. This is Retain Zero Data which can be turned on or off. When set On, the Indicator stores the current zero point and restores it on the power-up.

- Press **Print/Units** button, and select ON or OFF. OFF is the default setting.

- Press **Zero/Menu** button to end this block, END is displayed.

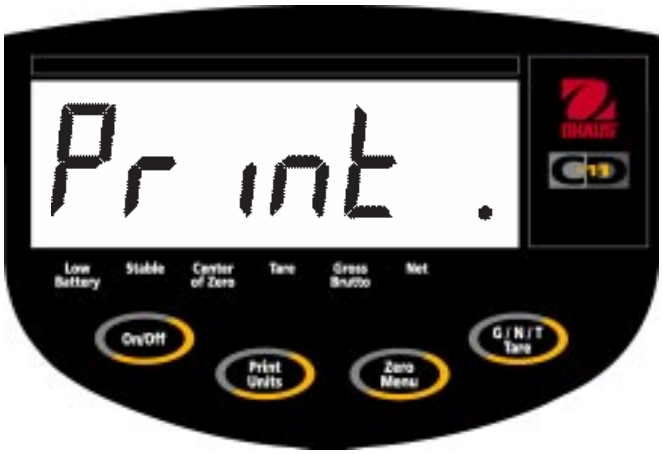
- Press **Zero/Menu** button, Print is displayed which is the next menu or press **Print/Units** button to go back to Readout menu.

  (If initial setup, go to the next paragraph. To exit from the Setup, press **Prints/Units** button to skip to PRINT then to LOCKSW, then QUIT. Press **Zero/Menu** button to go back to the weighing mode).

2.7 Initial Scale Setup (Cont.)

2.7.6 Print Menu

The Print menu provides data communication settings which can be entered. It contains 6 submenus: Reset, Baud rate, Parity Bit, Data Length, Stop Bits and End/Store.



Procedure

To select any of the items in the Print menu, proceed as follows: **NOTE**: If you have entered from the preceeding menu, disregard the first step.

- With the Indicator ON, press and hold the **Zero/Menu** button until MENU is displayed. When you release the **Zero/Menu** button, CAL is displayed, then press **Print/Units** button, until Print is displayed.
- Press **Zero/Menu** button, rESEtn is displayed. This allows resetting the Print menu to factory defaults. rESETn = no does not reset settings. rESETy= yes will reset the entire Print menu as follows: Baud rate =2400, parity =none, data length=7, stop bit=2.
- Press **Print/Units** button, and select N or Y.
- Press **Zero/Menu** button, bd2400 displayed.
- Press **Print/Units** button, and select desired baud rate. Baud rate selections are: 1200, 2400, 4800 and 9600. 2400 is the default setting.
- Press **Zero/Menu** button, PAr NO is displayed. This is the parity bit.
- Press **Print/Units** button, and select desired parity of NO=none, Odd=odd, E=even. Default setting is none.
- Press **Zero/Menu** button, dAtA 7 is displayed. This is the data length.
- Press **Print/Units** button, and select desired data length of 7 or 8. Default setting is 7.
- Press **Zero/Menu** button, StOP 2 is displayed. This is the stop bit.
- Press **Print/Units** button, and select desired stop bit of 1 or 2. Default setting is 2.
- Press **Zero/Menu** button to end this block, END is displayed.
- Press **Zero/Menu** button, LOCSW is displayed which is the next menu or press Print Units button to go back to the Print menu.

  (If initial setup, go to the next paragraph. To exit from the Setup, press **Prints/Units** button to skip to PRINT then to LOCKSW, then QUIT. Press **Zero/Menu** button to go back to the weighing mode).

2.7 Initial Scale Setup (Cont.)

2.7.7 Lockout Switch Menu

Lockout Switch menu (LOCSW) is a software controlled option which can lock the settings in the Calibration, Setup, Readout, and Print menus to prevent tampering. When used in conjunction with the Lock Switch (jumper) on the printed circuit board, the Calibration, Setup, Readout and Print menus can be read only and not changed by an operator.

Procedure

To select any of the items in the Lockswitch menu, proceed as follows: **NOTE**: If you have entered from the preceeding menu, disregard the first step.

- With the Indicator ON, press and hold the **Zero/Menu** button until MENU is displayed. When you release the **Zero/Menu** button, CAL is displayed, then press **Print/Units** button, until LOCSW is displayed.
- Press **Zero/Menu** button, LSTOFF is displayed. This permits locking the Setup menu. OFF is unlocked, ON is read only (locked). This menu is hidden if CAL jumper is off.
- Press **Print/Units** button, and select ON or OFF.
- Press **Zero/Menu** button, LrdOFF displayed. This permits locking the Readout menu. OFF is unlocked, ON is read only (locked).
- Press **Print/Units** button, and select ON or OFF.
- Press **Zero/Menu** button, LPtOFF is displayed. This permits locking the Print menu. OFF is unlocked, ON is read only (locked).
- Press **Print/Units** button, and select ON or OFF.
- Press **Zero/Menu** button, LCLOFF is displayed. This permits locking the Calibration menu. OFF is un locked, ON is read only (locked). This menu is hidden if the CAL jumper is off.
- Press **Print/Units** button, and select ON or OFF.
- Press **Zero/Menu** button to end this block, END is displayed.
- Press **Zero/Menu** button, Quit is displayed.
- Press **Print/Units** button to go to CAL or press **Zero/Menu** button, Indicator returns to a weighing mode.

NOTE: At this point, the Indicator must be calibrated and the jumper removed from the CAL connector in order to lock out the menus. The top cover of the Indicator should be free to gain access to the CAL jumper.

2.7 Initial Scale Setup (Cont.)

2.7.8 Connecting the RS232 Interface

CD-11 Indicators are equipped with a standard IBM™ compatible, bi-directional RS232 interface for communication with printers and computers. When the Indicator is connected directly to a printer or Programmable Logic Controller (PLC), displayed data can be recorded at any time by simply pressing the **PRINT/UNITS** button.

Connecting the Indicator to a computer or PLC enables you to operate several functions of the Indicator from the computer, as well as receive data such as displayed weight, weighing mode, stability status, etc.

Hardware

A 9-pin female “D” connector is located on the left side of the indicator is provided for interfacing to other devices. Pin connections are shown in the adjacent illustration.

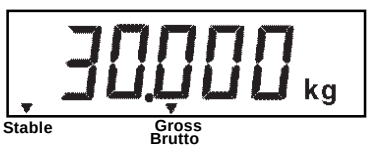
1	N/C
2	RXD
3	TXD
4	N/C
5	GND
6	N/C
7	N/C
8	N/C
9	N/C

RS-232 Pin Connections.

RS-232 Connector Pin Layout.

3. CALIBRATION AND SEALING

Model CD-11 Indicator requires span calibration before using. Span calibration ensures that the Indicator reads correctly within specifications using weight values of 20% to 100% of capacity. For best results, calibrate at or near full capacity. Calibration unit can be set to either kg or lb. *When the Indicator is used in Legal for trade applications, the calibration menu is locked out and is not accessable.* This is to prevent unauthorized personnel from changing calibration. Before beginning calibration, make sure masses are available. If you begin calibration and realize calibration masses are not available, exit the menu. The Indicator will retain previously stored calibration data. Calibration should be performed as necessary to ensure accurate weighing. Masses required to perform the procedures should be in compliance with the requirements of the scale base being used with the Indicator.



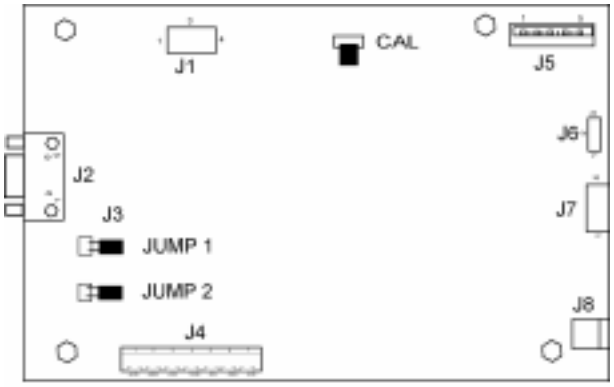
Procedure

- With the Indicator ON, press and hold the **Zero/ Menu** button until MENU is displayed. When you release the **Zero/Menu** button, CAL is displayed.
- Press **Zero/Menu** button, -C- is displayed. The scale base MUST be stable during this period and is establishing a zero point. After a few seconds, the requested weight value is displayed. The sample illustration indicates a 30kg scale. (Cal Point CP was set for 30kg)
- Place the indicated mass on the platform. Keep the platform stable during this period.
- Press **Zero/Menu** button, -C- is displayed while the Indicator stores the reading and then displays the weight of the mass.
- If the calibration was successful, the calibration mass is displayed and the calibration data is saved automatically. If unsuccessful, refer to the troubleshooting section.
- Remove calibration masses from platform.

NOTE: If the Indicator is to be used for legal for trade applications, it must be calibrated and the jumper removed from the CAL connector in order to lock out the menus. The top cover of the Indicator should be free to gain access to the CAL jumper. You must also set Setup and read LOCSW to ON. Refer to paragraph 3.1 for sealing for legal for trade use.

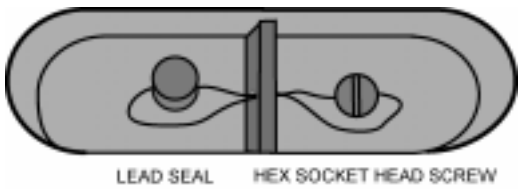
3.1 Legal for Trade (LFT) Operation and LFT Sealing

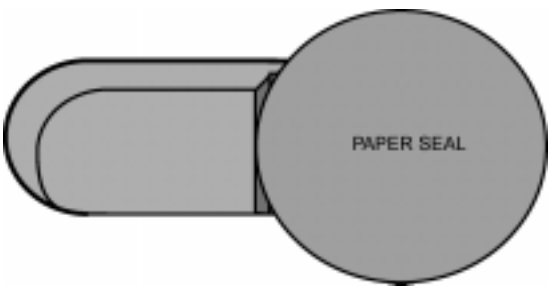
Legal for Trade (LFT) operation is possible through a software controlled LOCSW menu which can be set to lock out the Calibration, Setup, Readout, and Print menus by setting the lock switch function to ON. Setting the lock switch menu settings to ON locks out the menus. When the menus have been locked out and the Indicator has been calibrated, the Indicator can be used to operate in a legal for trade application after sealing. The software settings works in conjunction with a Lock Switch (CAL jumper) located on the PC board. The Indicator **MUST** be calibrated prior to performing this proceedure.



PC Board Connections.

CAL Jumper Shown in Stored or ON Position.





Sealing Methods

Procedure

- Perform the procedure in paragraph 2.7.7 and set all menu items ON. This effectively locks out all menus from being changed but can be viewed.
- Remove the front cover from the Indicator to expose the PC board, tilt it back. Be careful as the cover is connected to the PC board by a flexible cable.
- Refer to the illustration on the left and notice the position of the CAL jumper. This is shown with the jumper in place. To lock out the menus, remove the jumper and position it on one pin as shown in the second illustration. This removes the jumper and stores it in the event it has to be replaced.
- Replace the four cover screws and one sealing screw.
- Replace the batteries and battery cover.

NOTICE: The CD-11 has been tested and found to comply with Class lll requirements of NIST Handbook 44.

After the Indicator has been tested and found to comply with local applicable regulations by a local weights and measures official, it may be sealed as follows:

LEAD AND WIRE SEAL

- Replace the 6-32 Phillips pan head screw with the hex socket security screw and washer in the plastic bag containing the accessories. See illustration at left. Place wire seal through the hole as shown and hex head screw, compress lead seal in place.

PAPER SEAL

- If an audit trail or paper seal will be used, install the 6-32 pan head screw to the case and place seal over the screw area. The sealing area is located on the bottom of the case in a recessed area.

4. OPERATION

Before using the Indicator, make sure it has been properly set up and calibrated. Refer to Sections 2 and 3 and review settings. Four buttons are used: ON/OFF - Power on or OFF, PRINT/UNITS - short press prints data, long press changes unit of measure, ZERO/MENU - short press = 0, long press = enter setup menu, G/N/T/TARE - short press repeated selects UNITS for display, long press = enter tare.

4.1 Turning On Indicator

- Press and hold **On/Off** button until the LCD display appears, then release **On/Off** button. The display momentarily displays segment check, the software revision of the Indicator and then goes into a weighing mode. If the Indicator has been properly set up and connected, the display should be as shown to the left. The decimal point position may be different depending on the setup of the Indicator.

4.2 Turning Off Indicator

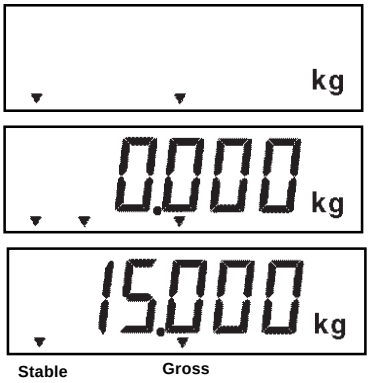
- To turn the Indicator off, press the **On/Off** button until OFF is displayed.

4.3 Zero Operation

- Using a ***short*** duration press, press **Zero/Menu** button to zero the Indicator. The display acknowledges by indicating the selected measuring unit followed by a zeroed display.

  NOTE: Stable cursor must be lit to accept zero operation.

- Place item to be weighed on the scale platform. The display indicates a sample of 15kg, gross weight.



4.4 Tare Operation

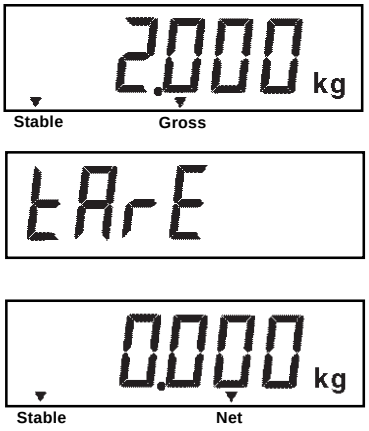
When weighing material or objects that must be held in a container, taring stores the container weight in the Indicator's memory. To store the container weight, proceed as follows:

- Place the container on the scale. Sample shown is 2kg.

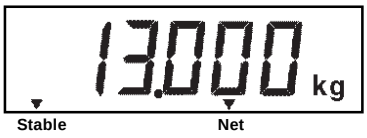
- Press and hold **G/N/T Tare** button until tArE is displayed, then release button. Scale is tared and shows Net weight.

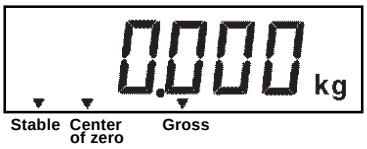
  NOTE: Stable cursor must be lit to accept tare operation.

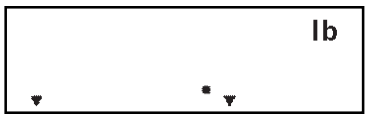
  If the tare weight is removed from the scale, the Net weight is displayed as a negative value

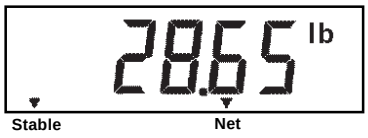


4. OPERATION (Cont.)









4.5 Gross/Net/Tare Recall Operation

When a container has been placed on the platform and tared, it's weight is stored in memory. Adding material to the container is shown as NET weight. The gross weight is a combination of the tared weight and the material. The **G/N/T Tare** button allows switching between GROSS, NET and TARE weights.

- Repeately press (short presses) the **G/N/T Tare** button to cycle through Gross, Tare and Net readings. The sample illustrations indicate a tare weight of2kg simulating a container, a net weight of 13kg which would be the material in a container and a gross weight of 15kg which is the total weight of the container and material.

4.6 Clear Tare Operation

To clear the tared weight stored in memory, proceed as follows:

- With no load on the scale base, press and hold **G/N/T Tare** button until tArE is displayed, then release button.

4.7 Unit Switch Operation

To switch measuring units, proceed as follows:

- Press and hold **Print Units** button until display changes to selected measuring unit. If grams and kg were enabled, you have a choice of g, lb or kg. the display sample indicates 13kg load changed to lbs shown as a net weight because a tared weight of 2kg was used and stored in memory.

4. OPERATION (Cont.)

4.7 Unit Switch Operation (Cont.)

If enabled in program mode, additional units of measure may be utilized beyond the primary unit of measure used for callibration or display. Switching between primary and secondary units is accomplished by pressing the **Print/Units** button. Which unit is displayed depends on the current units being used. The following tables detail the graduation size conversions when switching between kg, lb and g.

Cal unit in Lb	Alternate Unit.	Alternate Unit
Lb	kg	g
0.001	0.001	1
0.002	0.001	1
0.005	0.002	2
0.01	0.005	5
0.02	0.01	N/A
0.05	0.02	N/A
0.1	0.05	N/A
0.2	0.1	N/A
0.5	0.2	N/A
1	0.5	N/A
2	1	N/A
5	2	N/A

Cal unit in Lb	Alternate Unit.	Alternate Unit
KG	LB	g
0.001	0.002	1
0.002	0.005	2
0.005	0.01	5
0.01	0.02	N/A
0.02	0.05	N/A
0.05	0.01	N/A
0.1	0.2	N/A
0.2	0.1	N/A
0.5	1	N/A
1	2	N/A
2	5	N/A
5	N/A	N/A

4.8 Parts Counting Operation

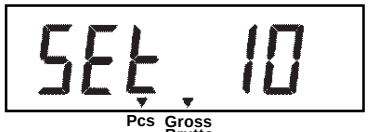
Parts counting is enabled only when turned ON in the Readout menu. Refer to paragraph 2.7.5. In the parts counting mode, the Indicator displays the quanitity of parts placed on the platform. The Indicator determines the quanitity based on the average weight of a single part. All parts must be reasonably uniform in weight for accurate measurements.

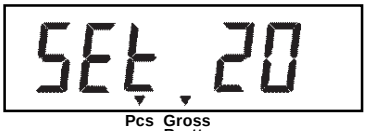
4.9 Establishing a New Average Piece Weight (APW)

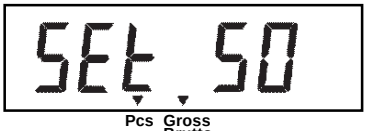
If the APW has not been calculated previously, proceed as follows:

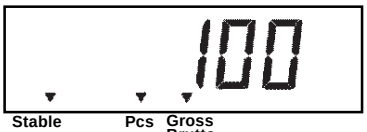
- Press and hold **Print/Units** button until Pcs cursor is displayed.
- Press and hold **Zero/Menu** until SEtPCS is displayed. This is displayed for about 1 second, then SEt 5 is displayed.
- Select an alternate sample size by pressing and holding **Print/Units** button. Choices are 5, 10, 20, and 50. Place count samples on platform.

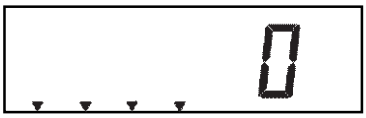
4. OPERATION (Cont.)

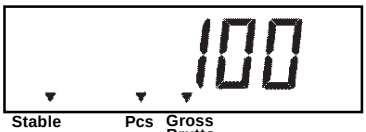












4.9 Establishing a New Average Piece Weight (APW) (Cont.)

- Press **Zero/Menu** button to accept current sample. The new APW is established. Place parts on platform or in a container to count. If a container is used, be sure to tare the empty container first.
- Additional samples may be added to the platform as long as the same sample weight intially entered is used with the samples being weighed.

4.10 Returning to a Weighing Mode

- Press **Print/Units** button until the display indicates the desired measuring unit either kg, lb or g.

4.11 Returning to a Preset APW

If the APW has been calculated previously, the Indicator stores the value in memory. Proceed as follows to use a previously set APW:

- Press and hold **Print/Units** button until Pcs cursor is displayed.
- Place samples on the platform. The display indicates the number of pieces based on the previously entered data. Sample shown at left indicates 100 pieces.

CAUTION

WHEN POWER IS TURNED OFF, APW WILL ALWAYS RETURN TO DEFAULT APW 5.

4. OPERATION (Cont.)

4.12 RS232 Commands

All communication is accomplished using standard ASCII format. Characters shown in the following table are acknowledged by the Indicator. Invalid command response "ES" error indicates the Indicator has not recognized the command. Commands sent to the Indicator must be terminated with a carriage return (CR) or carriage return-line line feed (CRLF). Data output by the Indicator is always terminated with a carriage return - line feed (CRLF).

4.12.1 Output Formats

Data output can be initiated in one of two ways; 1) By pressing **Print/Units** button, 2) Sending a print command (“P”) from a computer or a PLC.

The output format is illustrated in the RS232 command table which follows.

RS232 COMMAND TABLE)

Command Character	Description
?	Print current mode: g, kg, lb
0S	Send weight (stable or unstable)
1S	Send stable weight only
AS	Auto send data when stable after motion
Z	Same as zero key. When scale stable, new zero established OK! response on PC screen. When unstable, zero was not established, no response.
P	Print display data.
T	Same effect as pressing Tare Key. When scale stable, tare was established or cleared - response OK. When unstable, "Cannot Tare" on display.

4.13 Printing Data

Printing data to an external computer or printer requires that the communications parameters in the Print menu, be set first. Refer to paragraph 2.7.6 Print Menu for proper set up.

- To print data, press **Print/Units** button with a short press. The display acknowledges by momentarily blinking off.

NOTE: If you hold this button down too long, the display will advance to another measuring unit.

5 CARE AND MAINTENANCE

To keep the Indicator operating properly, the housing should be kept clean and free from foreign material. If necessary, a cloth dampened with a mild detergent may be used.

5.1 Troubleshooting

SYMPTOM	PROBABLE CAUSE(S)	REMEDY
Unit will not turn on.	Adapter not plugged in or properly connected.	Check power cord connections. Make sure adapter connector is plugged all the way into the Indicator.
	Batteries dead or not properly installed.	Check battery connector. Check orientation of the batteries. Replace batteries.
	Membrane switch failure.	Check functions of membrane switch.
Cannot zero Indicator, or will not zero when turned on.	Load on scale base exceeds allowable zero % entered in ZERO parameter of Setup menu.	Remove load on scale base to less than entered zero %. Change allowable zero % in ZERO parameter of Setup menu.
	Retain Zero Data is enabled in scale menu.	Normal operation when this feature is enabled.
Center of Zero display indicator erratic or does not appear with no load on scale base.	Scale base motion or disturbances exceed center of zero criteria.	Remove disturbances or reduce motion. Increase AZT level in readout menu. Increase averaging level in readout menu.
Cannot display weight in desired weighing unit.	Desired unit not set to ON in Readout menu.	Enable desired unit in Readout menu. See paragraph 2.7.5 Conversion to large (typically in g).
RS232 not working.	RS232 communication parameters set up incorrectly. Improper or loose cable connections.	Verify communication parameters. Check cable connections.
Unable to calibrate unit.	Scale base disconnected. SETUP Lockout switch set to ON and jump CAL on the circuit board set to open position.	Check connections. Set LCL to OFF in the LocSW menu, and set Jump CAL on the circuit board to short position. Refer to paragraphs 2.3 and 2.7.7.
	Incorrect value for calibration mass.	Use correct calibration mass.

5.2 Error Codes List

The following list describes the various error codes and which can appear on the display and the suggested remedy.

LoBat Is indicated when batteries are weak. Approximately 20 minutes of operating time remain.

Error 1 Indicates an overload condition.

Error 2 Indicates an underload condition.

Error 7 EEPROM data incorrect.

Error 14 Zero exceeds ZERO% and cannot be zeroed.

Err 21 Calibration data does not match current full scale, Grad and Cal Point settings. Settings must be restored or the Indicator must be recalibrated using the current settings.

5.3 Service Information

If the Troubleshooting section does not resolve or describe your problem, you will need to contact an authorized Ohaus Service Agent. For Service assistance in the United States, please call Aftermarket, Ohaus Corporation toll-free at (800) 526-0659. An Ohaus Product Service Specialist will be available to help you.

5.4 Replacement parts

Description	Ohaus Part No.
AC Adapter North America, 100-132 V ac, 60 Hz	80500435
AC Adapter Continental Europe, 196-253 V ac, 50 Hz	80500436
AC Adapter UK, 196-264 V ac, 50 Hz	80500437

5.5 Accessories

Description	Ohaus Part No.
Adjustable Column	80250632
Wall Mounting Bracket	80250633
Scale Base Mounting Plate	80250686
RS232 Interface Cable/Printer	80500432
RS232 Interface Cable/PC 25 Pin	80500431
RS232 Interface Cable/PC 9 Pin	80500433
Printer	AS142

5.6 Technical Data

Materials

- Housing GEC6200 Cycoloy plastic..
- Keypad/display overlay polyester

Ambient conditions

The technical data is valid under the following ambient conditions:

- Ambient temperature -10°C to 40C/ 14°F to113°F
- Relative humidity 10%.....95%, noncondensing
- Height above sea level up to 4000m
- Operability is assured at ambient temperatures between 5 and 40° C.

5.6 Technical Data (Cont.)

Capacity (lb or kg)	5 to 20,000*
Graduation (readability) lb or kg	0.001 to 5*
Displayed Resolution	1:5000 LFT or 1: 20,000 Non LFT*
Weighing modes	lb, kg, g*
Functions	Parts counting
Over range capacity	Capacity plus 9d
Stabilization time	< 3 seconds
Auto-zero tracking capture range	0.5, 1, or 3 divisions*
Zeroing range	2%, 18%, or 100% of capacity*
Span calibration	push-button (selectable from 20% to 100% of scale base capacity)
Weighing system	Analog strain gauge load cell
Load cell excitation voltage	5V dc
Load cell input sensitivity	Up to 3mV/V
Load cell drive	60 mA at 5V dc (drives up to 4 x 350 ohm load cells)
Display (in/cm)	LCD (1.0/25.4)
Power	AC Adapter: 100, 120, 220, 240 V ac, 50/60 Hz or 6 alkaline C-type batteries
Typical battery life	250 hours with one 350 ohm load cell
Keyboard	4 function membrane switches
Dimensions (WxDxH) (in/cm)	8.25 x 6.75 x 3/20.0 x 17.2 x 7.7
Shipping packing dimensions (in/cm)	13 x 9 x 5/32 x 22.5 x 12.5
Net weight (lb/kg)	1.3/0.6
Shipping weight (lb/kg)	3/1.5

* User selectable

LIMITED WARRANTY

Ohaus products are warranted against defects in materials and workmanship from the date of delivery through the duration of the warranty period. During the warranty period Ohaus will repair, or, at its option, replace any component(s) that proves to be defective at no charge, provided that the product is returned, freight prepaid, to Ohaus.

This warranty does not apply if the product has been damaged by accident or misuse, exposed to radioactive or corrosive materials, has foreign material penetrating to the inside of the product, or as a result of service or modification by other than Ohaus. In lieu of a properly returned warranty registration card, the warranty period shall begin on the date of shipment to the authorized dealer. No other express or implied warranty is given by Ohaus Corporation. Ohaus Corporation shall not be liable for any consequential damages.

As warranty legislation differs from state to state and country to country, please contact Ohaus or your local Ohaus dealer for further details.

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OHAUS SCALE BASES

Instruction Manual

This device corresponds to requirements stipulated in 90/384/EEC and features radio interference suppression in compliance with valid EC Regulation 89/336/EEC. Note: The displayed value may be adversely affected under extreme electromagnetic influences, eg. when using a radio unit in the immediate vicinity of the device. Once the interference has been rectified, the product can once again be used for its intended purpose. The device may have to be switched on again.

Cet appareil correspond aux exigences selon la norme 90/384/CEE et est déparasité conformément à la directive de la CE 89/336/CEE en vigueur. Remarque: Dans des conditions d'influences électromagnétiques extrêmes, par exemple en cas d'exploitation d'un appareil radio à proximité immédiate de l'appareil la valeur d'affichage risque d'être influencée. Une fois que l'influence parasite est terminée, le produit peut être de nouveau utilisé de manière conforme aux prescriptions; le cas échéant, il est nécessaire de le remettre en marche.

Dieses Gerät entspricht den Anforderungen nach 90/384/EWG und ist funkentstört entsprechend der geltenden EG-Richtlinie 89/336/EWG. Hinweis: Unter extremen elektromagnetischen Einflüssen z.B. bei Betreiben eines Funkgerätes in unmittelbarer Nähe des Gerätes kann eine Beeinflussung des Anzeigewertes verursacht werden. Nach Ende des Störeinflusses ist das Produkt wieder bestimmungsgemäss benutzbar, ggfs. ist ein Wiedereinschalten erforderlich.

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INTRODUCTION

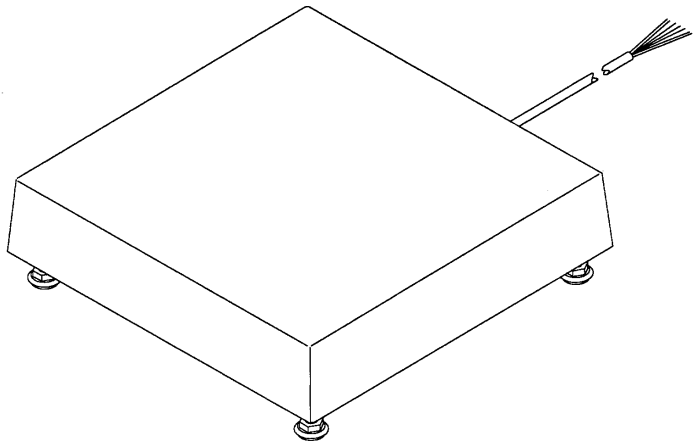
This manual covers installation, maintenance, replacement parts and service information for Ohaus Scale Bases. The following table lists the model numbers and capacities.

PAINTED MODEL	STAINLESS MODEL	ALL STAINLESS MODEL	CAPACITY kg	lb
B10P	B10S	B10AS	10	25
B25P	B25S	B25AS	25	50
B50P	B50S	B50AS	50	100
B100P	B100S	B100AS	100	200
B150P	B150S	B150AS	150	300
B250P	B250S	B250AS	250	500

To ensure proper operation of the Ohaus Scale Base, please read this manual completely.

DESCRIPTION

Ohaus Scale Bases are available in three types of construction and are ruggedly built with overload protection to take the rough handling encountered in an industrial environment, yet remain highly precise. Each type is available with platform sizes of 12" x 12", 18" x 18" and 24" x 24". Models with a P suffix are constructed with steel platforms, painted black. Models with an S suffix have stainless steel platforms. The 12" x 12" frames used on Models with P and S suffixes are painted aluminum. The 18" x 18" and 24" x 24" frames on Models with P and S suffixes are painted steel. Models with an AS suffix are constructed entirely of stainless steel and are suitable for washdown applications. The load cells used in all Ohaus Scale Bases are made of aluminum and are of a single point, bending beam design. These scale bases are designed to interface with Ohaus electronic indicators and work with other compatible indicators as well.



Typical Ohaus Scale Base

UNPACKING

Carefully unpack and remove the Scale Base from the packing material.

CAUTION

Remove the shipping screws located on the top and bottom of the Ohaus Scale Bases. Refer to figures of Scale Bases on page six.

NOTE: It is recommended that you save the packing material and shipping screws. They will be of value when storing and/or transporting the Scale Base.

INSTALLATION

Load Cell Cable Connections to Weight Indicators

The load cell cable must be connected to the terminal block of the indicator. Following the instructions provided with the indicator, wire the load cell cable to the terminal block of the indicator. Refer to the table below.

If the indicator does not have sense capability, connect the +sense wire to the +excitation wire and -sense wire to the -excitation wire.

+ Excitation Green	- Excitation Black
+ Output Red	- Output White
+ Sense Blue	- Sense Brown
Shield Bare or Yellow	

Leveling the Scale Base

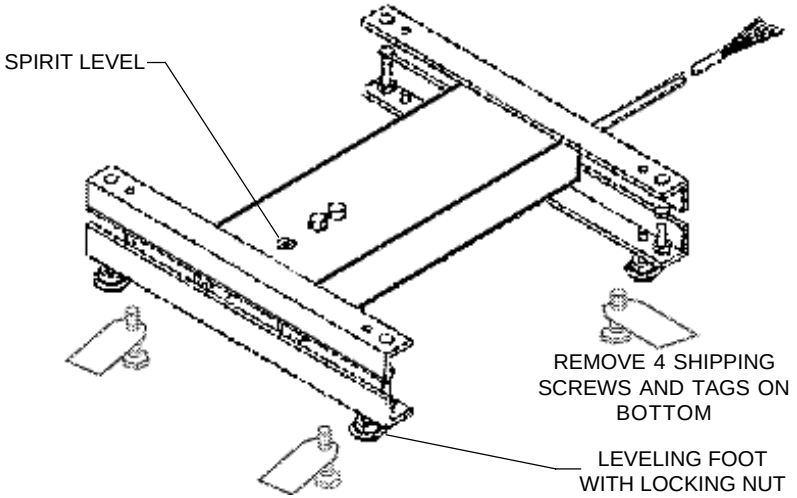
1. Place the Scale Base in the intended use location on a stable, level surface.

2. Remove the Platform from the top of the Scale Base to expose the circular Spirt Level mounted in the top of the frame. See illustrations on page 6.

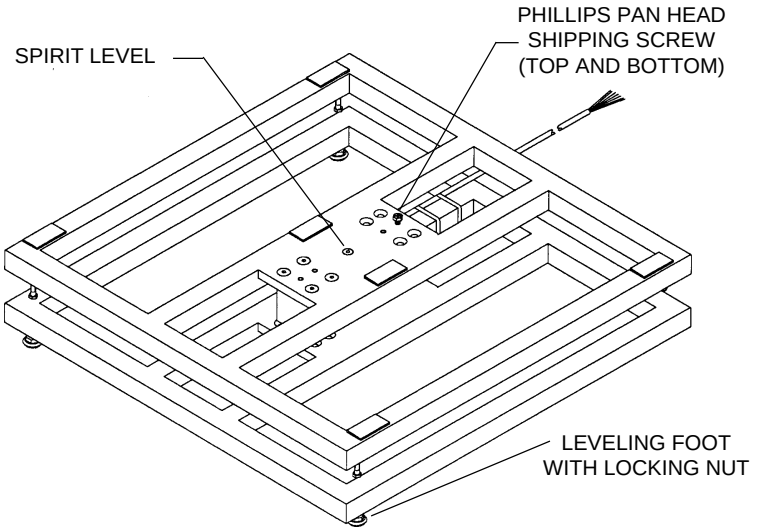
3. If the bubble is not centered in the scribed circle of the Spirit Level, loosen the Locking Nuts and adjust the Leveling Feet, either by hand or using an open ended wrench, until the bubble is centered.

NOTE: Ohaus Scale Bases are equipped with Leveling Feet which have provisions for using a wrench. This allows the Scale Base to be leveled without raising it to gain access to the Leveling Feet.

4. Tighten the Locking Nuts and replace the Platform.



12" x 12" and 18" x 18" Ohaus Scale Base (Platform Removed)



24" x 24" Ohaus Scale Base (Platform Removed)

Calibration

Refer to the Indicator Instruction Manual for system calibration procedure.

CARE AND MAINTENANCE

To keep the Ohaus Scale Base operating properly, it should be kept free from foreign materials. If necessary, a cloth dampened with water and a mild detergent may be used to clean models with a P or S suffix. Models with an AS suffix may be washed down with a hose. Wipe the unit dry with a soft cloth.

REPLACEMENT PARTS

	OHAUS Part No.
Painted Steel Platforms for Models:	
B10P, B25P, (12" x 12")	
78168-21 B50P, B100P (18" x 18")	
78168-22 B150P, B250P (24" x 24")	
78168-23	
Stainless Steel Platforms for Models:	
B10S, B10AS, B25S, B25AS (12" x 12")	78168-01
B50S, B50AS, B100S, B100AS (18" x 18")	78168-02
B150S, B150AS, B250S, B250AS (24" x 24")	78168-03
Adjustable Foot for Models:	
B10S, B10P, B10AS, B25S, B25P, B25AS, B50S, B50P	
B50AS, B100S, B100P, B100AS	76635-02
B150S, B150P, B150AS, B250S, B250P, B250AS	76635-03
Load Cells for Models:	
B10P	78200-02
B10S, B10AS	78200-12
B25P	78200-03
B25S, B25AS	78200-13
B50P	78200-04
B50S, B50AS	78200-14
B100P	78200-05
B100S, B100AS	78200-15
B150P	78200-06
B150S, B150AS	78200-16
B250P	78200-07
B250S, B250AS	78200-17

ACCESSORIES FOR CD- INDICATORS

Tower Accessory Kit	80250632
Base Mount Accessory Kits	
Indicator CD-11	80250686
Indicator CD-33	80250634

SERVICE INFORMATION

For service assistance in the United States, please call Ohaus Corporation toll-free at (800) 526-0659. An Ohaus Product Service Specialist will be available to help you.

SPECIFICATIONS

MODEL		B10P	B25P	B50P	B100P	B150P	B250P
Capacity	(lb)	25	50	100	200	300	500
	(kg)	10	25	50	100	150	250
Readability	(lb)	0.002	0.005	0.01	0.02	0.02	0.05
(Non type approved)	(kg)	0.001	0.002	0.005	0.01	0.01	0.02
Readability*	(lb)	0.01	0.02	0.05	0.1	0.2	0.2
(Type approved)	(kg)	0.005	0.01	0.02	0.05	0.1	0.1
Repeatability (Std. dev.)†		± 0.01%					
Linearity†		± 0.03%					
Safe overload capacity†		150%					
Load cell excitation (V dc)		5 to 15					
Operating temperature range		14° to 104°F/-10° to 40° C					
Scale base size (WxDxH) (in/cm)		12 x12 x 3.4/ 30 x 30 x 8.6		18 x 18 x 3.6/ 45 x 45 x 9.1		24 x 24 x 5.8/ 60 x 60 x 14.8	
Scale base construction							
Platform		Painted steel					
Frame		Painted aluminum		Painted steel			
Net weight (lb/kg)		10/4.5		35/16		71/32	
Shipping weight (lb/kg)		13/6		42/19		82/37	

	NIST Handbook 44 Class III
	14° to 104°F/-10° to 40° C
Model	NTEP No. 95-151
B10P	n_{max} 2500
B25P	n_{max} 2500
B50P	n_{max} 2500
B100P	n_{max} 2000
B150P	n_{max} 1500
B250P	n_{max} 2500

* In type approved applications, readability is limited to capacity/$n_{max.}$

† Specifications are given as a percent of the rated load.

SPECIFICATIONS

MODEL		B10S	B25S	B50S	B100S	B150S	B250S
Capacity	(lb)	25	50	100	200	300	500
	(kg)	10	25	50	100	150	250
Readability	(lb)	0.001	0.002	0.005	0.01	0.01	0.02
(Non type approved)	(kg)	0.0005	0.001	0.002	0.005	0.005	0.01
Readability *	(lb)	0.005	0.01	0.02	0.05	0.1	0.1
(Type aproved)	(kg)	0.002	0.005	0.01	0.02	0.05	0.05
Repeatability (Std. dev.)†		± 0.01%					
Linearity†		± 0.02%					
Safe overload capacity†		150%					
Load cell excitation (V dc)		5 to 15					
Operating temperature range		14° to 104°F/-10° to 40° C					
Scale base size (WxDxH) (in/cm)		12 x12 x 3.4/ 30 x 30 x 8.6		18 x 18 x 3.6/ 45 x 45 x 9.1		24 x 24 x 5.8/ 60 x 60 x 14.8	
Scale base construction							
Platform		Stainless steel					
Frame		Painted aluminum		Painted steel			
Net weight (lb/kg)		10/4.5		35/16		71/32	
Shipping weight (lb/kg)		13/6		42/19		82/37	

	NIST Handbook 44 Class III
	14° to 104°F/-10° to 40° C
Model	NTEP No. 95-151
B10S	n_{max} 5000
B25S	n_{max} 5000
B50S	n_{max} 5000
B100S	n_{max} 5000
B150S	n_{max} 3000
B250S	n_{max} 5000

* In type approved applications, readability is limited to capacity/$n_{max.}$

† Specifications are given as a percent of the rated load.

SPECIFICATIONS

MODEL		B10AS	B25AS	B50AS	B100AS	B150AS	B250AS
Capacity	(lb)	25	50	100	200	300	500
	(kg)	10	25	50	100	150	250
Readability	(lb)	0.001	0.002	0.005	0.01	0.01	0.02
(Non type approved)	(kg)	0.0005	0.001	0.002	0.005	0.005	0.01
Readability *	(lb)	0.005	0.01	0.02	0.05	0.1	0.1
(Type aproved)	(kg)	0.002	0.005	0.01	0.02	0.05	0.05
Repeatability (Std. dev.)†		± 0.01%					
Linearity†		± 0.02%					
Safe overload capacity†		150%					
Load cell excitation (V dc)		5 to 15					
Operating temperature range		14° to 104°F/-10° to 40° C					
Scale base size (WxDxH) (in/cm)		12 x12 x 3.4/ 30 x 30 x 8.6		18 x 18 x 3.6/ 45 x 45 x 9.1		24 x 24 x 5.8/ 60 x 60 x 14.8	
Scale base construction							
Platform		Stainless steel					
Frame		Stainless steel					
Net weight (lb/kg)		10/4.5		35/16		71/32	
Shipping weight (lb/kg)		14/6		42/19		82/37	

Model	NIST Handbook 44 Class III 14° to 104°F/-10° to 40° C NTEP No. 95-151
B10AS	n_{max} 5000
B25AS	n_{max} 5000
B50AS	n_{max} 5000
B100AS	n_{max} 5000
B150AS	n_{max} 3000
B250AS	n_{max} 5000

* In type approved applications, readability is limited to capacity/$n_{max.}$

† Specifications are given as a percent of the rated load.

LIMITED WARRANTY

Ohaus products are warranted against defects in materials and workmanship from the date of delivery through the duration of the warranty period. During the warranty period Ohaus will repair, or, at its option, replace any component(s) that proves to be defective at no charge, provided that the product is returned, freight prepaid, to Ohaus.

This warranty does not apply if the product has been damaged by accident or misuse, exposed to radioactive or corrosive materials, has foreign material penetrating to the inside of the product, or as a result of service or modification by other than Ohaus. In lieu of a properly returned warranty registration card, the warranty period shall begin on the date of shipment to the authorized dealer. No other express or implied warranty is given by Ohaus Corporation. Ohaus Corporation shall not be liable for any consequential damages.

As warranty legislation differs from state to state and country to country, please contact Ohaus or your local Ohaus dealer for further details.

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