WeighTech MicroWeigh Digital Weight Indicator

User's Guide

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Introduction:

With the WeighTech MicroWeigh a combination of state-of-the-art technology with common down-to-earth basics creates a digital indicator that makes troubleshooting and actual maintenance repair so simple that anyone can be trained to make repairs on this indicator in just minutes.

MicroWeigh Features:

- High impact ABS alloy construction.
- Highly visible, easy-to-read display with adjustable contrast and backlight.
- Environmentally sealed touch-sensitive operator control panel.
- Standard units of measure include grams, kilograms, ounces, and pounds.
- RS-232 and Infrared communications are standard with RS-485 option available.
- Wireless data collection using a PDA with WeighTech data-sync software.

MicroWeigh Applications:

- Standard weighing
- Tank or vat weighing
- Checkweighing (boxes, bags, and pieces)
- Bench and floor scales
- Batch weighing

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Section 1

Keypad Operation:

The WeighTech MicroWeigh keypad is a watertight sealed touch sensitive sensor. The keys are actually sensitive to contact area, not force. Press lightly with the ball of your fingertip as though you were giving fingerprints. Best results come from using the ball of your finger, not the very tip. Most objects will not trigger the keypad--knives, screwdrivers, tools, etc. do not have enough surface area in contact with the key to register as a keypress. (You might get it to trigger with a medium sized conductive bolt head, if you have skin in contact with the bolt.)

One consequence of the design of the touch sensitive keypad is that it is sensitive to water streams. For this reason, WeighTech includes a unique 'washdown mode' to prevent unwanted keypad activity during washdown/sanitation/cleanup intervals. When the

indicator is in washdown mode, the indicator will weigh normally but the keypad is locked out.

To unlock the keypad, you must play follow the leader. One key will be lit. Press it. Another key will then light up. Press it. Continue until the indicator displays "Exit washdown".

The indicator will require that you press five keys in a row correctly before it will unlock the keypad. Any wrong keypress will restart the counter back to five. The odds are extremely slight that random water splashing would ever be able to trigger the correct keys in the correct order to unlock the keypad.

Section 2

Main menu items:

- "Power off"

Touch the enter key to select this menu item, which will power down the
indicator.

- "Washdown"

This function puts the indicator in washdown mode to prevent inadvertent
keypad activity. See the washdown section of this manual for more
information.

- "Totals"

This function leads to the totals submenu.

- "Calibrate"

This function allows you to calibrate the scale. Refer to the
calibration section of this manual for details.

- "Setup Menu"

Enter the setup submenu, where scale parameters can be viewed or set.

- "Audit cfg"

Displays the audit counter for configuration. Every time a sealed scale parameter is modified this counter will increment by one. This setting is non-volatile (it will be retained even if the batteries go dead) and cannot be altered except by modifing an audited configuration parameter.

- "Audit cal"

Displays the audit counter for calibration. Every time the scale is calibrated this counter will increment by one. This setting is non-volatile (it will be retained even if the batteries go dead) and cannot be altered except by performing a calibration.

- "Tare"

Keypad entered tare: Touch the Enter key to set a new pushbutton tare by scrolling through digits one place at a time. Keypad tare values are entered in the current units, and are limited to be greater than gross zero weight and less than the indicator capacity. Entering a tare of zero will clear any existing tare from indicator.

Section 3

How to step through menus:

From the main weight display, press the 'Menu/Help' key

You are now in a menu, and the keys now have different functions:

Cancel Help Enter Down Up

Cancel will back you out of the menu one level at a time.

Help will display information about the current choice (option).

Enter has various functions, depending on where you are in the menu.

Down key will scroll backward through the menu choices.

Up key will scroll forward through the menu choices.

Section 3.1

Menus can contain several different items:

An item with a "*" on the right end will do something when you press the enter key--something might be turn the indicator off, drill down into another menu, clear totals, or start a calibration routine.

The item with a numeric value (scale capacity, for instance) at the right side of the display might allow you to change the number by pressing the enter key.

An item with text (such as 'on' or 'off') at the right side of the display might allow you to select from a list of options by pressing the enter key.

Some items are just for reference and cannot be changed at all. Examples of reference items would be the software name and revision--these are set when the software is written and cannot be changed.

Section 4

How to enter a number (using calibration routine as an example).

Press the 'Enter' key. The indicator display will show "Cal weight _" and the cursor will be blinking. The blinking cursor is the clue that you can enter an arbitrary number using the up, down, right, and enter keys. Pressing the up/down keys will scroll through the list (0 1 2 3 4 5 6 7 8 9 - .) in turn. When the desired number appears, press the right arrow (menu/help) key. The blinking cursor will advance one digit to the right, leaving your selected number in place. Continue this sequence until the desired numeric value is visible on the display. Press the 'Enter' key to accept the value, or the 'Cancel' key to abort.

Example: Enter a calibration weight of 25 pounds

Start with the indicator at a normal weight display (" 0.00 lb")

Press the 'Menu/Help' key

Scroll through the main menu using the up or down arrow keys until "Calibrate *" is displayed on the indicator

Press the 'Enter' key to start the calibration routine

The indicator may display "Password" if a calibration password is required. If so, enter it (default calibration password is 'Zero' 'Zero' 'Zero')

The indicator should now be displaying "Cal Weight" and a blinking cursor.

Press the up arrow key. The display should now show "Cal weight 1"

Press the up arrow key four more times. The display should now show "Cal Weight 2"

Press the right arrow key to accept the first digit (2) and advance the blinking cursor to the next digit. The indicator should display "Cal weight 2_"

Press the up arrow key five times to select a 5 as the second digit. The indicator should now display "Cal weight 25"

Press the 'Enter' key to accept 25 pounds as a calibration weight.

The indicator will display "Cal--zero weight". Press the 'Cancel' key to abort the calibration process.

Section 5

How to select from a list:

This is very much like stepping through a menu. Some settings (such as displayed resolution) must be limited to one of several predetermined values. To edit one of these settings, press the 'Enter' key. The currently selected value will move from the far right of the display to the left. This indicates that you may use the up and down arrow keys to scroll through a list of possible values for this setting. Once you've selected a value for the setting, press the 'Enter' key to complete the selection process. As always, pressing the 'Cancel' key will cancel the selection and restore the setting to the previous value.

Section 6

General Scale Operations

Section 6.1

Scale On Procedure:

Touch the ‘Zero / On’ key. Indicator will come on and display will read ‘MicroWeigh by WeighTech’ and then continue to the weigh mode. At this point scale is ready for product or operator input.

Section 6.2

Scale Off Procedure:

To turn the scale off touch the ‘Menu / Help’ key. Indicator will display ‘Power off *’ at this point touch the ‘Print / Enter’ key and scale display will go blank.

Section 6.3

Zero Procedure:

To zero indicator touch the ‘Zero / On’ key and indicator will take a new zero.

Section 6.4

Units Procedure:

To change the units of measure touch the ‘Units / Cancel’ key. The units will change between pounds, kilograms, grams and ounces each time that the key is touched.

Section 7

Parameters Procedure:

To get to parameters touch the ‘Menu/Help’ key, the indicator will display “Power off *”. Use the up or down arrows at this point until the indicator displays “Setup Menu”. Touch the ‘Print/Enter’ key, the indicator will ask for a password. The password for this step will be as follows: starting from the left side of the keypad touch each key in from left to right. After entering the password the indicator will display “Parameters *” at this point touch the ‘Print/Enter’ key to access the parameters. Use the up and down arrows to scroll through each parameter.

Section 7.1

Parameter submenu:

- "Units"

This parameter controls the setup unit of the indicator. Select from
pounds (lb), kilograms (kg), grams (g), and ounces (oz). Once set, the indicator capacity, resolution, and calibration weights will be entered in this unit. The units parameter is both sealed and audited.

- "Capacity"

Capacity sets the maximum capacity of the indicator, in setup units.
This parameter is both sealed and audited. Factory default is 0, which _must_ be changed before the indicator will weigh.

- "Resltn",

Parameter that sets the resolution of the indicator. Resolution is
limited to values available on the scroll list. Resolution is set in
terms of the setup units. This parameter is both sealed and audited.

- "Stability"

This parameter controls how many consecutive weight readings are
required to be within the motion sense band before the weight
indication is considered to be stable. The indicator reads the analog input 7.5 Hz (7.5 times per second), so the default setting of 4
requires about a half second of stable weight. Either the net or gross light will come on when the weight is stable. This parameter is both sealed and audited.

- "Motion sns"

Amount of motion, in divisions, allowed before the weight is considered unstable. Default is 1 division. This parameter is both sealed and audited.

- "Prefilter"

Length of the prefiler buffer. Larger numbers provide slower and
cleaner weight readings. Default is 2. This parameter is both sealed
and audited. Range?

- "AZT"

Auto zero tracking on/off. This parameter is neither sealed nor
audited. When on, stable weights within the "AZT band" of zero will
automatically rezero the scale.

- "AZT band"

Amount of weight, in divisions, that can be automatically zeroed out at
one time. Default is 1 division. Parameter is sealed and audited.

- "Calibrate"

This function starts the indicator calibration routine. It is sealed
and audited. Refer to the calibration section of this manual for
details.

- "IZ set"

When this parameter is on, the indicator will attempt to establish a new
initial zero every time the indicator powers on. HB44 limits the amount
of weight that can be initially zeroed to 20% of scale capacity. (This initial zero does not reduce the indicator capacity.) This parameter is both sealed and audited.

- "lb units"

Select on/off to enable or disable the pounds (lb) units when the Unit key is pressed in weighing mode. This parameter is both sealed and audited.

- "kg units"

Select on/off to enable or disable the kilograms (kg) units when the Unit key is pressed in weighing mode. This parameter is both sealed and audited.

- "g units"

Select on/off to enable or disable the grams (g) units when the Unit key is pressed in weighing mode. This parameter is both sealed and audited.

- "oz units"

Select on/off to enable or disable the ounces (oz) units when the Unit key is pressed in weighing mode. This parameter is both sealed and audited.

- "Defaults"

Restore all configuration parameters to factory default. This function is sealed and audited. Restoring factory defaults will require that the indicator be calibrated and reconfigured before it will weigh.

Section 8

Tare operation:

Pushbutton tare: press and hold the tare button to establish a push button tare reference. If a valid tare is established, the indicator will switch to the net weight display. If the gross weight is equal to or less than gross zero, any existing tare value will be cleared, the display will show "Tare cleared" for about 1 second, and the display will revert to gross weight display.

Toggle between net and gross display modes by touching the Tare button. If no tare reference has been established, the indicator will not switch to net weight mode.

Keypad tare: an arbitrary tare weight can be entered from the tare setting in the main menu. Scroll and select digits one at a time to enter the desired value. The indicator will not accept a keypad tare value in excess of scale capacity, or less than zero. Entering a value of zero will clear any existing tare and return the indicator to the gross weight display mode. Units for the entered weight is the same as the currently displayed units. (To enter a 6 pound tare, be sure that the display is showing weight in pounds before entering the keypad tare.)

Section 9

Calibration Procedure:

(1) Entering the calibration menu:

With indicator on and displaying pounds units.
Touch the 'Menu / Help' key, display will read "Power off *". Use the up / down arrows until display reads 'Calibrate *'.
Touch the 'Print / Enter' key, display will read "Password" at this point key in the calibration password. The password would be entered in the following manner, touch the 'Zero / On' key 3 consecutive times.

(2) Keying in cal weight:

The display will show "Cal weight _" and the cursor will be blinking. Using the up, down, and right keys in the size of your calibration weight in pounds (i.e. 1, 2, 5, or

10). Press enter to accept the cal weight, or cancel if you make a mistake.

Example

Entering a 25.00 lb cal weight value. The blinking cursor is the clue that you can enter an arbitrary number using the up and down keys. Pressing the up/down keys will scroll through the list (0 1 2 3 4 5 6 7 8 9 - .) in turn. When the desired number appears (2), press the right arrow 'Menu / Help' key. The blinking cursor will advance one digit to the right (2 _), leaving your selected number in place. Continue this sequence until the desired numeric value is visible on the display (25_) … (25._) … (25.0_) … (25.00). Press the 'Enter' key to accept the value, or the 'Cancel' key to abort.

(3) Establishing a zero:

The indicator will display "Cal--zero weight". Clear weighing platform of any foreign objects and press the 'Enter' key when all vibration has ceased, make sure that the platform is not disturbed during this process. Indicator will display "Zeroing..." as it takes an average reading of the zero offset weight (about 3 seconds).

(4) Accepting a cal weight:

The indicator will then display "Cal--add weight" Add weight to the weighing platform (the weight should be the same amount as the keyed in cal weight from step #2) at this point touch the enter key. The indicator will display "Scaling..." for about three seconds as it performs internal calculations. Finally, the indicator will display "Cal done" for about one second once calibration cycle is complete.

Section 10

MicroWeigh Load Cell Connection:

Load cell wiring codes

		Signal		Excitation		
Sense Manufacturer	Models	+	-	+	-	Shield
Advanced Transducers		Green	White	Red	Black	Bare
Allegany Technology		Red	White	Green	Black	Bare
Artech		Green	White	Red	Black	Bare
Beowulf		White	Red	Green	Black	Bare
BLH	C2P1, C3P1, T2P1, T3P1	White	Red	Green	Black	Yellow
Cardinal		White	Red	Green	Black	Bare
Celtron	CSB, DSR, LOC, SQB, STC, STC SS, DSR, CLB, HED, DLB	Green	White	Red	Black	Bare
	LPS	Green	White	Red	Blue	Bare
	HOC, MOC	Red	White	Green	Black	Bare
Dillon	Canister cell, Tension	Black	Red	Green	White	Orange
	Compression	Black	Red	White	Green	Orange
	Z-cell	White	Green	Red	Black	Orange
Force Measurement		Green	White	Red	Black	Bare
GSE		White	Green	Red	Black	Bare
HBM	BLC, BLF, JRT, PWS, RSC, SBF, SB3, USB, U1T, Z6	White	Red	Green	Black	Yellow
	BBS	White	Red	Green	Black	Bare
	PLC, B35	Green	White	Red	Black	Yellow
	SP4	White	Red	Green	Black	Yellow
Interface	SSM, 1200, 3200	Green	White	Red	Black	Bare
Kubota		Green	Blue	Red	White	Yellow
National		White	Red	Green	Black	Yellow
NCI		White	Green	Red	Black	Bare
Pennsylvania		Green	White	Orange	Blue	Bare
Phillips		Green	Grey	Red	Blue	Bare
Revere Transducer	62HU, 63HU, 363, 953, 9523	Green	White	Red	Black	Bare
	92CC, 93CC, 42U, 43U, 263D, 462, 5102, 5103, 5123, 5223, 5723, 6762, 9102, 9103, 9123, 9363	Green	White	Red	Black	Orange
	392B, 642, 652, 692B2 BSP, HPS, USP1	White	Red	Green	Black	Bare
	792, 933, SHB, SSB	White	Red	Green	Black	Clear
	CP1, CSP1	White	Red	Green	Black	Orange
	RLC	Brown	White	Pink	Grey	Bare
Rice Lake Weighing Systems	RL20000, RL20000SS, RL20001, RL20001HE, RL30000, RL35023, RL35023S, RL35082, RL35082, RL35083, RL39123, RL39523, RL50210, RL65044, RL70000, RL75016, RL75016SS, RL75040A, RL75058, RL75060, RL75223, RL90000, RLETB, RLETS, RLHSS, RLMK4	Green	White	Red	Black	Bare

	RL50500, RL70000SS, RL71000HE, RL75016HE, RLMK15, RLMK21, RL75061	Green	White	Red	Black	Bare
	RLMK1	White	Green	Red	Black	Orange
	RL1521	Green	White	Red	Blue	Bare
Sensotec		White	Green	Red	Black	Bare
Sensortonics	60001, 60008, 60018, 60030, 60036, 60040, 60048, 60048SS, 60050, 60051, 60060, 60060-0101, 60063, 65007, 65016, 65016SS, 65016W, 65023, 65023S, 65023SS, 65024, 65040A, 65040S, 65058, 65058S, 65061A, 65083, 65083S, 65114	Green	White	Red	Black	Bare
	60007, 60064	White	Red	Green	Black	Bare
	65088-1000, 65088-1114	White	Red	Green	Black	Orange
Tedea	4158	Green	White	Red	Black	Bare
Huntleigh	3411, 3421	Green	White	Red	Black	Bare
	240, 1010, 1022, 1040, 1042, 1140, 1250, 1260, 1320, 9010, 605, 1030, 1240, 1241	Red	White	Green	Black	Bare
	355, 620, 3510	White	Red	Blue	Black	Bare
Toledo		White	Red	Green	Black	Yellow
Weigh-Tronics		White	Red	Green	Black	White/ Orange

Section 11

Replacement Parts:

Part Number	Description
WE0028	Main Gasket, MicroWeigh
WE0029	Power Cord, MicroWeigh
WE0030	Battery, Gel Cell, 6v 4.5amp (Optional)
WE0031	Front Housing Assembly, MicroWeigh
WE0032	Back Housing Assembly, MicroWeigh
WE0035	Interface Board, Microweigh
EF0009	Strain Relief, Load Cell
HW0018	Housing Screw, MicroWeigh (Pack 4)
HW0019	Screw, 6-19x.375, Trilobe PPH Steel (Pack 10)
HW0020	Lobed Knobs, MicroWeigh

Section 12

Notes: