

E500R DIGITAL METER OPERATING INSTRUCTIONS

The E500R is a microprocessor based digital meter that is designed for use with all Osborne Accu-Arm® 500 scales and is directly interchangeable with the 500 Mechanical Dial, the E500 Electronic Meter and, the E500M Electronic Meter

The E500R can read, display and totalize weights in pounds or kilograms. It has two programmable scale ratios, Scale 1, and Scale 2. Scale 1 is factory programmed to work with the Osborne Accu-Arm® scale. Scale 2 is user programmable. The E500R also features a Direct Scale capable of measuring direct weights to 50 pounds, (22.7 kg).

The E500R "Freezes" on the correct weight after an adjustable "sampling" interval for each animal. The E500R provides a totalize function which adds each animal's weight to a summary total of all animals weighed. The E500R features an auto-zeroing function that automatically recalibrates the scale to zero as the tare weight changes as the result of debris accumulating on the scale platform.

The E500R has a water and dust resistant case that provides reliable service in harsh environments. An RS232 port is available for connection to auxiliary devices like the Osborne ID Logger or a PC for automatic weight acquisition. Contact Osborne Customer Service at 800-255-0316 about instructions for the RS232 port.

INSTALLING THE BATTERIES

The E500R is powered by two D-Cell alkaline batteries, (not included). To install new batteries, loosen the six screws in the back of the E500R case. Carefully open the back cover. Caution: A ribbon cable connects the front of the case to the rear. Open the case only enough to install the batteries. Use only fresh, alkaline batteries. Place batteries according to the diagram on the back of the circuit board. Carefully close the back cover and tighten the six screws. During operation, a flashing colon (:) will appear in the display window to indicate low battery power. Very low battery power will be indicated by "batt". Replace the batteries immediately for continuous service. Replacing the batteries will not clear the memory.

INSTALLING THE METER ON THE SCALE

To install the E500R on an Accu-Arm® Scale, simply attach the E500R between the upper and lower dial hanger hooks.

WARRANTY

Osborne Industries Inc. warrants the E500R Digital Meter to be free from defects in material and workmanship under normal use for a period of ONE YEAR from date of purchase. Alleged defective products shall be returned to Osborne Industries, Electronics Bldg., 120 N. Industrial Avenue, Osborne, KS 67473, freight prepaid, with owner identification. This warranty is limited to repair or replacement of the product and excludes all consequential or special damages.

CAUTION

Do not exert more than 50 pounds, (22.7 kg), of direct force on the meter. Weight or force in excess of 50 pounds may damage the meter permanently.

KEY FUNCTIONS

ON/OFF

Turns the scale on and off.

▲ Used during programming to increment display.



Restarts display of weight measurements after the display has "frozen" on a weight.



Zeros out the scale. This button must be held for one second before zeroing occurs, (to prevent accidental zeroing).



Adds the current reading to the total and increments the total count. The total count will be displayed for two seconds and then the total weight will be displayed for two seconds. This button must be held down for one second before the totalizing process begins, (to prevent accidental totalizing).

▼ Used during programming to decrement display. SCALE 1: Used to select Scale 1.



Displays the current total count and total weight when pressed. This button will not add to the total weight, only display the count and weight. If this button is still pressed when displaying is complete, the total count and weight will be cleared to zero.

■ Used in programming to move digit space to left.

SCALE 2: Used to select Scale 2.



Pressing this button will convert the weight to the alternate standard of that chosen during user setup. If pounds were chosen, "Kilo" will display as the alternate and will be displayed for one second before the alternate weight is displayed. If you continue to press the button, the converted weight will continue to be displayed.

► Used in programming to move digit space to right. **DIRECT:** Used to select the Direct Weight Scale.

SPECIFICATIONS

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Maximum weight, indirect on scale	500 lbs, (227 kg.)
direct on meter	50 lbs. (22.7 kg.)
Measuring error	< 1.0%
Power supply	2 D-Cell Alkaline
Battery life	Slow Update: 388 Hrs.
(Note: life depends upon use and battery quality)	
Meter housing	Water/ shock resistant
Weight	2.1 lbs. (w/o batteries)
Dimensions	Height 13.0 inches
	Width 3.58 inches
	Depth 3.15 inches
Overweight protection	Positive and Negative
Interfacing compatibility	Five pin type DIN
Resolution	Scale 1: 1 lb or 0.45 kg
	Scale 2: 1 lb or 0.45 kg
	Direct: .05 lb or .02 kg
Totalizing Capacity	Scale 1 or 2: 9999 lbs
(Note: Display rolls over after 9999)	Direct: 999.9 lbs
Scale	Scale 1: 16.67 to 1
	Scale 2: User Program
Total count and weight	9999 Lb or Kg, 99 Item
Lower port	RS232



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WEIGHING WITH THE E500R

Push the ON/OFF button and allow the E500R two seconds to come on and to zero. As the meter comes on, it displays "SC1", "SC2" or "dir" and "Lbs" or "Kilo", depending upon the last Scale used. The factory programmed scale for use with Accu-Arm® Scales is "SC1". To change the scale, see Changing the Scale.

If the E500R does not zero, press the ZERO button for two seconds. After the meter has zeroed, place the animal on the scale. The meter will freeze on the correct weight. If necessary, push READ to reweigh an animal after the initial display reading freezes. The meter will automatically rezero before the next animal is weighed. Push the ON/OFF button to turn the meter off.

USING THE TOTALIZING FUNCTION

The totalizing function adds the weight of each animal to a total. To use TOTALIZE, the last total must first be cleared from memory before starting to weigh animals. Press and hold the DISPLAY TOTAL button until four zeros appear (approx. eight sec.). As each animal is weighed, and before removing the animal, press the TOTALIZE button until the total number of animals weighed is displayed (approx. one sec.). This action adds the animal's weight and count into the total weight and count. The totalized weight is displayed momentarily. Remove the animal and place the next animal on the scale. Repeat this process until weighing is complete.

DISPLAYING THE TOTAL WEIGHT AND COUNT

Press the DISPLAY TOTAL button momentarily. The E500R displays the total count for three seconds and then displays the total weight. These totals remain in memory when the meter is turned off. Clear the total by pressing DISPLAY TOTAL until four zeros appear, (appx. eight sec.). To turn the meter off. press ON/OFF.

CHANGING THE SCALE

With the Meter turned **OFF**, press the button labeled SCALE 1, SCALE 2, or DIRECT to choose a scale. Keep the button pressed while pressing the ON/OFF button. Only Scales that have been enabled can be accessed. To enable a Scale, see <u>Programming the E500R</u>: <u>Enab</u>. The Meter now comes on with the newly selected scale. The E500R is now ready to weigh according to the programming of the scale chosen.

CALIBRATING THE METER

1. Turn meter off. 2. If calibrating the meter's Scale 1 or Scale 2 settings, hook the meter onto the scale. 3. Press DISPLAY TOTAL and ZERO buttons simultaneously. While holding down DISPLAY TOTAL and ZERO, press ON/OFF and release all. 4. The meter will show the current scale setting, SC 1, SC 2, or DIR. Choose a different scale setting, if desired, by pressing SCALE 1, SCALE 2, or DIRECT button. Press the READ button to continue. 5. "0000" or "000.0" is displayed. If calibrating to SCALE 1 or SCALE 2 make sure the meter is properly connected to the scale hanger and platform. Press READ to continue. 6. The value of the calibration weight is now shown. Use the arrow keys to enter the known weight of the calibration weight you will be using. 7. Place the weight on the scale platform and close the gates on the platform. 8. Press READ to complete the calibration. 9. When it is finished, the display will flash "done" and then turn off. NOTE: The calibration weight must be at least 50 lbs for SCALE 1 or SCALE 2, or more than 5 lbs for DIRECT, or the calibration will be rejected.

PROGRAMMING THE E500R

With the Meter turned **OFF**, press the DISPLAY TOTAL and UNIT CONVERT buttons at the same time. While holding down these two buttons, press the ON/OFF button. The scale currently in use is displayed. A different scale is chosen by using the buttons SCALE 1, SCALE 2, or DIRECT.

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Push the READ button to begin setting up the scale. If SCALE 2 is selected, the display will read "Enab". Using the ▲ or ▼ buttons,

enable or disable this scale by displaying "ON" or "OFF". The default setting for SC2 is "Enab-OFF". At any time in the programming process, pressing ZERO permits exiting without changing the current value. Pressing READ repeatedly skips through the parameters until "DONE" is displayed. The Meter then turns itself off, retaining the programming.

Unit

To continue changing the parameter values, press READ for the next option. "Unit" is displayed, allowing the unit of measure for

the scale to be changed. Using the ▲ or ▼ buttons, change the weight to "Kilo" or "Lb". Default is "Lb". Press ZERO to exit without changing.



Press READ for the next option. "Pd" is displayed, for the power-down option. Using the or v buttons, change the power-down option

to "ON" or "OFF". "ON" means the meter will power-down after 15 minutes of non-use. Default is "ON". Press ZERO to exit this parameter without changing the values.



Press READ for the next option. "Spd" is displayed, allowing the speed of meter response to changes in weight to be chosen. Using the

▲ or ▼ buttons, change the option to "Slo" or "FSt". Default is "Slo" for Scales 1 and 2, and "FSt" for the Direct Scale. Press ZERO to exit without changing.



Press READ for the next option. "Int" is displayed, allowing changes to the interval during which weights are measured before

the display freezes. Using the ▲ or ▼ buttons, change the time in seconds. "0" means the meter does not freeze. Other choices range from 5 to 30 seconds. Longer interval values improve the precision of the displayed weight, but lengthen the total weighing time. Default is 15 sec. Press ZERO to exit without changing.



Press READ for the next option. "Zero" is displayed, allowing changes to the maximum value that the tare weight can drift and still

zero. Using the ▲ or ▼ buttons, change the weight from 3 to 30 for Scales1 and 2, or 0.3 to 2.9 for the Direct Scale. Use the ► and ◄ to move the digits to the right and left. Default is 5 Lb for Scales 1 and 2 and 0.5 Lb for the Direct Scale. Press READ to save changes and ZERO to exit. At this point, "Done" is displayed and the meter shuts itself off.

DEFAULT SETTINGS

With the Meter turned **OFF**, default settings are chosen by pressing the DISPLAY TOTAL, READ, ZERO, and UNIT CONVERT buttons together while pressing ON/OFF. When the changes are completed, the Meter shuts off.