

3.2 KEYBOARD

The keyboard is composed of six soft keys, six function keys and ten numeric keys. Refer to Figure 3-1 and Figure 3-2 for the overall layout and key locations.

3.2.1 SOFT KEYS

Here are some soft keys that you will encounter during normal scale operation.

Zero - This key sets the scale to display zero.

Tare - This key is used to establish a Tare as long as the scale is not at or below Gross zero.

Sample – This key puts the scale into sampling mode, which is used for piece counting. See Section 3.3.5 for more information.

Print - This key is used to send weight information out to the serial interface port as long as the scale is in a state of stability.

Item ID – This key is used to enter/recall an item record stored in the scale’s database.

Mode – This key toggles the scale among the weight, pieces and APW (average piece weight) display screens.

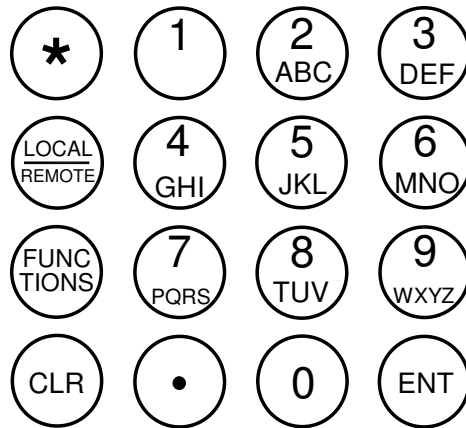


FIGURE 3-2: Function and Numeric Keys Layout

3.2.2 FUNCTION AND NUMERIC KEYS

CLR - This key is used to clear the current APW and tare from the scale. This key is also used to escape from a screen that you may have entered accidentally.

Decimal Point - This key is used to enter a decimal point when entering numeric values. This key is also used to activate and deactivate the hold feature if enabled in the Supervisor Menu.

ENT - This key is used to enter a numeric entry and to answer “YES” to a Yes/No question.

LOCAL/REMOTE - This key is used to select the local or remote scale. The scale displays information pertaining only to the scale that is selected.

FUNCTIONS - This key is used to access the scale’s advanced features and operations. See Chapter 4 for more information.

***** – This key is used to access the scale’s Supervisor, Service and Configuration Menus. See Chapter 5 for more information.

0-9 – These keys are used to enter numeric and alphanumeric data into the scale.

3.3 GENERAL SCALE OPERATION

3.3.1 WEIGHING AN ITEM

1. If your 650 is connected to remote scale, use the LOCAL/REMOTE key to select the scale you wish to use to do the weighing.
2. If necessary, press the “Zero” soft key to obtain a weight reading of zero.
3. Place the object to be weighed on the scale’s platter and allow the weight indication to stabilize. If the item weight exceeds the scale’s weight capacity, it displays “*Maximum Scale Weight Exceeded*”.
4. Read the weight shown on the display.

Note: If you wish to change the unit of measure, press the “Mode” soft key followed by the “Unit” soft key.

3.3.2 TARING AN ITEM OF UNKNOWN WEIGHT

To weigh an item in a container, the weight of that container must first be subtracted from the overall weight to obtain an accurate weight reading. This is known as a Tare.

1. If your 650 is connected to remote scale, use the LOCAL/REMOTE key to select the scale you wish to use to do the weighing.
2. If necessary, press the “Zero” soft key to obtain a weight reading of zero.
3. Place the empty container on the scale’s platter and allow the weight indication to stabilize.
4. Press the “Tare” soft key. The display shows zero weight and turns on the TARE and NET annunciators.
5. Place the material to be weighed in the container and allow the weight indication to stabilize.
6. Read the weight shown on the display.

3.3.3 TARING AN ITEM OF KNOWN WEIGHT

If the weight of the container or object is known, you may enter this weight via the keyboard. This value must be rounded to the nearest scale division. For example, on a 60 x 0.002 lb scale, you must enter the tare weight value to the nearest 0.002 lb.

1. If your 650 is connected to remote scale, use the Local/Remote key to select the scale you wish to use to do the weighing.
2. Press the FUNCTIONS hard key.
3. Press the MORE soft key.
4. Press the KTARE soft key. Scale prompts “Key in tare value in XX” (either lb or kg depending on unit selected)
5. Using the numeric keys, enter the known tare weight using the scale keyboard and press ENT. The display shows minus weight and turns the NET annunciator on. Place the material to be weighed in the container and allow the weight indication to stabilize.
6. Read the weight shown on the display.

3.3.4 CLEARING A TARE

1. To clear a tare, press the CLR key twice at any time. The TARE and NET annunciator disappears and gross weight is displayed.

3.3.5 PIECE COUNTING

This mode is used to indicate the number of pieces of an item you have placed on the scale's platform and is accessed by pressing the "Sample" soft key.

Piece counting is accomplished by determining an average piece weight (APW). The two variables that affect the accuracy of the APW are the number of samples used and the total weight of the samples. The 650 allows you control over these two variables. See section 5.3.1 Minimum Accuracy Feature and see section 5.3.2 Minimum Sample Size. Setting these two functions guards against an APW of the items that is too light and also guards against the total weight of the sample being too light. Accuracy cannot be guaranteed without adequate sample size and sample weight. If the sample pieces don't meet the minimum requirements, you will get an error message to add additional pieces to achieve the preset level of counting accuracy.

3.3.5.1 Create a new APW from sampling

1. If the items you will be counting require a container, you must first place the empty container on the scale platform and then press the "Tare" soft key. The scale switches to NET mode and sets the displayed weight to zero.
NOTE: Enabling the Auto Tare feature in the Supervisor Menu (Chapter 5) can eliminate this step.
2. Press the "Sample" soft key. The scale will display "*Add X PCS to Platter then Press the ENT key*" as determined from section 5.3.2 Minimum Sample Size. You may choose a larger sample size from the soft keys or press the KEYIN soft key and enter any size sample number.
3. Place the sample pieces on the platform all at once and press the ENT key to complete the sample process. If the sample pieces used meet the accuracy criteria set in section 5.3.1 Minimum Accuracy Feature and 5.3.2 Minimum Sample Size, the scale will now calculate the APW and display the number of pieces and APW on the scale. If it does not, the scale displays a prompting message to add a certain number of pieces to continue piece counting.

NOTE 1: You can eliminate the need to press the ENT key by enabling the Auto Sampling feature in the Supervisor Menu (Chapter 5).

NOTE 2: You can program the scale to automatically switch from the local scale to the remote scale (if equipped) by enabling the Auto Switch Channel feature in the Configuration Menu (Chapter 5). The scale will automatically switch channels after a successfully sample has been made.

3.3.6 CLEARING THE PIECE COUNT

1. To clear the piece count, either press the CLR key twice or press the SAMPLE soft key and begin a new sample process.

NOTE: You can eliminate the need to press the CLR key by enabling the Auto Tare APW Clear feature in the Configuration Menu (Chapter 5). Be careful here, enabling auto clear functions require a new tare and APW input each time the scale weight goes to zero.

CHAPTER 4: ADVANCED FEATURES AND OPERATION

4.1 UNIT WEIGHT ENTRY

The APW may already be known from using another scale, an engineered standard or from a bar coded label. If you already know the APW (Average Piece Weight of the items you wish to count, then use one of the following procedures.

4.1.1 APW ENTRY FROM KEYBOARD

1. Press the “Sample” soft key. The scale prompts you to add pieces to the platter.
2. Press the “APW” soft key. The scale prompts you to choose either KEYIN or TCS.
3. Press the KEYIN soft key. The scale prompts you to input the average piece weight.
4. Using the numeric and decimal point keys, key-in the actual APW value.
5. Press the ENT key. If the unit weight is large enough, the scale will now display the number of pieces on the scale. If it does not, the scale briefly displays an error message, but still allows piece counting.

NOTE 1: If the scale displays a “Low Resolution” message, the unit weight of the items you wish to count is too light for your scale to process accurately.

4.1.2 APW ENTRY FROM SCANNER

To use this method, you must have a working CCD or laser scanner plugged into the COM2 port and the 650 scale must have printed the barcode you are scanning. See section 5.4.7 for COM 2 setup.

1. If an APW is already showing on the display, press the CLR key twice to clear APW from scale.
2. Aim the scanner at the APW barcode you wish to scan and press the trigger. When the scanner beeps, the 650 scale will briefly display the scanned-in APW.
3. Place your parts on the 650 scale. If the APW is large enough, the 650 scale will now display the number of pieces on the scale. If it does not, the scale briefly displays an error message, but still allows piece counting.

4.2 ITEM ID STORAGE

Your scale can store piece weight information for up to 2000 item records. These items are stored and retrieved under an Item ID number. The Item ID numbers are sequential 0 –2000, maintained automatically by the scale and cannot be changed. Each item record stores the following information:

- Item ID – a 4 digit sequential number automatically assigned each time a new Item ID is stored
- Product ID – an alphanumeric field consisting of up to 15 characters
- Name – an alphanumeric field consisting of up to 25 characters
- Accumulator – whole number up to approx 99,999,999.
- Average Piece Weight (APW)
NOTE: After sampling, the APW is automatically stored in this field.
- Tare Weight – of the Container for Local Scale
- Tare Weight – of the Container for Remote Scale (if equipped)
- Unit – unit of measure (saved automatically)

After sampling an item, you can store its information automatically by adding a new item entry. Once created and stored, you can recall and modify the item's information by calling up its Item ID number. A list of all stored items can be called up very easily.

4.2.1 RECALLING AN EXISTING ITEM ENTRY

1. Press the Item ID soft key. The scale prompts for the Item ID number.
2. Key-in the sequential four digit Item ID number and press the ENT key. The scale automatically recalls the stored information.

NOTE 1: If you do not know the four digit Item ID number, press the LIST soft key. The scale displays the screen shown in Figure 4-1. Four Item Ids are shown for each screen. Use the up/down arrow soft keys to move within the four Item Ids shown. Use the PgUp and PgDn soft to recall additional groups of four Item Ids. If your list of Item Ids is long, press the ENT key and the scale prompts "Input Item ID:" Enter the starting Item Id number and the list will begin with that number. Some fields may be truncated due to display limitations. Once the desired item is highlighted, press the Recall soft key.

NOTE 2: If you wish to key in the Product ID rather than the sequential Item ID, Press the ITEM ID soft key, then press the KEYIN soft key and the scale prompts "Enter Product ID". Enter the Product ID and press ENT. The scale loads the APW and other record information and begins counting.

NOTE 3: If so equipped, you may use your scale's barcode scanner to scan in the Product ID rather than the sequential Item ID number from a pre-printed label. The scale loads the APW and other record information and begins

counting.

NOTE 4: If using the remote QWERTY keyboard, use the ENTER key from the remote keyboard for Product ID.

ItemID	Product ID	Name	Unit-wt
0001	123456789	EYEBOLT	0.08520 lb
0002	AN-234PL	HEX NUT	0.00120 lb
0003	97012-P	SS 3/8 Bolt	0.01200 lb
0004	987654321	SS 1/4 Bolt	0.01000 lb

↓ PgUp PgDn Recall Edit More

FIGURE 4-1: Item ID List Screen

4.2.2 ADDING A NEW ITEM ENTRY

1. Sample the new item or enter its APW into the scale as previously described.
2. Press the Item ID soft key. The scale prompts for the Item ID number. See FIGURE 4-2
3. The Product ID field is highlighted. If you want to enter a Product ID
 - a. Press the Edit soft key. You will see a flashing cursor.
 - b. Use the scale keyboard or optional QWERTY keyboard to enter the Product ID. See TABLE 4-1: Entering Alphanumeric Characters
 - c. Press the ENT key.
4. Press the Done soft key. The scale confirms that you wish to save the changes.
5. Press the Yes soft key to save the changes.

NOTE: You may instead choose to download an item ID database from a PC. See separate manual. **If using the remote QWERTY keyboard, use the ENTER key from the remote keyboard for Product ID and Name. Use the ENT keyboard from the scale for the other fields.**

4.2.3 EDITING AN ITEM ENTRY

1. Press the Item ID soft key. The scale prompts for the Item ID number.
2. Press the List soft key to edit by Item ID (see note 1) or press the Product ID key (see note 2) to edit by Product ID.
3. Key-in the sequential four digit Item ID number and press the ENT key. The scale automatically recalls the stored information.

NOTE 1: If you do not know the four digit Item ID number, press the LIST soft key. The scale displays the screen shown in Figure 4-1. Four Item Ids are shown for each screen. Use the up/down arrow soft keys to move within the four Item Ids shown. Use the PgUp and PgDn soft to recall additional groups of four Item Ids. If your list of Item Ids is long, press the ENT key and the scale prompts "Input Item ID:" Enter the starting Item Id number and the list will begin with that number

NOTE 2: If you wish to key in the Product ID rather than the sequential Item ID,

Press the ITEM ID soft key, then press the KEYIN soft key and the scale prompts “Enter Product ID”. Enter the Product ID and press ENT. The scale loads the record information.

NOTE 3: If using the remote QWERTY keyboard, use the ENTER key from the remote keyboard for Product ID and Name. Use the ENT keyboard from the scale for the other fields.

- Once the desired item is highlighted, press the Edit soft key. The scale displays a list of stored item entries. The scale displays a summary of the item’s information on the screen shown in Figure 4-2.

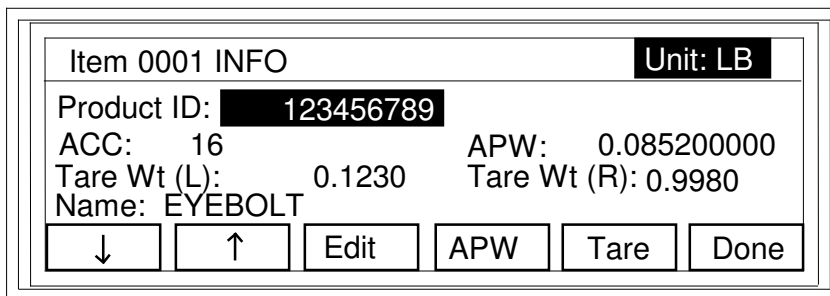


FIGURE 4-2: Edit Item ID Screen

- Use the Up and Down soft keys to highlight alphanumeric fields or the APW or TARE soft key to select those numeric fields you wish to edit.
- Once the desired field is highlighted, press the Edit soft key.

To edit a numeric field, simply enter in the new data using the numeric keys followed by the ENT key, or you can use the optional QWERTY keyboard. Numeric fields include APW, Tare Wt (Local) and Tare Wt (Remote). If you make an entry mistake, press the CLR key to restore the original data.

To edit the Product ID and the Name field, use the numeric keys to enter alphanumeric characters, or you can again use the optional QWERTY keyboard. On the 650, two numeric keystrokes are required to enter one alphanumeric character. Use Table 4-1 to determine how to enter each alpha character. When you are done entering the Name field, press the ENT key. If you make an entry mistake, press the CLR key to restore the original data.

"0" = 0 + 0	"1" = 0 + 1	"2" = 0 + 2	"3" = 0 + 3	"4" = 0 + 4	"5" = 0 + 5	"6" = 0 + 6	"Z" = 9 + 4
"7" = 0 + 7	"8" = 0 + 8	"9" = 0 + 9	"A" = 2 + 1	"B" = 2 + 2	"C" = 2 + 3	"D" = 3 + 1	" " = 1 + 1
"E" = 3 + 2	"F" = 3 + 3	"G" = 4 + 1	"H" = 4 + 2	"I" = 4 + 3	"J" = 5 + 1	"K" = 5 + 2	
"L" = 5 + 3	"M" = 6 + 1	"N" = 6 + 2	"O" = 6 + 3	"P" = 7 + 1	"Q" = 7 + 2	"R" = 7 + 3	
"S" = 7 + 4	"T" = 8 + 1	"U" = 8 + 2	"V" = 8 + 3	"W" = 9 + 1	"X" = 9 + 2	"Y" = 9 + 3	

TABLE 4-1: Entering Alphanumeric Characters

- Once all fields are edited, press the Done soft key. The scale confirms that you wish to save the changes.
- Press the Yes soft key to save the changes. Otherwise, press the No soft key.