



Serial Number: _____

Model 75 *Digital Weight Indicator*

USER MANUAL



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Reliable Scale Corporation
520 Moraine Road N.E.
Calgary, Alberta, Canada
Tel: 1-800-419-1189
(403) 272-8784
Fax: (403) 273-9818
E-mail: reliable@reliablescale.com
Web: <http://www.reliablescale.com>

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2. General

The Model 75 Digital Indicator is used with a variety of load cell assemblies. This manual will explain the operation of the Model 75 in most applications.



Model 75 Digital Weight Indicator

3. Basic Operation

IMPORTANT

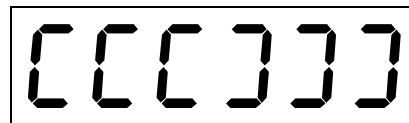
Do not disconnect the power supply to turn the indicator off. Use the **ON/OFF** key. important information is saved in memory when the indicator is turned off properly.

3.1 Turning the Indicator On

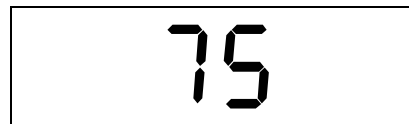
1. To turn the Indicator on, press and hold **ON/OFF** until text appears.



Indicator will go through a start up procedure.



Screen shows the model number, then the serial number and lastly, the software version.



2. Allow the indicator to warm up and the display to stabilize for a few moments. Note: At colder temperatures, more time should be allowed for warm up.



3. Press **ZERO**.



The keypress is acknowledged.



The indicator displays zero.



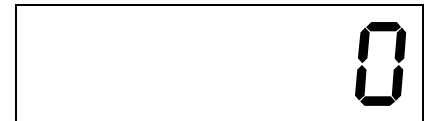
3.2 Using the HOLD Feature

1. To **Hold** an average weight on the display, place the weight on the scale and press **HOLD/PRINT**.
2. While in the **Hold Mode**, readings are constantly being averaged.
3. The average weight is displayed and the **KG** light will flash. Any action on the scale is ignored, the load can be removed without losing its average weight.

Note: If weighing in **KG**, the **LB** light will flash.

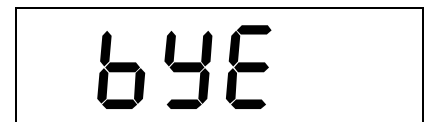
4. To exit **Hold Mode**, press the **HOLD/PRINT** key.
5. The indicator is returns to the **Normal Weighing Mode** and the current weight is displayed. The **KG** light turns off.

Note: If weighing in **KG**, the **LB** light will flash.



3.3 Turning the Indicator Off

1. To turn the Indicator off, press **ON/OFF**.



4. Detailed Setup

The indicator has a number of menus that are used to set the operating parameters. For most applications, the indicator has been fully configured at the factory. Menus for adjusting parameters are listed below.

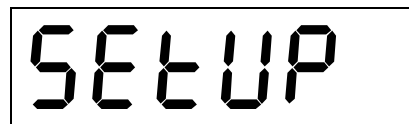
There are two hidden keys on the Model 75 that are used in the **Setup Mode**. The **A** key is located between the **ZERO** and **HOLD/PRINT** keys. The **B** key is located between the **HOLD/PRINT** and **ON/OFF** keys.

Note: Be sure to read and *fully understand* the directions before making *any modifications* to the indicator setup, failure to do so may render the indicator *inoperable*.

1. To enter **Setup Mode**, press both the **A** and **B** keys *at the same time*.



Display will indicate that the indicator is now in **Setup Mode**.



2. Using the **A** key, the various menu options can be viewed.

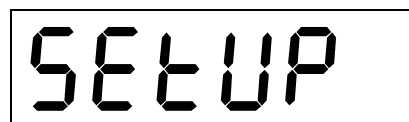


For menu descriptions, see section 4.1 on page 8.

1. To exit **Setup Mode**, press the **B** key.



Display will show the initial setup menu.



2. Press the **B** key again.



The Indicator will return to **Normal Weighing** and display the current weight.

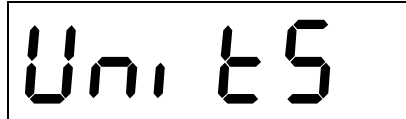


4.1 Menus

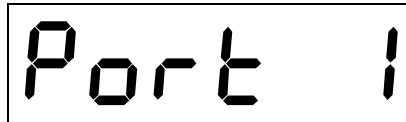
Indicates the Indicator is in **Setup Mode**.



Selects **Weighing Units** (pounds or kilograms). See section 4.2 on page 10.



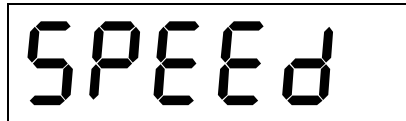
Selects **Port 1 Communication Protocol**. See section 4.3 on page 11.



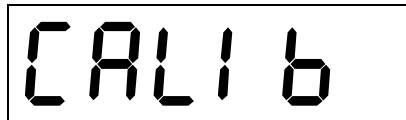
Sets **Port 1 Character Transmission Pacing**. See section 4.4 on page 12.




Selects **Baud Rate for Communication Port**. See section 4.5 on page 13.



Allows **Calibration Adjustments** to be made. See section 4.6 on page 14.



Sets the **Hold Average Period**. See section 4.7 on page 16.



Sets **Display Update Interval**. See section 4.8 on page 17.



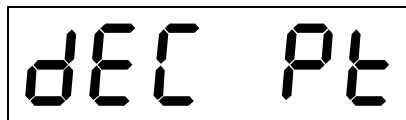
Selects **Zero Tracking** state. See section 4.9 on page 18.



Sets **Display Resolution**. See section 4.10 on page 19.



Selects **Decimal Points Position**. See section 4.11 on page 20.



Coarse Zero Adjustment. See section 4.12 on page 21. Note: For Factory Use Only.

A rectangular box containing the word "OFFSET" in a black, seven-segment digital font.

Sets **Factory Calibration.** See section 4.13 on page 23. Note: For Factory Use Only.

A rectangular box containing the word "FACTrY" in a black, seven-segment digital font. The letter 'r' is lowercase, while the others are uppercase.

4.2 Weighing Units

Weight can be displayed in either pounds or kilograms. The **Units** menu is used to switch from one to the other.

Note: There is a zero shift when switching units. Do not switch units when you have load on the system.

1. From the **Units** menu option, press the **HOLD/PRINT** key.

A rectangular digital display showing the word "Units" in a seven-segment font.



2. The current **Units** setting is displayed.

A rectangular digital display showing the word "Pounds" in a seven-segment font.

3. To change the setting, press the **A** key.



A rectangular digital display showing the word "kilo" in a seven-segment font.

4. To accept the new setting, press the **HOLD/PRINT** key.



5. The **Units** menu option is displayed once again.

A rectangular digital display showing the word "Units" in a seven-segment font.

4.3 Port 1 Communication Protocol

The indicator has an RS-232 compatible serial port for transferring data to and from other devices. The output format is determined by the **Port 1 Communication Protocol** setting.

Note: See section 5 page 26 for a listing of Communication Port Protocols.

1. From the **Port 1 Communication Protocol** menu option, press the **HOLD/PRINT** key.

Port 1



2. The current **Protocol** setting is displayed.

C OFF

3. To change the setting, press the **A** key.



C 16

4. To accept the new setting, press the **HOLD/PRINT** key.



5. The **Port 1 Communication Protocol** menu option is displayed once again.

Port 1

4.4 Port 1 Character Transmission Pacing

When interfacing to low speed RS-232 serial devices, a delay between characters can be implemented to prevent input buffer overflows. The **Port 1 Character Transmission Pacing** setting controls the character delay length in milliseconds.

1. From the **Port 1 Character Transmission Pacing** menu option, press the **HOLD/PRINT** key.



2. The current **Character Delay** setting is displayed.



3. To increase the value, press the **A** key.



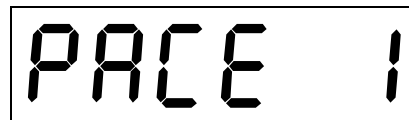
4. To decrease the value, press the **ZERO** key.



5. To accept the new setting, press the **HOLD/PRINT** key.



6. The **Port 1 Character Transmission Pacing** menu option is displayed once again.



4.5 Communication Port Baud Rate

The indicator's RS-232 communications parameters are fixed at 8 data bits, 1 stop bit and no parity. The baud rate however, is adjustable and can be changed using the **Communication Port Baud Rate** menu option.

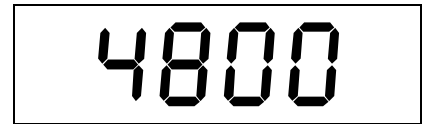
1. From the **Communication Port Baud Rate** menu option, press the **HOLD/PRINT** key.



2. The current **Baud Rate** setting is displayed.



3. To change the setting, press the **A** key.



4. To accept the new setting, press the **HOLD/PRINT** key.



5. The **Communication Port Baud Rate** menu option is displayed once again.



4.6 Calibration Adjustment

All indicators are calibrated at the factory with a fixed input signal. This signal is assigned a calibration factor. It may be necessary to adjust this calibration factor in order to obtain a more accurate weight reading.

Example: If a scale reading is 1% lower than the actual weight on the scale, the calibration figure should be increased by 1%.

- Scale display: 10,000
- Actual weight: 10,100
- Old Calibration figure: 5,000
- New Calibration figure: 5,050

$$\frac{\text{OldCalibrationFigure}}{\text{ScaleDisplay}} = \frac{\text{NewCalibrationFigure}}{\text{ActualWeight}}$$

$$\frac{5,000}{10,000} = \frac{\text{NewCalibrationFigure}}{10,100}$$

$$\text{NewCalibrationFigure} = \frac{(5,000 \times 10,100)}{10,000}$$

$$\text{NewCalibrationFigure} = 5,050$$

$$\text{NewCalibrationFigure} = \frac{(\text{OldCalibrationFigure} \times \text{ActualWeight})}{\text{ScaleDisplay}}$$

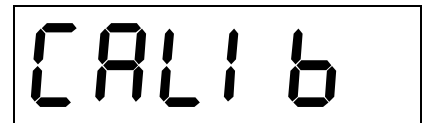
Note: Care should be taken when using this function, contact the factory at 1-800-419-1189 for help.

1. From the **Calibration Adjustment** menu option, press the **HOLD/PRINT** key.



HOLD
PRINT

2. The current **Calibration Figure** is displayed.
3. To increase the value, press the **A** key.
4. To decrease the value, press the **ZERO** key.
5. To accept the new setting, press the **HOLD/PRINT** key.
6. The **Calibration Adjustment** menu option is displayed once again.



4.6.1 Calibration Adjustment Error Messages

See section 4.13.1 on page 24.

4.7 Hold Average Period

The length of time over which that indicator averages readings when the **HOLD/PRINT** button is pressed is called the **Hold Average Period**. This time is adjusted in milliseconds using the **Hold Average Period** menu option.

1. From the **Hold Average Period** menu option, press the **HOLD/PRINT** key.



2. The current **Hold Average Period** setting is displayed.



3. To increase the value, press the **A** key.



4. To decrease the value, press the **ZERO** key.



5. To accept the new setting, press the **HOLD/PRINT** key.



6. The **Hold Average Period** menu option is displayed once again.



4.8 Display Update Delay

The rate at which the indicator's LCD display is updated can be adjusted using the **Display Update Delay** menu option to provide an optimal display for a particular application.

1. From the **Display Update Delay** menu option, press the **HOLD/PRINT** key.



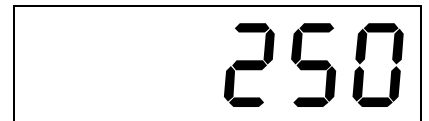
2. The current **Display Update Delay** setting is displayed.



3. To increase the value, press the **A** key.



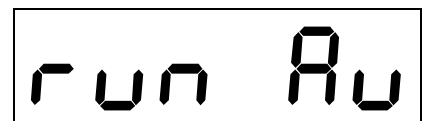
4. To decrease the value, press the **ZERO** key.



5. To accept the new setting, press the **HOLD/PRINT** key.



6. The **Display Update Delay** menu option is displayed once again.



4.9 Zero Tracking

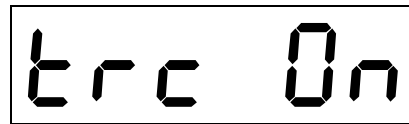
In some applications, the scale platform may be subject to external material build-up due to such things as weather. In these instances, the indicator can be set (**Zero Tracking On**) to ignore these small changes and automatically zero itself.

Note: As the name implies, **Zero Tracking** only functions when the indicator is displaying a zero (0) reading.

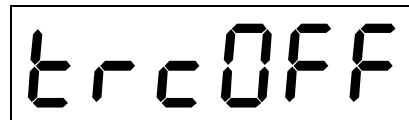
1. From the **Zero Tracking** menu option, press the **HOLD/PRINT** key.



2. The current **Zero Tracking** status is displayed.



3. To change the setting, press the **A** key.



4. To accept the new setting, press the **HOLD/PRINT** key.



5. The **Zero Tracking** menu option is displayed once again.

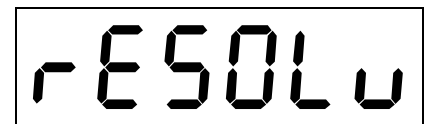


4.10 Display Resolution

It is possible to adjust the smallest size of change in weight that will be displayed on the indicator. This is controlled by the **Display Resolution** menu option.

Note: Setting the display resolution to a small value may result in an unstable display. Use a display resolution setting appropriate for the application.

1. From the **Display Resolution** menu option, press the **HOLD/PRINT** key.
2. The current **Display Resolution** setting is displayed.
3. To increase the value, press the **A** key.
4. To decrease the value, press the **ZERO** key.
5. To accept the new setting, press the **HOLD/PRINT** key.
6. The **Display Resolution** menu option is displayed once again.

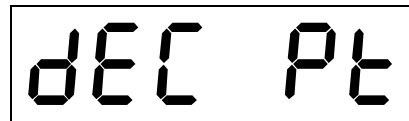


4.11 Decimal Point Display

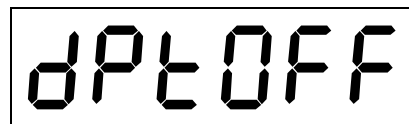
The indicator is capable of displaying a decimal point at any digit position, this for displaying fractional weights.

Note: Changing the decimal point setting does not affect the calibration, it is only a displayed point.

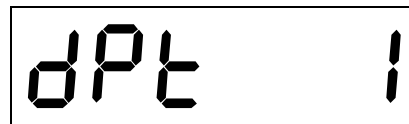
1. From the **Decimal Point Display** menu option, press the **HOLD/PRINT** key.



2. The current **Decimal Point** setting is displayed.

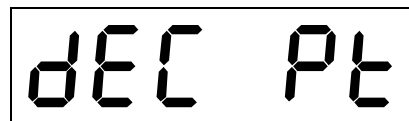


3. To change the setting, press the **A** key.



4. To accept the new setting, press the **HOLD/PRINT** key.

5. The **Decimal Point Display** menu option is displayed once again.

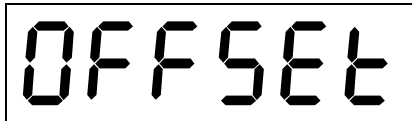


4.12 Offset Adjustment

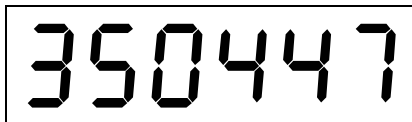
The **Offset Adjustment** is used as a coarse zero adjustment to compensate for static loads such as scale platforms.

Note: This operation should not be performed without prior factory authorization as improper use can result in system failure.

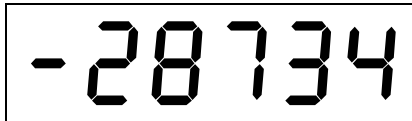
1. From the **Offset Adjustment** menu option, press the **HOLD/PRINT** key.



2. A number will appear on the display.



3. After a few moments, the number will count down to a negative value.



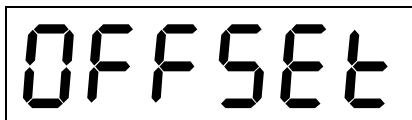
4. Once the **Offset Adjustment** procedure has completed successfully, it waits for the user.



5. To continue, press the **HOLD/PRINT** key.



6. The **Offset Adjustment** menu option is displayed once again.

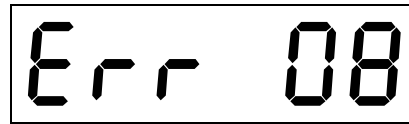


4.12.1 Offset Adjustment Error Messages

If the **Offset Adjustment** function fails, an error message will be displayed. **Error 08** is defined as an **Offset Adjustment** error. This is generally caused by one of two things.

- The **Offset Adjustment** function was interrupted by the user.
- The **Zero Offset** is too far out of range.

1. An error has occurred and the **Offset Adjustment** error message is displayed.



2. To continue, press the **HOLD/PRINT** key.



2. The **Offset Adjustment** menu option is displayed once again.

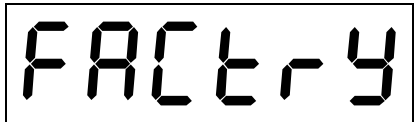
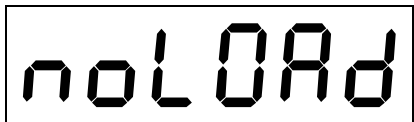


4.13 Factory Calibration

All indicators are calibrated at the factory and rarely need to be re-calibrated in this fashion. Most re-calibration procedures can use the **Calibration Adjustment** menu option, see section 4.6 on page 14.

Note: This operation is reserved for factory qualified operators. There is a password required to use this function.

1. From the **Factory Calibration** menu option, press the **HOLD/PRINT** key.
2. The user is prompted for the **Factory Calibration** password.
3. Enter the **Factory Calibration** password.
4. Ensure there is no weight on the scale (other than permanent platforms or similar equipment).
5. To proceed, press the **HOLD/PRINT** key.
6. Place a known weight on the scale.
7. To proceed, press the **HOLD/PRINT** key.

The LCD display shows the word "FACTrY" in a seven-segment font. The letters 'r' and 'Y' are lowercase, while 'FACT' are uppercase.The LCD display shows the word "CODE" in a seven-segment font.The LCD display shows the word "noLOAD" in a seven-segment font. "no" is lowercase and "LOAD" is uppercase.The LCD display shows the word "LOAD" in a seven-segment font.

8. The weight using the current calibration is displayed.



9. To proceed, press the **HOLD/PRINT** key.



10. The previous calibration figure is displayed.



11. To increase the value, press the **A** key.



To decrease the value, press the **ZERO** key.



12. Once the calibration figure is correct, press the **HOLD/PRINT** key.



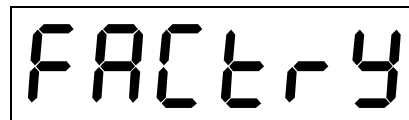
13. When the **Factory Calibration** procedure has been completed successfully, it waits for the user.



14. To proceed, press the **HOLD/PRINT** key.



15. The **Factory Calibration** menu option is displayed once again.

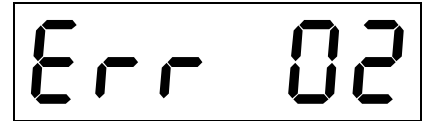


4.13.1 Factory Calibration Error Messages

If the **Factory Calibration** function fails, an error message will be displayed. **Error 01**, **Error 02**, **Error 03** and **Error 04** are defined as

Calibration errors. These errors are generally caused by not following the calibration procedure correctly.

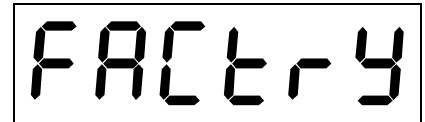
1. An error has occurred and a **Factory Calibration** error message is displayed.



2. To continue, press the **HOLD/PRINT** key.



2. The **Factory Calibration** menu option is displayed once again.



Error Type	Description
1	The high weight entered is lower than the low weight. Perform the Offset Adjustment procedure in section 4.12 on page 21 with no weight on the scale and then retry the Factory Calibration procedure.
2	The high weight signal is lower than the low weight signal. Ensure that the load cell is wired correctly and installed correctly (right-side up). Contact the factory for proper installation and wiring configuration if you are unsure.
3	There is too much difference between the low weight and the high weight for the indicator to perform the calibration calculations. Contact the factory about Gain Resistor Settings and load cell output.
4	There is not enough difference between the low weight and the high weight for the indicator to perform the calibration calculations. Ensure the load cell is connected properly and that the cable is in good condition.

5. Communication Port Protocols

C1: Port Enabled. Enables the serial port for miscellaneous reports.

C5: Remote Display. Sends control commands for a Model 15 remote display.

C6: Remote input (**CATTLE-LOGGER™**) allows commands via RS-232. Commands can be sent to the indicator in place of pressing the buttons on the face. Commands are sent as hex digits, key combinations can be made by adding the hex values together. From left to right the commands are assigned as follows; 01h, 02h, 04h, 08h. The commands **are not echoed back**.

C7: Remote input (**CATTLE-LOGGER™**) allows commands via RS-232. Commands can be sent to the indicator in place of pressing the buttons on the face. Commands are sent as hex digits, key combinations can be made by adding the hex values together. From left to right the commands are assigned as follows; 01h, 02h, 04h, 08h. The commands **are echoed back** to the sender in their entirety. There is no additional formatting added to the command. This feature eliminates the problem of knowing whether or not the scale has received a command. This feature is present in firmware revisions later than 971001.

C10: Demo Format
Reliable Scale Corp.
Calgary, Alberta, Canada
(403) 272-8784

Log Weight #1 = 4373 lb

Reliable Scale Corp.
Calgary, Alberta, Canada
(403) 272-8784

Log Weight #2 = 4364 lb

C11: Weight only on a Hold button (or on sort operation Model 80, Model 85)
Hold button pressed (or sort)
4001

C12: Weight with units on a Hold button (or on sort operation Model 80, Model 85)
Hold button pressed (or sort)
4001 lb

C15: Total weight with Time; Prints when button hit at end
Hold button pressed
Wt No. 1: 2002 lb
Time 00:00:53

Hold button pressed

Wt No. 2: 1944 lb

Time 00:01:03

Hold button pressed

Wt No. 3: 1546 lb

Time 00:01:12

Hold button pressed

Wt No. 4: 1339 lb

Time 00:01:20

Power button pressed

Total Rpts:4

Ttl Weight: 6831 lb

Ave Weight: 1707 lb

Time 00:01:25

END OF REPORT

C16: Continually reports the weight on the scale
(numbers updated every 300mS)

0

0

1249

3271

3810

3993

4003

4003

C17: Continually reports the weight with units on the scale
(numbers updated every 300mS)

0 lb

0 lb

0 lb

769 lb

3052 lb

3756 lb

3936 lb

3983 lb

3997 lb

4001 lb

4002 lb

6. Limited Warranty

This warranty applies to all new equipment manufactured by RELIABLE SCALE CORPORATION except when otherwise specified in the Terms of Sale. Warranty is subject to the following terms and conditions:

- All new products are warranted for a period of twelve (12) months from the date of final sale to the end user (maximum 24 months from date of manufacture).
- RELIABLE SCALE CORPORATION shall at its option, repair or replace or refund the purchase price, within a reasonable period of time, after being notified of the alleged defect and after acknowledging that a defect does in fact exist.
- Warranty claims must be submitted in writing by mail, fax or email to RELIABLE SCALE CORPORATION within the warranty period.
- This warranty does not extend to any consequential damage of other equipment, loss of use, commercial or economic loss or inconvenience prior to or during the repair period.
- RELIABLE SCALE CORPORATION is not responsible for any damage or defects caused by misuse, negligence, neglect, modification, improper operation, improper maintenance, or repairs by any unauthorized persons.
- This is the sole warranty applicable to RELIABLE SCALE CORPORATION'S products, and no RELIABLE SCALE CORPORATION employee, agent or dealer has any authority to add to this warranty whatsoever.
- Products for warranty repair must be returned to the factory freight prepaid by the customer. RELIABLE SCALE CORPORATION is not liable for any cost related to removal, replacement, or shipping of the products or any other associated equipment.

Batteries supplied in or with RELIABLE SCALE CORPORATION products are NOT covered by this warranty.