



User's Guide

TS-PFS

Portable Feeder Scale

For Weigh Session Totals



Guide version 1.6

Item Weight
Item Count
Nonvolatile Memory

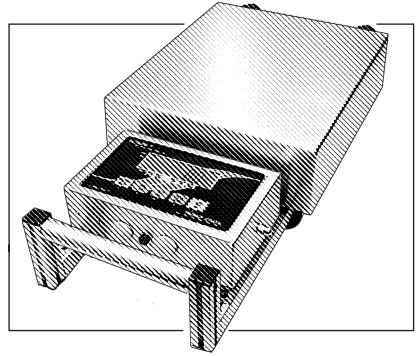
TABLE OF CONTENTS

Specifications	2
Features	3
Digital Display Icons & Annunciators	4
Keypad Functions & Scale Features	5
Operation	7
Operating Modes	
Setting the Operating Mode	7
Auto Add, Total Weight Displayed (Mode 1) ..	8
Auto Add, Item Weight Displayed (Mode 2) ..	8
Manual Add (Mode 3)	8
Using the Scale	
Weigh Session, Audible Alerts	9
Weigh Session Example, Auto Add	9
Weigh Session Example, Manual Add.....	11
General Operation	
Adding One Weight Many Times	12
Holding a Weight.....	13
Resetting the Scale's Memory	13
Subtracting/Backing Out a Weight.....	13
Zeroing the Scale	13
Battery Operation	14
Reserve Power Feature.....	14
Charging the Battery.....	14
110 VAC Operation	14
Care	15
Trouble Shooting	15
Frequently Asked Questions.....	16
Limited Warranty	16

OVERVIEW

The TS-PFS scale is designed to be the easiest-operating portable totalizing scale available.

Unique features include an audible interface for weigh session activity and a single, extra-large LCD display that shows totalized weight, item weight, and item count. The display is especially suited for viewing in outdoor lighting conditions, ranging from sunlight, to twilight, to dark.



The built in battery provides 35 - 40 hours of continuous operation, and requires no monitoring of the charge/discharge cycles. The scale can also be operated on 110 VAC using the included adapter, which will also maintain a full charge in the battery.

SPECIFICATIONS

Capacity	300 lb x 0.2 lb
Platform	12" x 14", stainless steel
Indicator	5 key front panel, built in rechargeable battery, SS NEMA 4X washdown
Construction	Stainless steel frame, subframes and enclosures
Beeper	102 dB at 2 ft.
Power	110 VAC or built in rechargeable battery
Weight	33 lb
External Dimensions.....	25" L x 12" W x 6" H (including bumpers)

To keep the battery fully charged, it is recommended that the scale be plugged in to 110 VAC while not in use.

KEY FEATURES

- Fully automated totalizing of weight and item count for weighing sessions.
- Nonvolatile memory retains totalized weight and item count, even in the event of power failure.
- Single, extra-large LCD display for largest possible readout and longer operation when the scale is battery-operated.
- Easily add one weight multiple times by pressing ADD key while in any mode of operation.
- Easily subtract/backout weight by pressing SUBTRACT key and placing item to subtract on weighing platform.
- Loud piezo electric beeper informs user with distinctive alerts when:
 - Scale is ready to weigh item
 - Item on scale has been added to total
 - Item on scale has been subtracted from total
- Outdoor operation features include:
 - Weather proof
 - Automatic zero tracking to compensate for wind and vibration conditions
 - High dB beeper is water proof and audible in high ambient noise environments
 - Stainless steel NEMA 4X washdown indicator housing
 - Reserve power after low battery shut down.
- Three operating modes to accommodate user's preference.
- Lightweight and easily portable.
- Shock absorbing neoprene rubber feet.
- Factory calibrated.

DIGITAL DISPLAY ICONS & ANNUNCIATORS

The status icons and annunciator arrows inform the user of the scale's status, the mode of operation, and the type of information being displayed in the digital readout.

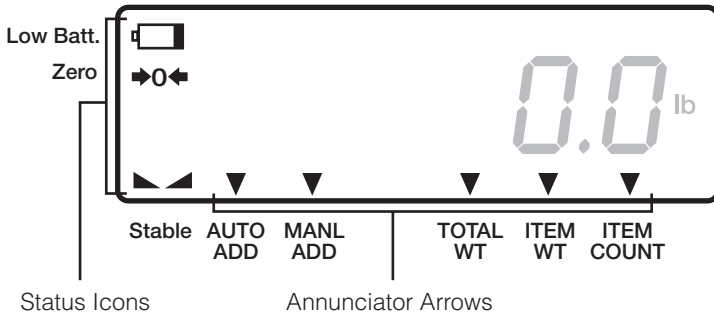


Fig. 1

Low Battery Status Icon ()

Flashes to indicate the battery power is low. After approximately 40 hours of continuous battery-powered operation, the low battery icon will flash for 25 minutes, then rapidly flash for 5 minutes before the scale powers off.

Refer to "Reserve Power Feature" in this manual for additional information.

Center of Zero Status Icon ()

Displays when the scale is on Zero. Indicates there is no weight being registered in the scale's electronics.

Stable Status Icon ()

Displays when the scale is Stable. Indicates the scale is not fluctuating or drifting.

Annunciator Arrows ()

- Indicate the operating mode
- Indicate what type information is being displayed in the digital readout.

Refer to "Operating Modes" in this manual for additional information.

KEYPAD FUNCTIONS & SCALE FEATURES

Operation of the scale is controlled by the five keys on the front panel keypad.

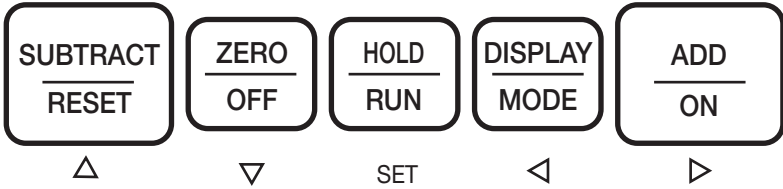


Fig. 2

Subtract Key

Puts the scale in a mode that will subtract the next item placed on the scale from the accumulated total. Press the SUBTRACT key. A dash will display in the readout, indicating subtract mode. Place the item to be subtracted on the platform. The weight and item count will be subtracted. The scale then returns to normal mode.

Reset Key (press and hold down)

Resets the totals memory in the scale.

- Press and hold the RESET key until "reset" displays.
- "No" will then display, to prevent accidental erasing of the memory
- Press the right arrow key (ADD/ON) to change the display to "YES"
- Press the SET key (HOLD-RUN) to clear the scale's memory

To avoid resetting the memory, press the SET key when "no" displays.



Important Note: *the scale's memory must be reset before each new weigh session.*

Zero Key

Zeroes out any positive or negative weight registered by the scale's electronics.

With nothing on the weighing platform, press the ZERO key to manually zero the scale.

Off Key (press and hold down)

Powers off the scale.

Press and hold the OFF key to turn the scale off.

KEYPAD FUNCTIONS & SCALE FEATURES cont'd

Hold/Run Key

- Holds the weight of an item on the scale.
- Returns the scale to normal (run) mode.

With an item on the scale, press the HOLD/RUN key to hold the weight displayed. The displayed weight will flash to indicate it is a held weight.

Press the HOLD/RUN key again to return to normal (run) mode.

Display Key

Displays the various information for the weigh session.

Press the DISPLAY key to cycle through the Total Weight, Item Weight and Item Count. The annunciator arrow indicates which information is being displayed. A flashing arrow indicates that the information is being displayed temporarily, and the default display will return in 5 seconds.

Mode Key (press and hold down)

Accesses the three operating modes (1, 2 or 3).

Press and hold the MODE key for 3+ seconds to access the mode setting menu. The display will indicate the mode that the scale is in, i.e., "Mode 1".

To change the mode, press the left (◀) or right (▶) arrow key to move through the menu, then press the SET key to accept your selection.

Add Key

Used to manually add to the cumulative totals.

In any operating mode, press the ADD key to add the weight and count of an item on the platform. The key can be used to add a weight that is on hold.

On Key

Powers on the scale.

Press to turn on the scale.

OPERATING MODES

Setting the Operating Mode

The scale has three modes of operation:

Mode 1 = Auto Add, Total Weight displayed

Mode 2 = Auto Add, Item Weight displayed

Mode 3 = Manual Add, Item Weight displayed

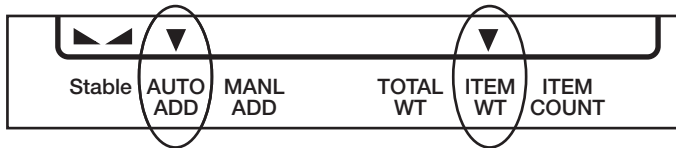
The Factory setting is Mode 1.

The digital display indicates which mode the scale is in.



Automatic Add, Total Weight Displayed (Mode 1)

Fig. 3



Automatic Add, Item Weight Displayed (Mode 2)

Fig. 4



Manual Add (Mode 3)

Fig. 5

To change the operating mode, press and hold the MODE key for to access the mode setting menu. Press the left (◀) or right (▶) arrow key to move through the menu, then press the SET key to accept your selection.

Mode 1 = Auto Add, Total Weight displayed

Mode 2 = Auto Add, Item Weight displayed

Mode 3 = Manual Add, Item Weight displayed

OPERATING MODES, cont'd**Auto Add, Total Weight Displayed (Mode 1)**

This mode sets the default display to the totalized weight in the scale's memory.

During a weigh session, the display will momentarily show the weight of the item on the platform, then revert to displaying the totalized weight.

When the item is removed, the totalized weight remains in the display. The annunciator arrow points to TOTAL WT.

To view the Item Weight (weight on the platform) at any time, press the DISPLAY key.

To view the Item Count in the scale's memory, press the DISPLAY key to cycle through the displays.

Auto Add, Item Weight Displayed (Mode 2)

This mode sets the default display to the item weight (weight on the platform).

During a weigh session, the display will momentarily show the totalized weight, then revert to displaying the item weight.

When the item is removed, the display shows 0.0 lb (weight on the platform). The annunciator arrow points to ITEM WT.

To view the Totalized weight at any time, press the DISPLAY key.

To view the Item Count in the scale's memory, press the DISPLAY key to cycle through the displays.

Manual Add (Mode 3)

This mode turns off the scale's automatic add function. Pressing the ADD key while an item is on the scale platform will add the item's weight and count to the totalized memory in the scale.

USING THE SCALE

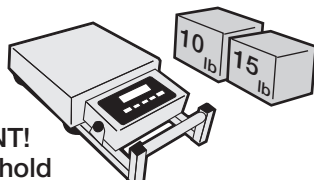
Weigh Session, Audible Alerts

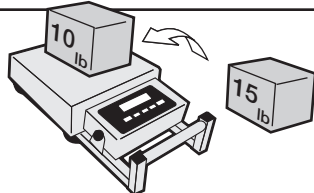
A timesaving feature of the TS-PFS is an extra-loud beeper that provides the following audible alerts during a weigh session:

- ONE BEEP: item on scale has been added
- TWO BEEPS: scale is ready for next item
- THREE BEEPS:
 - scale has put into subtract mode
 - the item weighed has been subtracted

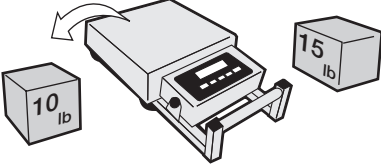
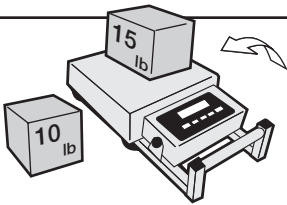
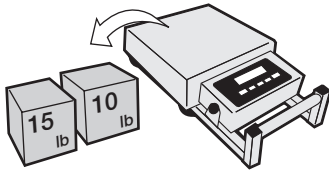
This feature allows the user to proceed through the weigh session without having to look at the display to verify that each item has been added, and that the scale is ready for placing the next item on the weighing platform.

Weigh Session Example, Auto Add (Operating Mode 1 or Mode 2)

<p>- Power on. - BEEP BEEP indicates scale is stable and on zero.</p>	 <p>IMPORTANT! Press and hold RESET key to reset the scale's memory.</p>
<p>Mode 1 - Display shows totalized weight of 0.0 lb</p>	<p>Mode 2 - Display shows item weight of 0.0 lb</p>

<p>- Place item on scale. - BEEP indicates item has been added.</p>	
<p>Mode 1 - Display momentarily shows item weight of 10.0 lb, then shows totalized weight, which is also 10.0 lb</p>	<p>Mode 2 - Display momentarily shows totalized weight of 10.0 lb, then shows item weight, which is also 10.0 lb</p>

Weigh Session Example, Auto Add cont'd

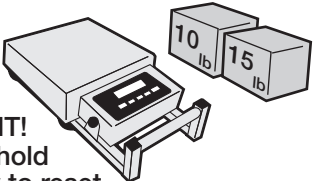
<ul style="list-style-type: none"> - Remove item from scale. - BEEP BEEP indicates scale is ready for next item/on zero. 	
<p>Mode 1</p> <ul style="list-style-type: none"> - Display shows totalized weight of 10.0 lb 	<p>Mode 2</p> <ul style="list-style-type: none"> - Display shows 0.0 lb.
<ul style="list-style-type: none"> - Place next item on scale. - BEEP indicates item has been added. 	
<p>Mode 1</p> <ul style="list-style-type: none"> - Display momentarily shows item weight of 15.0 lb, then reverts to totalized weight of 25.0 lb. 	<p>Mode 2</p> <ul style="list-style-type: none"> - Display momentarily shows totalized weight of 25.0 lb, then reverts to item weight of 15.0 lb.
<ul style="list-style-type: none"> - Remove item from scale. - BEEP BEEP indicates scale has returned to zero. - Weigh session is completed. 	
<p>Mode 1</p> <ul style="list-style-type: none"> - Display shows totalized weight of 25.0 lb 	<p>Mode 2</p> <ul style="list-style-type: none"> - Display shows 0.0 lb.

NOTE: Press the DISPLAY key at any time to view Total Weight, Item Weight or Item Count.

The weigh session totals will remain in the scale's memory until the scale is RESET.

Weigh Session Example, Manual Add (Operating Mode 3)

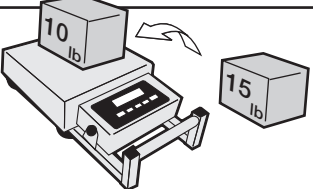
- Power on.
- BEEP BEEP indicates scale is stable and on zero.



IMPORTANT!
Press and hold
RESET key to reset
the scale's memory.

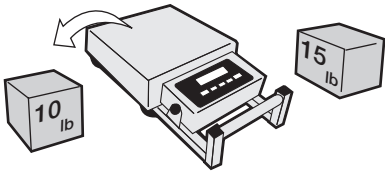
- Display shows 0.0 lb.
- Be sure annunciator arrow points to MNL ADD. If not, change modes by holding down the MODE key.

- Place item on scale.



- Display shows item weight of 10.0 lb.
- Press ADD key to add weight.
- BEEP indicates item has been added.
- Display momentarily shows totalized weight of 10.0 lb, then shows item weight, which is also 10.0 lb.

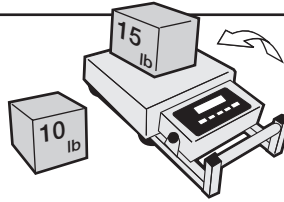
- Remove item from scale.
- BEEP BEEP indicates scale is ready for next item/on zero.



- Display shows 0.0 lb.

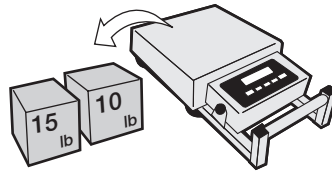
Weigh Session Example, Manual Add cont'd

- Place next item on scale.



- Display shows item weight of 15.0 lb.
- Press ADD key to add weight.
- BEEP indicates item has been added
- Display momentarily shows totalized weight of 25.0 lb, then reverts to item weight of 15.0 lb.

- Remove item from scale.
- BEEP BEEP indicates scale has returned to zero.
- Weigh session is completed.



- Display shows 0.0 lb.

NOTE: Press the DISPLAY key at any time to view Total Weight, Item Weight or Item Count.

The weigh session totals will remain in the scale's memory until the scale is RESET.

GENERAL OPERATION

Adding One Weight Many Times

While in any mode, with the item on the platform, press the ADD key, wait briefly for the scale to complete the calculation, then repeat as needed.

Each time the item is added, a single beep will sound, confirming that the item's weight and count have been added.

GENERAL OPERATION, cont'd

Holding a Weight

To hold a weight of an item on the weighing platform, press the HOLD key. The displayed weight will continually flash, showing that the weight is being held.

The only function available in hold mode is the ADD key function.

To return the scale to normal operation, press the HOLD key again.

Resetting the Scale's Memory

- Press and hold the RESET key until "reset" displays.
- "No" will then display, to prevent accidental erasing of the memory
- Press the right arrow key (ADD/ON) to change the display to "YES"
- Press the SET key (HOLD-RUN/UNDO) to clear the scale's memory

Note: To avoid resetting the memory, press the SET key when "no" displays.

Subtracting/Backing Out a Weight

While in Auto Add Mode 1 or Auto Add Mode 2, press the SUBTRACT key.

Dashes will display to left of the indicated weight, showing that the scale is in Subtract Mode.

The next item placed on the scale platform will be subtracted from the cumulative totals for weight and item count.

The scale then returns to normal operation.

Zeroing the Scale

Occasionally, certain conditions can result in the scale not being on the center of zero when at rest. This condition is indicated by the center of zero icon not displaying in the readout.

To remedy, remove all items from the weighing platform, and press the ZERO key. Note that the center of zero icon will display, indicating that the scale is on center of zero.

BATTERY OPERATION

The TS-PFS scale is designed to operate 35 - 40 continuous hours on a fully charged battery.

When the battery reaches approximately 80% discharge, the low battery icon will flash for 25 minutes, followed by rapid flashing for 5 minutes, then the system will power off.

Auto Off Feature

To conserve battery power, the scale will automatically power off after 20 minutes of non-use.

Reserve Power Feature

This special feature enables the scale to be operated on reserved battery power after it has shut down due to a low battery condition.

After the scale has powered off, turning the unit back on will access 5 additional minutes of battery powered operation. During this time the battery icon will rapidly flash. Depending on conditions such as ambient temperature and initial charge in the battery, the reserve power feature can be used several times before the reserve power is exhausted.

Charging the Battery

Using the included AC adapter, insert the low voltage jack into the socket located on the front panel of the indicator housing, and plug the 110 volt plug in to a standard 110 VAC outlet. A period of 8 continuous hours is required to fully charge the battery.

SUBSTITUTING ANY OTHER AC ADAPTER CAN DAMAGE THE UNIT AND VOID THE WARRANTY.

To maintain a full charge in the battery, it is recommended that the scale be plugged in to 110 VAC while not in use.

110 VAC OPERATION

The scale can be operated using the 110 VAC adapter/charger. The adapter also maintains a full charge in the battery while connected to the scale and 110 VAC.

It is not recommended that the scale be operated using an extension cord longer than 75 feet, as the AC current in excessively long cords can result in inconsistencies in the scale's operation.

CARE

The TS-PFS is designed to provide years of trouble-free performance, and requires no maintenance from the user.

If the scale becomes dirty or greasy due to operating conditions, use of mild soap and flowing water is recommended for cleaning the scale.

NOTE: if the scale is wet when operated in freezing conditions, ice may form on the unit, which could adversely effect the scale's operation. Be sure to check the scale for ice formation while operating in freezing or near-freezing conditions.

TROUBLE SHOOTING

Symptom	Condition	Solution
Display shows dashes	Under zero	Press ZERO key
Display shows oooooo	Overloaded	Remove weight from platform
Scale display is erratic	Bad AC adapter or bad battery	Replace AC adapter or battery
Display shows a small weight (positive or negative) when nothing is on the platform	Scale is off zero	With nothing on the platform, press ZERO key
Scale will not weigh item on platform	Is the display flashing a weight?	Press RUN key to turn off the Hold function
Scale will not automatically add item on platform	Is the arrow in the lower area of the display pointing to MANL ADD?	Press and hold MODE key to change from Manual Add mode to Auto Add mode
	Is the Center of Zero Icon on?	With nothing on the platform, press the ZERO key

FREQUENTLY ASKED QUESTIONS

- Q:** When the scale is on, and I press down on the platform, the displayed weight doesn't change—why?
- A:** When the scale is in Mode 1, it will not display the weight on the platform until the weight becomes stable, that is to say, not increasing or decreasing.
As soon as the weight becomes stable, it will be added, displayed briefly, then the totalized weight will display.
- Q:** Can I use the scale as a standard, straight-weight scale without totalizing?
- A:** Yes. By selecting operating Mode 3, the weighing operation of the TS-PFS will be similar to that of a standard, non-totalizing bench scale.
The user can also press the ADD key to manually totalize items placed on the platform.
- Q:** How long should the battery be charged?
- A:** A period of 8 continuous hours is required to fully charge the battery.
NOTE: To maintain a full charge in the battery, it is recommended that the scale be plugged in to 110 VAC while not in use.
- Q:** Does the battery have specific requirements for the charging and discharging cycles?
- A:** No, the battery requires no monitoring of the charge/discharge cycles.
- Q:** Will using the scale in extreme cold conditions effect battery operation?
- A:** Generally, extreme cold conditions will shorten the length of time a battery will keep its effective charge. Battery powered operation of the TS-PFS in extreme cold conditions is likely to result in a somewhat shorter operating time available between recharges.

LIMITED WARRANTY

See separate warranty sheet for warranty terms, conditions and limitations.

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