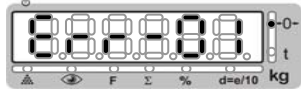
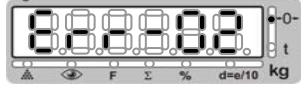
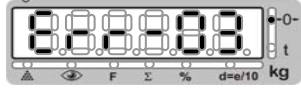
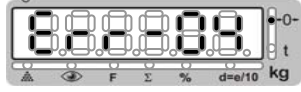



8 ERROR CODES

ERROR – DISPLAY	Error	Solution
	<ul style="list-style-type: none"> Zero not in range 	Remove weight from pan and restart the machine. If the problem persists, the machine may have been overloaded.
	<ul style="list-style-type: none"> Weight not enough for the selected setting 	Keep weight or Add more weight on pan for correct results.
	<ul style="list-style-type: none"> RAM ERROR 	Switch Off/On the machine. If problem persists call support.
	<ul style="list-style-type: none"> Internal / External calibration variance larger than 2% 	You are trying to calibrate the scale with a incorrect weight.
	<ul style="list-style-type: none"> LOW Battery. Machine displays message and turns off 	Battery is low. Connect scale to power so that the battery can be charged.

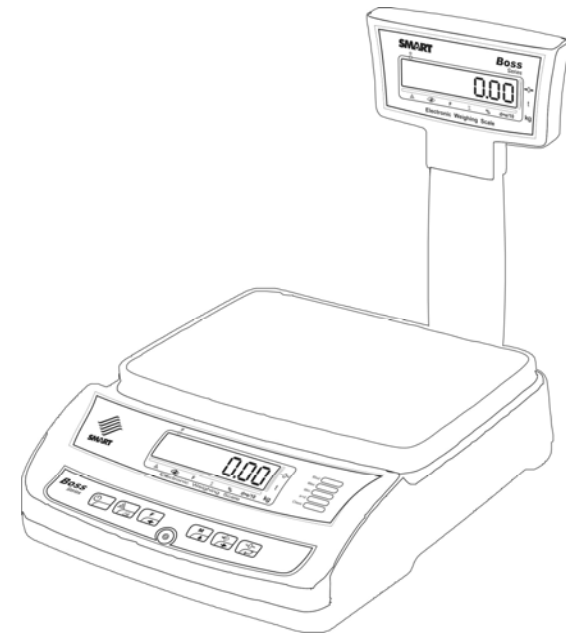
9 TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	REMEDY
Scale will not power on	If running on batteries, the battery may have fully discharged. AC Power cord not connected.	Connect scale to power source. Recharge battery
Battery does not give enough backup	The battery is defective. The battery may have past its useful life. (Generally 6months – 1 year)	Change the battery.
Weight reading on scale does not stabilize	External Rubbing / Friction A scale cannot measure accurately if an object is rubbing or pressing against the scale platform. Mobile interference, Vibration or wind could be other possible reasons	Move the scale away from mobile signal, breeze or vibration areas.
Scale does not show weight accurately	Improper calibration	Calibrate the scale again to and check for the problem again.

OWNERS MANUAL

BOSS Series

TABLE SCALES



Scale Users Guide

1 About BOSS – Tax Series Weighing Scale

We would like to thank you for choosing **SMART** as your preferred choice for your weighing requirements.

The TAX series weighing scale is an accurate, fast and versatile series of weighing scales, loaded with time saving features and ease of customer use.

The scale has two 0.8" LED displays to show weight, one for the user and the other for the customer

There are different models in this series, with capacities 3kg up to 40 kg and with least count from 2g up to 100mg.

They all have stainless steel weighing platforms on an ABS pan assembly with anti slip lining. The loadcell is mounted on a dual aluminum diecasted mounting providing precise overload protection of up to 200% FS load capacity.

The soft touch keypad buttons are ideally sized, color coded, and bear symbolic tags for easy recalling scale functions. The displays are large easy to read LED type displays for easy view in different lighting conditions.

The scale is loaded with features like, automatic zero tracking, overload alarm, low battery protection, "SMART" weighing mode to display quick weighing results effects, pre-set tare and an accumulation function to add pieces being counted and finally recall the accumulated total.

The scales feature auto zero tracking to automatically compensate for small fluctuations in zero such as a build up of material on the platform.

To extend battery life an auto-off feature is standard the operator can set the auto off timing to between 1 minute and 30 minutes of inactivity to suit the application. Alternatively the auto off function can be switched off, leaving the scale permanently on until switched off by the operator.

7 CALIBRATION

All SMART weighing scales come pre-calibrated from the factory. However the scale may require re-calibration. Temperature changes, geographic gravity variations, altitude changes and abuse are few reasons why a scale may need recalibration.

The scales can be calibrated using a known external weight.

7.1 INTERNAL SERVICE CALIBRATION (Refer Service Manual)

in e mode (remember $d = e/10$ and e is the scale interval. That is $e = 5\text{gms}$ and $d = 0.5\text{gms}$) similarly for 3, in $d=e/10$ mode it will auto zero upto 1.5gms, and in e mode it will auto zero upto 15 gms. Default setting of Auto-Zero mode is 3d.

2 TECHNICAL DATA

Basic Parameters					
Measurement Data	TAX-3K1M	TAX-6K2M	TAX-15K1G	TAX-30K2G	TAX-40K5G
Capacity	3000g	6000g	15,000g	30,000g	40,000g
Readout / Interval	100mg	200mg	1g / 2g	2g / 5g	5g / 0.5g
Tare range subtractive	3000g	6000g	15,000g	30,000g	30000g
Repeatability	$\pm 1d$	$\pm 1d$	$\pm 1d$	$\pm 1d$	$\pm 1d$
Display Resolution	1:30000	1:30000	1:15000	1:15000	1:8000 / 80000
Application Modes	Weighing, Counting, Accumulation, Percentage				
Product Features	Auto Off, Pre-Set Tare, Piece Counting, Glow Control				
Keyboard	6 membrane keys (On/off, Counting, F, Mode, Tare and Zero)				
Display Indicators	Stability, Zero Position, Tare, Charging Status, Accumulation, Percentage mode, function active, $d=e/10$ mode				
Weighing Units	Kg				
Calibration	Digital with external weight.				
Weight	6kg Approx				
Pan Size	230mm x 310mm				
Front Display Type	0.8" Bright red LED display				
Pole Display	Optional, Available with 0.8" LED Display				
Rear Display	Optional, Available with 0.8" LED Display				
Communication	Optional RS232C for PC communication				
Stabilization	2 seconds				
Power	9V AC Adaptor / built in battery for backup to 45hrs. / 70 hrs with sleep mode active				
Operating Temp.	50° to 98° F / 10° to 35° C				
Dimensions	190 x 230 x 265 (w x d x h) – including pole.				

3 INSTALLATION

3.1 Unpacking

Unpack and verify that the following components have been included:

- TAX Scale
- Weighing Platform (plastic base with stainless steel pan cover)
- Instruction Manual
- AC Adapter / Attached power cord (customer specific)

Save the packaging material. This packaging ensures the best possible protection for the storage or transport of the product.

3.2 Placing your scale

Before you install the scale, identify the best location for the equipment. The proper environment enhances its operation and

longevity. Keep in mind the following factors, which might have a negative influence on the scale's operation:

- a) **Vibration:** Vibration diminishes the scale's ability to measure accurately. Electrical machinery such as conveyors and drill presses can cause inaccurate and non-repeatable readings. The scale may also read inaccurately if it is not leveled properly. The scale incorporates a SMART weighing mode where the scale can reject readings with vibration up to some extent.
- b) **Drafts / Air currents:** Moving air can cause the scale to read wind movement as an additional force and cause inconsistency in the weighing results.
- c) **External Rubbing / Friction:** A scale cannot measure accurately if an object is rubbing or pressing against the scale platform.

3.3 Leveling the scale

Level the scale by turning the adjustable feet. It is leveled correctly when the bubble indicator is in the center of the circle.

3.4 Power Source

The unit works on 220V AC Level the scale by turning the adjustable feet. It is leveled correctly when the bubble indicator is in the center of the circle.

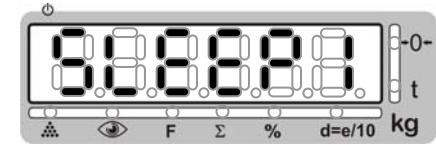
The scale is fitted with a built in 6V 4Ah battery which provides backup of more than 45 – 70 hours depending on glow setting and sleep mode setting.

3.5 Calibration Check

Put a known weight on the machine and make sure that the scale reads the correct weight on the display. In case of a variation in the display reading, it is recommended to calibrate the scale again with the procedure explained in section 7.1 later in the manual.

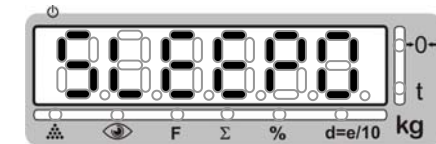
button, until the display comes back to the weighing mode. It is important to note that when the scale is switched off and then switched on again, the display Glow setting will again be set to GLOW 0 by default.

- 6.3 SLEEP MODE:** The scale has a power saving mode called the SLEEP MODE. Whenever the scale is switched on, the SLEEP MODE is by default set to ON



condition. In this mode, if the scale is idle for two minutes, that is there is no weighing being done, the display will simply show the decimal point of the right most digit on the display. Whenever any weight is kept, the scale will automatically come out of the SLEEP MODE and start displaying the weight. It is important to know that SLEEP mode increases the battery back-up time by double. The Normal backup time when the sleep mode is switched off is 30 Hours, and with the SLEEP mode switched on, the battery back-up time increases to more than 60 Hrs.

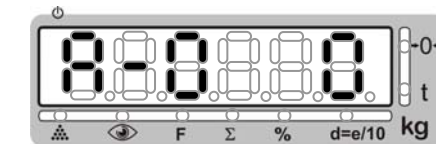
If the USER wants to **switch off** the SLEEP MODE for some special usage or function it can be done as follows:



When the scale is in the weighing mode,

Press ZERO and TARE button together. The display will show "P-TARE" Now press the ENTER button three times so that the display shows "SLEEP1". 1 means the sleep mode is currently switched On. If the user wants to switch the sleep mode Off, press the MODE button once. The display will now show "SLEEP0". Press the ENTER button. The display will return back to the weighing mode. Now the Sleep mode has been switched off. It is important to note that once the scale is switched off and then switched on again, the SLEEP mode will again be switched on automatically.

- 6.4 AUTO ZERO SETTING:** Press the TARE button and then switch on the scale. The display will show A0 – X (0, 1, 2, 3). This is the auto zero setting. You can select the value using the MODE button. 3 mean 3d in d mode and 3e







6 SCALE SETTINGS

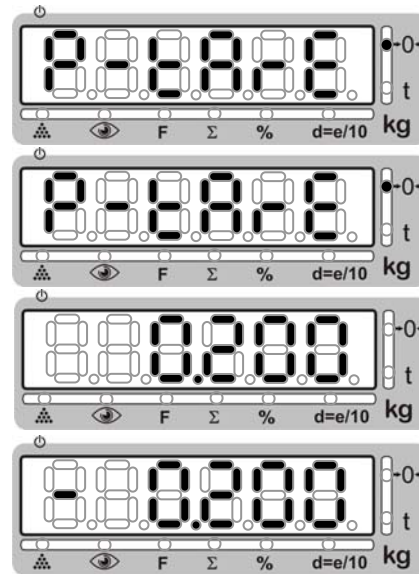
6.1 PRE-SET TARE

Pre-set Tare is a known tare value entered via the numeric keypad. Pre-set Tare is indicated by the “P-TARE” annunciator followed by the tared value during startup of the machine.

Setting Pre -TARE

With an empty pan Press  + 
 “P-tArE” will flash on the display. Enter a value (ex.200g), using  + 
 keys. Exit the setup menu by pressing the Zero/Enter key 4 times. The Pre-set Tare will be displayed as a negative value (no weight on the pan).

Note: To clear the Tare or Pre-set Tare value, press TARE with the pan empty

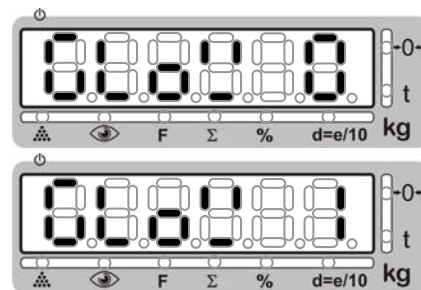


6.2 LED GLOW: The display GLOW strength can be increased or decreased depending upon the user requirement. Increasing the GLOW of the display will effect the Battery back up time, and the battery life. The GLOW setting is set to minimum by Default. If the user wants to increase the GLOW of the display, it can be done as follows:






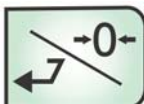
When the scale is in the weighing mode,

While pressing the ZERO button, press the TARE button. The display will show “P-TARE” Now press the ENTER button two times so that the display shows

“GLOW 0”. 0 means the GLOW mode is currently set to Low. Now press the MODE button, and you will notice the GLOW of the display is increased. If the user wants to keep this setting, simply press the ENTER



4 CONTROLS & FUNCTIONS

SYMBOL	NAME	FUNCTION
	Power Key	<ul style="list-style-type: none"> To power on and off the machine
	Counting / Print Key	<ul style="list-style-type: none"> Switch to piece counting mode Long Press – Initiate the Print Command
	Function / Left Shift Key	<ul style="list-style-type: none"> Enable 10 times display function. (d=e/10) Left shift the selected digit during cal or other setup modes Long Press – Enable “SMART” weighing mode. Single reading for weight instead of rolling display.
	Mode / Up Shift Key	<ul style="list-style-type: none"> Switch to auto weight accumulation or percentage weighing mode based on selected functionality of mode button Up Shift to change option of selected digit. Ex change 0 to 1 to 2 to 3 etc Long Press – Setup M button to quick switch to Accumulation Model or Percentage weighing mode. Switch to Internal Count Mode. Hold the M button and switch on the machine.
	Tare / Right Shift Key	<ul style="list-style-type: none"> Tare the weight kept on the pan Right Left shift the selected digits during cal or other setup modes Manual Accumulation Auto Zero Setting – Press, Hold the Tare button and switch on the machine.
	Zero / Enter Key	<ul style="list-style-type: none"> Zero the weight kept on the pan. Enter Key – Accept the selected setting and exit from setting mode.

5 USER OPERATION

5.1 SWITCHING SCALE - ON / OFF

The scale is switched ON / OFF by pressing the Power BUTTON: This button is used to switch on and switch off the scale. It is a real ON/OFF which is implemented using the latest technology so that there is absolutely no power consumption when the scale is switched off.

USAGE:

- SWITCH ON:** Press the button once, the scale will switch on.
- If the scale is already switched on, press the button again, display will show "SEE YOU SOON" and switch off after sounding a beep.

Note: Make sure the weighing pan is empty before turning on the scale.

5.2 MANUAL TARE

5.2.1 TARE BUTTON:

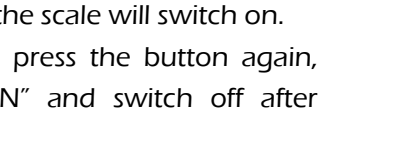
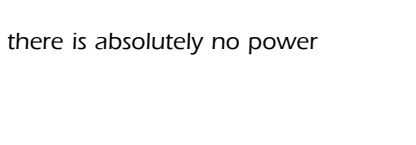
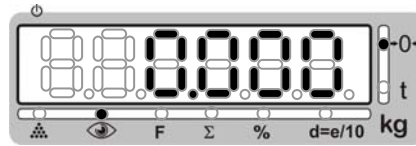


This button is used for taring a weight to display 0.000. A Tare value is indicated by the "t" LED on the panel.

Place a container on the weighing pan (say 200g), then press the TARE button.

The weight is tared and the machine will display zero and the tare LED will be ON.

To recall the tared weight, simply press the TARE button again. To TARE the value, again press the TARE button.

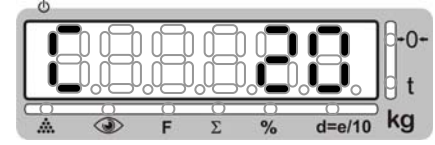
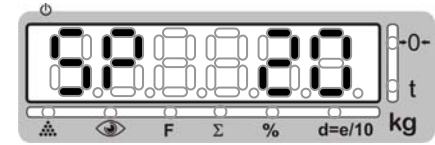
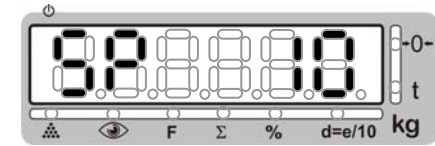


- LEFT ARROW KEY:** This is used to move the selected digit while entering settable values or calibration weight or any other user parameter etc.

This button is used to put the scale in the counting mode and also for the printing the weight data on the printer using the RS232serial output of the scale.

5.6.1 COUNTING FUNCTION:

When the scale is displaying 0.000, press this button, the display will show "SP 10" which is the number of pieces. You can select between values of 10, 20, 50 and 100 using the Up arrow button. Once the number of pieces is displayed, keep the same number of pieces on the weighing pan and press the enter button. The weight of the pieces kept on the weighing pan is displayed as the number of pieces selected. Simply press the counting button once, if the user wants to exit the counting function to come in to the weighing mode.



- PRINT FUNCTION:** When a certain weight value or counting value or percentage value is being displayed, keep this button pressed for three seconds. The display will now show "PRINT". Press enter button, the will show "DONE" and go back to the working mode.

will show "M CLr", press ENTER button, the display will show "M CLrd", indicating that the memory has been cleared. If the user will switch off the scale, the accumulated values will be lost and reset to 0.

5.5.2 PERCENTAGE WEIGHING FUNCTION:

Press the MODE button for 3 seconds. The display will show ACC X (0 or 1),

press ENTER button, the display will now show PER X (0 or 1). You now use the UP ARROW key to select

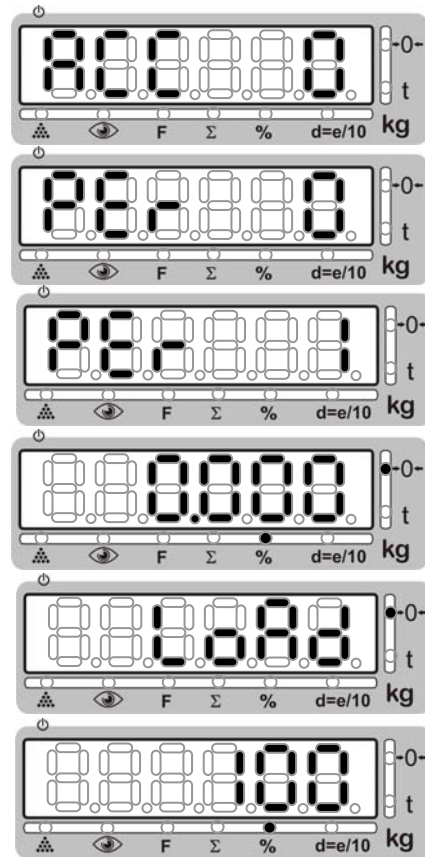
PER 1, and then press enter. The scale will come back in to the weighing mode. Now the MODE button will be

used for the PERCENTAGE WEIGHING FUNCTION. Now press the MODE button, the display will show LOAD,

blinking, now keep a weight and press ENTER BUTTON. Depending upon the weight the display will show

the weight as P 100 or P 100.0, so that whatever weight was kept has been considered 100%. Also the RED LED corresponding to P on the panel

sticker will glow, indicating that the scale is in the percentage weighing mode. To come out of the percentage weighing mode, simply press the Mode button, scale will return to weighing mode. If the weight is too small or no weight was kept before pressing the ENTER button, the display will show "ERR 02" indicating the function could not be completely because the weight kept is insufficient. Also the scale will automatically return to the weighing mode after display ERR 02.



5.6 COUNTING BUTTON / PRINT BUTTON:

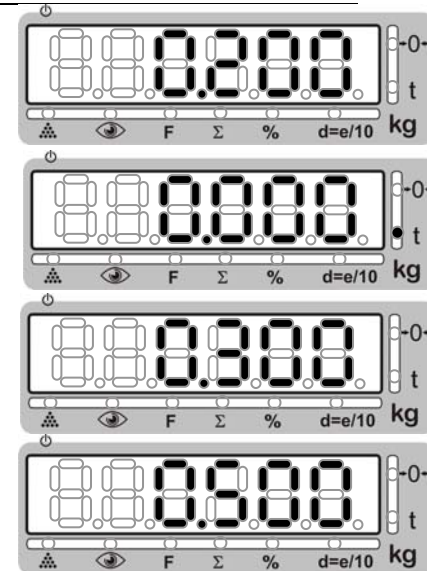
5.2.3 MANUAL ACCUMULATION: Function:

This function will work only if the ACC is selected to 0 in the MODE button setting. Keep a weight on the weighing pan (ex 200g). The display will show the weight.

Now press TARE. The display will show 0.000. Now keep another weight (ex 300g), the display will show its weight.

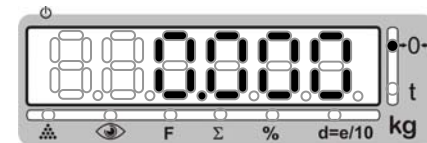
Now press TARE button. The display will show the total of the first value tared and the second weight tared. Press TARE button again, the display will show

0.000. Now keep another weight, the display will show the weight. Press TARE button, the display will show the total of all the three weights (0.500g), press TARE button, the display will show 0.000



5.3 ZERO OPERATION

Center of Zero is indicated by the annunciator →0←. You can press the ZERO/ENTER key to set the zero point from which all other weighing and counting is measured. The zero will function within 5% of the internal zero setting. The scale has an automatic auto-zeroing function to account for minor drifting or accumulation of material on the platform. This auto-zero range can be configured in the user setup. However you may need to press the ZERO/ENTER key to rezero the scale if small amounts of weight are shown when the platform is empty.



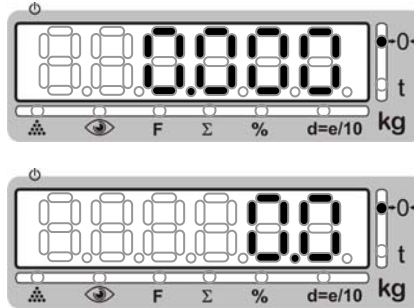
5.4 FUNCTION BUTTON



FUNCTION BUTTON: This button incorporates the “NEVER BEFORE” functions for any scale. This button has the power of increasing the resolution of your scale 10times, without compromising on the accuracy of the scale. This button is also used for the unique “SMART MODE” weighing function, with which the user gets a single and final weight value when the weight is keep on the pan, and that too as quickly as a blink of an eye. This button is also used to enter values in setting mode.

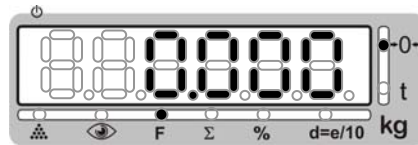
5.4.1 10 TIMES FUNCTION (d=e/10):

Whenever you switch on the scale, the configuration of the scale is 40Kg / 5gm, and the display shows “0.000” with an incremental value of 5gms. Now press the FUNCTION button once, and the display will become “0.0”, now the scale is working in 40kg / 0.5gm mode, wherein the display increment is 0.5gms, throughout 40Kg capacity of the scale. Check out this function and be surprised with the Stability and repeatability.



5.4.2 SMART WEIGHING FUNCTION:

Keep the button pressed for 3 seconds, you will notice that a RED LED corresponding to F will glow on the sticker panel. Now the scale is in the latest & most innovative “SMART WEIGHING MODE”. Now keep a weight on the weighing pan and see the response time and weight display. The final weight will be displayed in a single reading very quickly. Now press the weighing pan with your hand, you will find that the reading will not change. But keep another weight and see how quickly it is displayed. Press the button again for 3 seconds to come out of SMART WEIGHING MODE in to the normal weighing mode.



5.4.3 LEFT ARROW KEY:

This is used while entering settable values or

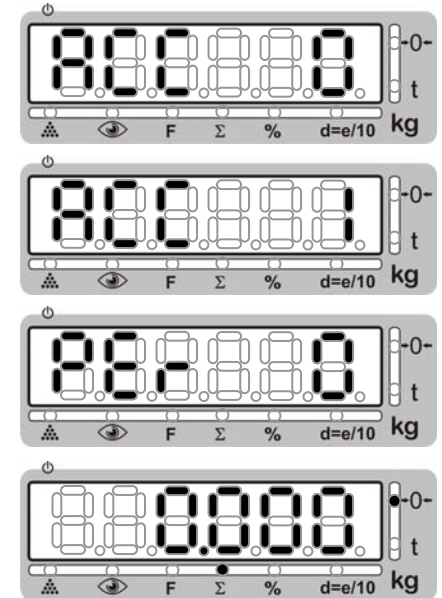
calibration weight etc.

5.5 MODE BUTTON / UP ARROW KEY:

This mode is used for two different modes of the scale, the accumulation mode and the percentage weighing mode. Keep this button pressed for 3 seconds, the display will show “ACC 0”. Using the UP arrow button you can select between the 0 and 1 value. Press the enter button to accept your selection, now the display will show “PER 0” Again you can select between the 0 and 1 using the UP arrow key and press enter to accept the selection. 0 means the function is OFF and 1 means the function is ON. It is important to note that only one function can be switched on at a time, while both can be switched off if the user does not want to use them. Whenever the scale is switched on the function in this button is not active. When the MODE button is pressed once, the function becomes active.

5.5.1 ACCUMULATION FUNCTION:

Press the mode button for 3 seconds. Select the ACC value as 1. Press enter. Display will show PER 0. Press enter again. Now user has accepted to switch on the accumulation function, you will find the RED LED corresponding to Σ will glow on the panel sticker, denoting that the accumulation function is switched on.



Now when you keep the weight, the scale will automatically accumulate the weight value in memory. Now remove the weight, and keep same weight or another weight, it is again accumulate the weight and also show the number of items added. If you do not remove the weight, before adding a new weight, it will not be accumulated in the memory. If you wish to see the total number of accumulated items and their total weight, simply press the MODE button. If the user wishes to clear the Memory of the accumulated items, simply press TARE button. The display