

WARRANTY CERTIFICATE

Customer Name : _____

Phone: _____ Mobile: _____

Date of Purchase : _____ Invoice / DC

No: _____

Model : _____ SI.No : _____

Dealers / Agent Name _____

The manufacturer warrants all products shipped against defects in MATERIAL and WORKMANSHIP for a period of one year for standard line of products. All OEM and custom build orders carry (1) year warranty for MATERIAL and WORKMANSHIP. Warranty will not be applicable for Battery and adaptors. Normal wear and tear, injury by natural forces, user neglect and purposeful destruction are NOT covered by this warranty. Technical Service MUST be performed by authorized staff or factory authorized personnel. Manufacturer's obligation is limited to replacement of parts that have been so returned and are disclosed to manufacturer's satisfaction to be defective. The provisions of these warranty clauses are lieu of all other warranties, expressed or implied, and of all obligations or liability in connection with sale of said articles. Manufacturer makes no warranty of merchantability or fitness for a particular purpose. By accepting the goods, the buyer acknowledges that the buyer has determined that the goods are suitable for the buyer's purposes. In no event shall the manufacturer be liable for any sub sequential or special damages. Any misuse, improper installation or tampering shall VOID this warranty.Product that is malfunctioning within the 1-year warranty period for scale line and 1-year warranty period for OEM products may be returned to manufacturer for Warranty Evaluation at the customers' expense. Manufacturer reserves the right to repair OR replace the components free of charge as may qualify under this warranty.REMINDER!! WARRANTY DOES NOT COVER USER DAMAGE AND ABUSE. In addition to a listing of the repairs covered under warranty, if any, the customer will be billed accordingly for all parts and labor associated with any NON-WARRANTY repairs made to the product.

OWNERS MANUAL

AQUA Series

SPLASH PROOF SCALES



Scale Users Guide

About Aqua Series Weighing Scales

We would like to thank you for choosing us as your preferred choice for your weighing requirements. The Aqua 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 is loaded with features like, automatic zero tracking, overload alarm, low battery protection, "QUICK" 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 scale 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.

1 TECHNICAL DATA

Measurement Data	AQUA SERIES
Capacity	Selectable 3kg ~ 30 kg
Tare range subtractive	100mg ~ 5g based on capacity
Repeatability	+/- 1d
Display Resolution	3,000 ~ 75000 divisions
Application Modes	Weighing, Counting
Product Features	Pre-Set Tare, Piece Counting, Glow Control
Keyboard	4 membrane keys (On/Off, Mode, Tare and Zero)
Display Scales	Stability, Zero Position, Tare, Charging LED, Piece Mode, F-Function
Weighing Units	kg
Calibration	Digital with external weight.
Weight	4kg Approx
Front Display Type	0.8" Bright red LED display (Front), 0.56" (Rear Side)
Communication	Optional RS232C for PC communication / Direct Printer Interface
Stabilization	2 seconds
Power	9V AC Adaptor or Power Cord / built in battery for backup to 30hrs. / 40 hrs with sleep mode active
Operating Temp.	50° to 98° F / 10° to 35° C
Dimensions	245 x 210 x 140 (w x d x h)
Printer Interface	Optional direct printer interface to POS – Thermal Printer, Dot Matrix Printer. Option to interface with label printer SLP-3120T (others)
PC Interface	RS232 interface for communication with RS232

12 ERROR CODES

ERROR – DISPLAY	Error	Solution
Err 01	<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.
Err 02	<ul style="list-style-type: none"> Weight not enough for the selected setting 	Keep weight or Add more weight on pan for correct results.
Err 03	<ul style="list-style-type: none"> Internal calibration / External variance larger than 2% 	You are trying to calibrate the scale with a incorrect weight.
--OL--	<ul style="list-style-type: none"> Overload signaled by ADC 	# Check if there is excess weight on the platform # Check if the loadcell cable is damaged / check connector # Perform Internal calibration
LO BAT	<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.

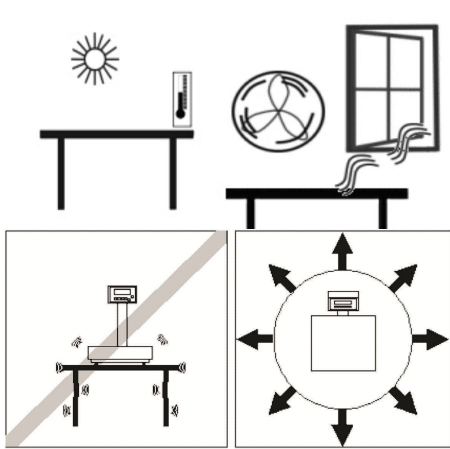
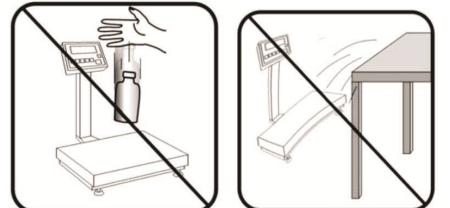
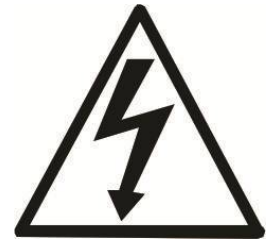
13 TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	REMEDY
Scale will not power on	If running on battery, 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.
RS232 Not Working	# RS232 parameters not set correctly # Improper or loose connection	# Verify Parameters # Check Cable Connections

11.1 External User Calibration

Step Description	Display
To start calibration turn the scale off and then turn it on. During the count down, press and hold down the Zero button (do not release until the display shows "CAL" Make sure there is no weight on the pan. Press Zero key and the display shows "noLoAd" momentarily and shows the counts at zero level.	noLoAd
Pause for 2 seconds at the previous step and press Zero key. The display shows "LoAd" momentarily and shows the internal counts.	322332 LoAd
Put a known weight on the weighing pan (Ex.: 5kg). Press the Enter key. The display will now show full capacity of the scale.	624334 30.000
Now enter the weight value that you have kept on the pan using "TARE" & "MODE" keys	5.000
Press the ZERO/ Enter key once again With the weight still on the pan, press Zero key once again to return to weighing mode. Check calibration.	5.000

2 SAFETY & PLACEMENT OF SCALE

Step Description	Precautions
	<ul style="list-style-type: none"> • Away from direct sunlight. Not exposed to high temperature variations • Stable, vibration-free base as horizontal as possible • Do not place near open windows, air-conditioning vents or fans that may cause a draft and unstable readings. • Keep free from vibration. Do not place near heavy or vibrating machinery. • The best location is a stable surface away from direct drafts, doors, windows, radiators and air conditioner vents • External Rubbing / Friction: A scale cannot measure accurately if an object is rubbing or pressing against the platform.
	<ul style="list-style-type: none"> • Never drop or throw any articles onto the scale's pan or onto any other parts of the unit! • DO NOT let the scale fall or drop from its tabletop surface!
	<ul style="list-style-type: none"> • Never attempt to repair, disassemble or modify the scale yourself. • Tampering with the scale may result in injury and cause more damage to the equipment. • Be sure to use the specified power source. • Do not allow foreign matter to fall into the scale. • If water or other liquid spills into the scale, wipe it out and clean it before putting it to use. • If the electronics is affected with water, unplug the power cord immediately and contact support.

3 INSTALLATION

3.1 UNPACKING

Unpack and verify that the following components have been included:

- AquaScale with accessories and Instruction Manual
- Power Adapter / Attached power cord (customer specific)
- Platform Base (If bundled with a platform scales)
- Attached Pole

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

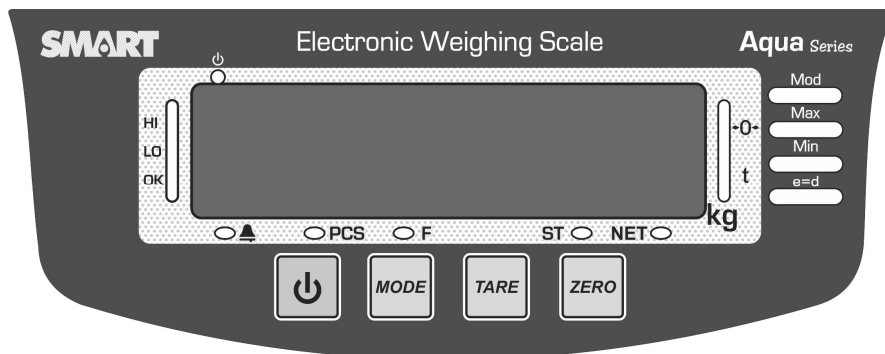
3.2 POWER SOURCE

The unit works through 8.5V universal DC Adaptor to take input 110VAC~220VAC, or, through a Power cord to take an input of 180VAC~240VAC. The scale is fitted with a built in 6V 4.5Ah battery which provides backup of more than 30 ~ 45 hours depending on glow setting and sleep mode setting.

3.3 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.

4 DISPLAY / KEYS & FUNCTIONS



9 OTHER SETTINGS

9.1 AUTO ZERO

Step Description	Display
Press and hold the TARE button and then switch on the scale. The display will show AO – X (0, 1, 2, 3). This is the auto zero setting. You can select the value using the MODE button. 3 mean 3d Default setting of Auto-Zero mode is 3d.	A-0 0
Press Zero to save the setting.	

10 RS232 COMMUNICATION (OPTIONAL)

This menu can be accessed by pressing the ZERO and the TARE buttons together. This will allow user to setup multiple parameters like PRE-TARE, Sleep Mode, Glow Control etc using this menu, Options in this menu are explained below.

10.1 User Command Table

Step Description	Display
Tare The Scale	T
Zero The Scale	Z
Returns the version number of the firmware	V
Return Weight displayed on the pan	W
High Resolution Weight	H

10.2 RS232 Pin Out / Protocol (Optional – If Available)

Protocol	Pin Out
Baud Rate: 9600 Parity : None Data Bits : 8 Stop Bits : 1	1. NC 2. Data In (RXD) 3. Data Out (TXD) 4. NC 5. Ground 6, 7, 8, 9 N / C

11 CALIBRATION

All 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 ascale may need recalibration. The scales can be calibrated using a known external weight.

8 CHECK WEIGHING SETUP





8.1 SET LOWER LIMIT

Step Description	Display
Press the MODE button for 3 seconds & the display shows "SET LO" press the ZERO button once again and display shows all zeros 0.000 or the old set value now you can enter a particular value using M & TARE keys. The rightmost digit will be blinking and can be incremented and set to a number by pressing the TARE button. To set the next digit press the MODE button and the earlier digit shifts to the left.	SET-LO
For eg. You want to enter low value as 200 grams the press MODE key two times and TARE key one time and the display will show 0.200 and press the ZERO button. The scale returns to the weighing mode. The low value has been set, now you keep any weight upto 200gm on the pan there will be a continues beep sound, now keep some more weight on the pan and the beep sound will be stopped. The high low limit enunciator shows the status of weight range is either HI / LO / OK	0.000 0.200





8.2 CHECK-WEIGHING – SET HIGHER LIMIT

Step Description	Display
Once the display shows "SET HI" press the ZERO button once again and display shows all the zeros "0.00" now you can enter a particular value using MODE&TARE keys as explained above. For eg. You entered a high value as 400gm, the moment the weight goes up from the 400gm on the pan a continues sound will be there that is you have to lift the excess weight from the pan. The high low limit enunciator shows the status of weight range is either HI / LO / OK	SET-HI 0.400

4.1 KEYS & FUNCTIONS

SYMBOL	PRIMARY FUNCTION	SECONDARY FUNCTION
	Power on & off machine	
	<ul style="list-style-type: none"> Switch to piece counting or high resolution weighing mode 	<ul style="list-style-type: none"> Long Press – Setup M button to setup limits for check weighing Left shift the selected digits during cal or counting or set hi low or other setup modes
	<ul style="list-style-type: none"> Tare the weight kept on the pan Manual Accumulation 	<ul style="list-style-type: none"> Auto Zero Setting – Press, Hold the Tare button and switch on the machine. Up Shift to change option of selected digit. Ex change 0 to 1 to 2 to 3 etc & A to B to C etc.
	<ul style="list-style-type: none"> Zero the weight kept on the pan. 	<ul style="list-style-type: none"> Enter Key – Accept the selected setting and exit from setting mode.

4.2 ENUNCIATORS / SYMBOLS

	Power LED – Turn on to Green when power source is connected
HI	HI Limit – Turns on when the set Hi limit is crossed
LO	LO Limit – Turns on when the reading is below the set low limit
OK	OK – Turns on when the weight is within set limits
PCS	COUNTING – The scale is in counting mode
ST	STABLE – The weight is stable
F	FUNCTION – Special function like SMART mode is on or high resolution mode
	NOT USED
	ZERO POSITION - The scale is at zero
	TARED – The scale has been tared with some value

5 USER FUNCTIONS

5.1 SWITCHING SCALE - ON / OFF

The scale is switched ON / OFF by using the Power switch located on the front panel of the scale. Note: Make sure there is no weight on the scale before turning on the scale.

5.2 TARE

Step Description	Display
This is used to TARE a weight kept on the scale. A Tare value is indicated by the "t" LED on the panel also referred as Tare LED	0.000
Place a container on the weighing pan (say 500g), then press the TARE button. The weight is tared and the machine will display zero and the tare LED will be ON.	0.500 0.000
To recall the tared weight, simply press the TARE button again. To TARE the value, again press the TARE button.	0.500

5.3 MANUAL ACCUMULATION

Step Description	Display
This function is to allow manual accumulation of weight. Keep a weight on the weighing pan(ex 500g). The display will show the weight.	0.500
Now press TARE. The display will show 0.000 Now keep another weight (ex 1kg), 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.	0.000 1.000 1.500
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 (200g), press TARE button, the display will show 0.000	0.000 2.000

5.4 ZERO FUNCTION

Step Description	Display
Center of Zero is indicated by the "0" enunciator. 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 20% 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 re-zero the scale if small amounts of weight are shown when the platform is empty	0.000

when the display is in LOCK setting mode. LOC 0 means setting inactive and LOCK 1 means setting is active and keyboard is locked.	LOCK 1
Press Zero again to move to the next option to setup second display setting.	S-d 0

7.10 SECOND DISPLAY

Step Description	Display
This function allows to enable or disable the second display connected to the scale. Possible values 0 -> Disable 1 -> Enabled(By Default)	S-d 0 S-d 1
Press Zero again to move to the next option to setup buzzer mode setting	BUZ-C 1

7.11 QUICK WEIGHING MODE (SMART MODE)

Step Description	Display
When the scale is working in the smart weighing mode, the weight kept on the scale will be displayed in a single reading, and not in a scrolling. This function is more helpful when the scale is being used for packing pre-defined quantities. Possible Values 0 -> Disable (By Default) 1 -> Enabled	START 0 START 1

7.12 BEEPC SETTING

Step Description	Display
This function allows user to complement the buzzer sound at limit setting. Eg when you set low limit as 0.100g. With BUZ-C=0, the scale will sound alarm if the reading is below 0.100g and stop at 100g or above. If BUZ-C=1, the buzzer sound will be complemented to sound above 100g and remain disabled when the reading is below 100g. The alarm does not sound at 0 level or 0 level + 3 divisions	BUZ-C 1 BUZ-C 0
Press Zero again to move to the next option to setup LOC setting	SET-LO

The data in the continuous mode can sent in forward or reverse direction. If the data needs to sent in the reverse direction set the value of REV to 1. Possible value
0 -> Forward direction
1-> Send string reverse direction

rEU 1

Press Zero again to move to the next option to setup delimiter for serial data output

dL 0

7.6 DELIMITER FOR CONTINUOUS MODE

Step Description	Display
In the serial – continuous stream mode, the data sent can delimited by carriage return "CR" or "=" 0 -> Select Delimiter as "=" 1 -> Select Delimiter as "CR"	dL 0 dL 1
Press Zero again to move to the next option to setup high resolution weight	F- 0

7.7 ENABLE HIGH RESOLUTION WEIGHT

Step Description	Display
This function allows to enable or disable the option to enable to user to get the high resolution weight. Possible value 0 -> Disable (By Default) 1 -> Disable (By Default) *NOTE the scale will allow fetching the high resolution weight only if the total no of divisions for the set calibration are less than or equal to 15000 divisions.	F- 0 F- 1
Press Zero again to move to the next option to setup BEEPC setting	du 40

7.8 INTELLIGENT DUMMY ZERO

Step Description	Display
This function allows to enable or disable the dummy zero. The functions appends a dummy 0 at the end weight reading. Eg. 100.01 which represents 100kg 10g can will be displayed as "100.010" Possible values 0 -> Disable (By Default) 1 -> Disable (By Default)	du 40 du 41
Press Zero again to move to the next option to setup keyboard lock setting	LOCh 0

7.9 KEYBOARD LOCK

Step Description	Display
This function allows the user to lock all buttons except tare and zero. The only buttons operational under this mode are TARE and Zero. The setting can be changed by pressing the M button	LOCh 0

6 MODE BUTTON

6.1 HIGH RESOLUTION WEIGHT (d=e/10)

Step Description	Display
Press the MODE button normally, you will notice that a RED LED corresponding to F will glow on the sticker panel. Now the scale is in the high resolution weighing mode.	0.000 0.0000
Now keep a weight on the weighing pan say 555g and see the weight is displayed with a resolution of 10 Times. NOTE: The high resolution weight is a function for verification of the e value. The weight will be magnified by 10 times its resolution and shown on the display. This function should be used only for internal verification and should not be used for commercial transactions. Also note that the F setting must be set to 1 to allow this function. See point 7.8	0.555 0.5551

6.2 COUNTING FUNCTION

Step Description	Display
This function can be used to count items of similar /equal weight based on the average weight calculated by the scale. Press the mode button until the PCS led glows on the panel, the scale is now in PCS counting mode	0.000 0
To set the sample weight press the TARE button and the display will show "SM 10", or it may show the count of items on the previous saved setting.	5.1 10
Press M button the display will show "SP 10" which is the number of sample pieces. You can select between values of 10, 20, 50, 100, 200, 500, 1000, 2000 and 5000 using the TARE button. Once the number of pieces you wish to use as sample is displayed, keep the same number of pieces on the weighing pan and press the ZERO 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 MODE function to come in to the weighing mode.	5.1 20

7 SCALE SETTINGS / USER PARAMETERS

This menu can be accessed by pressing the ZERO and the TARE buttons together. This will allow user to setup multiple parameters like PRE-TARE, Sleep Mode, Glow Control etc using this menu, Options in this menu are explained below.

PRE TARE

Step Description	Display
Pre-set Tare is a known tare value. Pre-set Tare is indicated by the "P-TARE" display message followed by the tared value during startup of the machine.	0.00
Setting Pre –Tare: With an empty pan Press Zero + TARE - "P-tArE" will flash on the display, press ZERO key once again all zeroes will be displayed. Now enter a value (ex.200g), using TARE & MODE key to change the blinking digit & to shift the blinking digit to the left. Exit the setup menu by pressing the Zero key till the scale comes to the weighing mode. NOW SWITCH ON AND OFF THE SCALE The Pre-set Tare will be displayed as a negative value (no weight on the pan). Note: The pre set tare value when entered becomes permanent that is when scale is switched off and then switched on the display will show the "P- tare" momentarily and then the entered value in -0.200. To clear the Pre-set Tare value, you will again have to go in the setting mode by pressing ZERO + TARE and change the pre tared entered value to 000000 with the pan empty.	P tArE 0.00 -0.200
Press Zero, the scale will move to the next setting to setup sleep mode	SLEEP0

7.1 SLEEP MODE

Step Description	Display
The scale has a power saving mode called the SLEEP MODE. The default value is 0., meaning the scale does not go to sleep. The Normal backup time when the sleep mode is switched off is 20 to 30 Hours, and with the SLEEP mode switched on, the battery back-up time increases to more than 60 Hrs depending on the sleep mode setting.	SLEEP0
To set up power saving mode set the value of Sleep from a range of 1-9 meaning 1 to 9 minutes. Set the value by pressing the M button. Press the M button twice to set the value at 2. Now if the scale is idle for 2 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. To disable sleep mode set the value at 0.	SLEEP0 SLEEP1 SLEEP2

Press Zero again to move to the next option to setup Glow setting

GLOW 0

7.2 LED GLOW

Step Description	Display
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. Default value is 0. You can set the value from 0-2	GLOW 1
In the setting mode when the display shows "GLOW 0" press the MODE button, and you will notice the GLOW of the display is increased as Glow 1 2.	GLOW 2
Press Zero again to move to the next option to setup serial port mode	FILL-2

7.3 MOTION / AVERAGING FILTER

Step Description	Display
This setting allows you to set the filter intensity for digital readings from the ADC. This is helpful in optimizing the performance of scale weighing when minor vibration are there in the environment. If weak filter is set, the response will be fast, but will be more sensitive to external influences such as vibration.	FILL-2
In the setting mode when the display shows "FILT-2" press the MODE button, and you will notice the value of filter is increased. The value can be set from 1=5	FILL-5
Press Zero again to move to the next option to setup serial port mode	FILT 0

7.4 SERIAL MODE

Step Description	Display
This is the serial port mode setup as command (bidirectional) or continuous stream mode. The value can be set as 0 -> Continuous Stream mode 1 -> Command Mode	FILT 0
You can change value from 0 to 1 by pressing the Mode button	FILT 1
Press Zero again to move to the next option to setup serial port mode	FEU 0

7.5 SERIAL MODE DATA REVERSE

Step Description	Display
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