WARRANTY

Customer Name :_____

_____

_____

Phone:_____ Mobile:_____

Date of Purchase :_____Invoice / DC No:_____

Model :_____ Sl.No :_____

Dealers / Agent Name :_____

_____

_____

SMART warrants all products shipped from New Delhi, India against defects in MATERIAL and WORKMANSHIP for a period of one (1) year for SMART standard line. 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 SMART staff or factory authorized personnel. SMART's obligation is limited to replacement of parts that have been so returned and are disclosed to SMART 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. SMART 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 SMART 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 SMART for Warranty Evaluation at the customers' expense. SMART 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.

SMART

STSH - Gem Series

Precision Weighing Balance

Scale Users Guide

SMART EQUIPMENTS PVT.LTD , DELHI

www.weighing.in

About the GEM Series Jewelry Scale

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

The Gem series weighing balance is an accurate, fast and versatile series of balance loaded with time saving features and ease of customer use. It is perhaps the most economical commercial grade scale available in the market.

The scale has two 0.56" LED displays to show weight, one for the user and the other for the customer on the back side

There are 2 different models in this series, with capacities of 300g & 600g both with least count of 10mg

They all have stainless steel weighing platter on top. The loadcell is mounted on a 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, counting, dummy zero display,

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

1 TECHNICAL DATA

High Precision Balances		
Precision GOLD Balances		
Measurement Data	JH-300G10	JH-600G10
Capacity	300g	600g
Readout / Interval	10mg	10mg
Tare range subtractive	300g	600g
Repeatability	±1d	±1d
Display Resolution	1:30000	1:60000

Other Parameters

Application Modes	Weighing, Counting,, Price / User Calculation
Product Features	Auto Sleep, 100% Tare Range, Piece Counting, Dummy Zero
Keyboard	4 membrane keys
Weighing Units	g, carat, tola **
Calibration	Digital with external weight.
Weight	3kg Approx
Pan Size	120mm dia
Front Display Type	0.56" Bright red LED display
Remote Display	Optional, Available with 0.56" LED Display
Communication	NONE
Stabilization	2 seconds
Power	9V AC Adaptor / built in battery for backup to 50hrs.
Operating Temp.	50° to 98° F / 10° to 35° C

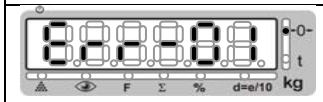
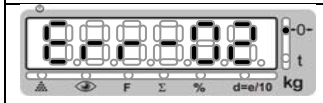
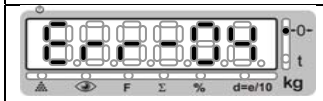
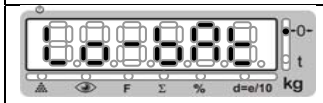
** specific to country restrictions.

8 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.

6	Lift the weight from the pan and press mode button. The calibration is complete and the machine should restart itself.	

7 ERROR CODES

ERROR – DISPLAY	Error	Solution
	• Zero not in range	Remove weight from pan and restart the machine. If the problem persists, the machine may have been overloaded.
	• Weight not enough for the selected setting	Keep weight or Add more weight on pan for correct results.
	• Internal / External calibration variance larger than 2%	You are trying to calibrate the scale with a incorrect weight.
	• LOW Battery. Machine displays message and turns off	Battery is low. Connect scale to power so that the battery can be charged.

2 INSTALLATION

2.1 Unpacking

Unpack and verify that the following components have been included:

a) Gem Series Precision Balance
b) Instruction Manual
c) AC Adapter

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

2.2 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.
d) **Moving the Scale:** If you move the location of the scale it may require recalibration. Please check the calibration when the scale is moved to a new location.

2.3 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.

2.4 Power Source

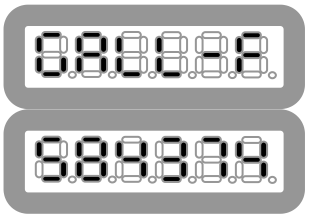
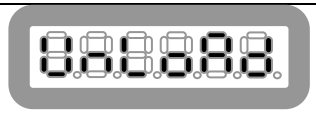
The unit works through 9V AC Adaptor. The scale is fitted with a built in 6V 4Ah battery which provides backup of more than 45 ~ 50 hours depending on glow setting and sleep mode setting.

2.5 Calibration Check

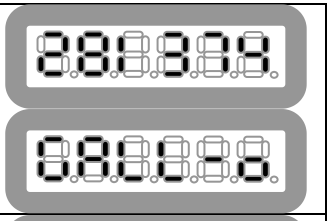
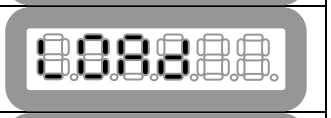
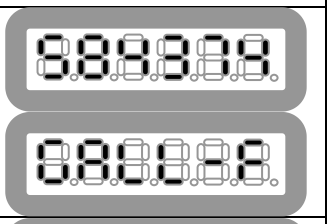
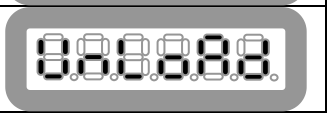
Put a known weight on the machine and make sure that the scale reads the correct weight on the display. In case of a variation in the display reading, it is recommended to calibrate the scale again with the procedure explained in section 7.1 later in the manual.

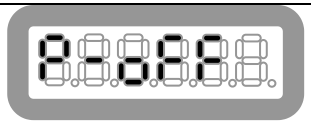
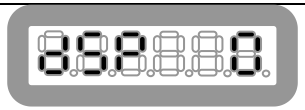
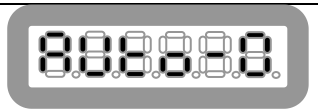
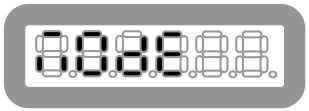
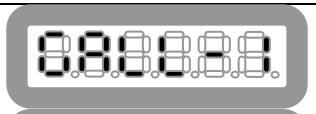
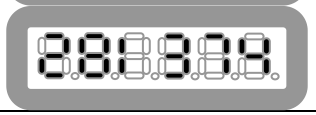
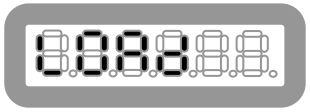
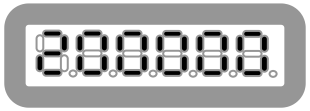
3 CONTROLS & FUNCTIONS

SYMBOL	NAME	FUNCTION
Located on right side of scale	Power Switch	• To power on and off the machine
	SHIFT	• Recall Accumulated weight • Right shift the selected digit during cal or other setup modes
	UP	• Manual Accumulation, Add weight to memory • Increment digit by 1 of selected digit. Ex change 0 to 1 to 2 to 3....9
	MODE	• Switch between weighing units
	TARE	• Tare / Zero the weight kept on the pan • Zero the weight kept on the pan. • Enter Key – Accept the selected setting and exit from setting mode. • External Calibration of Scale

11	Press the mode button once again now you will see "CAL- F" for one second and you will see the full load counts.	
12	Press the mode button and you should see "UNLOAD" on the display. Lift the weight from the pan and press the mode button to finish the calibration. The machine should restart now automatically.	

6.2 EXTERNAL USER CALIBRATION (Refer Service Manual)

1	Press and hold the tare button while switching on the scale. You will see CAL-0 on the display for a second and then some counts will be displayed.	
2	Press the mode button once, you will see Load on the display	
3	Keep a known weight on the pan for eg. 200 gm and press mode button. The display will show 200.000 or the last calibration weight value.	
4	Press the mode button, you will see CAL-F for a second and then some counts will be displayed	
5	Press the mode button, you will see UNLOAD on the display.	

4	You will now see "P-off" on the scale. Press Mode button and you can select the P-OFF option described in section 5.3 as "YES/NO". Default option is Yes. You can toggle the setting by pressing the UP button. Press the Mode button to select the desired setting	
5	You will now see "DSP 0" on the scale. Press Mode button and you can select the DSP0 option described in section 5.4 as "YES/NO". Default option is Yes. You can toggle the setting by pressing the UP button. Press the Mode button to select the desired setting	
6	You will now see "AUTO-0" on the scale. Press Mode button and you can select the AUTO-0 option described in section 5.5. Default option is 3.0d. You can toggle the setting by pressing the UP button. Press the Mode button to select the desired setting	
7	You will now see "MODE" on the scale. Press mode button and you can select the MODE option described in section 5.6. Default option for all the modes is YES . You can toggle the setting by pressing the UP button.Press the MODE button to select the desired setting.	
8	You will now see "CAL 1" on the display press mode button now you will see "CAL 0" on the display for a second. and the display will show some internal counts.	 
9	Press mode button and you will see "LOAD" on the display. Place a known weight on the pan eg. 200g. Press the mode button and you will see "0000" on the display or the previous calibration weight value	
10	If you put 200gm weight, Enter "200.000". Change the rightmost digit by pressing the UP button. Shift the changed digit to left by pressing the "shift" button once. Enter the value as shown using the key combination	

4 USER OPERATION

4.1 SWITCHING SCALE - ON / OFF The scale is switched ON / OFF by using the Power switch located on the right side of the scale.

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

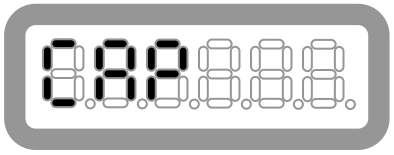
4.2 TARE / ZERO : The machine has a common Tare/Zero button. TARE / ZERO BUTTON: This button is used for taring a weight to display 0.000. Place a container on the weighing pan (say 200g), then press the TARE button. The weight is zeroed and the machine will display zero.

4.3 ACCUMULATION: Keep a weight on the weighing pan(ex 200g). The display will show the weight. Now press UP. The display will show M PLUS Now keep another weight (ex 300g), the display will show its weight. Now press UP button. To recall the weight press the shift button.

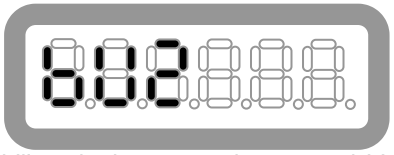
4.4 MODE This button is used to select the different units of weight available in the scale, that is to choose between the units of carat, tola, piece counting and gram.

5 SCALE SETTINGS

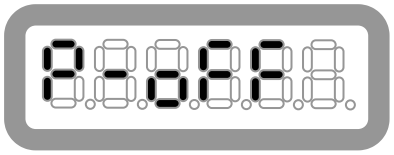
5.1 CAP – This setting enables or disables the capacity display during startup of the scale. The valid values are YES / NO.



5.2 BUZ: This setting enable or disables the buzzer sound on stability of weight. When you keep or remove weight on the machine, once the machine weight stabilizes the beep sound generated. Valid settings are YES / NO.



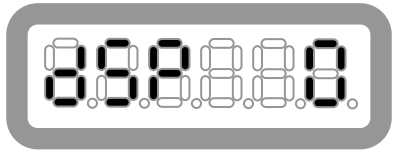
5.3 P-OFF: This setting can enable or disable the sleep mode. When the



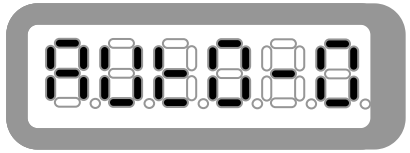
P-OFF setting is set to YES, if the scale is idle for two minutes, that is there is no weighing being done, the display will simply show the decimal point of the right most digit on the display. Whenever any weight is kept, the scale will automatically come out of the SLEEP MODE and start displaying 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 simply set the P-OFF setting to NO

5.4 DSP-0 : This setting sets the no of zeros to be shown on the display. When the DSP-0 setting is set to YES, if there is no weight on the pan, that is there is no weighing been done, the display will simply show a single zero of the right most digit of the display and if the DSP-0 setting is set to NO, the display will show all the 4 zeros on the display. It is important to know that DSP-0 mode if set to YES increases the battery back up time.



5.5 AUTO – 0 : This is the auto zero setting. You can select the value (0.5d – 9.5d) using the UP button. 3.0d mean 3d in d mode and 3e in e mode (remember d =e/10 and e is the scale interval. That is e = 5mgs and d = 0.5mgs) similarly for 3, in d=e/10 mode it will auto zero upto 1.5mgs, and in e mode it will auto zero upto 15 mgs. Default setting of Auto-0 mode is 3.0d.



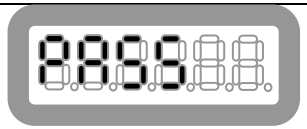
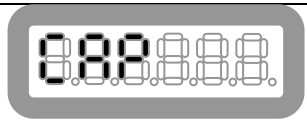
5.6 MODE : This setting sets the valid conversion units / modes available in the system. The available units are carat, tola, piece counting mode. Selecting all the modes to YES will allow you to see the weight kept on the pan in different modes by pressing the MODE button. Remember setting any mode to NO will disable the scale to weigh in that particular mode.

ALL THE ABOVE SETTINGS ARE AVAILABLE WHEN DOING THE INTERAL CALIBRATION OF THE SCALE. THE METHOD FOR INTERNAL CALIBRATION IS DESCRIBED BELOW. THIS PROCESS MUST BE DONE BY AUTHORISED SERVICE ENGINEER ONLY.

6 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.

6.1 INTERNAL SERVICE CALIBRATION

STEP	PROCEDURE	DISPLAY
1	Switch off the scale. Press the MODE button and switch on the scale. You will see PASS. Press MODE again and you will see "0000" on the display. The password is 1072 and is to be entered as follows **a**. Press the UP key once. 1 time only - The display "0000" will blink but remain as it is **b**. Press the SHIFT key 2 times. Display will be same that is "0000" **c**. Press the UP key 7 times. The display "0000" will blink but remain as it is **d**. Press the SHIFT key 1 times. The display will be same that is "0000" **e.** Press the UP key 2 times. The display "0000" will blink but remain as it is. f. Press the MODE key and you will see CAP on the display.	
2	You will now see "CAP" on the scale. Press Mode button and you can select the CAP option described in section 5.1 as "YES/NO". Default option is Yes. You can toggle the setting by pressing the UP button. Press the Mode button to select the desired setting	
3	You will now see "buz" on the scale. Press Mode button and you can select the BUZ option described in section 5.2 as "YES/NO". Default option is Yes. You can toggle the setting by pressing the UP button. Press the Mode button to select the desired setting