acaia

Acaia Pearl
User Manual

AP001AT / AP004AT

FW 2.0.009

Contents

3 In the Box

3 Introduction

3 Scale overview

4 Getting Started

4 Placement

4 Power on / off

4 Tare weight

4 Switch mode

4 Toggle unit

5 Product Care Information

5 Battery charge

5 Calibration

6 Mode Introduction

6 Mode 0 - Weighing Only Mode

6 Mode 1 - Espresso Mode

7 Mode 2 - Dual Display Mode

7 Mode 3 - Timer Starts with Flow Mode

8 Mode 4 - Beverage Mode

8 Mode 5 - Auto-Tare Mode (for versions after 2.0.008)

9 Configuration

12 Appendix

12 Buttons

13 LED indicators

14 Error codes

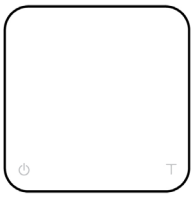
14 Other

15 Specifications

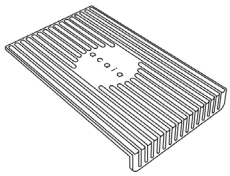
In the Box

Introduction

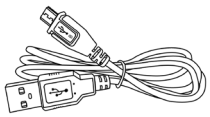
Thank you for choosing one of our scales. The Acaia Coffee Scale is designed and manufactured to the most rigorous standard to give you the best coffee brewing experience. First, check the shipping carton to find the following:



Acaia Coffee Scale



Heat Resistant Pad

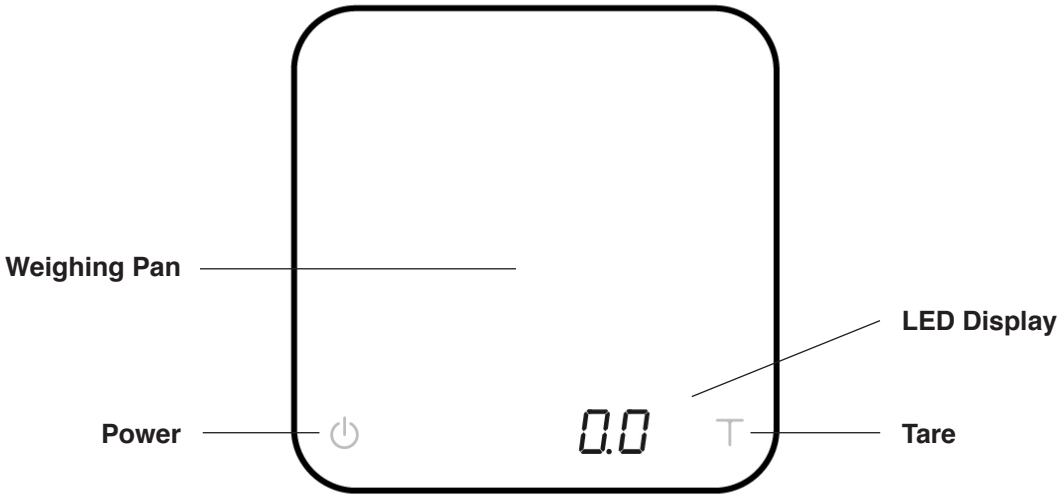


Micro USB Charging Cable

Next, follow the instructions in the “Getting Started” chapter in this manual to start using your scale. To take full advantage of the many features of the Pearl Model S, carefully read through this user manual for step-by-step procedures, examples, and other information.

Warning: Incorrect handling of this product could result in personal injury or physical damage.

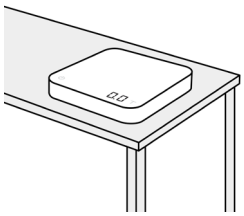
Scale overview



***Note: For the best performance, place the weight in the center of the weighing platform.**

Getting Started

Placement

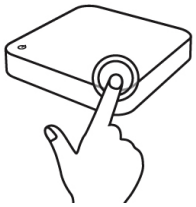


Select a work place that is stable, vibration-free and, if possible, a horizontal location for the weighing platform.

Power on / off

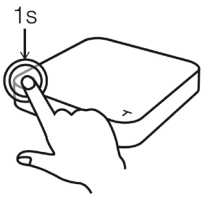
[Press] ⏻ to turn on the scale.
[Double tap] ⏻ to turn off the scale.

Tare weight



[Short press] ⊤ to tare / zero the weight.

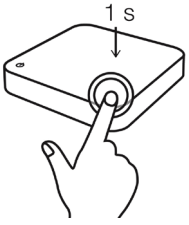
Switch mode



[Press and hold] ⏻ to switch modes.

* Please see the “Mode Introduction” section for more details.

Toggle unit

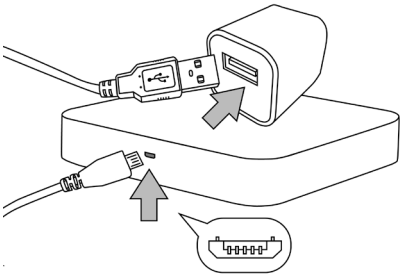


[Press and hold] ⊤ to toggle units.

Product Care Information

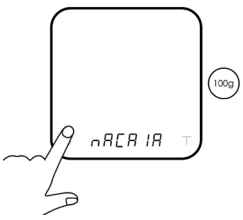
Battery charge

- You can charge the battery by plugging the USB cable into any of the power supplies listed below:
  - A computer
  - A USB wall-charger with an output of 5 volts and 1 amp
  - A DC car-charger with an output of 5 volts and 1 amp
- It takes about 1-2 hours to fully charge the battery from empty. Try not to let the battery completely run out before charging. Charge the battery as needed, but it is best not to exceed more than once a week.
- A fully charged battery can work continuously for about 25 hours.
- Battery percentage can be viewed via the Acaia apps.



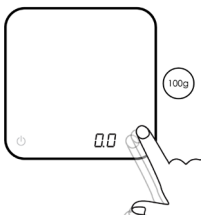
*** Note: Using a "fast-charging" charging block or charging hub (a charging block/hub delivering over 5v at 1A) could damage your Acaia scale's circuit board.**

Calibration



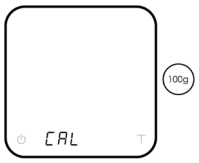
Turn on scale

Turn on the Acaia scale.



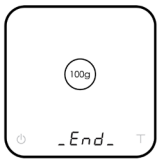
Tap T button

Make sure the scale is in weighing mode and the unit is set to 'gram', then tap the 'T' button rapidly.



See CAL display

Keep tapping the 'T' button until 'CAL' is shown on the display.

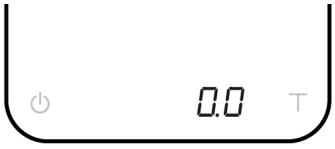


Place a weight

Place a weight (100g/500g/1000g) on the scale and wait until the display shows '_End_'. Calibration is now complete!

Mode Introduction

Mode 0 - Weighing Only Mode

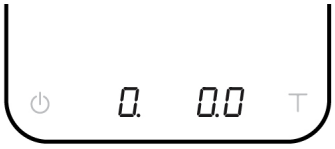


In the Weighing Only Mode, the scale will only display weight in either grams or ounces.

- There are two different weighing units in Weighing Only Mode: gram and ounce. A dot will appear in the upper right of the LED display and the scale will read 0.000 when weighing in ounces.
- The readability is 0.1 g for grams and 0.005 oz for ounces.
- The LED display shows [0.0] when weighing in grams.

Action	Operation
Tare Weight	Tap Tare button
Toggle Unit g/oz	Long press Tare button
Reset Mode	Double tap Tare button
Switch Mode	Long press Power button

Mode 1 - Espresso Mode

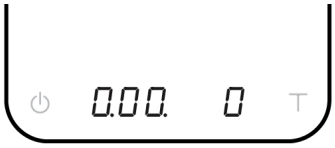


Timer and weighing settings tailored for espresso use.

- This mode displays the LED timer on the left, and the weight on the right.
- The timer displays 0 to 59 seconds and will reset to 0 when 60 seconds has been reached. When it resets, the mode indicator flashes.
- When the weight exceeds 999 grams, the LED display only shows the integer part (the decimal point will not be displayed). The LED display shows up to 1999 grams. If the weight exceeds 1999 grams, the scale will display [_ _ _ _].

Action	Operation
Start/Stop/Reset Timer	Tap Power button
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare button
Switch Mode	Press and hold Power button

Mode 2 - Dual Display Mode

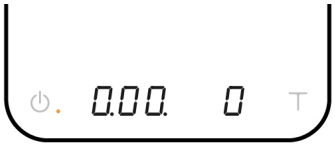


In Dual Display Mode, the scale displays [0.00 0] with a timer (left) and weight (right).

• There are two different weighing units in Dual Display Mode: gram and ounce.
• In grams, the LED display shows [0.00 0].
• In ounces, the LED display shows [0.00 0.00].
• The maximum display time will be 9 minutes and 59 seconds. The weight shown on the right side of the display measures from 0 to 999. When the value is over 1000, it will restart from 0 with mode indicator flashing.

Action	**Operation**
Start/Stop/Reset Timer	Tap Power button
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare button
Switch Mode	Press and hold Power button

Mode 3 -Timer Starts with Flow Mode



Place an item on the scale. Tap the power button to automatically tare and prepare the timer to detect the flow of water. The timer will flash, indicating that it is ready. Begin pouring and the timer will start with flow detection from the pour. The timer stops when the brewing equipment is removed.

• The LED display shows [0:00 0] with the timer on the left and the weight on the right in grams.
• The LED display shows [0:00 0.00] with the timer on the left and the weight on the right in ounces.
• The timer will display from [0:00] to [9:59] before stopping.

Action	**Operation**
Initiate Auto Start	Tap Power button
Tare Weight	Tap Tare button
Stop Timer	While timer is running, tap Power button
Reset Mode	Double tap Tare button
Switch Mode	Press and hold Power button

Mode 4 - Beverage Mode

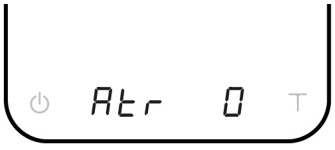
Designed for pour overs and extraction measurements. Follow instructions on the display to place the carafe/cup, filter, and coffee (tap tare in between steps). The timer will start when the first flow of water is detected. Timer stops when the power button is tapped or items are removed (dripper). The flashing number is the beverage weight with all items subtracted.

• There are two different weighing units in Beverage Mode: gram and ounce.
• As soon as the weight is stabilized or the tare button is pressed, the next step will show in display.
• AFTER the process is completed and the filter is removed, the display will blink and flash between the water weight and beverage weight (marked with “b”).

Display	**Action/Description**
CUP	Put the carafe/cup on the scale
FLt	Put the filter in your pour over dripper and place on the carafe/cup
COF	Put the coffee in the filter
Timer Flashes	Ready to brew
-FLt-	Remove the filter
bxxxx.x **xxx.x**	Beverage Weight Total Weight

Action	**Operation**
Next Step	Tap Tare button
Previous Step	Tap Power button
Stop Timer	Tap Power button
Reset Mode	Double tap Tare button
Switch Mode	Long press Power button

Mode 5 - Auto-Tare Mode (for versions after 2.0.008)



Displays weight only. The scale will automatically tare when an item is placed on and taken off the scale.

• The LED display shows [Atr 0] with the timer on the left and the weight on the right in grams.
• The LED display shows [Atr 0.00] with the timer on the left and the weight on the right in ounces.

Action	**Operation**
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare button
Switch Mode	Long press Power button

Chapter 5: Configuration

Enter settings

1. With the Pearl powered off, press and hold the power button.
2. When the display shows [ACAIA] and then [SEt], continue to hold the power button and tap the tare button.
3. Release both power button and tare button when display shows [F.0000].
4. Press and hold tare button to move the flashing digit to the right. Repeat this step for 4 times to enter Settings. It will show the first setting [SLEEP].

Action	Operation
Next Setting	Tap Tare button
Previous Setting	Tap Power button
Enter Setting	Press and hold Tare button
Toggle Options	Tap Tare button
Save Option	Press and hold Tare button
Back to Menu without Saving	Tap Power button
Exit Settings and Return to Modes	Double tap Power

Settings Menu

Setting	Display	Options	Default
Sleep Timer Setting	SLEEP	5,10, 20, 30, 60, Off	5
Auto Zero Setting	0.AUto	On, Off	Off
Zero Tracking Setting	trAcE	2d, 3d, Off	2d
Key Sound Setting	bEEP	On, Off	On
Zero Range Setting	0.rAnGE	2, 100	100
Weighing Filter Setting	Fi lt	2, 4, 6, 8, 16, 32, 64, 128	16
Default Weighing Unit Setting	Unit	Gram, Ounce	Gram
Weighing Resolution Setting	rESoL	Default, High	Default
Espresso Mode Setting	NodE_1	On, Off	Off
Dual Display Mode Setting	NodE_2	On, Off	On
Timer Starts with Flow Mode Setting	NodE_3	On, Off	Off
Beverage Mode Setting	NodE_4	On, Off	Off
Auto-Tare Mode Setting	NodE_5	On, Off	On
Reset to Default Setting	rESEt.d	Yes, No	No
Bluetooth Setup Setting	bt_SEt	On, Off	On

Sleep Timer Setting [SLEEP]

1. The Sleep Timer setting can also be configured in the Acaia apps.
2. The number displayed indicates the amount of time before the scale will automatically power off. For example, when 10 is selected and the scale is disconnected from all mobile devices, the scale will power off after 10 minutes of no use.
3. Tap the tare button to toggle through the options.

Auto Zero Setting [0.AUto]

1. When the Auto Zero function is off or disabled, the initial weight on the weighing pan must be less than 50% of capacity, i.e., less than 1 kg, before the scale is turned on; otherwise, an error [Er.303] occurs. When the error occurs, the scale will not work until the initial weight on the weighing pan is cleared.
2. When Auto Zero setting is on or enabled, the scale displays the initial weight directly even if the weight is over 50% of capacity.

Zero Tracking Setting [trAcE]

1. Zero Tracking is a function to help compensate the weight readout fluctuations at zero point to improve the usability of the scale. Acaia Pearl is allowed to compensate fluctuations of up to 2 d according to the industrial weighing guidelines.
2. OFF: It is not recommended to turn off Zero Tracking as the zero indication would drift easily as the room temperature changes.
3. 0.5 d~3 d: For example, since each division is 0.1 g, 3 d = 0.3 g. When Zero Tracking is set to be 3 d, any initial weight between +/- 0.3 g on the weighing pan would be zeroed out.
4. 2 d is recommended in general for Acaia coffee scales.

Key Sound Setting [bEEP]

1. Key Sound settings can also be configured in the Acaia apps.
2. Set the Key Sound function to on/off to turn the beeping sound on/off.

Zero Range Setting [0.rAnGE]

1. Zero Range setting determines the range for which the tare button executes zero operation instead of tare operation.
2. When Zero Range is set to 2, the range for zero setting will be 2% of the capacity, i.e., +/- 40 g for Acaia coffee scales. By pressing the tare button, any weight +/- 40 g is zeroed out by zero operation while any weight outside the range is tared out by tare operation.
3. If Zero Range is set to 100, the range for zero-setting will be 100% of the capacity, i.e., +/- 2 kg for Acaia coffee scales. Therefore, instead of tare operation, zero operation would be executed in this setting whenever the tare button is pressed.
4. Note: The difference between zero operation and tare operation is that zero operation would simply ignore the weight and display as 0 while tare operation would deduct the weight from the weighing result. However, zero operation does not increase the scale capacity.

Weighing Filter Setting [Filt]

1. The number shown on the LCD indicates the current filter parameter. The Weight Filter Setting determines the speed for the load receptor to respond to weight and to determine the weighing value. The higher the level, the more stable but slower the weighing result will be.
2. Press the tare button to change the parameter.

Default Weighing Unit Setting [Unit]

1. The Default Weighing Unit is set to grams if [9] is selected and ounce if [o2] is selected.
2. Tap the tare button to switch the Default Weighing Unit between gram and ounce.

Weighing Resolution Setting [rESoL]

1. The default Weighing Resolution is set to [dEFAUt]; the division is 0.1 g for weights of 1000 g or less and 0.5 g for weights between 1000 g and 2000 g.
2. When the Weighing Resolution is set to high, the division will be 0.1 g throughout the entire time from 0 g to 2000 g.
3. Tap the tare button to switch the weighing resolution between [dEFAUL] and [hiGh].

Espresso Mode Setting [NoDE_1]

1. The default Espresso Mode Setting is set to OFF, which means this mode is disabled.
2. ON: The Espresso Mode is enabled.
3. OFF: The Espresso Mode is disabled.

Dual Display Mode Setting [NodE_2]

1. By default, the Dual Display Mode Setting is set to ON, which means this mode is enabled.
2. ON: The Dual Display Mode is enabled.
3. OFF: The Dual Display Mode is disabled.

Timer Starts with Flow Mode Setting [NodE_3]

1. By default, the Timer Starts with Flow Mode Setting is set to OFF, which means this mode is disabled.
2. ON: The Timer Starts with Flow Mode is enabled.
3. OFF: The Timer Starts with Flow Mode is disabled.

Beverage Mode Setting [NodE_4]

1. The default Beverage Mode is set to OFF, which means this mode is disabled.
2. ON: The Beverage Mode is enabled.
3. OFF: The Beverage Mode is disabled.

Auto-Tare Mode Setting [NodE_5]

1. The default Auto-Tare Mode is set to ON, which means this mode is enabled.
2. ON: The Auto-Tare Mode is enabled.
3. OFF: The Auto-Tare Mode is disabled.

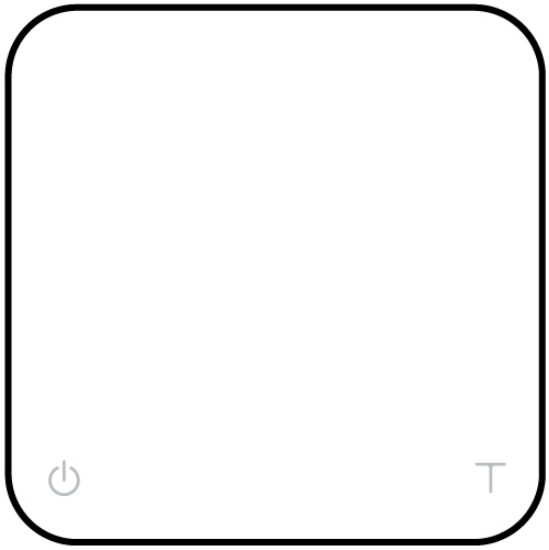
Reset to Default Setting [rESEt.d]

1. Select “YES” to reset all settings to default value.

Bluetooth Setup Setting [bt_SEt]

1. ON: The Bluetooth is enabled. The scale allows Bluetooth connection. Users may connect the scale with Acaia apps.
2. OFF: The Bluetooth is disabled. The scale does not allow any Bluetooth connection.

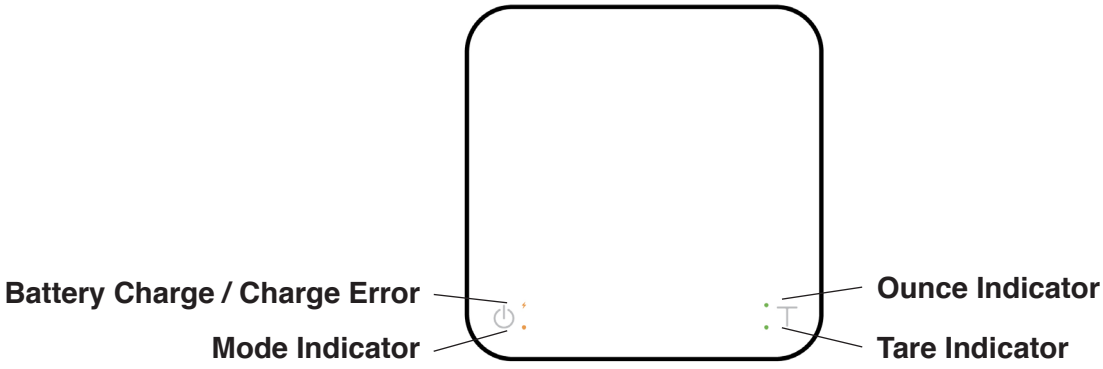
Appendix



Buttons

	Function	Example
Power Button ⏻	Turn on	Long press to turn on the scale.
	Turn off	Double tap to turn off the scale.
	Switch mode (Default)	While the scale is turned on, press and hold for 2 seconds to switch mode.
	Start/Stop/Reset Timer	While in Timer Mode, tap to start/stop/reset timer.
	Back	While in Settings Menu, tap to go back to Weighing Only Mode.
Tare Button ⊤	Tare	While in Weighing Mode, tap to perform tare operation.
	Toggle units	Long press to switch between gram and ounce in Weighing Only Mode.
	Toggle settings option	While editing a setting, tap to scroll through its options.
	Reset mode	Double tap to reset a mode. This zeros the weight and sets the timer to 0:00.
	Confirm	While editing a setting, press and hold for 2 seconds to confirm the option selected.
	Enter Calibration Mode	While in Weighing Only Mode, continuously press multiple times to enter Calibration Mode.

LED Indicators



Battery Charge / Charge Error
The orange LED indicator on the upper left turns on when the battery is charging and turns off when the battery is fully charged. The indicator starts flashing or does not appear when the USB cable is not working.

Mode Indicator
When in espresso mode, the timer displays from 0 to 59 seconds and will reset after reaching 60 seconds. The orange LED indicator on the lower left turns on when the timer resets.

Tare Indicator
The green tare indicator on the lower right turns on when the tare button is pressed.

Ounce Indicator
The green ounce indicator on the upper right turns on when the weighing unit is in ounces.

Error Codes

Error Code	Description
Error 100	Access Code Error, unrecognized access code.
Error 101	EEPROM error, unable to access memory. Please contact Acaia support.
Error 102	AD error, unable to access weighing signal. Please contact Acaia support.
Error 303	Unable to find acceptable starting Zero point, most likely due to damage of the loadcell by excessive force or drop. Please contact Acaia support.
⌜ – – – – ⌝	Over load: the weight is over the maximum capacity.
⌞ – – – – ⌟	Under load: the weight is under the minimum capacity.
Error 304	Calibration error. Calibration cannot proceed when environmental noises are too strong. Please calibrate in a stable environment free of wind, vibration, etc.
Error 802	Unable to tare because the weight exceeds the acceptable tare range.
Error 803	Unable to tare because the weight is unstable.
Error 900	Passcode error (the default passcode is 0000)

Other

Display Code	Description
UPDATE	The scale is in update mode. During the update process, the orange LED will blink until the process is complete. **Note: If you want to leave update mode, please connect the scale's USB to a power source.**

Specifications

Approx. Weight	462 g		
Capacity	2000 g / 70.54 oz		
Measuring Units	g, oz		
Weighing Range 1	Maximum capacity	1000.0 g	35.280 oz
	Minimum capacity	1.0 g	0.035 oz
	Division	0.1 g	0.005 oz
Weighing Range 2	Maximum capacity	2000.0 g	70.540 oz
	Minimum capacity	1000.0 g	35.280 oz
	Division	0.5 g	0.020 oz
Indication Limit	2060.0 g / 72.660 oz		
Unit Dimensions	(L x W x H) 160 x 160 x 30 mm		
Input	5 V/500 mA		
Battery	Lithium-ion rechargeable 3.7 V 1100 mA		
Display	8 digit LED		
Bottom	Anti-slip flat rubber surface		
Connectivity	Bluetooth 4.0		
Linearity	+/- 0.2 g		
Work Time	Up to 25 hours		
Operating Temperature	15°C ~40°C		

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