

acaia



**Acaia Pearl Model S
User Manual**

FW 1.0.046

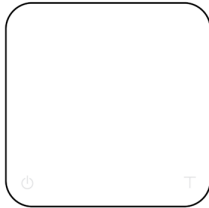
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In the Box

Introduction

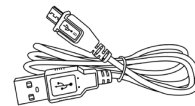
Thank you for choosing one of our scales. The Acaia Pearl Model S is designed and manufactured to the most rigorous standard to give you the best coffee brewing experience. First, check the shipping carton to find the following:



**Acaia Pearl Model S
Coffee Scale**



Heat Resistant Coaster

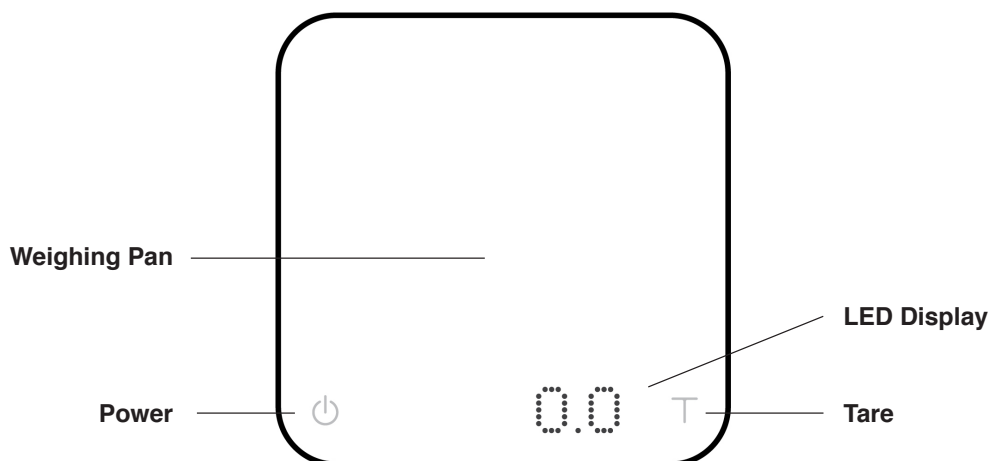


Micro USB Charging Cable

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.

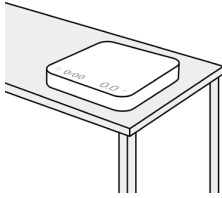
Scale overview



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

Getting Started



Placement



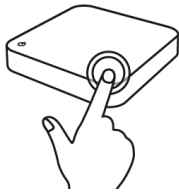
Select a work surface that is stable, vibration-free and level to place the scale.

Power on/off



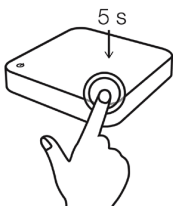
[Press]  to turn on the scale.
[Double tap]  to turn off the scale.

Tare weight



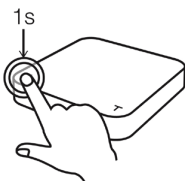
[Press]  to tare/zero the weight.

Toggle units



[Press and hold]  for five seconds to toggle units.

Switch Modes



[Press and hold]  for one second to switch modes.

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

Using the Acaia Brewguide

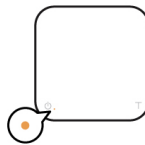
Using Brewguide for the first time

Brewguide is a step-by-step interactive guide to brewing coffee. Simply scan the Acaia Brewguide QR code on the coffee bean bag, and use the Acaia Brewguide app to download the recipe to your Pearl S. In the Brewguide app, you can also discover guides created by roasters around the world.



Download

Download the Brewguide app



Connect

Activate the Bluetooth on your phone and connect with the Pearl S



Start personalization

Follow the instructions on the Brewguide app

Using Brewguide on Pearl S



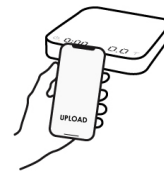
1

Search or scan the QR Code to find the brewguide you need.



2

Select a brewguide.



3

Choose "Upload to Pearl S" in the app to send it to Pearl S.



4

Wait until the brewguide is sent to the Pearl S; this may take up to one minute.



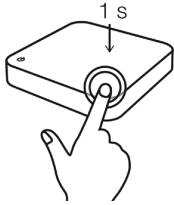
5

Follow the guide and get brewing!



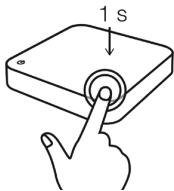
Brewguide action buttons

Enter Brewguide mode



In any scale mode, [press and hold] T for one second


Go to the next brewing step



In Brewguide mode, [press and hold] T for one second

Replay the current brewing step



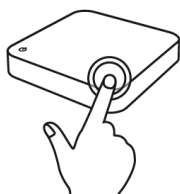
In Brewguide mode, [press]  to replay

Go back to the previous brewing step



In Brewguide mode, [press and hold]  for one second

Tare

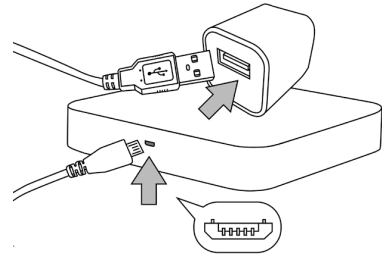


In Brewguide mode, [press] T to tare

Product Care Information

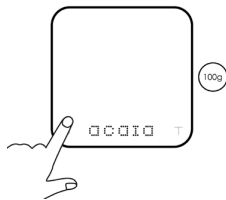
Battery charge

- 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 3-4 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 we don't recommend charging more than once a week.
- A fully charged battery can provide up to 16 hours of working time in normal brightness and up to 40 hours in low brightness mode.
- Battery percentage can be viewed via the Acaia apps.



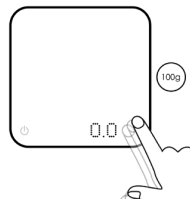
*** Note: Using a “fast-charging” charging block or charging hub (a charging block/hub delivering over 5v at 1A) could damage your Acaia scale’s circuit board.**

Calibration



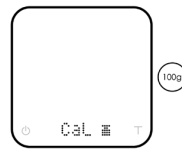
Turn on scale

Turn on the Acaia scale.



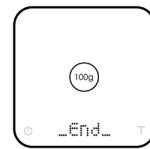
Tap T button

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

Mode Introduction

Mode 1 - Weighing Mode



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

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

Action	Operation
Tare Weight	Tap Tare button
Toggle Units g/oz	Press and hold Tare button for five seconds
Reset Mode	Double tap Tare button
Switch Mode	Long press Power button

Mode 2 - Dual Display Mode



In the Dual Display Mode, the scale displays [0:00 0.0] with a timer (left) and weight (right).

- There are two different weighing units in Dual Display Mode: gram and ounce.
- The LED display shows [0:00 0.0] when the scale is measuring in grams.
- The LED display shows [0:00 0.000] when the scale is measuring in ounces.
- 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 a maximum of 3000 grams. If the weight exceeds 3000 grams, the scale will display [Maximum].

Action	Operation
Start/Stop/Reset Timer	Tap Power button
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare button
Toggle Units g/oz	Press and hold Tare button for five seconds
Switch Mode	Press and hold Power button

Mode 3 - Pour Over Auto Start Mode



The Pour Over Auto Start Mode is designed to aid pour over coffee brewing. The scale will detect the start of the flow from kettle into the vessel and automatically start the timer function; the timer stops when the brewing equipment has been removed

from the scale. When the vessel is removed from the scale, the display flashes the final beverage weight.

Display

- The LED display flashes [☉ 0.0] and [0:00 0.0] when measuring in grams and the timer is idle.
- The LED display flashes [☉ 0.000] and [0:00 0.000] when measuring in ounces and the timer is idle.
- Once the timer has started, the LED display shows [0:00 0.0], with the time elapsed on the left and the weight on the right in grams.
- Once the timer has started, the LED display shows [0:00 0.000], with the time elapsed on the left and the weight on the right in ounces.
- 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 a maximum of 3000 grams. If the weight exceeds 3000 grams, the scale will display [Maximum].

Mode Description

- If the timer has not started yet, the display will flash 0:00 and a water droplet.
- The timer will start automatically when the first flow of water is detected.
- The timer stops when the brewing equipment is removed. The scale will flash between the beverage weight and the tare weight of the items on the scale.

Action	Operation
Start/Stop/Reset Timer	Tap Power button
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare button
Toggle Units g/oz	Long press Tare button for five seconds
Switch Mode	Press and hold Power button

Mode 4 - Portafilter Mode



The Portafilter Mode is designed to simplify the workflow of weighing coffee grounds in a portafilter. The scale automatically detects a portafilter or other vessel and tares the weight of the vessel. Remove the portafilter to add coffee grounds, then place on the scale again to measure the weight of the coffee grounds. Repeat as needed to adjust the weight. After the portafilter has been removed for 15 seconds, the scale will reset the mode to default for the next workflow.

Display

- When measuring in grams, the display shows [0.0 ■] before a portafilter is placed on the scale.
- When measuring in ounces, the display shows [0.000 ■] before a portafilter is placed on the scale.
- The display shows [0.0] after a portafilter has been registered.

Mode Description

- Place an empty portafilter on the scale, and the scale will register the weight of the portafilter.
- Remove the portafilter after [■] disappears.

Action	Operation
Tare Weight	Tare function begins automatically when a stable weight is placed on the scale
Reset Mode	Double tap Tare button
Toggle Units g/oz	Long press Tare button for five seconds
Switch Mode	Press and hold Power button

Note

1. If the scale is left idle for 15 seconds or you double tap the Tare button, the Pearl Model S will automatically reset the mode to default for the next auto-tare operation.
2. To change the timer reset length in Portafilter Mode, see the “Configuration” section.

Mode 5 - Espresso Mode



The Espresso Mode is designed to aid espresso extraction. The scale automatically detects a cup, shot glass, or other vessel and tares the weight of the vessel. The scale will then detect the start of the flow of espresso into the vessel and automatically

start the timer function; the timer stops when the flow of espresso into the vessel stops. When the vessel is removed from the scale, the display flashes between the beverage weight and vessel weight.

Display

- The LED display shows [0:00 0.0] with the timer on the left and the weight on the right in grams.
- The LED display shows [0:00 0.000] with the timer on the left and the weight on the right in ounces.
- 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 a maximum of 3000 grams. If the weight exceeds 3000 grams, the scale will display [Maximum].

Mode Description

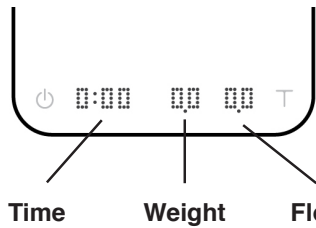
- When an object (such as a cup) weighing two grams or more is placed on the scale and the weight reading is stable, the scale will perform auto tare.
- After the scale detects the flow of espresso, the timer will start. The timer will stop when the espresso flow stops.
- When the espresso is ready and the cup is removed, the display will flash between the beverage weight and the vessel weight.

Action	Operation
Start/Stop/Reset Timer	Tap Power button
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare button
Toggle Units g/oz	Long press Tare button for five seconds
Switch Mode	Press and hold Power button

Note

1. In Espresso Mode, the timer will stop when the espresso flow stops.
2. The auto-tare function is performed only when the weight exceeds two grams.
3. If you leave the scale idle for ten seconds, it will reset the timer and perform tare operation.
4. In Espresso Mode, the timer will also stop when a negative weight (i.e., removal of a cup) is detected.

Mode 6 - Flowrate Mode



Designed for pour over coffee brewing. The display includes timer, flowrate, and weight.

- The LED display shows [0:00 0.0 0.0] when the scale is measuring in grams.
- The LED display shows [0:00 0.000 0.00] when the scale is measuring in ounces
- 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 a maximum of 3000 grams. If the weight exceeds 3000 grams, the scale will display [Maximum].
- The flowrate is measured in grams per second (g/s) on the right hand side of the display.

Action	Operation
Start/Stop/Reset Timer	Tap Power button
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare button
Toggle Units g/oz	Long press Tare button for five seconds
Switch Mode	Long press Power button

Mode 7 - Flowrate Practice Mode



A real-time flowrate meter mode designed for practicing your infusion stability. The current flowrate is displayed on the left, and the stability of pouring is shown through the indicator bar.

- The flowrate is measured in g/s and oz/s.
- Each dot on the indicator bar represents a 0.5 g/s increment. The bar provides a visualization of flowrate stability.

Action	Operation
Toggle Units g/oz	Long press Tare button for five seconds
Switch Mode	Long press Power button

Configuration

Enter Settings

1. Press and hold the Power button while the LED display shows [acaia] and then changes to [Settings].
2. Tap the T button to enter Settings. The first setting is [Brightness].
3. Please refer to the following table for key operations

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 button

Settings Menu

Setting	Display	Options	Default
Brightness Setting	Brightness	Low, Medium, High, Bright	Medium
Key Sound Setting	Beep	On, Off	On
Default Weighing Unit Setting	Unit	Gram, Ounce	Gram
Weighing Mode Setting	Weighing Mode	On, Off	On
Dual Display Mode Setting	Dual Display Mode	On, Off	On
Pour Over Auto Start Mode Setting	Pour Over Auto Start Mode	On, Off	Off
Portafilter Mode Setting	Portafilter Mode	On, Off	Off
Espresso Mode Setting	Espresso Mode	On, Off	Off
Flowrate Mode Setting	Flowrate Mode	On, Off	Off
Flowrate Practice Mode Setting	Flowrate Practice Mode	On, Off	Off
Hello Message Setting	Hello Message	On, Off	Off
Bluetooth Setting	Bluetooth Setting	On, Off	On
Sleep Timer Setting	Sleep Timer	5 Min, 10 Min, 20 Min, 30 Min, 60 Min, Off	5 Min
Battery Saving Setting	Battery Saving	90 Sec, 180 Sec, Off	90 Sec
Weighing Filter Setting	Filter	Normal, High, Sensitive	Normal
Zero Tracking Setting	Zero Tracking	1D, 2D, 3D, Off	1D
Weighing Resolution Setting	Resolution	Default, High, Low	Default
Timer Auto Stop on Cup Removal Setting	Timer Auto Stop on Cup Removal	10 Sec, 30 Sec, 60 Sec, Off	10 Sec
Portafilter Auto Reset Setting	Portafilter Auto Reset	15 Sec, 30 Sec, 60 Sec	15 Sec
Reset Default	Reset Default	No, Yes	No

Brightness Setting [Brightness]

1. You can adjust the brightness of the LED display.
2. Default brightness is set to Medium. Set to Bright when operating under strong light.

Key Sound Setting [Beep]

1. Use this setting to turn the beeping sound on or off.

Default Weighing Unit Setting [Unit]

1. The default weighing unit is set to be gram if [Gram] is selected and ounce if [Ounce] is selected.
2. Tap the Tare button to switch the default weighing unit between gram and ounce.

Weighing Mode Setting [Weighing Mode]

1. By default, the Weighing Mode is set to On.
 - On: The Weighing Mode is enabled.
 - Off: The Weighing Mode is disabled.

Dual Display Mode Setting [Dual Display Mode]

1. By default, the Dual Display Mode is set to On.
 - On: The Dual Display Mode is enabled.
 - Off: The Dual Display Mode is disabled.

Pour Over Auto Start Mode Setting [Pour Over Auto Start Mode]

1. By default, the Pour Over Auto Start Mode is set to Off.
 - On: The Pour Over Auto Start Mode is enabled.
 - Off: The Pour Over Auto Start Mode is disabled.

Portafilter Mode Setting [Portafilter Mode]

1. By default, the Portafilter Mode is set to Off.
 - On: The Portafilter Mode is enabled.
 - Off: The Portafilter Mode is disabled.

Espresso Mode Setting [Espresso Mode]

1. By default, the Espresso Mode is set to Off.
 - On: The Espresso Mode is enabled.
 - Off: The Espresso Mode is disabled.

Flowrate Mode Setting [Flowrate Mode]

1. By default, the Flowrate Mode is set to Off.
 - On: The Flowrate Mode is enabled.
 - Off: The Flowrate Mode is disabled.

Flowrate Practice Mode Setting [Flowrate Practice Mode]

1. By default, the Flowrate Practice Mode is set to Off.
 - On: The Flowrate Practice Mode is enabled.
 - Off: The Flowrate Practice Mode is disabled.

Hello Message Setting [Hello Message]

1. By default, the Hello Message is set to Off.
 - On: The Hello Message will show when the scale is turned on.
 - Off: The Hello Message will not show when the scale is turned on.

Bluetooth Setting [Bluetooth Setting]

1. By default, the Bluetooth is set to On.
 - On: The Bluetooth is enabled. The scale can be connected with Acaia apps.
 - Off: The Bluetooth is disabled. The scale does not allow any Bluetooth connection.

Sleep Timer Setting [Sleep Timer]

1. 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 idling.

Battery Saving Setting [Battery Saving]

1. The default Power Saving Mode is set to 90 seconds.
2. The Acaia Pearl Model S will wait for the selected number of seconds to enter Power Saving Mode. The LED display will dim to save power.

Weighing Filter Setting [Filter]

1. The weighing filter setting determines the speed with which the load receptor responds to and determines the weight. "High" indicates a more stable but slower weighing result; "Sensitive" indicates higher sensitivity and a faster weighing result.

Zero Tracking Setting [Zero Tracking]

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 S is allowed to compensate the fluctuation by up to 2 d according to industrial weighing guidelines.
2. Off: It is not recommended to turn off zero tracking as the zero indication can drift easily with changing room temperatures.
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 will be zeroed out.
4. 1 d is recommended for Acaia Pearl Model S.

Weighing Resolution Setting [Resolution]

1. The default weighing resolution is set to [Default], the division is 0.1 g for weights under 1500 grams and 0.5 g for weights between 1500 and 3000 grams.
2. When the weighing resolution is set to [High], the division will be 0.1 g throughout the entire time from 0 to 3000 grams.
3. When the weighing resolution is set to [Low], the division will be 1 g throughout the entire time from 0 to 3000 grams.

Timer Auto Stop on Cup Removal Setting [Timer Auto Stop on Cup Removal]

1. After a cup is removed, the timer will automatically pause. This gives you options on how long to wait before pausing.
2. The default value for this setting is ten seconds.

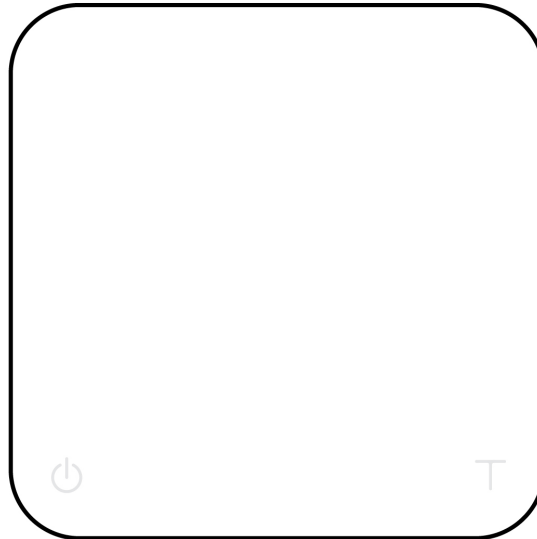
Portafilter Auto Reset [Portafilter Auto Reset]

1. In Portafilter Mode, after a portafilter is removed, the weight will automatically reset. This gives you options on how long to wait before resetting.
2. The default value for this setting is fifteen seconds.



Reset Default [Reset Default]

1. To reset the scale to its factory default settings, go to [Reset Default], then choose [Yes]. The scale will clear the Hello Message and reset all settings including Brewguide data to factory default.

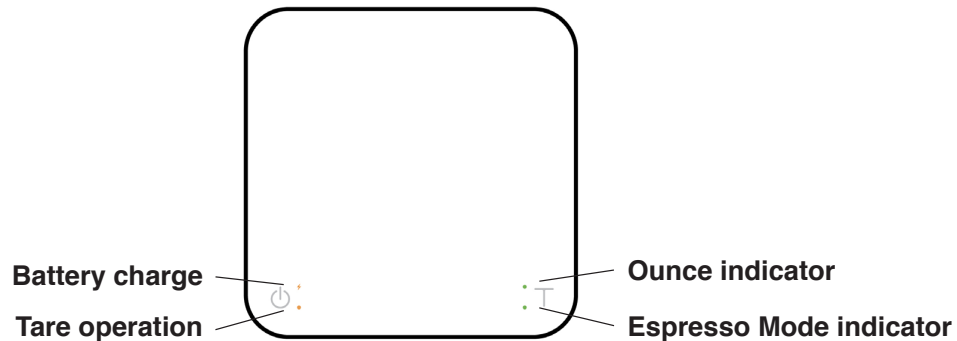
Appendix



Buttons

	Function	Example
Power Button 	Turn on	Press and hold for 0.5 seconds to turn on the scale.
	Turn off	Double-tap to turn off the scale.
	Switch Mode	While the scale is turned on, press and hold for one second to switch modes.
	Start/Stop/Reset Timer	Tap to start/stop/reset timer.
	Back	While in Settings Menu, double tap to go back to Modes.
Tare Button 	Tare	Tap to perform tare operation.
	Toggle units	Long press for five seconds to change weighing unit between gram and ounce.
	Switch option	While in Settings, tap to advance through settings options. While in settings, tap to toggle options in sub menus.
	Reset	Double tap to reset a mode. This zeroes the weight and sets the timer to 0:00.
	Confirm	While in Settings, press and hold for two seconds to confirm the option selected in a sub menu.
	Enter Brewguide Mode	Press and hold for one second to enter Brewguide Mode.
	Enter Calibration Mode	While in Weighing Mode, rapidly tap to enter Calibration Mode.

LED Indicators



Battery charge/Charge error

The orange 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.

Tare operation

The orange indicator on the lower left turns on when the Tare button is pressed.

Ounce indicator

The green indicator on the upper right turns on when the weight is measured in ounces.

Espresso Mode indicator

The green indicator on the lower right turns on when in Espresso Mode.

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 because the loadcell has been damaged by excessive force or drop. Please contact Acaia support.
Maximum	Overload: the weight is over the maximum capacity.
Underload	Underload: 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.

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

Model	PS001 / PS002
Product Weight	620 g ± 5 g
Product Dimensions	W: 160 mm L: 160 mm H: 32 mm
Maximum Capacity	3000 g / 105.82 oz
Minimum Weight	0.1 g
Measuring Units	g / oz
Readability	0.1 g
Repeatability	0.1 g
Linearity	1 d (d = 0.1 g / 0.5 g)
Indication Limit	3090 g / 108.99 oz
Power Supply	5 V / 500 mA
Battery	Lithium-ion rechargeable 3.7 V 2200 mAh
Battery Life	Up to 16~40 hours
Display	Dot matrix LED
Material	PC
Connectivity	Bluetooth 4.0
Warranty	1 Year
Inside the Package	Acaia Pearl Model S Coffee Scale (White / Black) x 1 Heat Resistant Coaster (Round) x 1 Micro USB Charging Cable x 1

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