

acaia



# **Acaia Pearl User Manual**

**AP007 / AP008 / AP009**

# Contents

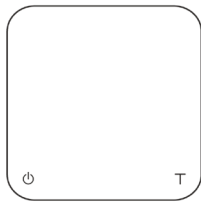
<b>3</b>	<b>In The Box</b>
3	Introduction
3	Scale Overview
<b>4</b>	<b>Getting Started</b>
4	Placement
4	Power On / Off
4	Tare Weight
4	Switch Modes
4	Toggle Units
<b>5</b>	<b>Product Care Information</b>
5	Battery Charge
5	Battery Indicator
5	Calibration
<b>6</b>	<b>Flow-Rate Indicator</b>
<b>7</b>	<b>Mode Introduction</b>
7	Mode 1 - Weighing Only Mode
7	Mode 2 - Dual Display Mode
8	Mode 3 - Pour Over Auto-Start Timer Mode
8	Mode 4 - Portafilter Mode
9	Mode 5 - Beverage Mode
<b>10</b>	<b>Configuration</b>
<b>14</b>	<b>Appendix</b>
14	Buttons
15	LED Indicators
16	Error Codes
16	Other
<b>17</b>	<b>Specifications</b>

# In The Box

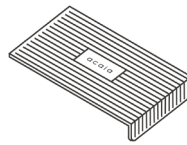
---

## Introduction

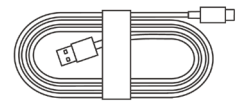
Thank you for choosing one of our scales. The Acaia Pearl is designed and manufactured to the most rigorous standard to give you the best coffee brewing experience. First, check inside the box to find the following:



**Acaia Coffee Scale**



**Heat Resistant Pad**

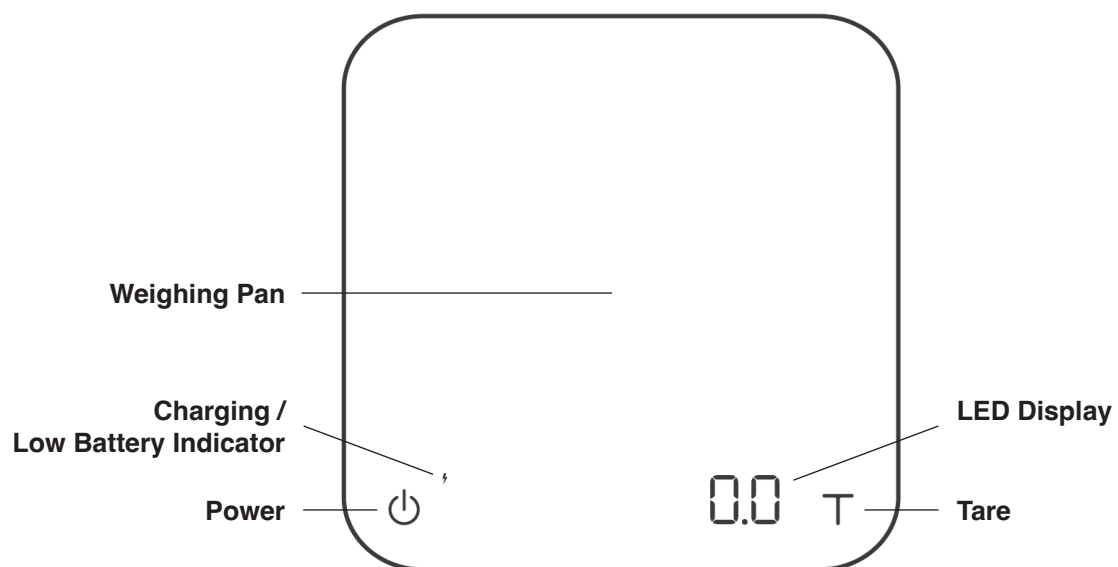


**USB Type-C Cable**

Next, follow the instructions in the “Getting Started” section to begin using your scale. To take advantage of all the features of the Acaia Pearl, 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

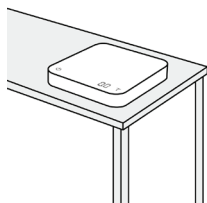


**\* Note: For the best performance, place the weight in the center of the weighing platform.**

# Getting Started

---



## Placement



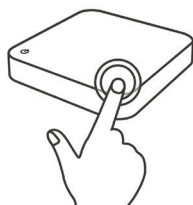
Place the scale on a stable and vibration-free surface at a preferably horizontal location.

## Power On / Off



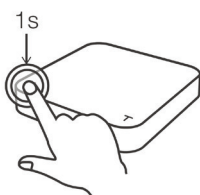
[Press]  to turn on the scale.  
[Double tap]  to turn off the scale.

## Tare Weight



[Tap]  to tare / zero the weight.

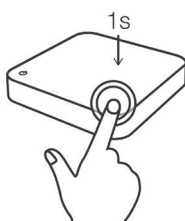
## Switch Modes



[Press and hold]  to switch between modes.

\* Please see the "Mode Introduction" section for more details.

## Toggle Units



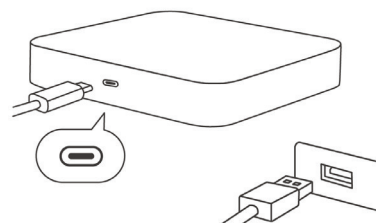
[Press and hold]  to toggle between units.

# Product Care Information

## Battery Charge

You can charge the battery by plugging the USB Type-C 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 USB-C PD charger supporting 5 volts
- A DC car-charger with an output of 5 volts and 1 amp



- It takes about 1-2 hours to fully charge the battery when the battery is empty. Try not to let the battery completely run out before charging. Charge the battery as needed.
- A fully charged battery can work continuously for about 30 hours.
- Remaining battery power can be viewed when the scale is off by pressing and holding the Power button until the Battery Indicator comes on. You can also check the battery power by connecting the scale to Acaia Apps.

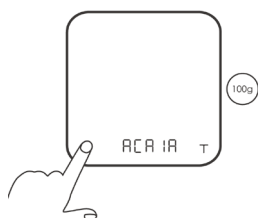
**\* Note: The Acaia Pearl is equipped with charging protection to prevent the battery from charging under high temperatures. It is normal if the scale does not charge when the surface is hot from brewing coffee. Battery charging function will be enabled once the scale has cooled.**

## Battery Indicator



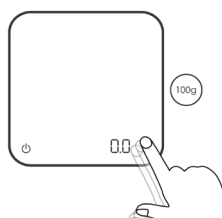
- Press and hold the Power button while the LED display shows [ ACAIA ] and then changes to [ SET ]. Continue to hold the Power button until the battery percentage is displayed.

## Calibration



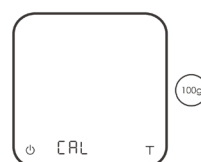
### Turn on scale

Turn on the Acaia scale.



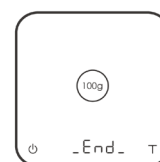
### Tap Tare button

Make sure the scale is in Weighing Only 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.

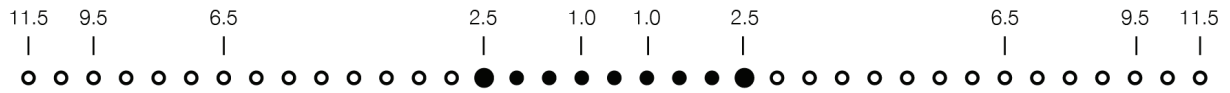


### Place a weight

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

# Flow-Rate Indicator

---



The Flow-Rate Indicator is an LED bar on the top of the display. It helps you visualize your pouring speed in real time and suggests thresholds for ideal flow rates. The indicator measures flow rates with lit LEDs starting from 0.5 g per second in the center to 9.5 g per second at both ends. When the flow rate exceeds 11.5 g per second, the last three LEDs will light up with enhanced brightness, indicating a high flow rate.

To provide thresholds for ideal flow rates, the first pair of the brighter LEDs represents 2.5 g per second. The second pair of brighter LEDs represents 6.5 g per second, for targeting a faster pouring speed.

The Flow-Rate Indicator can be activated in Dual Display Mode, Pour Over Auto-Start Timer Mode, and Beverage Mode. You can turn the indicator on or off in the advanced settings menu.



Flow Rate > 2.5 g/s



Flow Rate > 6.5 g/s



Flow Rate > 11.5 g/s

# Mode Introduction

---

## Mode 1 - 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.
- In grams, the LED display shows [ 0.0 ].
- In ounces, the LED display shows [ 0.000 ] and the Weighing In Ounces Indicator on the bottom left lights up.

Action	Operation
<b>Tare Weight</b>	Tap Tare button
<b>Toggle Units g / oz</b>	Press and hold Tare button
<b>Reset Mode</b>	Double tap Tare button
<b>Switch Mode</b>	Press and hold 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.
- In grams, the LED display shows [ 0:00 0.0 ].
- In ounces, the LED display shows [ 0:00 0.000 ].
- The timer displays from [ 0:00 ] to [ 9:59 ].
- Flow-Rate Indicator is supported in this mode.

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

## Mode 3 - Pour Over Auto-Start Timer Mode



The Pour Over Auto-Start Timer Mode is designed to aid pour over coffee brewing. The scale will detect the start of the flow from kettle into 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.

- In grams, the LED display shows [ 0:00 0.0 ] with the timer on the left and the weight on the right.
- In ounces, the LED display shows [ 0:00 0.00 ] with the timer on the left and the weight on the right.
- The timer displays from [ 0:00 ] to [ 9:59 ].
- Flow-Rate Indicator is supported in this mode.

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 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.

- In grams, the display shows [ 0.0 ■ ] before a portafilter is placed on the scale.
- In ounces, the display shows [ 0.000 ■ ] before a portafilter is placed on the scale.

Action	Operation
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare button
Switch Mode	Press and hold Power button

## Mode 5 - Beverage Mode



This mode is designed to measure the coffee-to-beverage ratio. It is one of the most consistent methods for measuring pour over extraction. With this mode, you will be able to see the time elapsed for the brew, total amount of water added, beverage weight in the carafe, and the coffee-to-beverage ratio at the end of the brew.

- 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 the display. “---” indicates the scale is performing auto-tare.
- AFTER the process is completed and the filter is removed, the display will blink and flash the time elapsed for the brew, total amount of water added, beverage weight in the carafe, and the coffee-to-beverage ratio at the end of the brew.

Display	Action / Description
CUP 0.0	Put the carafe/cup on the scale, press and hold the Tare button to go to the next step.
FLt 0.0	Put the filter/dripper on the carafe/cup, press and hold the Tare button to save the dripper weight.
COF 0.0	Measure the amount of coffee beans you want to use. When you’ve reached the target coffee bean weight, press and hold the Tare button to save the weight.
0:00 0.0 3:05 3000.0	The timer starts when water pour is detected. The timer stops when you tap the Power button or remove the filter/dripper.
rEPUe -FLt-	Remove the filter/dripper to proceed.
3:05 3000 270.0 b 1:12.2 r	After the filter/dripper has been removed, the scale will display the final time and weight, the beverage weight, and the coffee-to-beverage ratio.

Action	Operation
Tare Weight	Tap Tare button
Next Step	Press and hold Tare button
Previous Step	Press and hold Power button between the steps
Stop Timer	Tap Power button
Reset Mode	Double tap Tare button
Switch Mode	Press and hold Power button

# Configuration

---

## Enter Settings

1. With the Pearl powered off, press and hold the Power button. When the LED display shows [ ACAIA ] and then changes to [ SET ], release the Power button.
2. Tap the Tare button to enter Settings. The first setting is [ SLEEP ].
3. Please refer to the following table for key operations:

Action	Operation
<b>Next Setting</b>	Tap Tare button
<b>Enter Setting</b>	Press and hold Tare button
<b>Toggle Options</b>	Tap Tare button
<b>Save Option</b>	Press and hold Tare button
<b>Back to Menu Without Saving</b>	Tap Power button
<b>Exit Settings and Return to Modes</b>	Tap Power button

## Settings Menu

Setting	Display	Options	Default
<b>Sleep Timer Setting</b>	SLEEP	5, 10, 20, 30, 60, Off	5
<b>Brightness Setting</b>	bright	1, 2, 3, 4	2
<b>Battery Saving Setting</b>	bAttSAvE	30, 90, 180, Off	90
<b>Zero Tracking Setting</b>	trAcE	0.5 d, 1 d, 2 d, 3 d, Off	2 d
<b>Key Sound Setting</b>	bEEP	On, Off	On
<b>Weighing Filter Setting</b>	FiLteR	Fast, Normal, High	Fast
<b>Default Weighing Unit Setting</b>	Unit	Gram, Ounce	Gram
<b>Weighing Resolution Setting</b>	rESoL	Default, High, Precise	Default
<b>Weighing Only Mode Setting</b>	NodE_1	On, Off	On
<b>Dual Display Mode Setting</b>	NodE_2	On, Off	On
<b>Pour Over Auto-Start Timer Mode Setting</b>	NodE_3	On, Off	Off
<b>Portafilter Mode Setting</b>	NodE_4	On, Off	Off
<b>Beverage Mode Setting</b>	NodE_5	On, Off	Off
<b>Bluetooth Setup Setting</b>	bt_SEt	On, Off	On
<b>Flow-Rate Indicator Setting</b>	FLorAtE.d	On, Off	On
<b>Weight Stable Indicator Setting</b>	StAbLE.d	On, Off	Off
<b>Auto Reset Setting</b>	Auto.rES	20, 60, Off	20
<b>Portafilter Auto Reset Setting</b>	Port.rES	15, 30, 60, Off	15
<b>Reset to Default Setting</b>	rESEt.d	Yes, No	No

## **Sleep Timer Setting [ SLEEP ]**

1. The default setting is 5 minutes.
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.

## **Brightness Setting [ bright ]**

1. The default setting is 2.
2. You can adjust the brightness of the LED display. Set to 4 when operating under strong light, such as when outdoors.

## **Battery Saving Setting [ bAttSAvE ]**

1. The default setting is 90 seconds.
2. The scale will wait for the selected number of seconds to enter Battery Saving Mode. The LED display will dim to save power.

## **Zero Tracking Setting [ trAcE ]**

1. The default Zero Tracking is set to 2 d.
2. 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 3 d according to the industrial weighing guidelines.
3. Off: It is not recommended to turn off Zero Tracking as the zero indication can drift easily as the room temperature changes.
4. 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  $\pm 0.3$  g on the weighing pan would be zeroed out.
5. 2 d is recommended in general for Acaia Pearl.

## **Key Sound Setting [ bEEP ]**

1. The default setting is On.
2. Use this setting to turn the beeping sound on or off.

## **Weighing Filter Setting [ FiLteR ]**

1. The default setting is Fast.
2. 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; "Fast" indicates higher sensitivity and a faster weighing result.

## **Default Weighing Unit Setting [ Unit ]**

1. The default unit is gram.
2. You can also switch the weighing unit by pressing and holding the Tare button while in different brewing modes.

## **Weighing Resolution Setting [ rESoL ]**

1. The Weighing Resolution is set to the Default option; 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. When the Weighing Resolution is set to Precise, the division will be 0.1 g throughout the entire time from 0 g to 2000 g. Additionally, the scale weighs with a minimal starting weight of 0.1g.

## **Weighing Only Mode Setting [ NodE\_1 ]**

1. The default setting is On.
2. On: Mode enabled.
3. Off: Mode disabled.

## **Dual Display Mode Setting [ NodE\_2 ]**

1. The default setting is On.
2. On: Mode enabled.
3. Off: Mode disabled.

## **Pour Over Auto-Start Timer Mode Setting [ NodE\_3 ]**

1. The default setting is Off.
2. On: Mode enabled.
3. Off: Mode disabled.

## **Portafilter Mode Setting [ NodE\_4 ]**

1. The default setting is Off.
2. On: Mode enabled.
3. Off: Mode disabled.

## **Beverage Mode Setting [ NodE\_5 ]**

1. The default setting is Off.
2. On: Mode enabled.
3. Off: Mode disabled.

## **Bluetooth Setup Setting [ bt\_SEt ]**

1. The default setting is On.
2. On: Bluetooth enabled. The scale can be connected with Acaia Apps.
3. Off: Bluetooth disabled. The scale does not allow any Bluetooth connection.

## **Flow-Rate Indicator Setting [ FLorAtE.d ]**

1. The default setting is On.
2. On: Flow-Rate Indicator enabled. The Flow-Rate Indicator on the top of the display turns on and visualizes your pouring speed in real time.
3. Off: Flow-Rate Indicator disabled.

## **Weight Stable Indicator Setting [ StAbLE.d ]**

1. The default setting is Off.
2. On: Weight Stable Indicator enabled. The Weight Stable Indicator on the bottom left of the display lights up when the weight is stable.
3. Off: Weight Stable Indicator disabled.

## **Auto Reset Setting [ Auto.rES ]**

1. The default value is 20 seconds.
2. In Pour Over Auto-Start Timer Mode, after a cup is removed, the timer and weight will automatically reset. This setting gives you options on how long to wait before resetting.
3. If this setting is set to Off, the timer and weight will not reset until the Tare button is double tapped.

## **Portafilter Auto Reset Setting [ Port.rES ]**

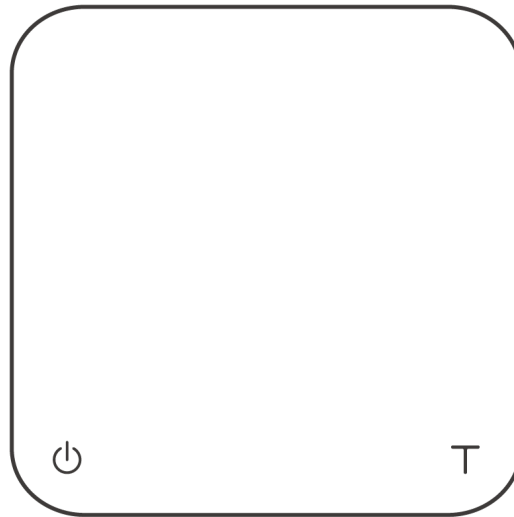
1. The default value is 15 seconds.
2. In Portafilter Mode, after a portafilter is removed, the weight will automatically reset. This setting gives you options on how long to wait before resetting.
3. If this setting is set to Off, the scale will automatically tare whenever a portafilter is placed onto or taken off from the scale.

## **Reset to Default [ rESEt.d ]**



1. Select "YES" to reset all settings to default value.

# Appendix

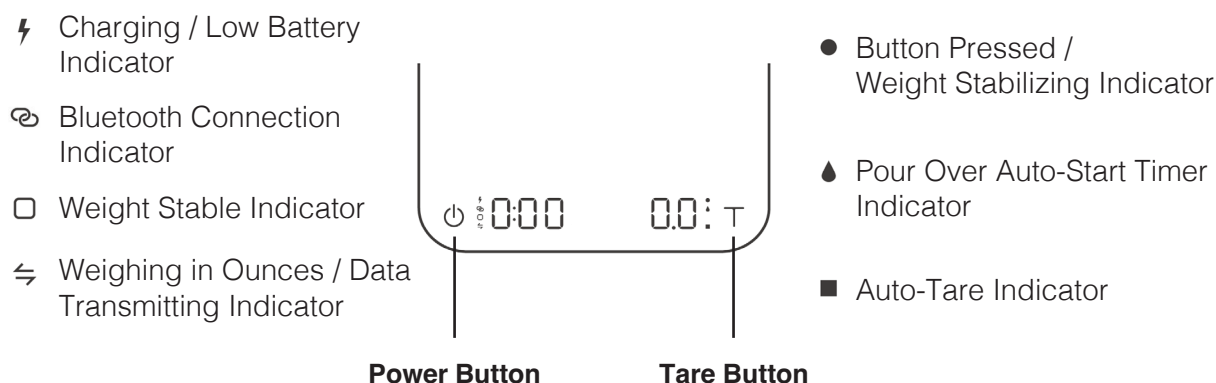
---



## Buttons

	Function	Example
<b>Power Button</b> 	Turn On	Press and hold 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 2 seconds to switch modes.
	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.
<b>Tare Button</b> 	Tare	Tap to perform tare operation.
	Toggle Units	Press and hold to switch between gram and ounce.
	Reset Mode	Double tap to reset a mode. This zeroes the weight and sets the timer to 0:00.
	Toggle Settings Option	While editing a setting, tap to scroll through its options.
	Confirm	While editing a setting, press and hold for 2 seconds to confirm the option selected.
	Enter Calibration Mode	While in Weighing Only Mode, rapidly tap to enter Calibration Mode.

## LED Indicators



### ⚡ Charging / Low Battery Indicator

This indicator turns on when the battery is charging and turns off once the battery is fully charged. The indicator starts flashing when the battery power is low as a reminder to charge the scale.

**\* Note: The Acaia Pearl is equipped with charging protection to prevent the battery from charging under high temperatures. It is normal if the scale does not charge when the surface is hot from brewing coffee. Battery charging function will be enabled once the scale has cooled.**

### 📶 Bluetooth Connection Indicator

This indicator turns on when the scale is connected to Acaia Apps.

### □ Weight Stable Indicator

This indicator turns on when the weight is stable.

### ⇌ Weighing in Ounces / Data Transmitting Indicator

This indicator turns on when the weighing unit is in ounces.

The indicator also lights up during software update to indicate data transfer.

### ● Button Pressed / Weight Stabilizing Indicator

This indicator turns on when a button is pressed or when the weight is stabilizing.

### 💧 Pour Over Auto-Start Timer Indicator

The scale automatically starts the timer when flow from kettle is detected.

### ■ Auto-Tare Indicator

The scale performs auto-tare when a stable weight is placed on the weighing pan.

## Error Codes

Error Code	Description
<b>Error 100</b>	Access code error, unrecognized access code.
<b>Error 101</b>	EEPROM error, unable to access memory. Please contact Acaia support.
<b>Error 102</b>	AD error, unable to access weighing signal. Please contact Acaia support.
<b>Error 303</b>	Unable to find acceptable starting zero point, most likely because the loadcell has been damaged by excessive force or drop. Please contact Acaia support.
┌-----┐	Overload: weight exceeds maximum capacity.
└-----┘	Underload: weight below minimum capacity.
<b>Error 304</b>	Calibration error. Calibration cannot proceed when environmental noises are too strong. Please calibrate in a stable environment free of wind, vibration, etc.
<b>Error 802</b>	Unable to tare because the weight exceeds the acceptable tare range.
<b>Error 803</b>	Unable to tare because the weight is unstable.
<b>Error 900</b>	Passcode error (the default passcode is 0000)

## Other

Display Code	Description
<b>UPdAtE</b>	<p>The scale is in update mode. During the update process, the data transfer indicator on the bottom left will flash.</p> <p><b>* Note: If you want to leave update mode, please connect the scale's USB to a power source. The scale will power off automatically if the update process does not begin shortly.</b></p>

# Specifications

---

<b>Model</b>	AP007 / AP008 / AP009
<b>Product Weight</b>	500 g ± 5 g
<b>Product Dimensions</b>	W: 160 mm L: 160 mm H: 32 mm
<b>Maximum Capacity</b>	2000 g / 70.55 oz
<b>Minimum Weight</b>	0.1 g
<b>Measuring Units</b>	gram, ounce
<b>Readability</b>	0.1 g
<b>Repeatability</b>	0.1 g
<b>Linearity</b>	1 d (d = 0.1 g / 0.5 g)
<b>Indication Limit</b>	2060.0 g / 72.660 oz
<b>Power Supply</b>	5 V / 500 mA
<b>Battery</b>	Lithium-ion rechargeable 3.7 V 1100 mAh
<b>Battery Life</b>	30-40 Hours
<b>Display</b>	8-digit LED
<b>Bottom</b>	Anti-slip rubber
<b>Material</b>	PC
<b>Connectivity</b>	Bluetooth 4.0
<b>Operating Temperature</b>	15°C ~40°C
<b>Warranty</b>	1 Year
<b>Inside the Package</b>	Acaia Pearl Coffee Scale x 1 Heat Resistant Pad x 1 USB Type-C Charging Cable x 1

## **Copyright**

**This user manual is protected by copyright. All rights reserved. No part of this manual may be reproduced, processed, duplicated or published in any form by photocopying, microfilming, reprinting or any other method, in particular electronic means, without the written consent of Acaia.**

**© Acaia, California, 2022.**