acaia

Acaia Orion
User Manual

AO103 / AO104

1.13.41

Contents

Introduction

Features

The Orion Bean Doser™ is designed for dosing green beans or roasted coffee beans based on weight.

Fast Weight-Based On-Demand Dosing

The Orion Bean Doser™ can dose 225 grams (1/2 lbs) in 12 seconds and 20 grams in 3 seconds within the error margin of 2-3 beans.
Note: For optimal performance, keep the device connected to a power source during use.

Full Automatic Mode

Designed with a fully automatic mode for continuous dosing of multiple containers without pressing any buttons.

Intuitive Dial Interface

A new dial interface with three preset modes for storing different target weights and allowing easy access by rotating the dial for different functions.
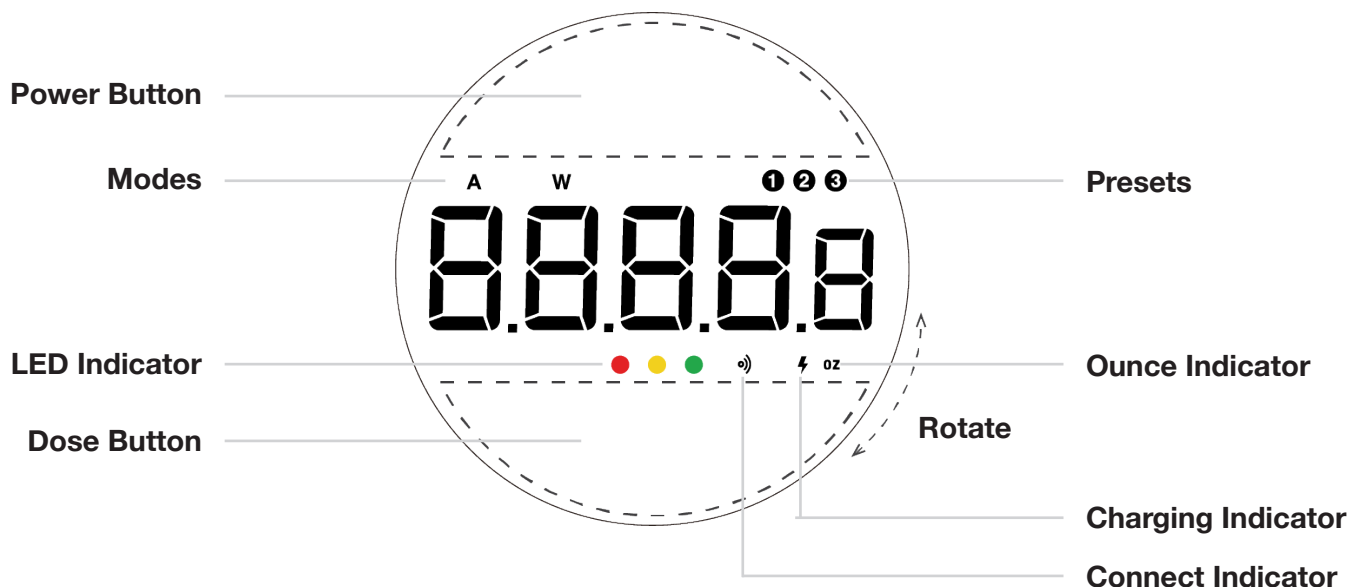
Weighing Scale Mode

The Orion Bean Doser™ can function as a smart industrial weighing scale with a capacity of up to 3000 grams.

Statistic Tracking System

The Orion Bean Doser™ can track statistical information such as total number of doses or total weight of the dosing session.

Interface Overview

Getting Started

Initial Setup

1. Prior to using your Orion for the first time you should rinse and clean the bean hopper in warm soapy water. Dry immediately after cleaning.
2. Attach the bean hopper on top.
3. Place a container on the weighing platform to avoid accidental dispensing.
4. Connect the power cord to the Orion.
5. Place coffee beans into the hopper.

Getting Started

1. Make sure that the weighing platform is clean.
2. Turn on the Orion by pressing Power and place the container on the platform.
3. Set target weight by pressing Power. Adjust values with Dial then press Power to confirm.
4. Press Dose to start dosing. If the display shows [CUP] [rESEt], please place a container on the platform.
5. When a dose is complete, press Power to return to dosing.

General Operation

The Orion is designed for dosing portions of beans from 5 grams to a maximum of 3000 grams per dose with an accuracy of +/- 2 beans (~0.5 g).

There are two dosing modes in the Orion — Manual mode and Auto mode. To choose between modes, press and hold the Power button and the display will show the current mode of operation. Rotate the dial to switch modes.

To take full advantage of the Orion's many features, carefully read through the entire manual, which contains step-by-step procedures, examples, and other information.

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

Product Care Information

Battery Charge

The Charging indicator will display when the battery is charging and will turn off when the charger is removed. If the USB cable is not working, the indicator does not appear.

*Please note that the Orion ONLY charges on the AC-DC adapter included in the package. It does NOT charge with any other USB-C charger.

Charging Indicator

Rotate
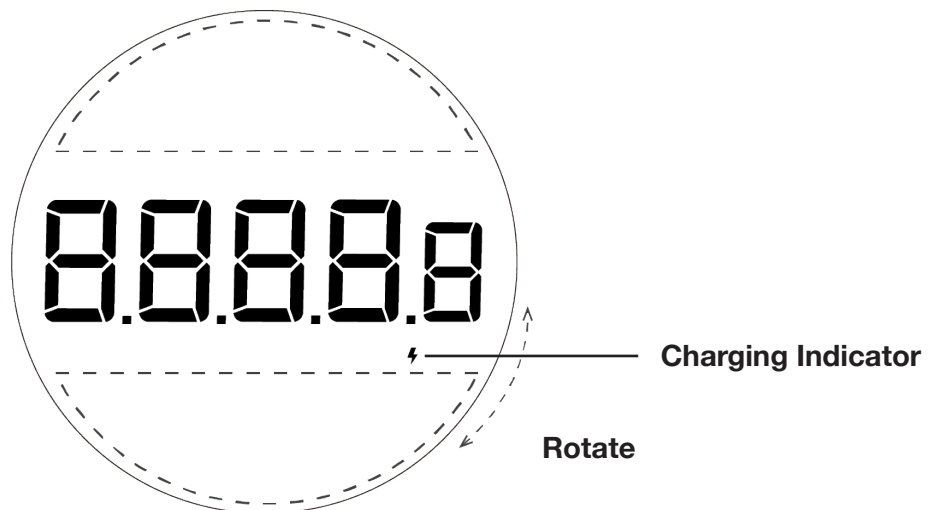
Battery Level Display

The battery level appears when the unit is powered on and disappears once the scale detects a stable weight.

Battery Indicator

Rotate
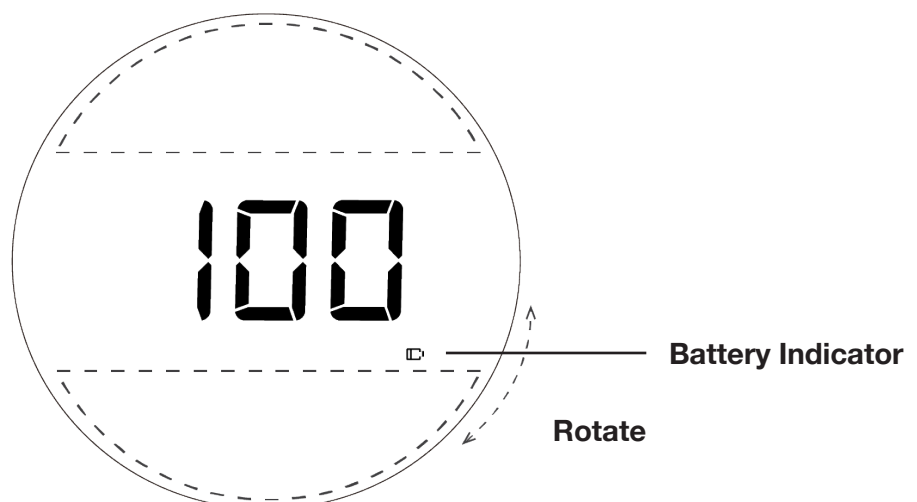
Calibration

1. While the Orion is in Weighing Mode and the weighing unit is in grams, rapidly press the Dose button multiple times until the LED display shows [CAL] and then [500].
2. Place a 500-gram calibration weight on the platform and wait for the Doser to execute the calibration procedure.
3. The display shows [-End-] when the calibration procedure is completed.

* Note: Calibration weights of 100 g, 1000 g, 1500 g, 2000 g, and 3000 g can also be used. For highest accuracy use Acaia calibration weights or F1 or F2 Class calibration weights. Inexpensive lower-class calibration weights have a higher deviation from a true accurate weight.

Care and Cleaning

• Use a soft cloth with warm water only to clean the product.
• Do not use detergent or other chemicals for cleaning and soaking as it can damage the anodized coating on the product.

Operations

Basic Operations

Action	Operation
Turn On Scale	Press **Power**
Turn Off Scale	Double press **Power**
Toggle Presets	Rotate **Dial**
Set Preset Weight	Press **Power**, rotate **Dial**, then press **Power / Dose**
Switch Mode	Press and hold **Power**, rotate **Dial**, then press **Power / Dose**
Start Dosing	Press **Dose**
Reset Mode	Press **Power**
Empty Hopper	Press and hold **Dose**
Stop Emptying Hopper	Press **Dose**

In the main display menu, you may use the controls above to choose between presets, enter different dosing modes, or start dosing with the current mode.

Set Preset Weight

Action	Operation
Enter Preset Weight Setting	Press **Power**
Change Value	Rotate **Dial**
Save Preset Value	Press **Power / Dose**

There are 3 presets in the Orion for storing desired weights. For example, you can set preset 1 at 18 g for dosing, preset 2 at 20 g, and preset 3 at 35 g. You may adjust the preset value with the controls above.

Switch Mode

Action	Operation
Enter Mode Setting	Press and hold **Power**
Switch Mode	Rotate **Dial**
Set Mode	Press **Power / Dose**

There are 2 different modes in the Orion for operation — Manual dosing mode and Auto dosing mode.
You may set different modes using the controls above.

Empty Hopper

Action	Operation
Empty Hopper	Press and hold **Dose**
Stop Emptying	Press **Dose**
Back to Preset	Press **Power**

To empty the bean hopper, you can press and hold the **Dose button**. The Orion will continuously dispense the beans until you press the **Dose button** again to stop. Make sure you place a large container on the platform for this operation.
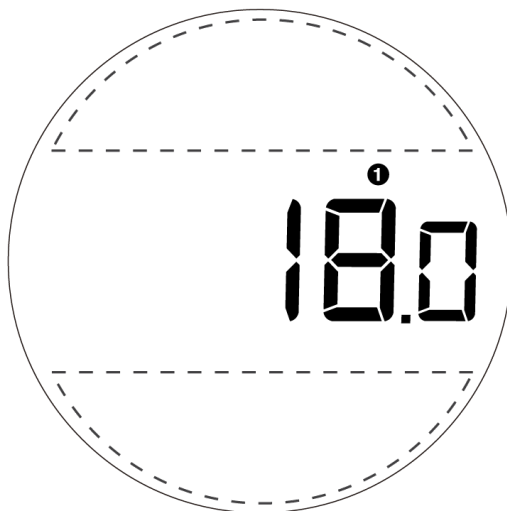There will be an 'E' indicator on the top left corner of the display when emptying the hopper.

Mode Introduction

Mode 1 - Manual Dosing Mode

This is the default mode for dosing.

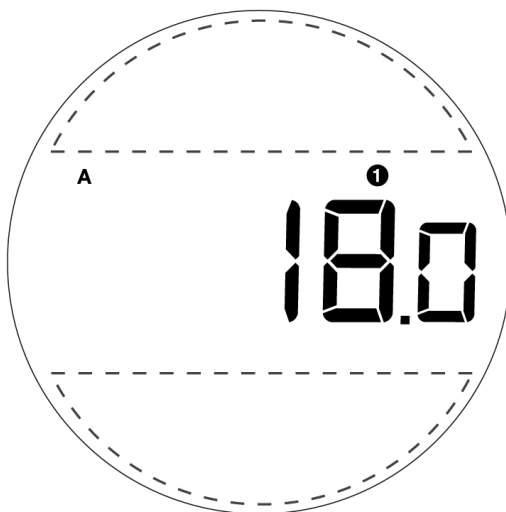| Action	Operation
Start Dosing	Press **Dose**
Stop Dosing	Press **Dose**
Pulse Beans	Press **Dose**
Reset Mode	Press **Power**

1. Select a preset by rotating the **Dial**. Adjust the preset value by pressing **Power** and rotating the **Dial**. Press **Power** to confirm.
2. Press **Dose**, and the Orion will begin dosing until desired weight is reached within +/- 0.5 g (solid green LED will display to indicate an accurate dose).
3. At the end of dosing, you may press **Dose** several times to 'pulse'. Pulse will slowly add a few more beans if needed.
4. Press **Power** to start a new dose.

- Man ual dosing mode can dose on demand with a selected preset.
- A [NOISE] message will show when a container is removed from the Orion or when the platform is touched during dosing. Please dose again.

Pulse in Manual dosing mode
The Orion has a pulse function that adds a few beans to the dose manually at the end of each dose. To pulse (add) a few more beans at the end of each dose, simply press the **Dose** button and the Orion will add a small amount of beans with each press. If one press doesn't drop any beans, you can press it multiple times until the desired weight is reached.

Mode 2 - Auto Dosing Mode

Auto dosing mode can dose automatically whenever a container is placed on the platform. There will be an 'A' indicator on the top left corner of the display when in Auto mode.

At the end of auto dosing, you may press the **Dose** button to 'pulse' a few more coffee beans if required. A [rEADY] message will show on the display when auto dosing mode is in action. To leave the [rEADY] display, press the **Power** button. You will be able to return to the preset selection display.

Action	Operation
Enter Ready State	Press **Dose**
Start Dosing	Press **Dose**
Stop Dosing	Press **Dose**
Pulse Beans	Press **Dose**
Reset Mode	Press **Power**

| Display	Description
rEADY	Place container on the platform; dosing will start when weight is detected

1. Switch into automatic dosing mode by pressing and holding **Power** and selecting the Auto mode with the **Dial**. Press **Power** again to confirm the mode.
2. Select or adjust a preset weight.
3. Press **Dose** to start automatic dosing, the display will show [rEADY].
4. To start the first dose, press **Dose** again and the automatic dosing will begin.
5. Remove the completed dose, and wait for the display to show [rEADY] again.
6. Place another container on top of the platform and dispensing will start again.
7. Press **Power** to set a different dose and leave the current auto dosing session.

- Auto dosing mode can dose automatically whenever a container is placed on the platform.
- There will be an 'A' indicator on the top left corner of the display when in Auto mode.
- A [NOISE] message will show when a container is removed from the Orion or the platform is touched during dosing. Please dose again.

Pulse in Auto dosing mode
The pulse function also works in the auto dosing mode. To pulse (or add) a few more beans at the end of each dose, simply press the **Dose** button and the Orion will add a small amount of beans with each press. If one press does not dispense any beans, you can press it multiple times until the desired weight is reached.

Mode 3 - Weighing Mode

The weighing mode is the Orion's smart scale mode. It will function like an industrial weighing scale with a 3000-gram capacity. To switch to weighing mode, rotate the **Dial** until a 'W' indicator appears on the top left corner of the display.
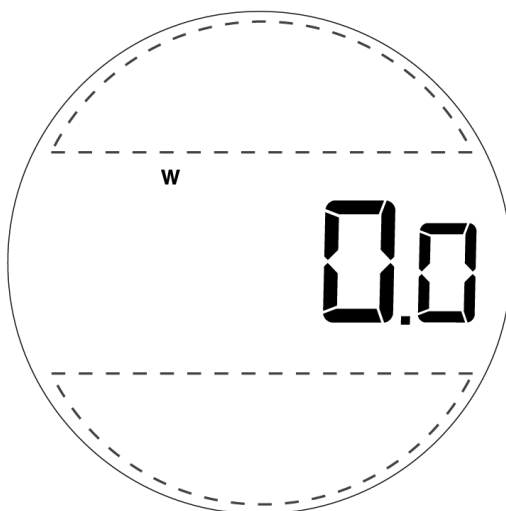
Action	Operation
Reset Mode/Zero	Press **Power**
Tare	Press **Dose**

- The weight of the object on the platform will be shown on the display.
- The **Power** and **Dose** buttons will function as 'Zero' and 'Tare'.

Settings

Accessing the Orion's Settings

1. With Orion powered on, press and hold **Power** to enter the Settings mode. The display will show [SEt].
2. Press **Dose** to enter the Settings Menu. It will show the first setting for [SPEEd].

Action	Operation
Enter Setting Mode	Press and hold **Power**
Enter Setting Menu	Press **Dose**

Diagram of the Settings Menu

Setting	Display	Options	Default
Speed	SPEEd	FASt, PrEC, grEEn	PrEC
Zero Tracking	trAcE	05, 1 d, 2 d, 3 d, 4 d, 5 d, Off	1 d
Key Sound	bEEP	On, Off	On
Default Weighing Unit	Unit	g, oZ	g
Cup Detection	CUP.d	On, Off	On
Calibration	CAL	(Start calibration)	-
About	About	(Show the current Orion Firmware version)	-

Dosing Speed [SPEEd]

You may adjust the dosing speed to prioritize either the accuracy or the speed of dosing. There are three speed settings available:

1. PrEC — Precision: Default speed, high accuracy. (default)
2. FASt — Fast: Faster speed, default accuracy (227 grams within 12 seconds); recommended for doses of 100 grams or more.
3. GrEEn — Green Bean: Default speed for green beans or light roast beans.
4. To save your selection and exit the settings sub-menu, press **Dose**. [SPEEd] will display on the LED to confirm that the selected option has been saved.

Zero Tracking Setting [trAcE]

Zero Tracking is a function to help compensate the weight readout fluctuations at zero point to improve the usability of the scale. The Acaia Orion is allowed to compensate fluctuations by up to 2 d according to industrial weighing guidelines.

1. Off: It is not recommended to turn off Zero Tracking; the zero indication can drift easily as the room temperature changes.
2. 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.
3. 2 d is recommended in general for the Orion.
4. To save your selection and exit the settings sub-menu, press **Dose**. [trAcE] will display on the LED to confirm that the selected option has been saved.

Key Sound Setting [bEEP]

1. Set the Key Sound function to Off/On to turn off/turn on the beeping sound.
2. To save your selection and exit the settings sub-menu, press **Dose**. [bEEP] will display on the LED to confirm that the selected option has been saved.

Default Weighing Unit [Unit]

1. The Default Weighing Unit is set to grams if [9] is selected and ounce if [o2] is selected.
2. Rotate **Dial** to switch the Default Weighing Unit between grams and ounces.
3. To save your selection and exit the settings sub-menu, press **Dose**. [Unit] will display on the LED to confirm that the selected option has been saved.

Cup Detection [CUP.d]

1. The default setting is on.
2. On: Cup detection enabled. Orion will check if there is a container on the weighing platform. If no container is detected, Orion will not start dispensing the coffee beans.
3. Off: Cup detection disabled. Orion will start dispensing the coffee beans even if no container is detected.

Calibration [CAL]

Please go to **Page 6: Calibration** for more information.

About [About]

Shows the current Orion Firmware version.
To update to the latest version, please use Orion Updater on www.acaia.co/pages/apps.

Appendix

Buttons

Button	Function	Example
Power Button	Turn On	Press to turn on the Orion
	Turn Off	Double press to turn off the Orion
	Set/Save Preset Weight	Press to set/save preset weight
	Set Modes	Press and hold to switch to Manual/Auto Mode
	Save the Setting and Return to Menu	Press to save the Setting and go back to Menu
Dose Button	Start Dosing	Press to start dosing when in Manual/Auto mode
	Empty Hopper	Press and hold for 5 seconds to empty the hopper
	Stop Emptying Hopper	Press to stop emptying the hopper
	Save the Setting and Return to Menu	Press to save the Setting and go back to Menu
Rotate Dial	Toggle Presets/Modes	Rotate to toggle presets/modes
	Adjust Preset Weights	Rotate to adjust the preset weights

* Please go to **Page 7: Operations** for more details.

LED Indicators

LED Indicator

Rotate
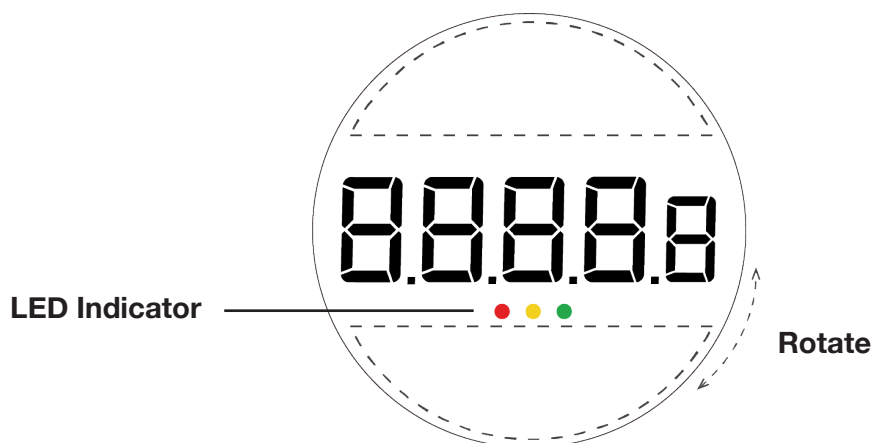
Green Light - Dosing progress indicator

When the green light is blinking, dosing is in progress. Once dosing is complete, the indicator will display a solid green light.

Yellow Light - Dose warning indicator

When the yellow light is lit, it means that the current dose is at least 0.5 grams less or more than the target amount. You may want to add some beans with the pulse function or remove some.

Red Light - System message indicator

When the red light is displayed, there is a system error with the Orion. Restart the Orion. If the problem persists, please contact us at support@acaia.co.

Error Codes

Error Code	Description
Error 100	Code error
Error 101	EEPROM error
Error 102	AD read error
Error 303	Unable to make zero point because the initial weight exceeds the limit (250% of capacity).
⌐‾‾⌐	Over load: The weight is over the maximum capacity.
⌐__⌐	Under load: The weight is under the minimum capacity.
Error 304	Please calibrate the Doser in a stable environment free of vibration, wind, etc.
Error 802	Unable to tare because the weight exceeds the tare range.
Error 803	Unable to tare due to unstable weight.
Error 904	Password error (the default password is 0000).

Other

Display Code	Description
UPdAtE	The Orion is in Update mode. Note: If you want to exit update mode, the Orion will automatically turn off and exit update mode after 1 minute and 30 seconds of no use.

Specifications

Model Number	AO103 / AO104
Dimensions	W: 202 mm L: 332 mm H: 377 mm
Weight	3070 g ±10 g
Measuring Units	g, oz
Max Capacity	3000 g / 105.82 oz
Min Weight	0.1 g
Readability	0.1 g
Repeatability	0.1 g
Linearity	1 d / 2 d / 4 d
Indication Limit	3090 g / 108.99 oz
Dosing Error Margin	1 ~ 2 beans (± 0.5 g)
Input	12 V / 1.5 A
Battery	Lithium-ion rechargeable 7.4 V 2600 mAh
Battery Life	Up to 12 hours
Display	LED
Material	Aluminum, PC, Stainless Steel
Connectivity	Bluetooth 4.0
Inside the Package	Orion Bean Doser x 1 520 g Hopper x 1 Power Adapter x 1