ADAM

Adam Equipment

Polaris

PAB, PPB, PTB, PBB Series

(P.N. 3016617789, Revision 1.01, Effective Aug. 2025)

Operating Manual

For internal ('i') and external ('e') calibration models

Software rev.: V1.0203 & above（FM series Balance）
V2.0101 & above（Precision loadcell Balance）
V3.0101 & above（0.1g precision Balance）

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1 Know your balance

Thank you for selecting the Polaris balance from Adam Equipment.

This instruction manual will familiarise you with the installation, use, general maintenance, etc., of the balance, and will guide you through the various applications. It also covers accessories, troubleshooting, after-sales service information, and other important information.

These balances are highly accurate precision instruments and contain sensitive mechanisms and components. They should be transported and handled with care. When in operation, be careful to place loads gently on the weighing surface and do not overload or exceed the recommended maximum capacity of the instrument, or damage may occur.

Please read this manual thoroughly before starting operation. If you need any clarification, feel free to contact your supplier or Adam Equipment.

Scan the relevant QR code to access additional information.

Polaris Semi-Micro & Analytical Balances:

Polaris Precision Balances:

2 Product of overview

The Polaris is ideal for laboratory and general-purpose weighing. It has many advanced weighing functions.

Features:

- Internal calibration ('i' models) for outstanding accuracy without the need for manual calibration.
- High precision, low noise and wide voltage regulated power supply.
- Wipe clean ABS plastic housing with 304 grade stainless steel pan.
- Large screen with multi-colour backlighting to make it easier to read values.
- Weighing functions, including weighing, parts counting, percentage weighing, checkweighing, check counting, peak hold, animal (dynamic) weighing, net/total weight, density determination, formulation.
- Bi-directional RS-232 interface, USB interface and RJ45 network interface as standard.
- Built in Bluetooth module is standard.
- Internal memory of the balance can store up to 240,000 test results, which users can recall at any time.
- USB-A interface is standard. Users can insert a USB flash drive to which data can be saved.
- Balances with a draft shield are equipped with LED lighting for clear visibility of samples on the weighing pan.
- GLP Compliant reporting including time, date, balance number and a verification of the calibration.
- High quality force-restoration mechanism (or alloy load cell) for the best accuracy.
- Air Diversion Technology (PAB 125i only) that diverts more than 90% of warm air away from the weighing pan for greater weighing accuracy.
- Automatic temperature compensation.
- Multiple weighing units.
- Easy to use, wipe-clean sealed membrane keypad.
- Below balance weighing with hook provided.

- Display available in six languages: English, German, French, Spanish, Portuguese and Italian.
- Multi-level permission management. The balance can be set up with one Supervisor account and 99 operator accounts.
- Security locking point.

3 Product specifications

Polaris Models (Suffix e - external calibration models; suffix i - internal calibration)

Model #	**PAB 125i**
Maximum Capacity	80g/120g
Readability (d)	0.00001g/0.0001g
Standard Deviation SD <5% capacity (g):	0.000020g
USP Minimum Weight (K=2, U=0.10%):	0.03950g
USP Optimised Minimum Weight (USP, K=2, U=0,10%, SRP≤0,41d) :	0.00820g
Minimum weight (K=2, U=1%):	0.00395g
Accuracy - repeatability SD >80% lower range (g):	0.00002g
Accuracy - repeatability SD >80% upper range (g):	0.0001g
Linearity ±	0.0001g/0.0003g
Units of Measure	grams, milligrams, carats, penny weight, grains, troy ounces ,ounces ,Drams ,Taels-HK, Taels-T, Taels-S, Mommes, Tolas, Ticals ,Newtons, custom
Stabilisation Time	Typically, 3 seconds
Operating Temp	15ºC to 35ºC recommended, 40 – 60 % RH (non-condensing)
Power Supply	External mains power adapter - supplied as standard (Input Voltage 100–240 VAC, 50/60 Hz)
Input Voltage	18 VDC - 830 mA
Weighing mechanism	Force restoration
Calibration	Suffix i = internal calibration mechanism, e = external calibration only
External Calibration Mass	Recommended OIML class: E1, ASTM / ANSI class: 0
Calibration	100g / 50g
Display	26mm/8.5mm characters, 7.4 -inch multi-colour backlit LCD screen
Draft Shield (w x d x h)	Sliding door draft shield 193 x 218 x 243mm
Pan Size	Round, **80mm** diameter
Overall Dimensions (w x d x h)	235 x 398 x 331mm
Net Weight	6.7kg

Model #		PAB 124 e/i	PAB 224 e/i	PAB 324 e/i	PAB 424 e/i
Maximum Capacity		120g	220g	320g	420g
Readability (d)		0.0001g			
Standard Deviation <5% capacity (g):		0.00009g	0.00007g	0.00009g	0.00008g
USP Minimum Weight (K=2, U=0.10%):		0.1821g	0.1494g	0.1751g	0.1523g
USP Optimised Minimum Weight (USP, K=2, U=0,10%, SRP≤0,41d) :		0.820g	0.820g	0.820g	0.820g
Minimum weight (K=2, U=1%): (g)		0.0182g	0.0149g	0.0175g	0.0152g
Accuracy - repeatability SD >80% (g):		0.0001g	0.0001g	0.0001g	0.0001g
Linearity +		0.0003g			
Units of Measure		grams, milligrams, carats, penny weight, grains, troy ounces ,ounces ,Drams ,Taels-HK, Taels-T, Taels-S, Mommes, Tolas, Ticals ,Newtons, custom			
Stabilisation Time		Typically 3 seconds			
Operating Temp		15ºC to 35ºC recommended, 40 – 60 % RH (non-condensing)			
Power Supply		External mains power adapter - supplied as standard (Input Voltage 100–240 VAC, 50/60 Hz)			
Input Voltage		18 VDC - 830 mA			
Weighing mechanism		Force restoration			
Calibration		Suffix i = internal calibration mechanism, e = external calibration only			
External Calibration Mass		Recommended OIML class: E2, ASTM / ANSI class: 1			
		100g / 50g	100g / 200g	200g / 300g	200g / 400g
Display		26mm/8.5mm characters, 7.4 -inch multi-colour backlit LCD screen			
Draft Shield (w x d x h)		Sliding door draft shield 193 x 218 x 243mm			
Pan Size		Round, **80mm** diameter			
Overall Dimensions (w x d x h)		235 x 398 x 331mm			
Net Weight	e models	6.3kg			
	i models	6.6kg		6.7kg	

Model #		**PPB 223 e / i**	**PPB 423 e / i**
Maximum Capacity		220g	420g
Readability (d)		0.001g	
Standard Deviation <5% capacity (g):		0.0007g	0.0007g
USP Minimum Weight (K=2, U=0.10%):		1.343g	1.405g
USP Optimised Minimum Weight (USP, K=2, U=0,10%, SRP≤0,41d) :		0.820g	0.820g
Minimum weight (K=2, U=1%): (g)		0.134g	0.140g
Accuracy - repeatability SD >80% (g):		0.001g	0.001g
Linearity +		0.003g	
Units of Measure		grams, milligrams, carats, penny weight, grains, troy ounces ,ounces ,Drams ,Taels-HK, Taels-T, Taels-S, Mommes, Tolas, Ticals ,Newtons, custom	
Stabilisation Time		Typically, 3 seconds	
Operating Temp		15ºC to 35ºC recommended, 40 – 60 % RH (non-condensing)	
Power Supply		External mains power adapter - supplied as standard (Input Voltage 100–240 VAC, 50/60 Hz)	
Input Voltage		18 VDC - 830 mA	
Weighing mechanism		Precision loadcell	
Calibration		Suffix i = internal calibration mechanism, e = external calibration only	
External Calibration Mass		Recommended OIML class: E2, ASTM / ANSI class: 2	
		200g / 100g	200g / 400g
Display		26mm/8.5mm characters, 7.4 -inch multi-colour backlit LCD screen	
Draft Shield (w x d x h)		Sliding door draft shield 193 x 218 x 243mm	
Pan Size		Round, **120mm** diameter	
Overall Dimensions (w x d x h)		235 x 398 x 331mm	
Net Weight	e 型	5.2kg	
	i 型	5.6kg	

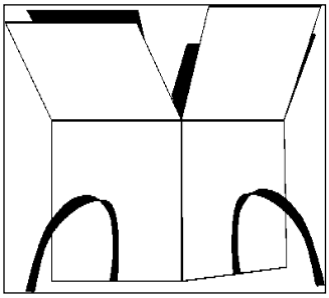
Model #	**PPB 623 e / i**	**PPB 823 e / i**	**PPB 1223 e / i**	**PPB1623 e / i**
Maximum Capacity	620g	820g	1220g	1620g
Readability (d)	0.001 g			
Standard Deviation <5% capacity (g):	0.0007g	0.0007g	0.0007g	
USP Minimum Weight (K=2, U=0.10%):	1.382g	1.311g	1.350g	
USP Optimised Minimum Weight (USP, K=2, U=0,10%, SRP≤0,41d) :	0.820g	0.820g	0.820g	
Minimum weight (K=2, U=1%): (g)	0.138g	0.131g	0.135g	
Accuracy - repeatability SD >80% (g):	0.001g	0.001g	0.001g	
Linearity +	0.003g			
Units of Measure	grams, milligrams, carats, penny weight, grains, troy ounces ,ounces ,Drams ,Taels-HK, Taels-T, Taels-S, Mommes, Tolas, Ticals ,Newtons, custom			
Stabilisation Time	Typically, 3 seconds			
Operating Temp	15ºC to 35ºC recommended, 40 – 60 % RH (non-condensing)			
Power Supply	External mains power adapter - supplied as standard (Input Voltage 100–240 VAC, 50/60 Hz)			
Input Voltage	18 VDC - 830 mA			
Weighing mechanism	Force restoration			
Calibration	Suffix i = internal calibration mechanism, e = external calibration only			
External Calibration Mass	Recommended OIML class: E2, ASTM / ANSI class: 2			
	500g / 200g	500g / 200g	500g / 1000g	500g / 1000g
Display	26mm/8.5mm characters, 7.4 -inch multi-colour backlit LCD screen			
Draft Shield (w x d x h)	Sliding door draft shield 193 x 218 x 243 mm			
Pan Size	Round, **120mm** diameter			
Overall Dimensions (w x d x h)	235 x 398 x 331mm			
Net Weight – e 型	6.4kg			
Net Weight – i 型	6.9kg		7.1kg	

Model #		PTB 2602 e / i	PTB 4602 e / i	PTB 6202 e / i	PTB 8202 e
Maximum Capacity		2600g	4600g	6200g	8200g
Readability (d)		0.01g	0.01g	0.01g	0.01g
Standard Deviation <5% capacity (g):		0.007g	0.007g	0.007g	0.006g
USP Minimum Weight (K=2, U=0.10%):		13.10g	13.76g	14.94g	12.47g
USP Optimised Minimum Weight (USP, K=2, U=0,10%, SRP≤0,41d) :		8.20g	8.20g	8.20g	8.20g
Minimum weight (K=2, U=1%): (g)		1.31g	1.38g	1.49g	1.25g
Accuracy - repeatability SD >80% (g):		0.01g	0.01g	0.01g	0.01g
Linearity +		0.03g			
Units of Measure		grams, milligrams, carats, penny weight, grains, troy ounces ,ounces ,Drams ,Taels-HK, Taels-T, Taels-S, Mommes, Tolas, Ticals ,Newtons, custom			
Stabilization Time		Typically, 2 seconds			
Operating Temp		15ºC to 35ºC recommended, 40 – 60 % RH (non-condensing)			
Power Supply		External mains power adapter - supplied as standard (Input Voltage 100–240 VAC, 50/60 Hz)			
Input Voltage		18 VDC - 830 mA			
Weighing mechanism		Precision loadcell			
Calibration		Suffix i = internal calibration mechanism, e = external calibration only			
External Calibration Mass		Recommended OIML class: F1, ASTM / ANSI class: 3			
		2 kg / 1 kg	2 kg / 4 kg	2 kg / 5 kg	2 kg / 5 kg
Display		26mm/8.5mm characters, 7.4 -inch multi-colour backlit LCD screen			
Draft Shield (w x d x h)		No			
Pan Size		Square, 185x185mm			
Overall Dimensions (w x d x h)		235 x 398 x 100mm			
Net Weight	e 型	3.4 kg			
	i 型	4.4kg	4.8kg	4.8kg	/

Model #	PBB 6001 e	PBB 12001 e	PBB 16001 e
Maximum Capacity	6000 g	12000 g	16000 g
Readability (d)	0.1 g		
Standard Deviation <5% capacity (g):	0.01g	0.03g	0.03g
USP Minimum Weight (K=2, U=0.10%):	28.3g	58.9g	59.6g
USP Optimised Minimum Weight (USP, K=2, U=0,10%, SRP≤0,41d) :	82.0g	82.0g	82.0g
Minimum weight (K=2, U=1%): (g)	2.8g	5.9g	6.0g
Accuracy - repeatability SD >80% (g):	0.1g	0.1g	0.1g
Linearity +	0.3g		
Units of Measure	grams, milligrams, carats, penny weight, grains, troy ounces ,ounces ,Drams ,Taels-HK, Taels-T, Taels-S, Mommes, Tolas, Ticals ,Newtons, custom		
Stabilization Time	Typically, 2 seconds		
Operating Temp	15ºC to 35ºC recommended, 40 – 60 % RH (non-condensing)		
Power Supply	External mains power adapter - supplied as standard (Input Voltage 100–240 VAC, 50/60 Hz)		
Input Voltage	18 VDC - 830 mA		
Weighing mechanism	Precision Loadcell		
Calibration	e = external calibration only		
External Calibration Mass	Recommended OIML class: F2, ASTM / ANSI class: 4		
	2kg / 5kg	10kg / 5kg	10kg / 5kg
Display	26mm/8.5mm characters, 7.4 -inch multi-colour backlit LCD screen		
Draft Shield (w x d x h)	No		
Pan Size	Square, 185x185mm		
Overall Dimensions (w x d x h)	235 x 398 x 100mm		
Net Weight	3.4kg		

4 Unpacking the balance

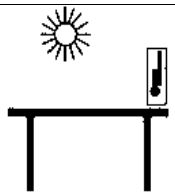
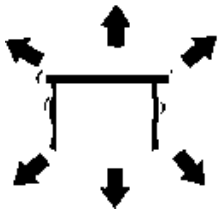
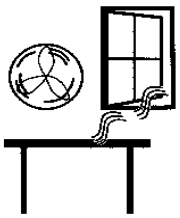
Remove the balance from the packing by carefully lifting it out of the box. Inside the box, you will find everything needed to start using the balance.



- AC mains power adapter & cord
- Stainless steel top pan
- Alloy sub-pan
- User documentation

Carefully follow the quick setup guide included to assemble the balance.

5 Selecting a location for the balance

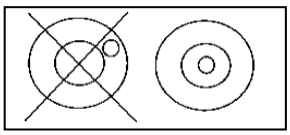
	The balance should not be placed in a location that will reduce its accuracy: Avoid extremes of temperature. Do not place in direct sunlight or near air conditioning vents. Avoid unsuitable surfaces. The surface or floor must be rigid and not vibrate.
	Avoid unstable power sources. Do not use near large users of electricity such as welding equipment or large motors. Do not place near vibrating machinery. Avoid high humidity that might cause condensation. Avoid direct contact with water. Do not spray or immerse the balance in water.
	Avoid air movement such as from fans or opening doors. Do not place near open windows or air-conditioning vents. Keep the balances clean. Do not stack material on the balances when they are not in use.
	Avoid sources of static electricity. This can affect measurement accuracy and may damage sensitive electronics.

6 Setting up and calibration

6.1 Assembling the balance

Carefully follow the below guide to assemble the balance. Ensure that you locate the balance on a solid level surface, free from vibration.

6.1.1 Levelling the balance

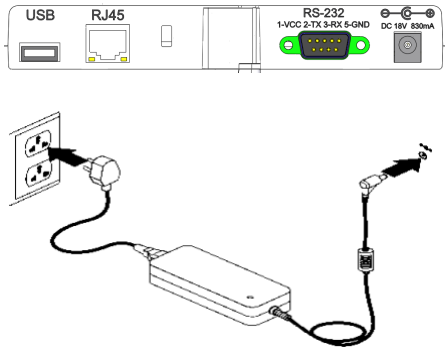


After placing the balance in a suitable location, level it by using the spirit level of the balance. To level the balance, turn the two adjustable feet at the front of the balance until the bubble in the spirit level is centred.

6.1.2 Warm-up time

Before you start weighing, you should allow the balance to achieve a stable internal temperature.

PBB and PTB models should be warmed up for at least 6 hours. PAB and PPB models should be warmed up for at least 12 hours.



Insert the power supply cable to the connector on the rear of the balance. Plug the power supply module into the mains. The display will show the serial number, the software revision number, and the maximum capacity of the balance. The balance will run a self-test by displaying all segments followed by a busy symbol and a line of 8 dashes indicating the balance is in busy mode. The display will then show a zero weight and è0ç symbol.

6.1.3 Weighing

A stable symbol ∽ is shown when the balance is in stable condition. It will turn off if the balance is not stable.

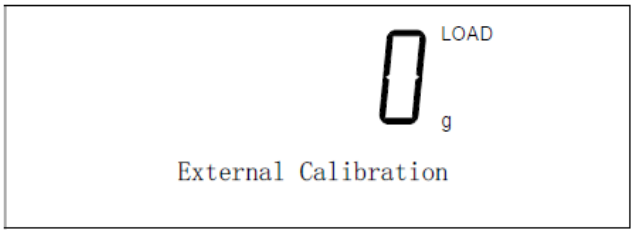
Exact zero is indicated when the “è0ç “symbol is visible on the top left of the display area.

6.2 Calibration

Units with an ‘i’ suffix can be calibrated using either the internal calibration mechanism or by using an external mass. Units with an ‘e’ suffix can only be calibrated with an external mass. The internal calibration option must be enabled in the setup menu; otherwise, external calibration mode will be used when the **[Cal]** key is pressed.

6.2.1 External calibration

- Press the **[Cal]** key on the weighing interface.
- Display shows：



- Remove all the items on the pan, and then press ↵
- Display shows: “□□□□□□--□”
- The screen will prompt you to select the calibration weights, Press ↑ or ↓ to move the triangular arrow and select the corresponding calibration weight.
- Press ↵, display shows **XXXXg LOAD**, load the weight.
- Display shows: “□□□□□□--□”
- Display shows: **Unload**,remove the weight and clear the top pan.
- Display shows: “□□□□□□--□”, then returns to zero. The calibration is completed.

6.2.2 Internal calibration

If your balance is fitted with internal calibration (i models), press **[Cal]** and the balance will automatically complete calibration. Upon completion, it will return to the weighing interface.

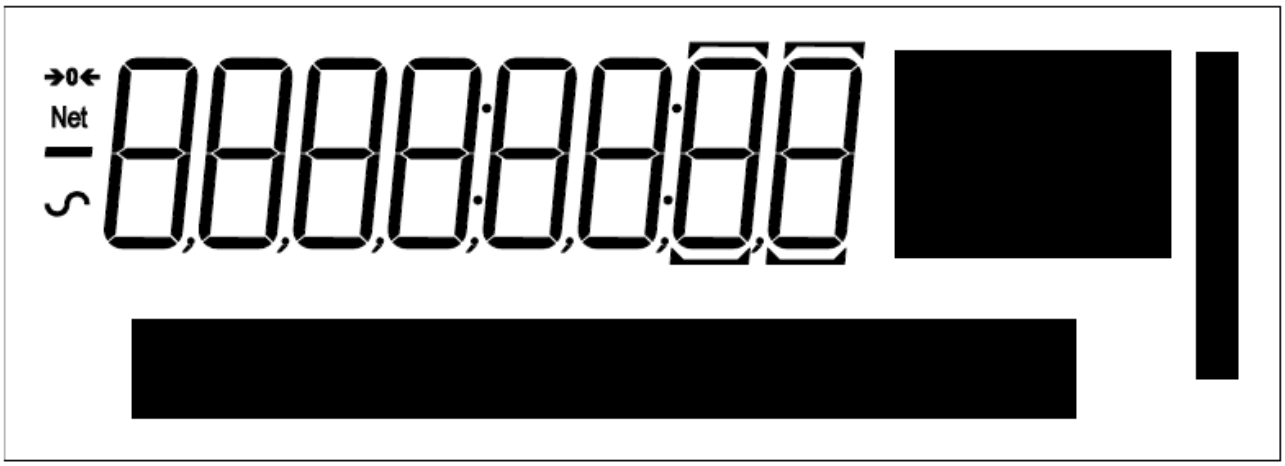
6.2.3 Calibration errors

Occasionally during calibration an error will be detected. These errors can be caused by:

- Unstable readings
- Improper calibration weights being used
- Large shifts of zero from the factory settings

When an error is found, a displayed message will be shown, and the calibration must be done again. If the balance has error messages more than once it is possible the balance has been damaged.

7 Display



The display has a large 8-digit area to display the weight with symbols for common weighing units on its right and symbols for zero, tare (Net) and stability on the left. The righthand box and the lower box display various menu modes and other information.

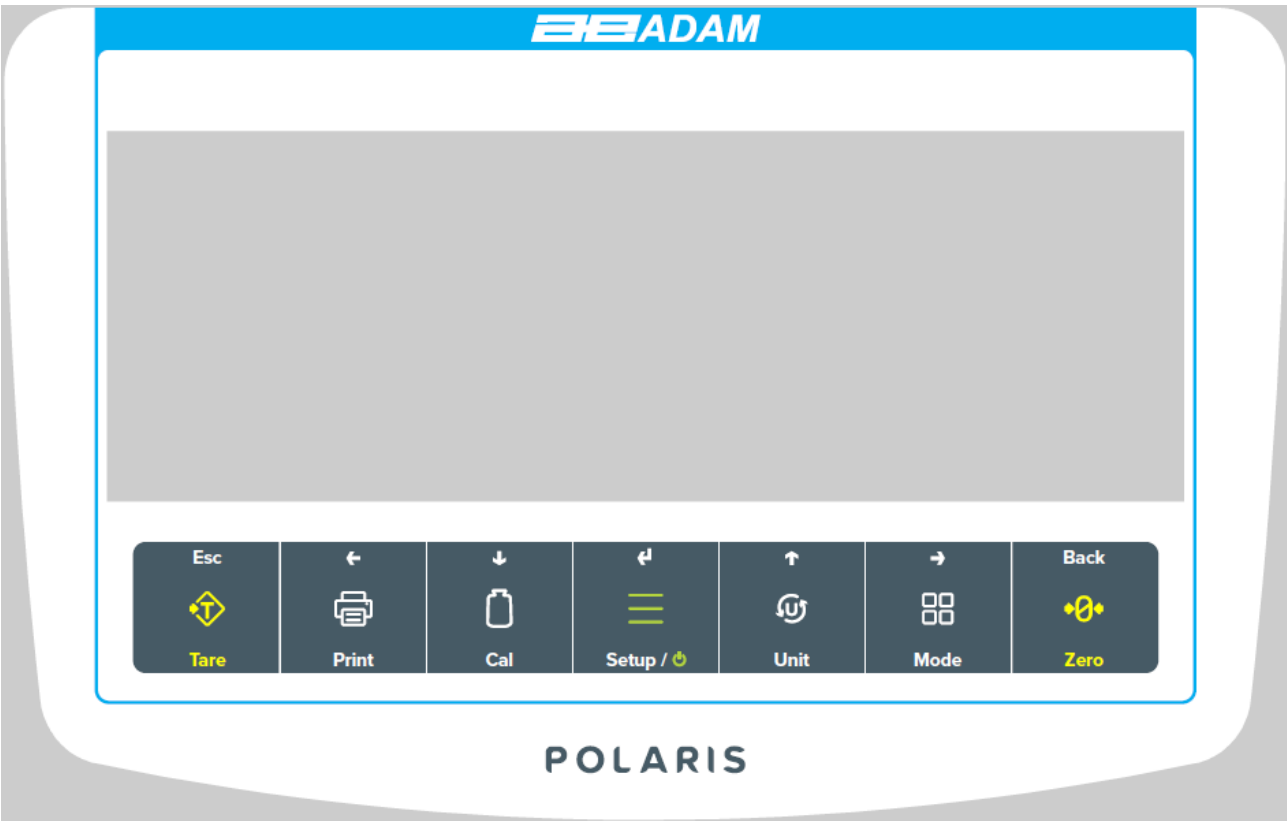
The vertical bar on the far right is the capacity tracker. This empty when the load is empty, and will fill as weight is added to the pan.

7.1 Symbols and text

The LCD has unique symbols to indicate the following：

è0ç	Zero
	Stable
“Net”	Display net weight

8 Keypad



The keypad has the following keys to operate the balance.

Keys	Primary function	Secondary function
Esc Tare	**Tare** Tare balance	**ESC** To return to weighing interface when entering any menu.
Print	**Print** Instructs the balance to print data	← Move the flashing digit one position to the left.
Cal	**Cal** Starts the calibration function	↓ Decrease the display value or scroll down options.
Setup / ⏻	**Setup** Enters the setup parameters (Supervisor menus) ⏻ Short press to turn on, long press for 5 seconds to turn off	↵ Confirm the input or selected menu.

Unit	**Unit** Select weighing units	Increase the display value or scroll up options.
Mode	**Mode** Enter the Mode selection menu	Move the flash digit one position to the right.
Back Zero	**Zero** To zero when the balance has a slight weight.	**Back** Return to the superior menu

8.1 Number enter method

To set a value when required, use the keys as given below：

or to start entry process, causing the active digit to flash.

Press or to increase or decrease the flashing digit.

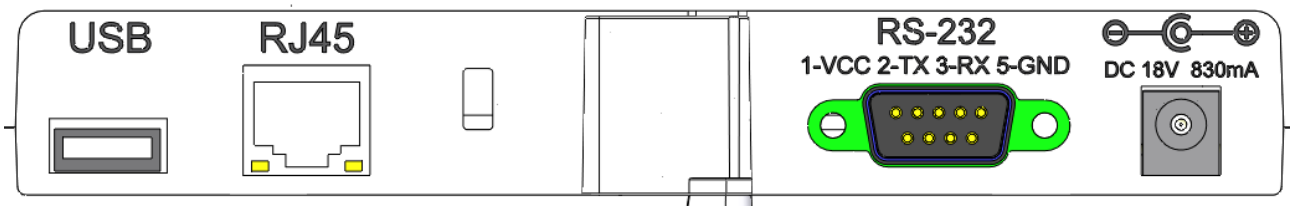
use to advance **or** to move back to set the required value, and then press

and to increase or decrease the flashing digit as required.

Press to confirm Once the value displayed on screen is as required.

9 Input/Output

Back



The following connectors are standard on all products：

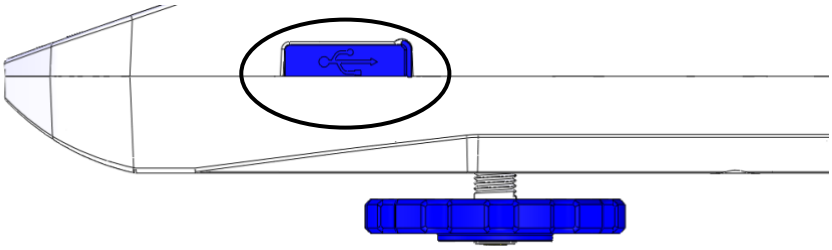
- **Power input socket**. (Required power input is a low-voltage external supply) The external power supply is 18VDC 830mA, and the corresponding concentric plug is 11.4mm × 5.5mm in length × 2.1mm in diameter.

- **RS-232** 9-pin serial port small plug: Standard DB9 female socket.

- **USB A type** socket: USB A-type female socket is standard in all models and used as a serial port on the computer.

- **RJ45** network interface: RJ45 female seat is standard in all models.

Right

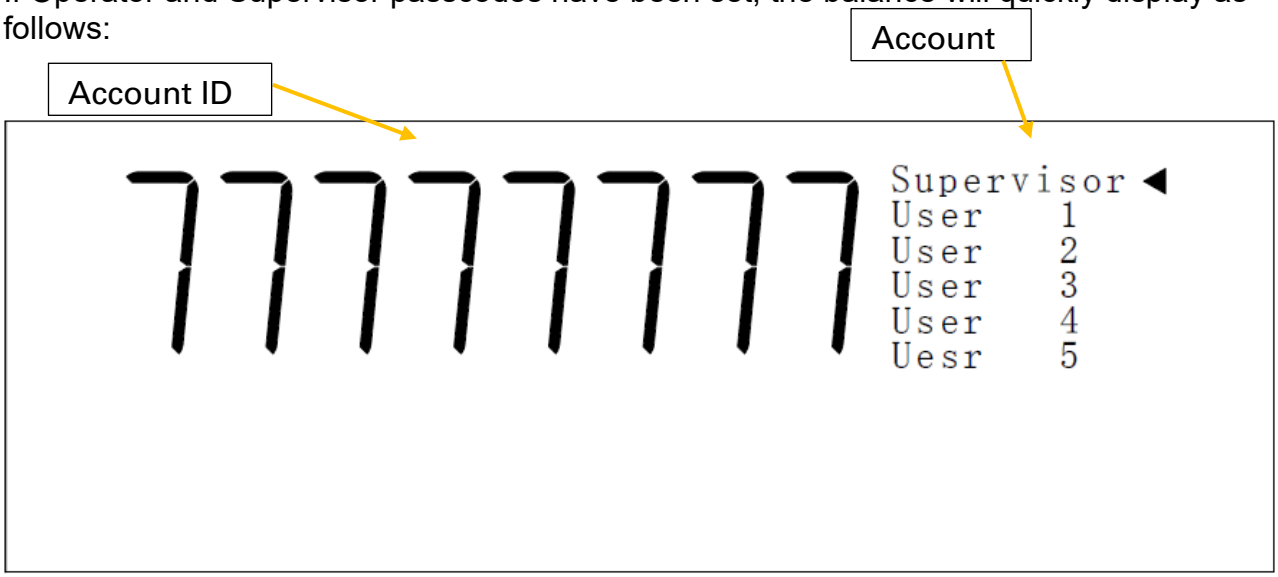


- **USB A type** socket with dust cover: A-type socket is standard in all models and used to copy weighing data from the balance to a USB flash drive.

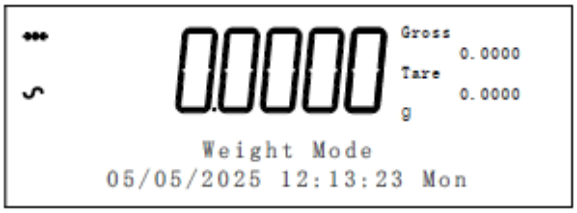
10 Operations

10.1 Initialisation

If Operator and Supervisor passcodes have been set, the balance will quickly display as follows:



It is necessary for you to choose the appropriate account and enter the correct password (see section 10.2). If the passcode is incorrectly entered then the message “□ Error Message Code” will flash rapidly twice. When the password is entered correctly or not set, the balance will proceed to the next step as follows:



The display will show zero reading along with the zero symbol “□**[è0ç]**□” and the weighing unit last used. If automatic time calibration is enabled, the balance will be calibrated 15 minutes after power up, or again after the pre-set time interval.

10.2 Passcode

The balance has passcode security functions. An Supervisor account and password need to be set first; you can then set a user account and password in the Supervisor account. A total of 100 user accounts and passwords can be set up. If no account and password is set, the default access is to the weighing interface. If the account and password is set, you need to select the account and input the password to enter the weighing interface when power on, setting a supervisor passcode to lock down administer menu so that they are not changed in user mode.

If the supervisor account and password is set, press [Setup] when the balance is turned on or in the operator mode, which will restrict the balance from entering the weighing function. It will display "00000000 Supervisor/User 1-99".

Press ↑ or ↓ in the startup interface to select the account you want to enter and then press ↵, and input the correct password with the numeric enter method (see 8.1).

If the operator's account is logged into the balance, you need to enter the Supervisor password to enter the Supervisor menu.

See Chapter 14.6 for the specific account number and setting method.

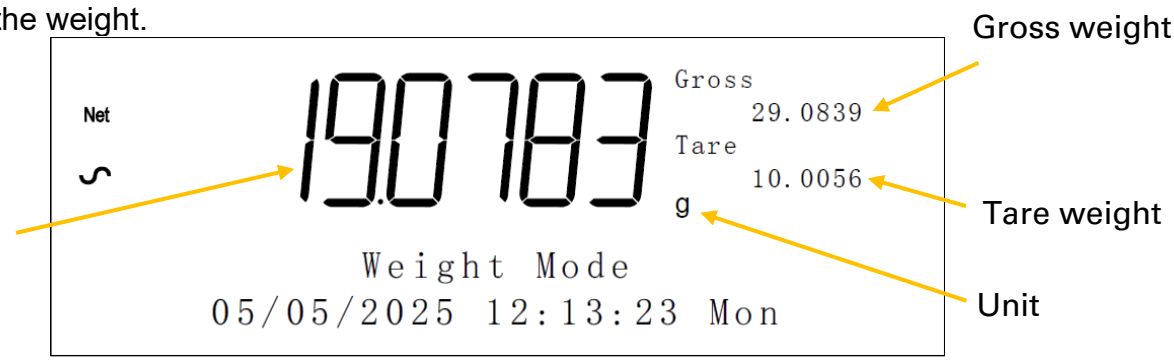
10.3 Weighing

Press **【Zero】** to zero the balance if required, the**“è0ç”** symbol will be displayed.

Carefully place the mass on the pan and the weight will be displayed, with the symbol on the left of the display to indicate that a stable reading has been obtained.

If a container is to be used, place it on the balance and press **【Tare】** to tare the weight. When the balance symbol is on, the “Net” symbol will be displayed to indicate that the balance is tared.

When the display shows zero, place the item to be weighed on the pan, and the display will show the weight.



Press **【Unit】** at any time to select other units. use or to scroll through the units and press to confirm the selected unit, The screen will display the weight in the selected weighing unit. the available weighing units can be enabled or disabled by the user during setup of the balance (see section 14.1). when pressing the **[Unit]**, only the active weighing unit can be selected.

Weighing unit:

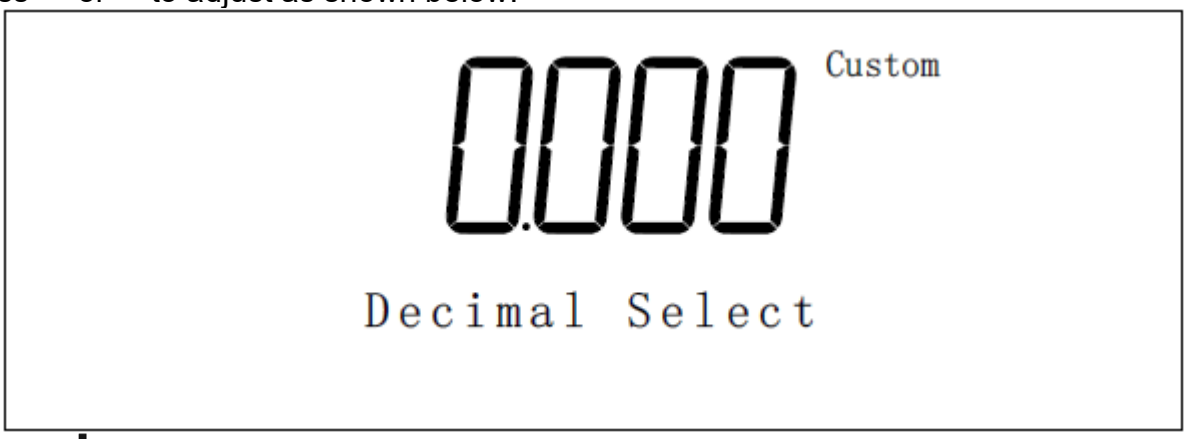
Press **[Unit]** to select the weighing unit for displaying the weight. The available weighing units are:

	Weighing unit	**Symbol**	**Model**	**Conversion Factor 1g =**	**Conversion Factor 1 unit= g**
1	**grams**	g	All	1	1.0
2	**milligrams**	mg	not 0.01g & 0.1g units	1000	0.001
3	**kilogram**	kg	0.001g ~ 0.1g units	0.001	1000
4	**carats**	ct	All	5	0.2000
5	**penny weigh**	dwt	Some models	0.643014865	1.555174
6	**grains**	GN	Some models	15.43236	0.0647989
7	**troy ounces**	ozt	Some models	0.032150747	31.103476

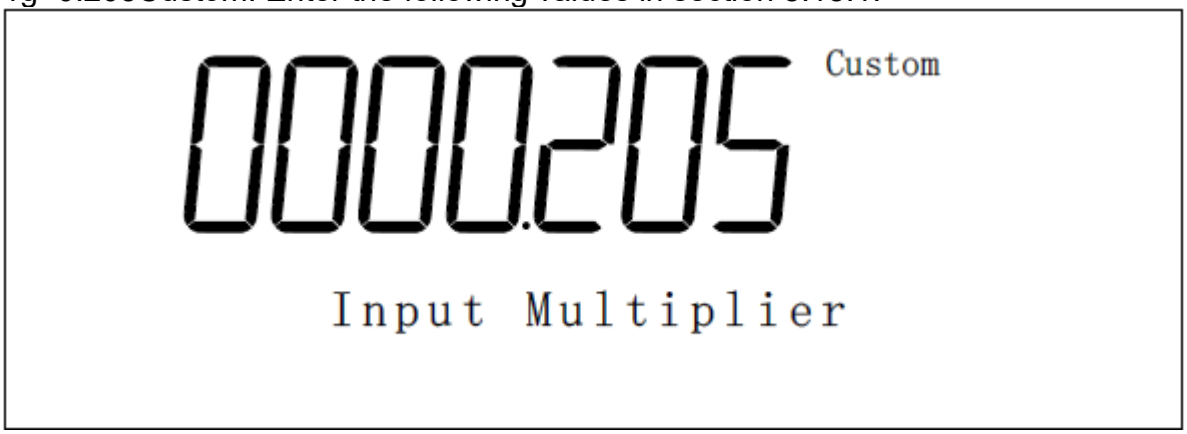
8	**ounces**	oz	Some models	0.035273962	28.349523
9	**Drams**	dr	Some models	0.564383	1.77184642
10	**Taels-HK**	tlH	Some models	0.02671725	37.42900186
11	**Taels-T**	tlt	Some models	0.02666670	37.49995313
12	**Taels-S**	tls	Some models	0.02645546	37.79938054
13	**Mommes**	MM	Some models	2.666667	0.37499995
14	**Tolas**	T	Some models	0.0857353	11.66380709
15	**Ticals**	Tl	Some models	0.0612395	16.32932993
16	**Newtons**	N	Some models	0.00980665	101.9716213
17	**pound**	lb	0.01g & 0.1g units	0.00220462	453.59237
18	**custom**	Custom	All	As specified	As specified

The balance can be set to display only g.

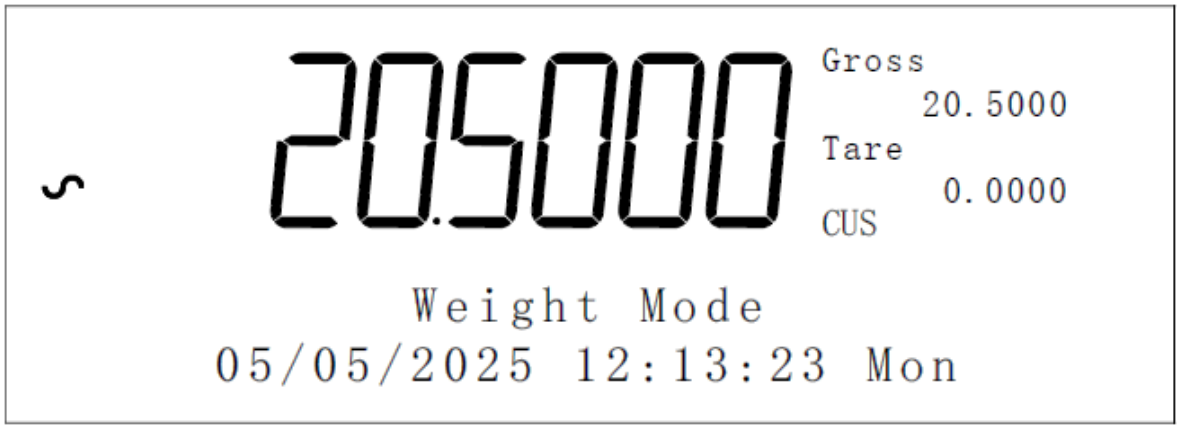
If the "Custom" unit is enabled and selected, the balance needs to select the decimal places for setting the conversion factor, for example, select 0.000 decimal places, and press ↑ or ↓ to adjust as shown below:



Press ↵ to confirm after setting and then set the conversion factor. For example, set it to 1g=0.205Custom. Enter the following values in section 8.18.1:



The balance will return to the weighing interface after setting, For example, when weighing 100g, the balance will display the following values:：



The balance displays the alternate weighing units with as much precision as possible. For example, the PPB 423 balance (420g x 0.001g) can measure:

Unit	Maximum	d =
g	420	0.001
mg	420000	1
kg	0.420000	0.000001
ct.	2100	0.005
dwt	270.066	0.001
GN	6481.59	0.02
ozt	13.50330	0.00005
oz	14.81505	0.00005
Lb	0.92594	0.00001
N	4.1188	0.0001

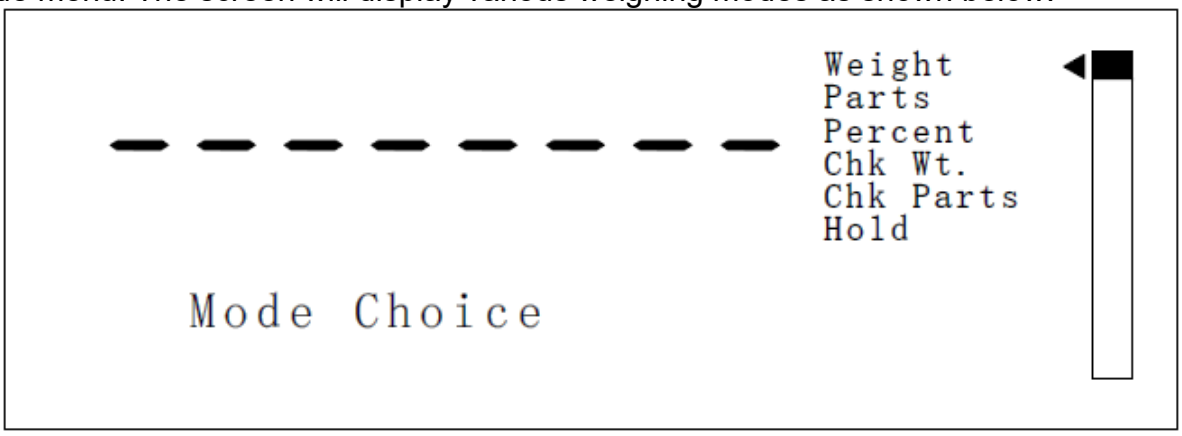
10.4 Functions

During weighing, the user can enter the activated function. (see section 14.2).

The following functions are available depending on the model:

Weighing
Parts counting
Percentage weighing
Checkweighing
Check counting
Peak hold
Animal (Dynamic) weighing
Net total
Density determination (liquid & solid)
Formulation

Optional functions can be activated by the Supervisor. Press **[Mode]** to enter the weighing mode menu. The screen will display various weighing modes as shown below.



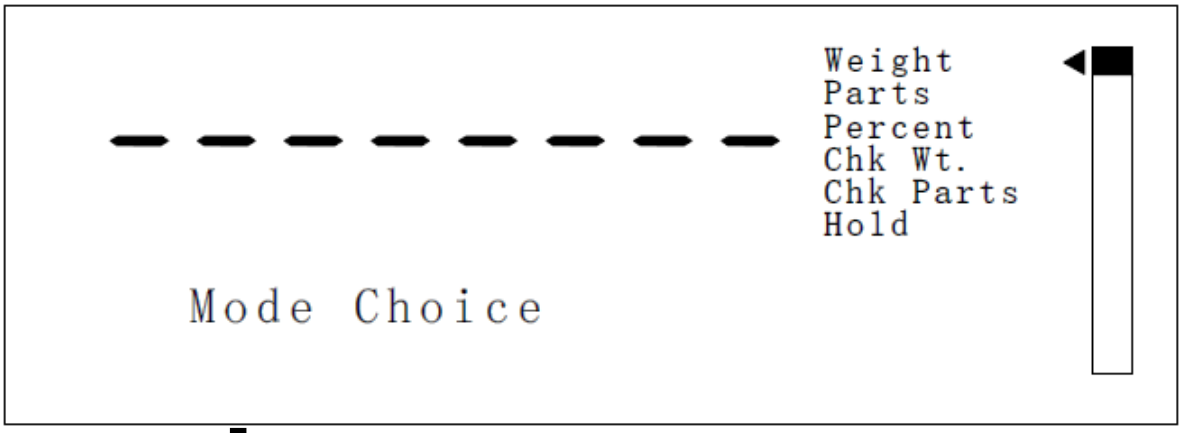
Use ↑ or ↓ to move the arrow to the corresponding function, press ↵ **to** confirm, or press 【**Esc**】 at any time to return normal weighing mode.

10.4.1 Parts counting

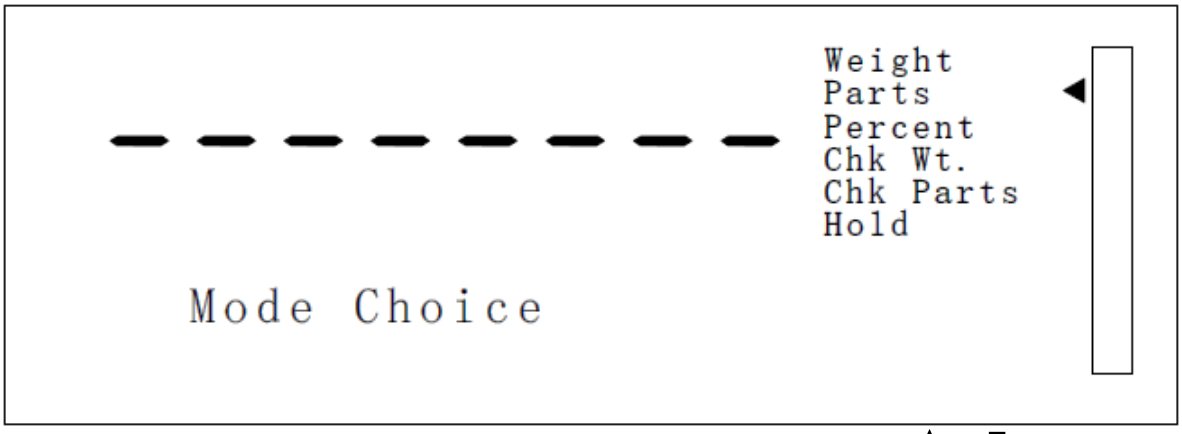
This allows the user to weigh a sample of identical parts to compute an average unit weight and then determine the number of items being weighed by dividing the net weight by the unit weight value.

The balance will take the preset number of parts as a sample. These numbers are 10, 25, 50 or 100 pcs.

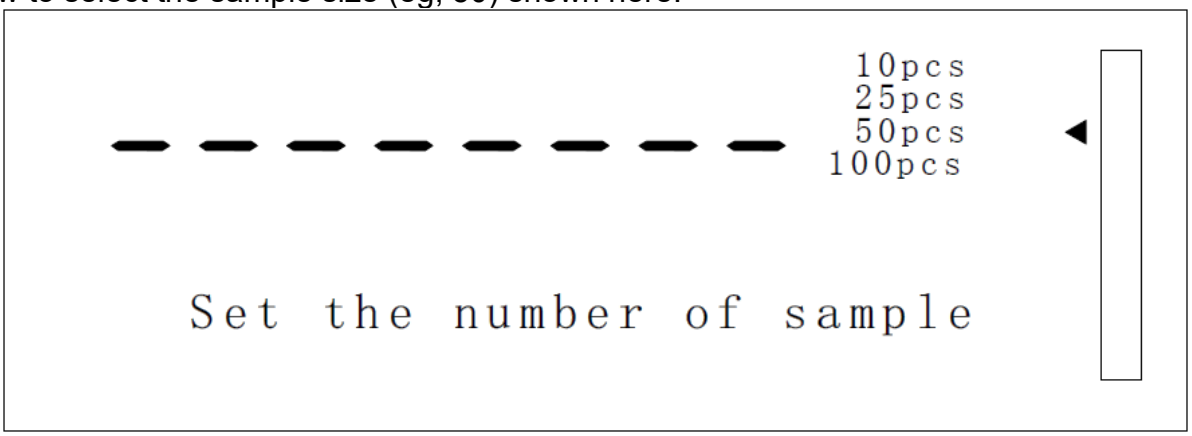
- Press **[Mode]** and this screen will be displayed:



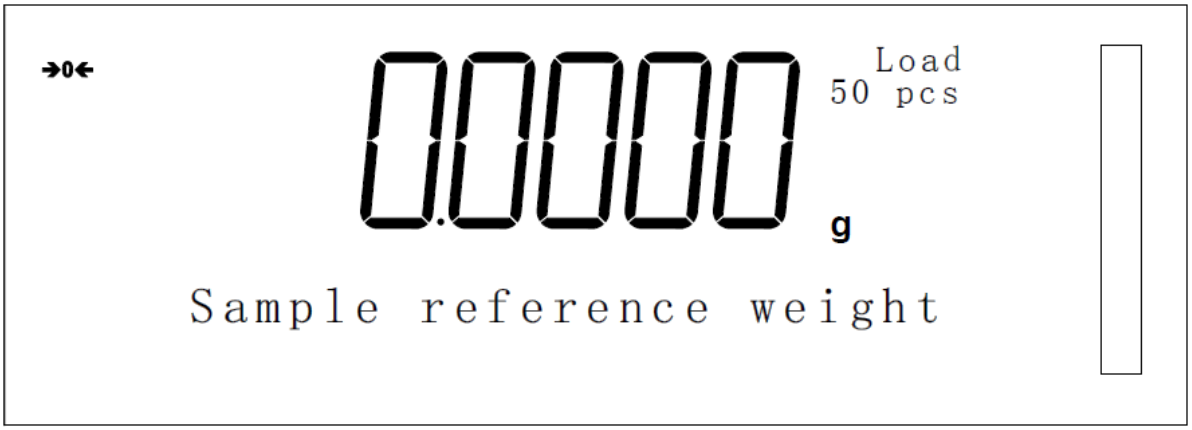
- Press ↓ to move the arrow to "Parts":



- Enter parts counting mode by pressing ↵, and press ↑ or ↓ to move the arrow to select the sample size (eg, 50) shown here:

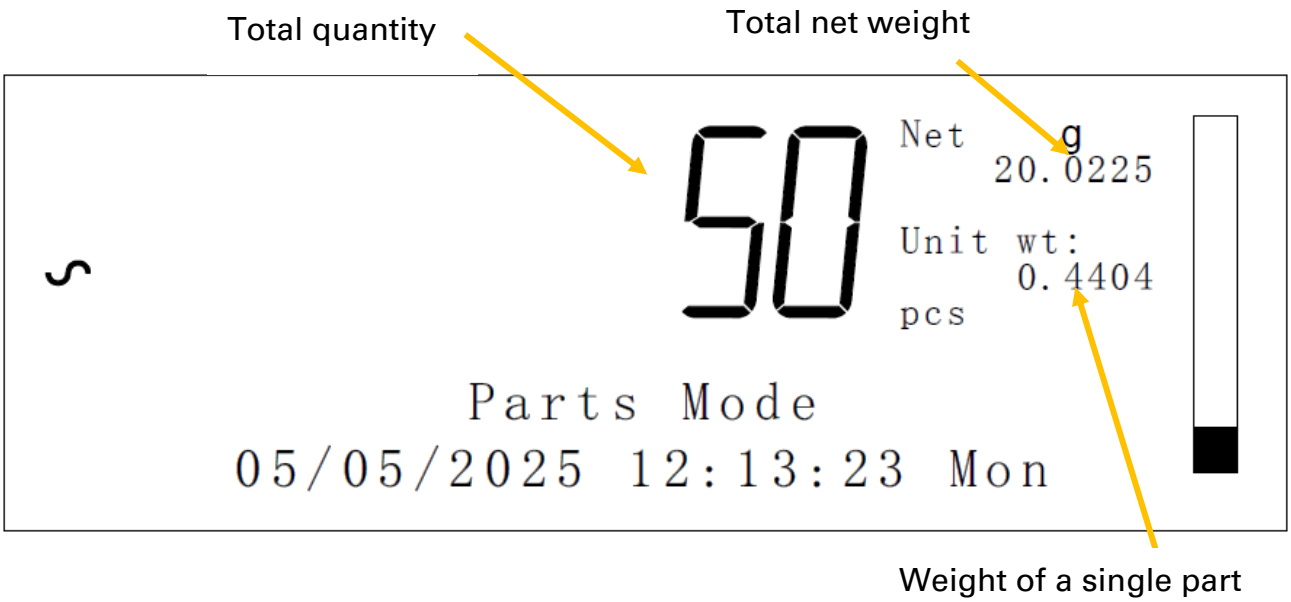


- Press ↵ to confirm, and the screen will be displayed:



- Press 【**Zero**】 to zero if the weight is not zero. Press 【**Tare**】 if you want to remove the tare value.

- With the display showing zero, place the corresponding quantity of items on the pan and press ↵ to compute the average piece weight. The display will show the total net weight. After the prompt sound, this screen will be displayed:



- Remove the sample and display will show "**0** PCS .

- Place an unknown quantity of parts on the pan. The balance will then compute the number of parts based on the average piece weight. The display will show the number of parts. This will be an integer value in the format "XX PCS".

- To return to normal weighing, press the **[Mode]** , and then press 【**ESC**】 .

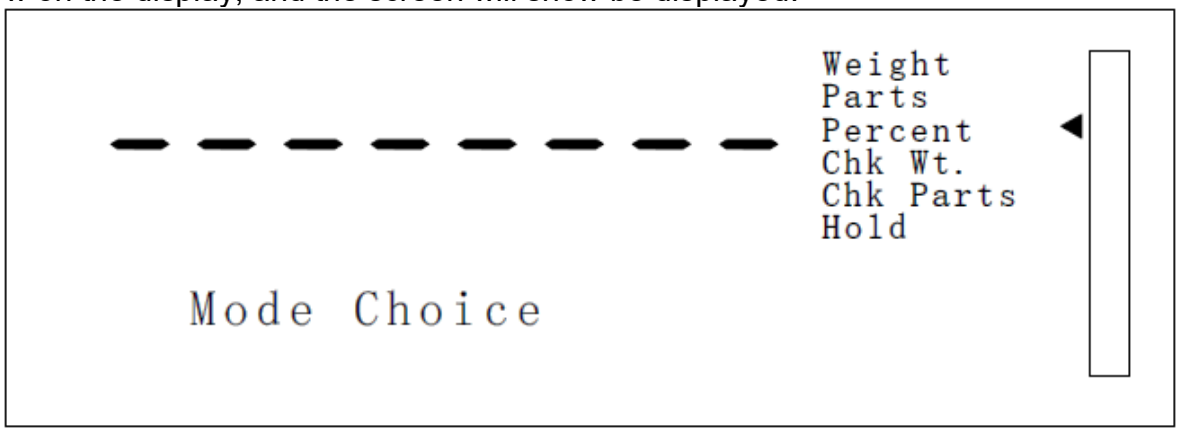
If re-sampling is required, repeat the previous steps.

Note: the weight of each piece must be > 1 division of the balance.

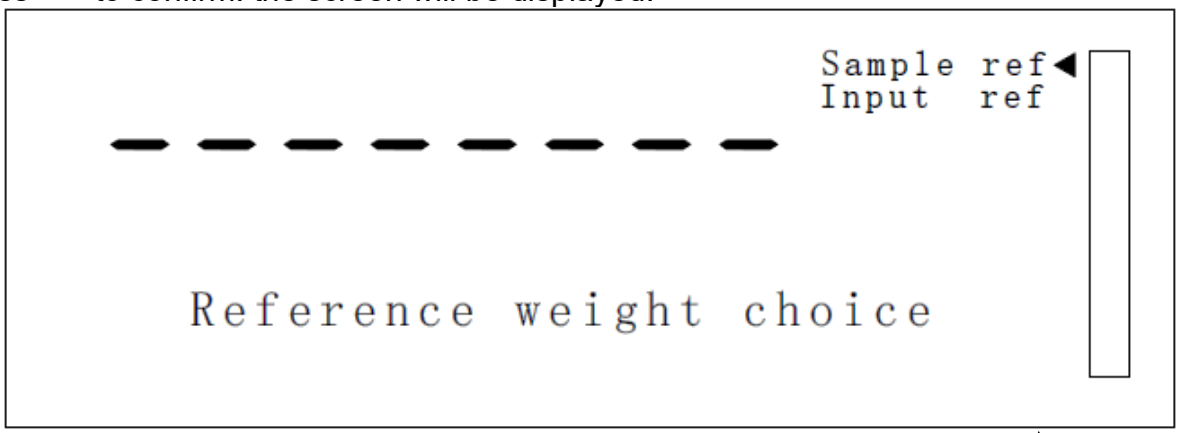
10.4.2 Percentage weighing

Percent weighing defines a certain weight to be 100%. The weight to be used can either be entered by the user or taken from a sample.

Press **[Mode]**, and then select percentage weighing by pressing ↑ or ↓ to move the arrow on the display, and the screen will show be displayed:



Press ↵ to confirm. the screen will be displayed:



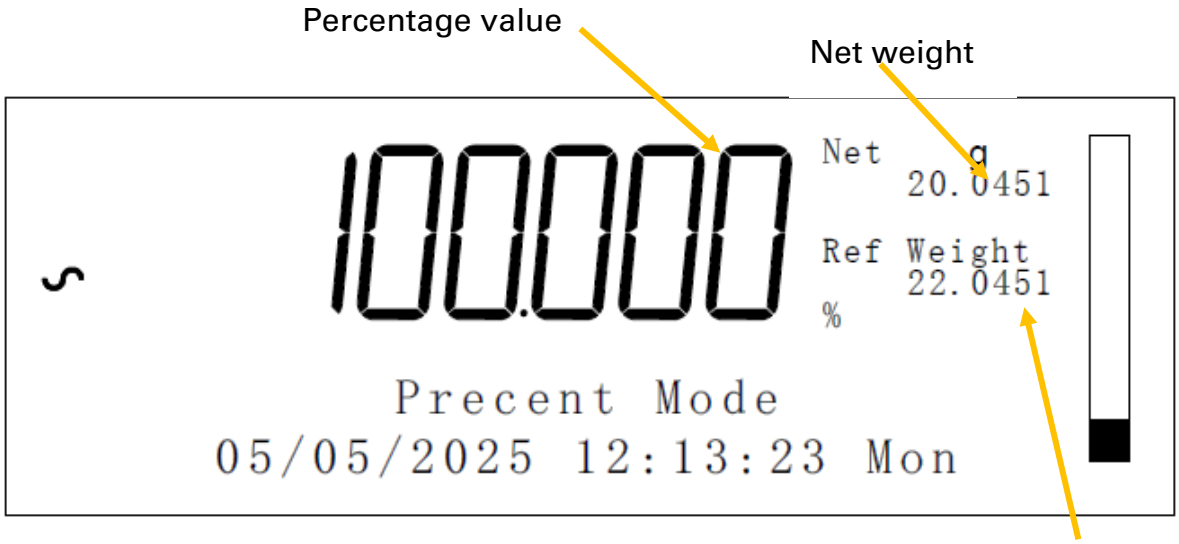
"Sample ref"(sample method) or **"Input ref"**(manual weight method. Press ↑ or ↓ to move the arrow to select the desired method.

10.4.2.1 Sample method:

Press ↵ when the arrow points to "Sample ref".

When the right of the display shows **"Load 100%"** the current weight will be displayed in the weight display area. If the weight is not Zero, please press【**Zero**】. If you want to remove Tare, press 【Tare】.

Carefully add the sample to the pan when the display shows zero, then press ↵ to confirm this weight to be 100%.the total net weight will be displayed. After the prompt sound, the screen will display the following picture:



Remove the sample, and “0.00%” will be displayed.

Place an unknown sample on the pan. The percentage weight relative to the original sample will be displayed.

To return to normal weighing, press 【**Mode**】 and then press 【**Esc**】.

If re-sampling is required, repeat the previous steps.

10.4.2.2 Manual input method:

Press ↵ when the arrow to point to“**Input ref**”.

“100% sample weight” will be displayed, use numeric entry method (Chapter 8.1) to change the weight to the required sample.

Press ↵ to confirm. The display will return to percentage weighing interface.

Place an unknown sample on the pan to display the percentage weight relative to the original sample.

To return to normal weighing, press the 【**Mode**】, and then press 【**Esc**】.

If re-sampling is required, repeat the previous steps.

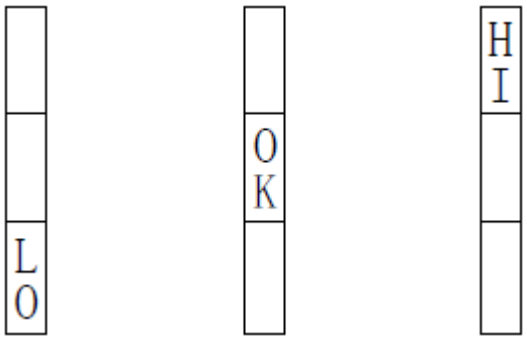
10.4.3 Checkweighing

The checkweighing function allows users to set high and low weight limits, helping to ensure consistency across multiple weights. Polaris models have an audible alarm and colour-changing backlight to denote when weights are outside of these preset high and low limits. The backlight colours denote:

- Below the low limit: Amber
- In range: Green

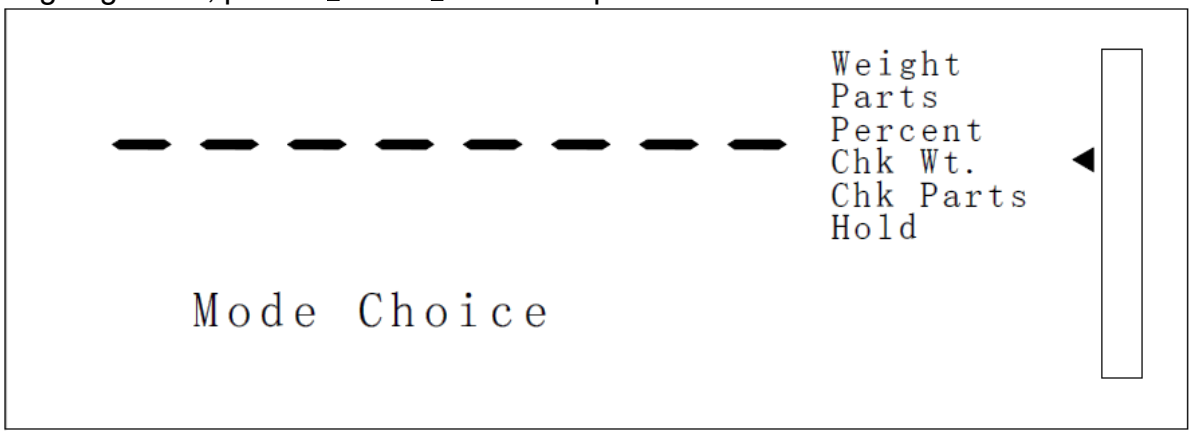
- Above the high limit: Red

The prompt box can display various states of loaded samples, as shown in the figure below:

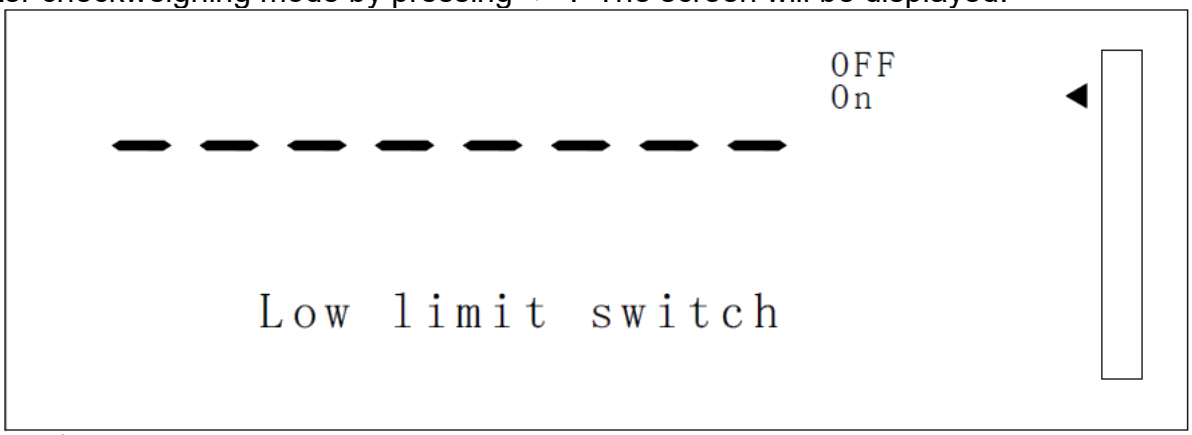


Below low limit Qualified weight Above high limit

In weighing mode, press 【**Mode**】 and then press ⬇ to move the arrow to "Chk Wt."



Enter checkweighing mode by pressing ↵. The screen will be displayed:



Press ⬆ or ⬇ to move the arrow to the corresponding position of the switch.

If the lower limit is set to "ON", pressing ↵ will allow you to enter a value for the lower limit using the numeric entry method.

If the lower limit is set to "OFF", pressing ↵ will display the last value of the upper limit setting, which can be changed by numeric entry method.

If a low limit is set the next option is to set the high limit using the numeric entry method.

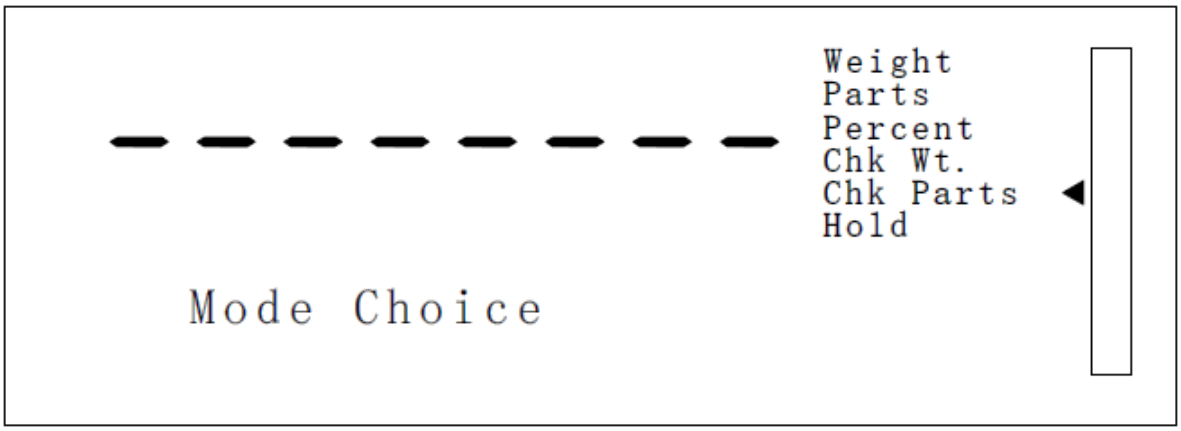
Once the high limit is set, the next option displayed is “**Buzzer switch**” to set the sound of the buzzer. Press ⬆ or ⬇ to select the setting of the buzzer: “**Off**” - buzzer doesn't sound; “**In**” - weight is in the range, buzzer sounds; “**Out**” - weight is out of range, buzzer sounds. Once set, Press ↵ to begin check weighing.

Press 【**Mode**】 and then 【**Esc**】 to return to normal weighing.

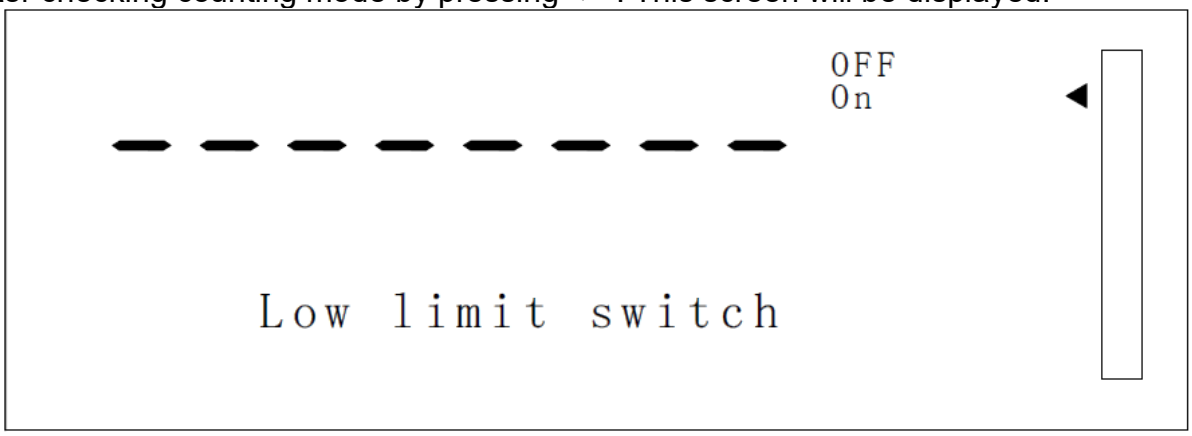
10.4.4 Check counting

In Check counting mode, you can set the upper and lower limits for the number of parts and provide an audible and visual alarm. The prompt interface is similar to **10.4.3 Checkweighing**.

Press 【**Mode**】 in the weighing interface, and then press ⬆ or ⬇ to move the arrow to “Chk Parts”.



Enter checking counting mode by pressing ↵. This screen will be displayed:



Press ⬆ or ⬇ to move the arrow to the corresponding position of the switch.

If the lower limit is set to “ON”, pressing ↵ will allow you to enter a value for the lower limit using the numeric entry method.

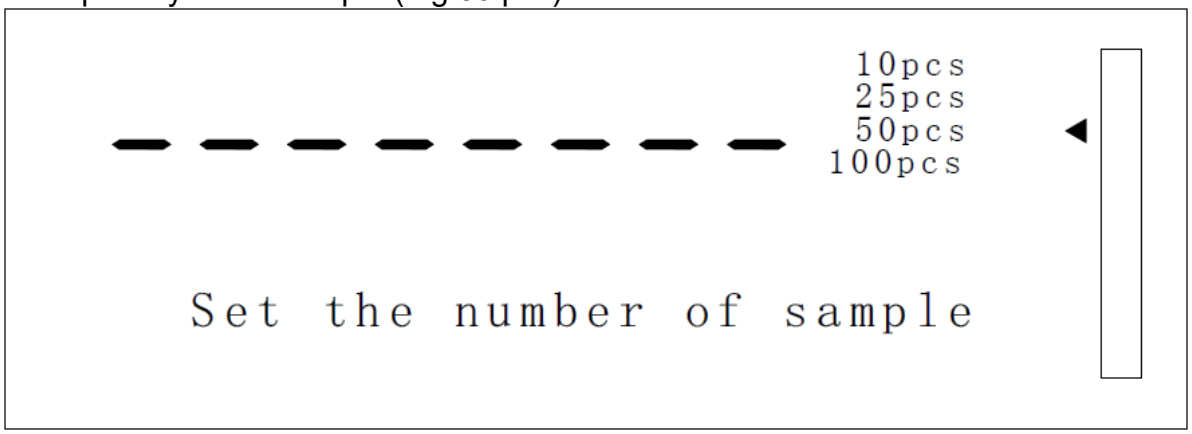
If the lower limit is set to “OFF”, pressing ↵ will display the last value of the upper limit setting, which can be changed by the numeric entry method.

If a lower limit is set, the next option is to set the high limit using the numeric entry method.

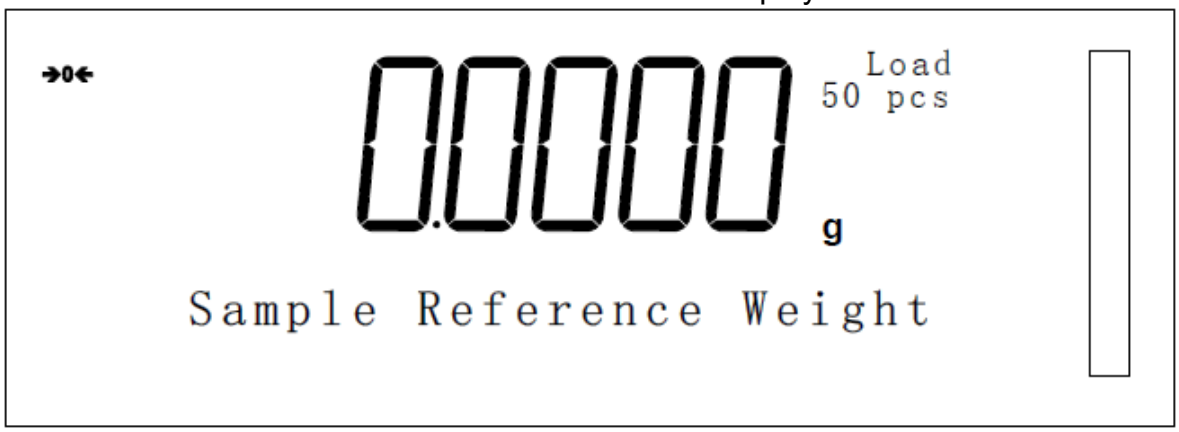
Once the high limit is set, the next option displayed is “Buzzer Switch” to set the sound of the buzzer. Press ↑ or ↓ to select the setting of the buzzer. “**Off**” - buzzer doesn't sound; “**In**” - count is in the range, buzzer sounds; “**Out**” - count is out of range, buzzer sounds.

Once set, Press ↵ to begin check counting.

After selection, press ↵ to enter the next option, press ↑ or ↓ to move the arrow to select the quantity of the sample (e.g 50 pcs):



- Press ↵ to confirm. This screen will be displayed：



- Press 【**Zero**】 to zero if the weight is not zero. Press 【**Tare**】 if you want to remove the tare value.

Put the corresponding number of items on the pan after the weight of the balance shows 0 and press the ↵ to calculate the average weight of a single item. Wait a few seconds and the balance will directly display the number of parts.

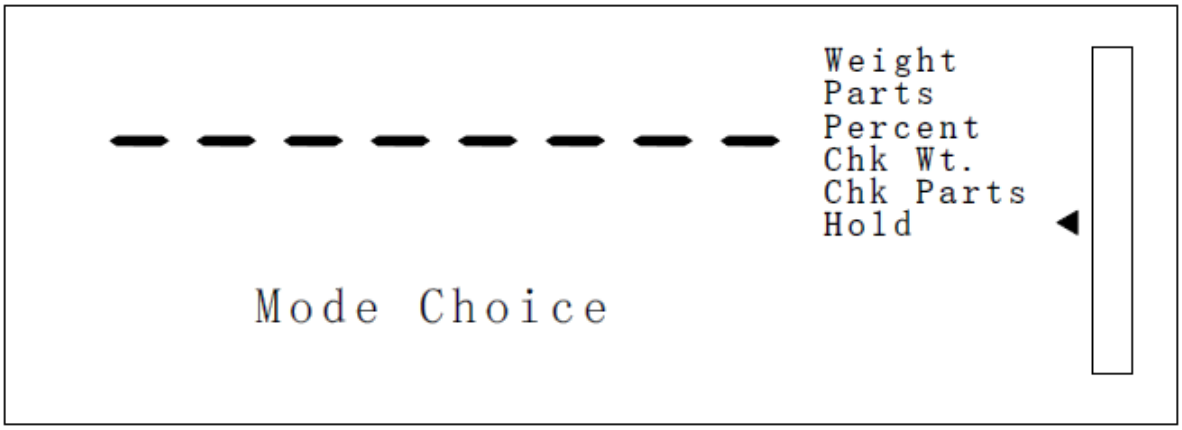
Pressing **[Mode]** and then 【**Esc**】 to return to normal weighing.

10.4.5 Hold function

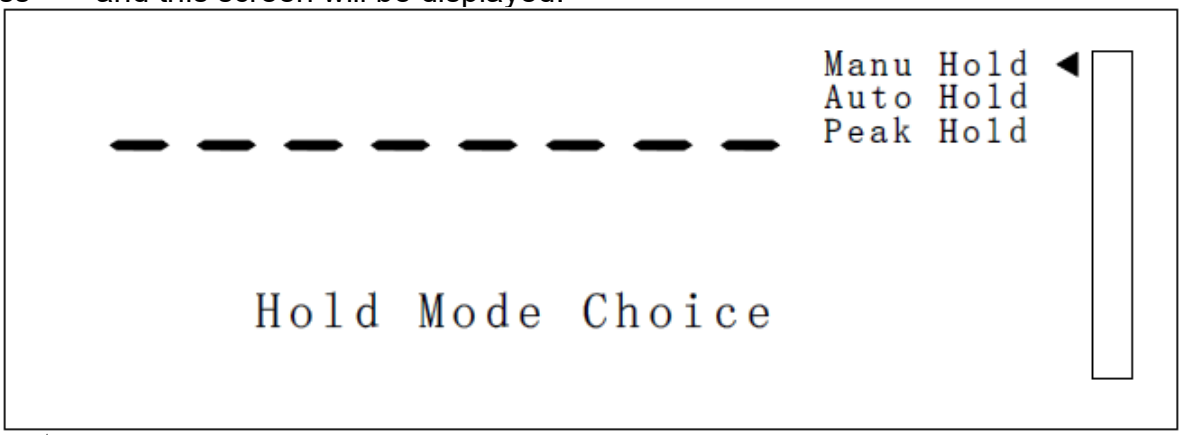
The hold function of Polaris balances ‘freezes’ the weight reading on the display.

Steps：

Press 【**Mode**】 then press ↑ or ↓ to move the arrow to “Hold”:



Press ↵ and this screen will be displayed.



Press ↑ or ↓ to choose Manual hold, Auto hold or Peak hold.

10.4.5.1 Manual hold

With the arrow pointing to “Manu Hold,” press ↵ to enter manual hold mode.

Place the sample on the pan, and press ↵ after the stable symbol appears. The reading will hold on the display.

Press 【**Tare**】 or 【**Zero**】 to clear the held reading.

10.4.5.2 Auto hold

Press ↵ to enter the automatic locking mode, when the arrow to point to“Auto Hold”.

Slightly put the sample on the pan, the balance will lock the stable symbol automatically, the locked reading will always be locked. The locked reading will remain on the display

If you want to lock a new reading, press ↵ to unlock the current value, and the balance will automatically lock the reading when the next stable symbol appears.
When you press 【**Tare**】or【**Zero**】,the locked reading will be cleared.

10.4.5.3 **Peak hold**

Press ↵ to enter the peak hold, When the arrow to point to “Peak Hold”.

Slightly put the sample on the pan, the balance will automatically lock the largest reading in the whole weighing process, and the reading will remain on the display when the sample is removed.

Press 【**Tare**】or 【**Zero**】 to clear the locked reading on the right of the display.

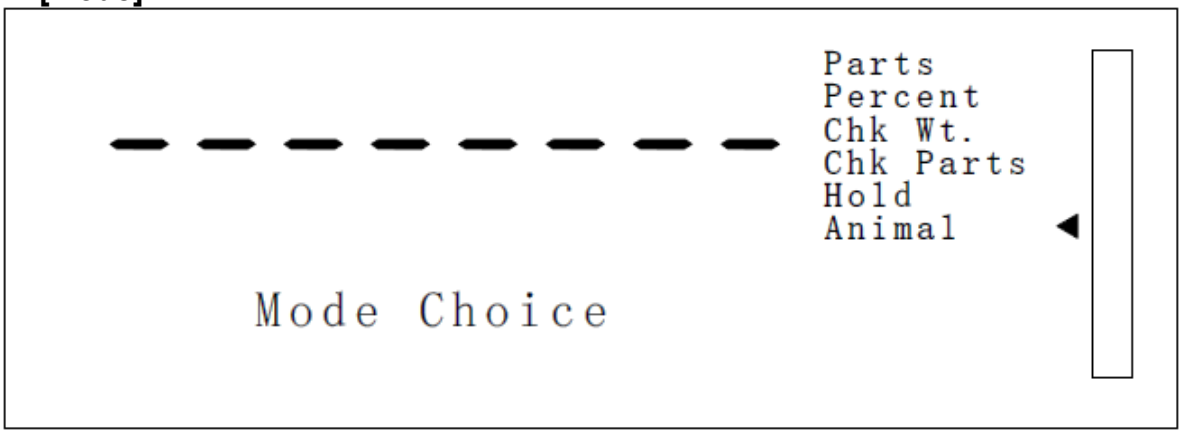
Press 【**Mode**】and then【**Esc**】to return to the normal weighing.

10.4.6 **Animal (Dynamic) weighing**

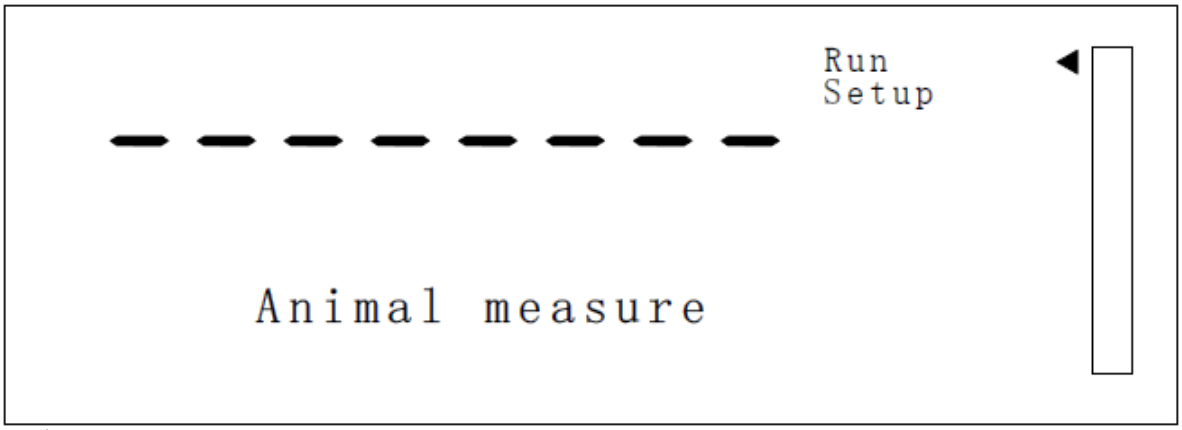
The balance can be set to weigh animals or unstable/moving items. This is commonly referred to as “Dynamic” or “Animal” weighing mode. The balance will collect the weight over a period time to arrive at an average value and display the value until the operator resets the balance. The actual weighing process can start automatically when the item is placed on the scale pan, or manually by the user.

Steps:

Press **[Mode]** and then the ↑ or ↓ to move the arrow to "Animal":



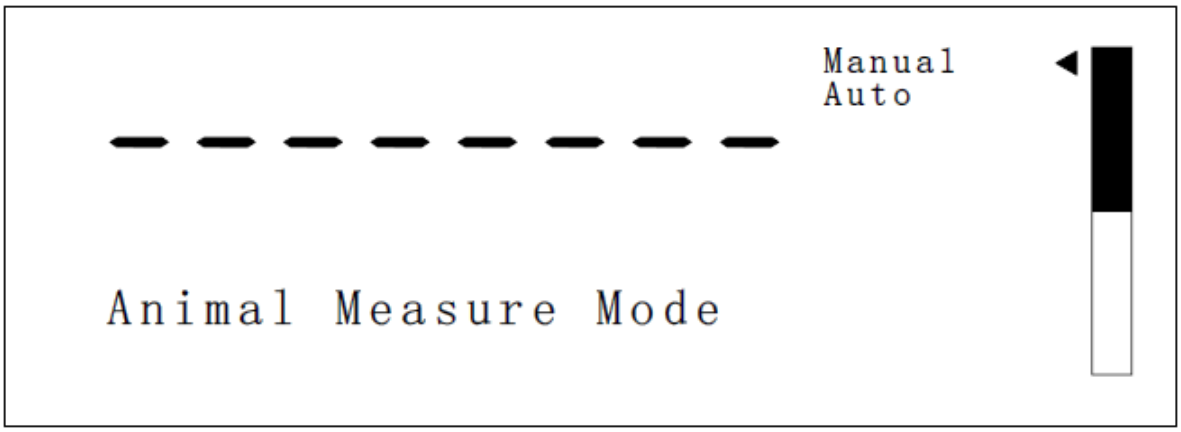
Press ↵ to enter the animal weighing mode, and this screen will be displayed:



Press ⬆ or ⬇ to select “**Run**” and press ↵ to enable animal weighing mode (see section 10.4.6.2-10.4.6.3), or “**Setup**” and press ↵ to set up the animal weighing parameters (see section 10.4.6.1).

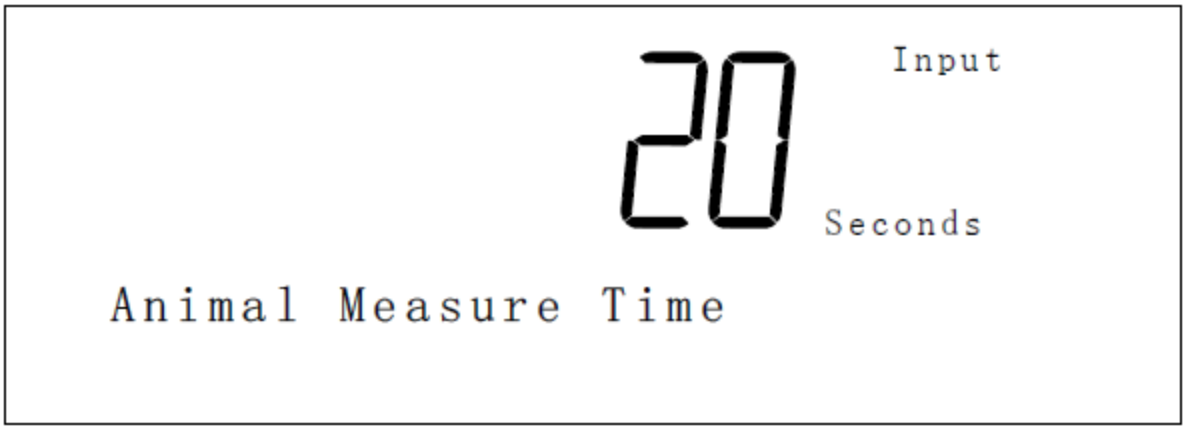
10.4.6.1 Animal (Dynamic) weighing setup

When "Setup" is selected, press ⬆ or ⬇ to move the arrow to select” Manual “or” Auto”:



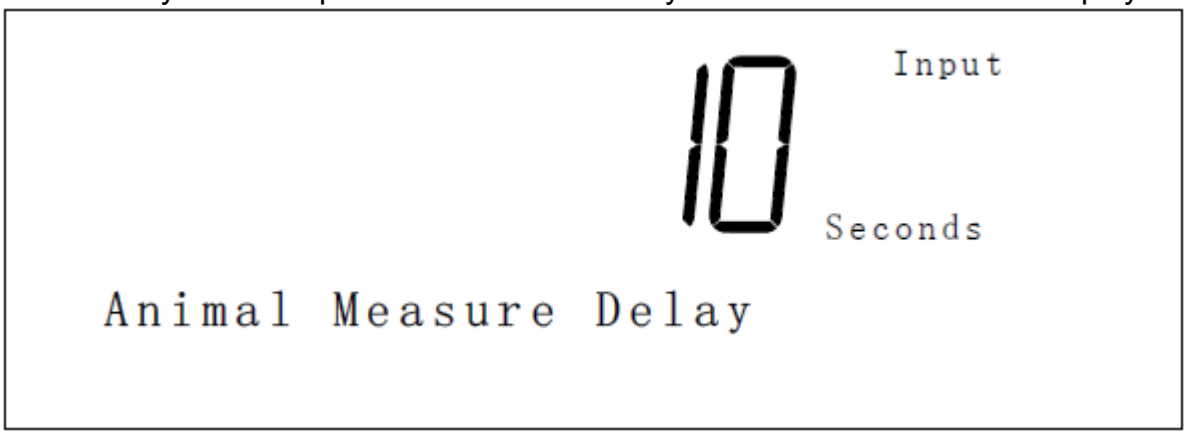
10.4.6.1.1 Manual setup parameters

When you have selected “Manual” press ↵ and the display will show the current setting：



The animal measure time can be set between 10 and 99 seconds using the keypad numeric entry method (see section 8.1).

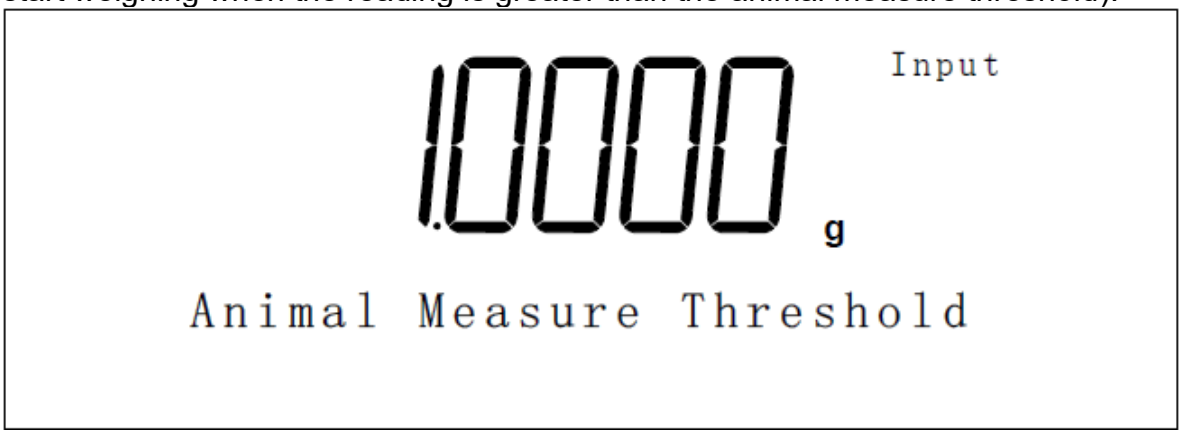
Press ↵ and you will be promoted to set the delay time. This screen will be displayed：



Input the delay time using the numeric entry method (see Section 8.1). The delay time can be set between 0 and 99 seconds. Press ↵ after input.

10.4.6.1.2 Auto setup parameters

When “Auto” is selected, the screen will display the animal measure threshold (the balance will start weighing when the reading is greater than the animal measure threshold):



Input the required value by numeric entry method (see Section 8.1). The animal measure threshold setting range is 1-100g.

Press the ↵ and then set the test time and delay time respectively.

10.4.6.2 Manual mode (Factory default)

When “**Run**” is selected, the balance will display “**Start ?**”.

Place the item on the pan and press ↵.

After the pre-configured delay and test time have elapsed (see section 10.4.6.1 on Animal (Dynamic) weighing setup), the “**Finished**” symbol and the result will be displayed and will remain on the screen.

Remove the item from the pan.

- Press ↵ to unlock the value on the screen, and repeat the above steps to continue weighing.
- Press 【**Esc**】 to return to normal weighing.

Press 【**Print**】 during animal weighing to temporarily stop weighing. The balance will display "**Paused**" on the right and the current average weight at the same time.

To resume, press 【**Print**】 again.

Press 【**Mode**】 to manually stop animal weighing. **"Stopped"** will be displayed, and the final value will hold on the screen.

10.4.6.3 Auto mode

When "**Run**" is selected, the balance will display "**Load pan**".

Place the item on the pan. Animal weighing mode will automatically start when the weight exceeds the animal measure threshold.

After the pre-configured delay and test time have elapsed, the "**Finished**" symbol and the result will be displayed and remain locked on the screen.

Remove the item from the pan.

- Press ↵ to unlock the value on the screen, and repeat the above steps to continue weighing.
- Press 【**Esc**】 to return to normal weighing.

Press 【**Print**】 during animal weighing to temporarily stop weighing. The balance will display "**Paused**" on the right and the current average weight at the same time.

To resume, press 【**Print**】 again.

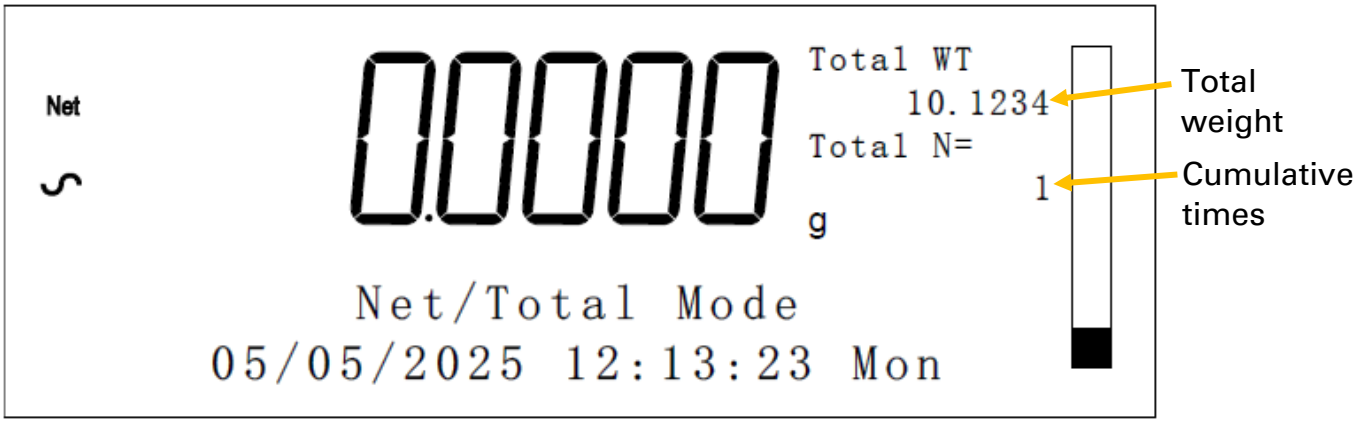
Press 【**Mode**】 to manually stop animal weighing. **"Stopped"** will be displayed, and the final value will hold on the screen.

10.4.7 Net/Total weight

Press **[Mode]** in normal weighing, and use ↑ or ↓ to move the to"Net/Total".

Press ↵ to enter this function.

And the sample to the balance, and press the ↵ key. The balance will automatically accumulate and reset to zero, and the screen will be displayed：



You can continue adding weights. Press the ↵ to store the next weight accumulation. Press **[Mode]** and then **【Esc】** to return to normal weighing.

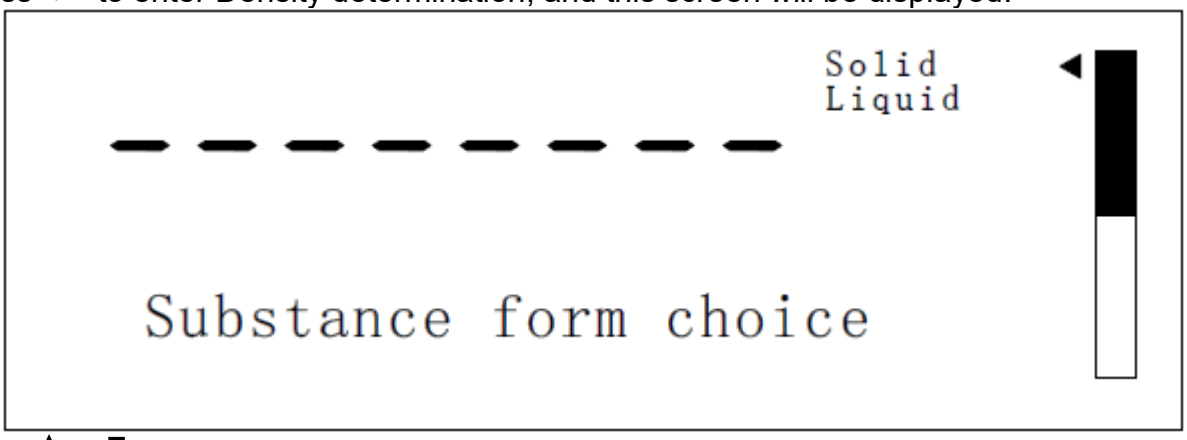
10.4.8 Density determination

It is possible to determine the density of solids or liquids using this mode. The user selects the type of density to be determined and then enters values to be used by the balance. The density mode allows the user to use a special Density Kit or use the weigh-below hook supplied to perform the necessary weighing.

Steps：

Press **【Mode】** and then use ↑ or ↓ to move the arrow to “Density”.

Press ↵ to enter Density determination, and this screen will be displayed:



Press ↑ or ↓ to select “**Solid**” to measure the density of solids, or “**Liquid**” to measure the density of liquid.

10.4.8.1 Density of solids

To perform a density of solids test, the user needs to fully immerse the sample in the chosen liquid. The density of the liquid must be known or determined from an enquiry form.

Steps：

When the arrow points to “**Solid**”, Press ↵ to enter solid density measurement mode.

Press ↑ or ↓ to move the arrow to select the liquid – water (“**Water**”), ethanol (“**Ethanol”)**, or other liquid **(“Other”**).

Press ↵ to confirm when the liquid is selected.

- For water and ethanol:

The density will be calculated based on the liquid temperature. When the balance prompts for the input of the current temperature of the liquid, use the numerical input method (see section 8.1) to input the temperature.

- For other liquid:

The liquid density value must be accurately known and entered manually. A value will appear on the screen, e.g. **“0.500 g/cc”**, input the known density (g/cc) using the numeric entry method (see section 8.1 section). The value must be in the range 0.5 ≤ 2.0. When the selected value exceeds this range, it will not be accepted and **“LOW ERROR”** or **“HIGH ERROR”** will be displayed, and then return to the density input interface.

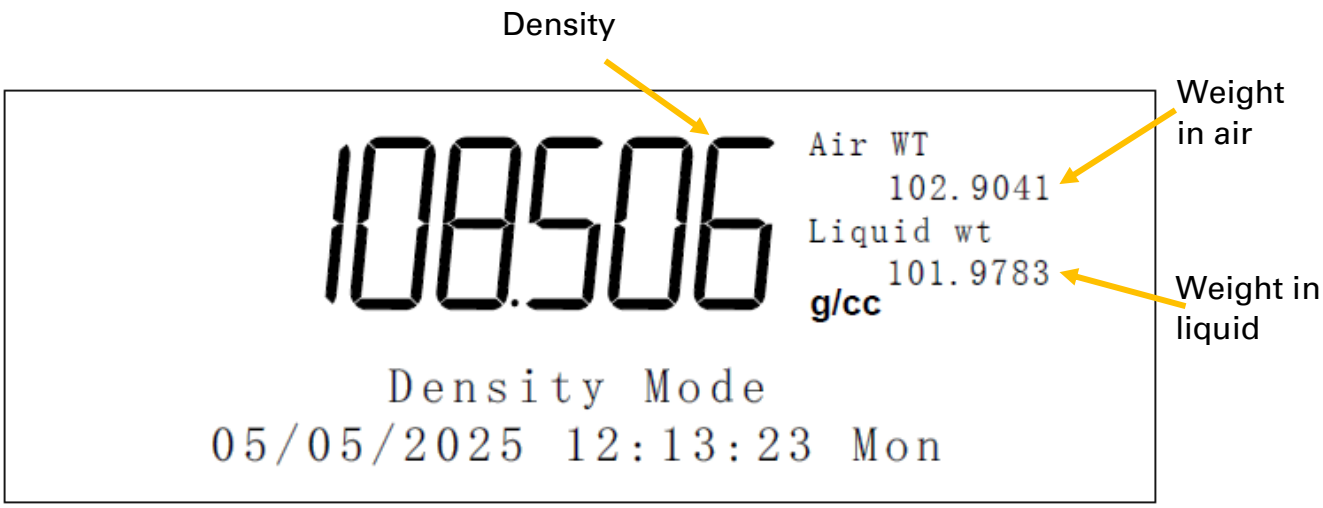
Press↵ to confirm after input.

“Air Wt” will be displayed on the right of the display. The weight display area shows the weight. If the weight is not Zero, press【Zero】 to zero. If you need to Tare the weight, press 【Tare】.

When the balance shows **“0”**, add the sample to the pan (or place it on the upper tray if a density kit is being used), and press ↵. The weight of the sample will be recorded by the balance.

After weighing is complete, the prompt on the right side of the balance shows **“Liquid Wt”**. Remove the item. If the weight is not Zero, press 【**Zero**】 to zero. If you need to Tare the weight, press 【Tare】.

Submerge the item in the liquid once **“0”** is displayed, and press ↵ to start liquid weighing. The weight in liquid will briefly be shown, and the balance will calculate the density of the sample and display it as follows:



To measure the new sample density, press the 【**Mode**】 and repeat the above steps.

10.4.8.2 **Density of a liquid**

To test the density of a liquid, it is necessary to weigh a sample with a known volume in air and then in the liquid. The volume of the sample must be entered by the user. The last known volume is stored for use at any time.

If using the density determination kit, the volume of the plumb is marked on its support, e.g. 10.123 cc.

Press ↑ or ↓ to move the arrow to "**Liquid**" when entering density measurement, then press ↵ to enter Liquid density measurement mode.

The balance will prompt the input of the volume of the glass ball. Enter the volume of the glass ball by using the numeric entry method (see section 8.1), then press ↵ after input**.**

"**Air Wt**"will be displayed on the right of the display. The weight display area shows the weight. If the weight is not Zero, press【Zero】 to zero. If you need to Tare the weight, press 【Tare】.

Place the glass ball on the pan after the display shows **"0"**. Press ↵ to begin weighing**.** The weight will briefly be shown, then display **"Liquid Wt"**. The balance will request the weight of the glass ball in the liquid. Remove the glass ball. If the weight is not Zero, press 【Zero】 to zero. If you need to Tare the weight, press 【Tare】.

Submerge the glass ball in the liquid and press ↵ to start liquid weighing. The weight will briefly be shown, the balance will calculate the density of the sample and display **"XXXX g/cc**"

To measure the density of a new liquid, dry the glass ball, press 【**Mode**】 and repeat the above steps.

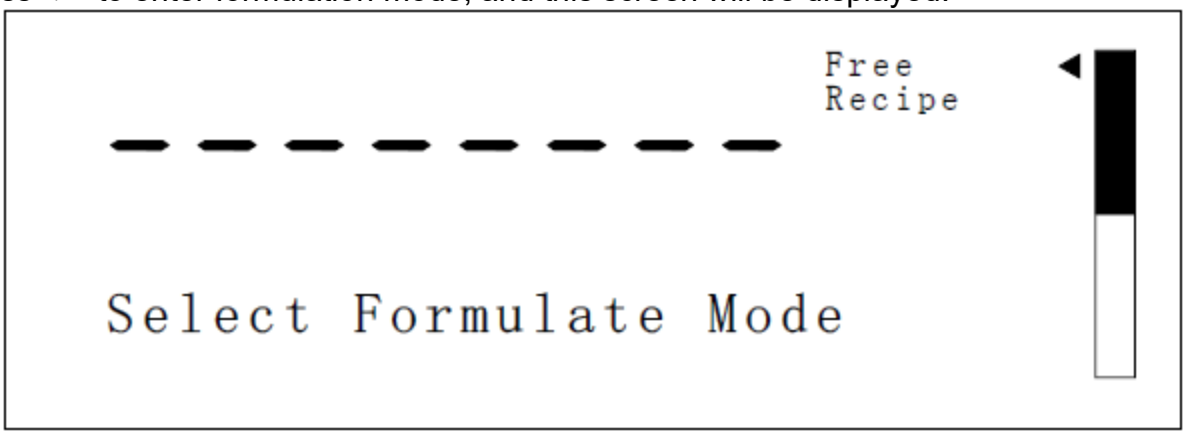
Press **[Mode]** and then press 【**Esc**】to return to normal weighing.

10.4.9 Formulation

There are two modes for the formation functions: free mode and formulation mode. In formulation mode, users can set up to 10 formulations, and each formulation can set the weight of up to 20 items. After the formula is set up, users can recall it up at any time. During the weighing process, users can directly observe the set weight of each item. By adding or subtracting samples, the actual weight can be made consistent with the set weight. After testing all the samples, the total formulation weight and the weight of each sample will be displayed, as well as the percentage of the weighed weight of each sample to the set weight (the percentage will not be displayed in free mode).

In normal weighing mode, press 【**Mode**】, and then press ↑ or ↓ to move the arrow points to"**Formulate**".

Press ↵ to enter formulation mode, and this screen will be displayed:

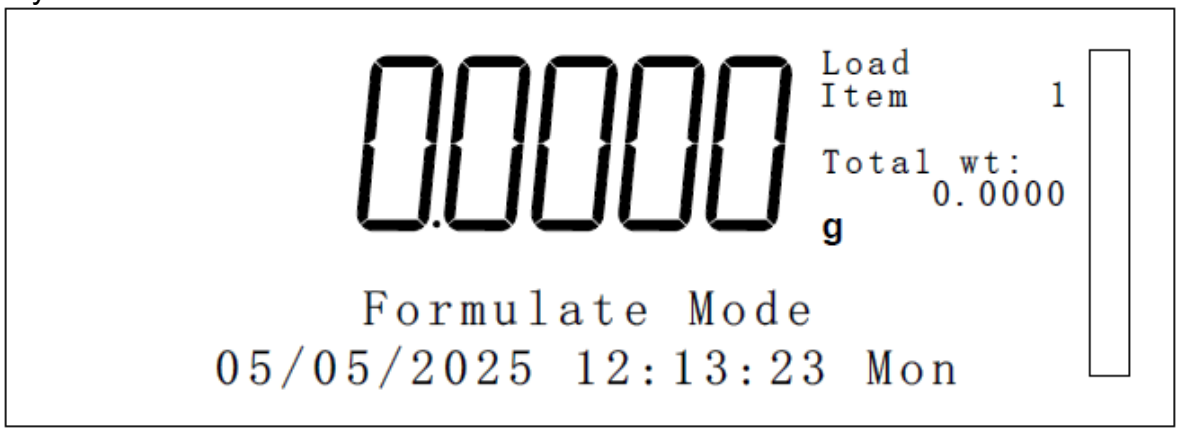


Free mode **"Free"** and recipe mode **"Recipe"** can be selected according to the user's needs.

Press 【**Mode**】 to stop formulation weighing when in formulation mode.

10.4.9.1 Free mode

When the arrow points to **"Free"**, Press ↵ to enter free mode, the screen will be displayed：



Press【Zero】If the weight is not zero. If you need to Tare the weight, press 【Tare】.

Place the sample of the first formulation on the pan. Press ↵ after loading, and the sample weight of the formula will be recorded by the balance after few seconds.

Continue loading the second sample. Press the ↵ to confirm after loading.

To continue loading, repeat the above loading action. Press 【**Mode**】 when weighing is finished. The total weight and total number of times will be displayed.

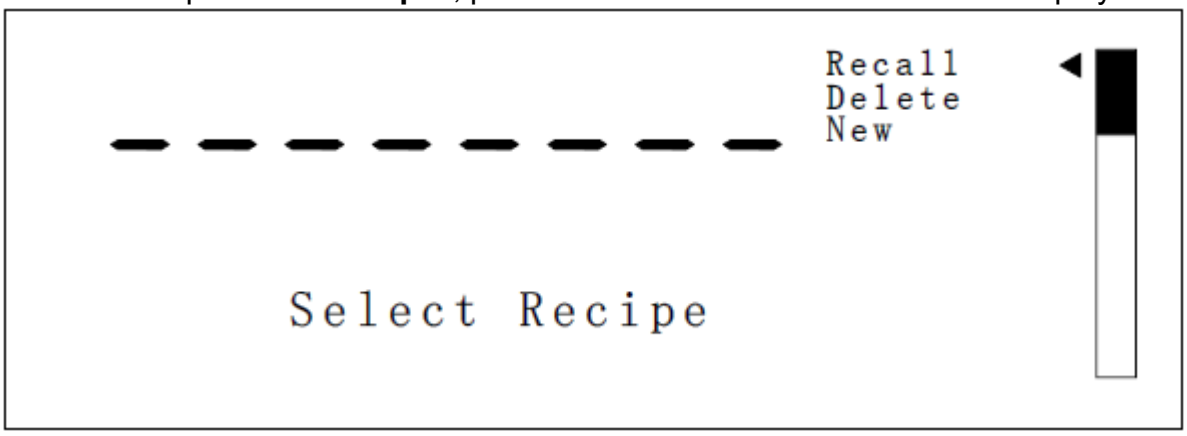
Press ↑ or ↓ to cycle through the weight and total weight readings for each sample.

To start the process again, press 【**Back**】 and repeat the above steps.

Press **[Mode]** and then 【**Esc**】 to return to normal weighing.

10.4.9.2 **Formation mode**

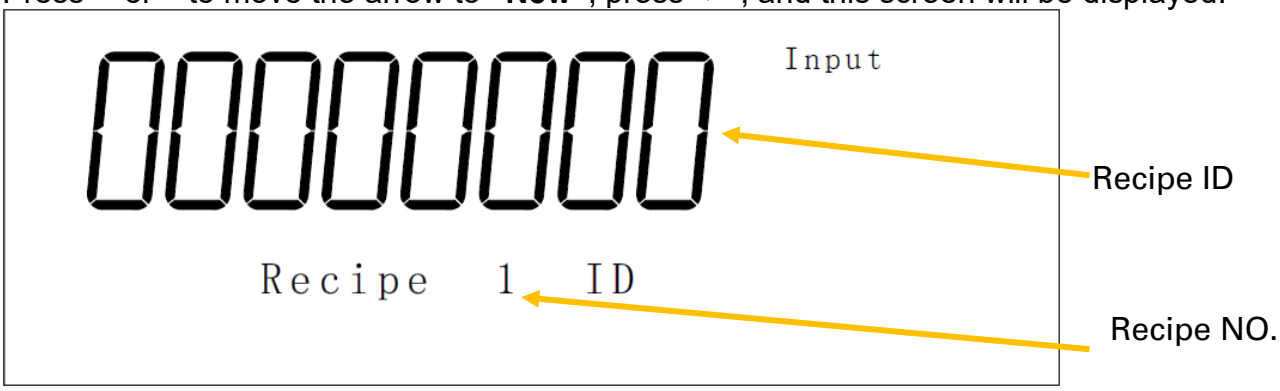
When the arrow points to **"Recipe"**, press ↵ to enter. This screen will be displayed：



Press ↑ or ↓ to move the arrow to "**Recall**" (to recall a recipe), **"Delete"** (to delete a recipe) or **"New"** (to create a new recipe).

10.4.9.2.1 New Recipe

Press ↑ or ↓ to move the arrow to **"New"**, press ↵, and this screen will be displayed:



Input the user ID number using the numeric entry method (see section 8.1), and then press ↵. The weight of the first sample in the recipe is required; input by the numeric entry method, and press ↵.

Input the weight of the second sample using the numeric entry method (see section 8.1), and then press ↵.

Enter the weight of the following samples according to this method. When all samples have been entered, enter the next sample as 0 and press the ↵ to end the recipe setting. The balance will automatically jump to the recipe weighing interface.

Load the sample with the corresponding weight according to the weight in the prompt and press ↵ to confirm after loading.

Load each sample, press ↵ after loading, and the balance will automatically show the results after all the samples are loaded.

Press ↑ or ↓ to cycle through the weights of every sample.

Press【**Back**】, and then repeat the above steps to create a new recipe.

Press **[Mode]** and then【**Esc**】 to return to normal weighing mode.

10.4.9.2.2 Recall recipe

Users must set a formula before recalling.

Press ↑ or ↓ to move the arrow to point to **"Recall"** and press ↵.

Press ↑ or ↓ to select the corresponding formula according to the prompt and then press ↵ to enter formula weighing.

Load the sample with the corresponding weight according to the prompt box and press ↵ to confirm after loading until the test is over.

Press 【**Back**】 and then repeat the above steps if required.

10.4.9.2.3 Delete formula

Press ↑ or ↓ to move the arrow to **"Delete"**, and press ↵.

Press ↑ or ↓ to move the arrow to select the formula to be deleted, and press ↵ to delete the selected formula.

Repeat the above actions if you want to continue deleting the formula.

Press 【**Esc**】 to return to normal weighing mode.

10.4.10 **Net/total quantity**

This function is convenient for counting the net quantity and total quantity of parts.

Steps：

Press 【**Mode**】, and then press ⬆ or ⬇ to move the arrow to **"PCS/Total"**.

Follow the prompts to complete quantity sampling (see 10.4.1 Parts counting for sampling method).

The operation method after sampling is consistent with the Net/total weight (10.4.7).

11 RS-232 interface (serial port)

Polaris balances can send or receive data through the RS-232 serial interface (on the rear of the balance) and USB serial interfaces (on the back and side of the balance). Both interfaces are controlled by the parameters detailed below. If the host computer to be used does not have a serial port, then a USB-RS232 convertor accessory can be used.

Both USB and RS-232 operate according to common serial ports. Weighing data can be automatically sent through the interface or operated by the user pressing the 【**Print**】 key. Connection can be made to a printer, remote terminal or other device with a compatible serial data port.

11.1 Hardware

The RS-232 interface is a simple 3 wire connection. A standard RS-232 M-F cable can be used.

The input and output connections are：
Connector: 9 hole D-sub miniature socket
Pin 1 output from balance + 5V
Pin 2 input to balance RXD
Pin 3 output from balance TXD
Pin 5 signal ground GND

Handshaking is not applied.

Baud rate:	4800, 9600, 19200, 38400, 115200
Parity:	NONE (=8N1), EVEN (=7E1) or ODD (=7 O 1)

All lines are terminated with carriage return and line feed (<CR><LF>).

To connect to a device, the correct cable must be used, and port settings on both connected devices must match. RS-232 and USB interfaces can output different contents at the same time, so that different devices can be connected.

11.2 Output formats

11.2.1 Single-line output format

If single-line output format is selected, serial output format is single-line format "1234.567 g<CR><LF >" (the symbol in the black part always has 9 digits, and spaces are added before less than 9 digits).

NOTE: The format of the result will change depending on the mode in which the balance is operating, e.g.

Normal weighing，Checkweighing, Animal weighing, Hold function：
“123.456 g<CR><LF>”
Parts counting, Check counting：
“1234 pcs<CR><LF>”
Percentage weighing：
“12.345 %<CR><LF>”
Net weight/Total weight：

```
 Net 01:   20.0125 g  <CR><LF>
 Net 02:   xx.xxxx g  <CR><LF>
 Net 03:   xx.xxxx g  <CR><LF>
 Net 04:   xx.xxxx g  <CR><LF>
 Net 05:   xx.xxxx g  <CR><LF>
 Net xx:   xx.xxxx g  <CR><LF>
 Net xx:   xx.xxxx g  <CR><LF>
  Total  xxx.xxxx g   <CR><LF>
                      <CR><LF>
```

Density：

"12.345 g/cc<CR><LF>"

Formulation：

```
Item            01    <CR><LF>
Actual     20.0154 g  <CR><LF>
Item            02    <CR><LF>
Actual     20.0074 g  <CR><LF>
Item            xx    <CR><LF>
Actual     xx.xxxx g  <CR><LF>
Item            xx    <CR><LF>
Actual     xx.xxxx g  <CR><LF>
  Total   xxx.xxxx g  <CR><LF>
                      <CR><LF>
```

Net /Total quantity:

```
Parts  01:       123 PCS  <CR><LF>
Parts  02:       321 PCS  <CR><LF>
Parts  xx:       xxx PCS  <CR><LF>
Parts  xx:       xxx PCS  <CR><LF>
Parts  xx:       xxx PCS  <CR><LF>
Parts  xx:       xxx PCS  <CR><LF>
  Total      xxxx PCS     <CR><LF>
                          <CR><LF>
```

11.2.2 Standard output format

The balance will print the following data as the standard form. The standard form cannot be changed. The format of the custom forms #1 and #2 will be the same as the standard form until modified by the user. Different weighing modes output different data formats.

Weighing mode output format is as follows:

```
                          <CR><LF>
Date:      18/06/2025     <CR><LF>
Time:      12:48:00       <CR><LF>
                          <CR><LF>
ID No:     11111111       <CR><LF>
                          <CR><LF>
Net:         40.0221 g    <CR><LF>
                          <CR><LF>
Operator: 00000011        <CR><LF>
                          <CR><LF>
```

Parts counting output format is as follows:

```
                                <CR><LF>
Date:       18/06/2025          <CR><LF>
Time:       13:10:32            <CR><LF>
                                <CR><LF>
ID No:      11111111            <CR><LF>
                                <CR><LF>
Count:             10 pcs       <CR><LF>
Unit wt:       4.0022 g         <CR><LF>
Net:          40.0218 g         <CR><LF>
                                <CR><LF>
Operator: 00000011              <CR><LF>
                                <CR><LF>
```

Percentage weighing output format is as follows:

```
                                <CR><LF>
Date:       18/06/2025          <CR><LF>
Time:       13:18:04            <CR><LF>
                                <CR><LF>
ID No:      11111111            <CR><LF>
                                <CR><LF>
Percent:      50.011 %          <CR><LF>
Ref wt:       40.0220 g         <CR><LF>
Net:          20.0152 g         <CR><LF>
                                <CR><LF>
Operator: 00000011              <CR><LF>
                                <CR><LF>
```

Checkweighing output format is as follows:

```
                                <CR><LF>
Date:       18/06/2025          <CR><LF>
Time:       13:22:22            <CR><LF>
                                <CR><LF>
ID No:      11111111            <CR><LF>
                                <CR><LF>
Net:          20.0147 g         <CR><LF>
Low:           7.0100 g         <CR><LF>
High:         30.0000 g         <CR><LF>
                                <CR><LF>
Operator: 00000011              <CR><LF>
                                <CR><LF>
```

Check counting output format is as follows：

```
                                <CR><LF>
Date:       18/06/2025          <CR><LF>
Time:       13:27:01            <CR><LF>
                                <CR><LF>
ID No:      11111111            <CR><LF>
                                <CR><LF>
Count:             20 pcs       <CR><LF>
Low:               11 pcs       <CR><LF>
High:             101 pcs       <CR><LF>
Unit wt:       2.0009 g         <CR><LF>
Net:          40.0188 g         <CR><LF>
                                <CR><LF>
Operator: 00000011              <CR><LF>
                                <CR><LF>
```

Hold function output format is as follows：

```
                                <CR><LF>
      Hold                      <CR><LF>
                                <CR><LF>
Date:       18/06/2025          <CR><LF>
Time:       13:32:08            <CR><LF>
                                <CR><LF>
ID No:      11111111            <CR><LF>
                                <CR><LF>
Net:          20.0155 g         <CR><LF>
                                <CR><LF>
Operator: 00000011              <CR><LF>
                                <CR><LF>
```

Animal weighing output format is as follows：

```
                                <CR><LF>
      Animal                    <CR><LF>
                                <CR><LF>
Date:       18/06/2025          <CR><LF>
Time:       15:29:58            <CR><LF>
                                <CR><LF>
ID No:      11111111            <CR><LF>
                                <CR><LF>
Net:          30.1156 g         <CR><LF>
                                <CR><LF>
Operator: 00000011              <CR><LF>
                                <CR><LF>
```

Net weight/Total weight output format is as follows：

```
                          <CR><LF>
      Net/Total           <CR><LF>
                          <CR><LF>
Date:      18/06/2025     <CR><LF>
Time:      15:44:00       <CR><LF>
                          <CR><LF>
ID No:     11111111       <CR><LF>
                          <CR><LF>
Net 01:     20.0114 g     <CR><LF>
Net 02:     10.0043 g     <CR><LF>
Net 03:     20.0037 g     <CR><LF>
Net xx:     xx.xxxx g     <CR><LF>
Net xx:     xx.xxxx g     <CR><LF>
Net xx:     xx.xxxx g     <CR><LF>
                          <CR><LF>
Total:      xxx.xxxx g    <CR><LF>
                          <CR><LF>
```

Density determination output format is as follows ：

```
                          <CR><LF>
      Density             <CR><LF>
                          <CR><LF>
Date:      18/06/2025     <CR><LF>
Time:      15:49:16       <CR><LF>
                          <CR><LF>
ID No:     11111111       <CR><LF>
                          <CR><LF>
      4.992 g/cc          <CR><LF>
                          <CR><LF>
Operator: 00000011        <CR><LF>
                          <CR><LF>
```

Formulation output format is as follows：

Recipe mode

```
                                <CR><LF>
      Formulate                 <CR><LF>
                                <CR><LF>
Date:      18/06/2025           <CR><LF>
Time:      15:55:23             <CR><LF>
                                <CR><LF>
ID No:     11111111             <CR><LF>
                                <CR><LF>
Item:            01             <CR><LF>
Actual:       1.0007 g          <CR><LF>
Target:       1.0000 g          <CR><LF>
Diff.(%):      100.1 %          <CR><LF>
Item:            02             <CR><LF>
Actual:       2.0019 g          <CR><LF>
Target:       2.0000 g          <CR><LF>
Diff.(%):      100.1 %          <CR><LF>
Item:            xx             <CR><LF>
Actual:       x.xxxx g          <CR><LF>
Target:       x.xxxx g          <CR><LF>
Diff.(%):      xxx.x %          <CR><LF>
Item:            xx             <CR><LF>
Actual:       x.xxxx g          <CR><LF>
Target:       x.xxxx g          <CR><LF>
Diff.(%):      xxx.x %          <CR><LF>
Item:            xx             <CR><LF>
Actual:       x.xxxx g          <CR><LF>
Target:       x.xxxx g          <CR><LF>
Diff.(%):      xxx.x %          <CR><LF>
                                <CR><LF>
Total:       xx.xxxx g          <CR><LF>
                                <CR><LF>
Operator: 00000011              <CR><LF>
                                <CR><LF>
```

Free mode:

```
                          <CR><LF>
      Formulate           <CR><LF>
                          <CR><LF>
Date:      18/06/2025     <CR><LF>
Time:      16:05:54       <CR><LF>
                          <CR><LF>
ID No:     11111111       <CR><LF>
                          <CR><LF>
Item:             01      <CR><LF>
Actual:       1.0011 g    <CR><LF>
Item:             02      <CR><LF>
Actual:       2.0011 g    <CR><LF>
Item:             03      <CR><LF>
Actual:      10.0068 g    <CR><LF>
tem:              xx      <CR><LF>
Actual:       x.xxxx g    <CR><LF>
Item:             xx      <CR><LF>
Actual:       x.xxxx g    <CR><LF>
Item:             xx      <CR><LF>
Actual:      xx.xxxx g    <CR><LF>
                          <CR><LF>
Total:       xx.xxxx g    <CR><LF>
                          <CR><LF>
Operator: 00000011        <CR><LF>
                          <CR><LF>
```

Net quantity/Total quantity output format is as follows：

```
                          <CR><LF>
      Formulate           <CR><LF>
                          <CR><LF>
Date:      18/06/2025     <CR><LF>
Time:      16:14:34       <CR><LF>
                          <CR><LF>
ID No:     11111111       <CR><LF>
                          <CR><LF>
Parts 01:        15 PCS   <CR><LF>
Parts 02:        20 PCS   <CR><LF>
Parts 03:        50 PCS   <CR><LF>
Parts xx:        xx PCS   <CR><LF>
Parts xx:       xxx PCS   <CR><LF>
Parts xx:      xxxx PCS   <CR><LF>
Parts xx:       xxx PCS   <CR><LF>
Parts xx:       xxx PCS   <CR><LF>
Parts xx:      xxxx PCS   <CR><LF>
                          <CR><LF>
Total:          xxxx PCS  <CR><LF>
                          <CR><LF>
Operator: 00000011        <CR><LF>
                          <CR><LF>
```

11.2.3 Custom output format

Polaris balances have two custom formats. Each custom format can be set to output 15 lines of data, and the custom format is only valid for weighing mode. If the custom mode is selected for other modes, the output data is standard mode. The data format printed by the custom format is as follows.

NAME	TEXT PRINTED
ID number	ID no.: xxxxxxxxxxxx
Serial number	Serial no. xxxxxxxxxxxx
Date	DATE dd/mm/yyyy
Time	TIME hh:mm:ss
Net weight	Net: xxx.xxx g
Gross weight	Gross: xxx.xxx g
Tare weight	Tare: xxx.xxx g
Operator	Operator: xxxxxxxx
A blank line printed	<CR><LF> only.
End	End

Any of these can be printed on any of the 15 lines available. Not all items need to be used, and any can be used more than once. The printed content of any line can be set at will (see chapter 14.3.1).

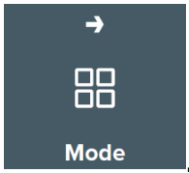
The data for each form will be preceded by a start-of-header <SOH> ASCII character (01) and terminated with an end-of-transmission <EOT> ASCII character (04). These characters will be ignored by a serial printer but will allow a computer program which reads the data to distinguish between this block report format and the single-line output format described above.

11.3 Input commands using remote keys

The balance can be controlled with the following commands sent using remote keys such as from a PC. The commands must be sent in upper case letters, i.e. “KT” not “kt”. Press the Enter key of the PC after each command (the action of Carriage Return is denoted as <CR> as shown below).

Basic Input Commands:

!KT<CR>	Tares the balance to display the net weight. This is the same as pressing the .
!KZ<CR>	Return to zero. It has the same function as pressing .

!KS<CR>	Enters the setting interface. It has the same function as pressing
!KP<CR>	To get data. It has the same function as pressing .
!KM<CR>	Enter the mode interface. It has the same function as pressing  .
!KC<CR>	Enter the calibration interface. It has the same function as pressing .
!KU<CR>	Enters the Unit selection interface. It has the same function as pressing .

11.3.1 Invalid input command

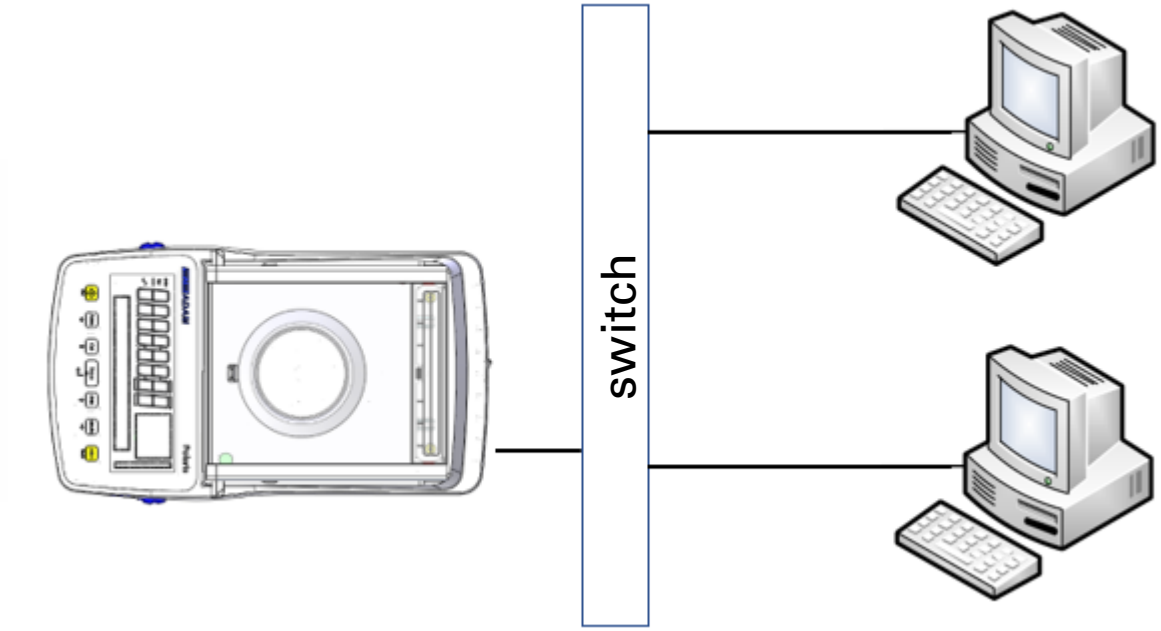
If an invalid command is received, the command is returned as follows-

Invalid Command	Message returned	Remarks
!NT<CR>	!EU<CR>	Command character is not ‘K’
!KK<CR>	!EK<CR>	Key character is not ‘T’, ‘S’, ‘P’, ‘M’, ‘C’ or ‘U’
!KT-<CR>	!EF<CR>	Command format error, <CR> is not the fourth character
KT<CR> or !KT -	No reply	Either ‘!’ or <CR> is missing in the command string

12 RJ45 network interface

12.1 Overview

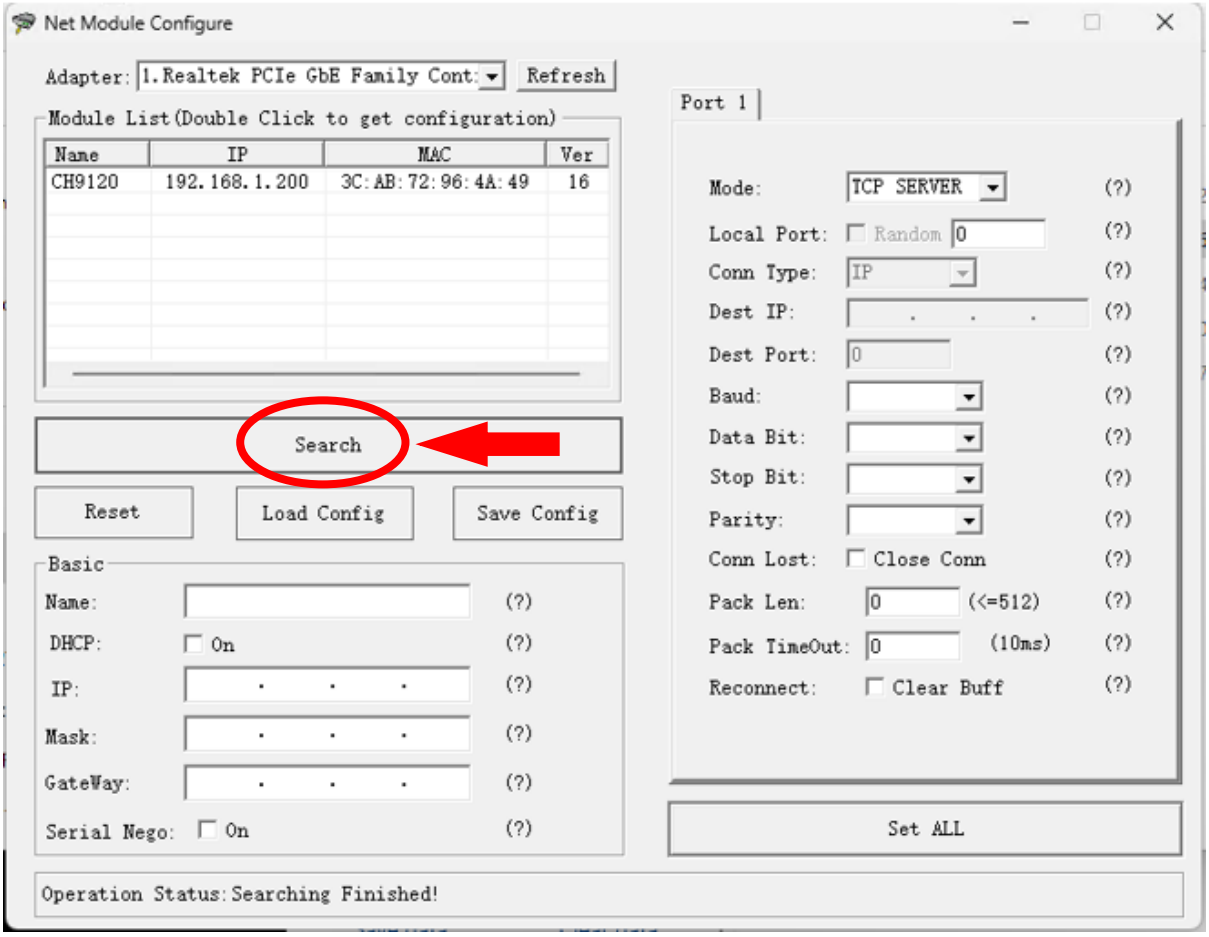
The network module of Polaris is NET-UART-9120 serial net module. This allows two-way transparent transmission of data between the balance and a computer (or upper computer) through a local area network.



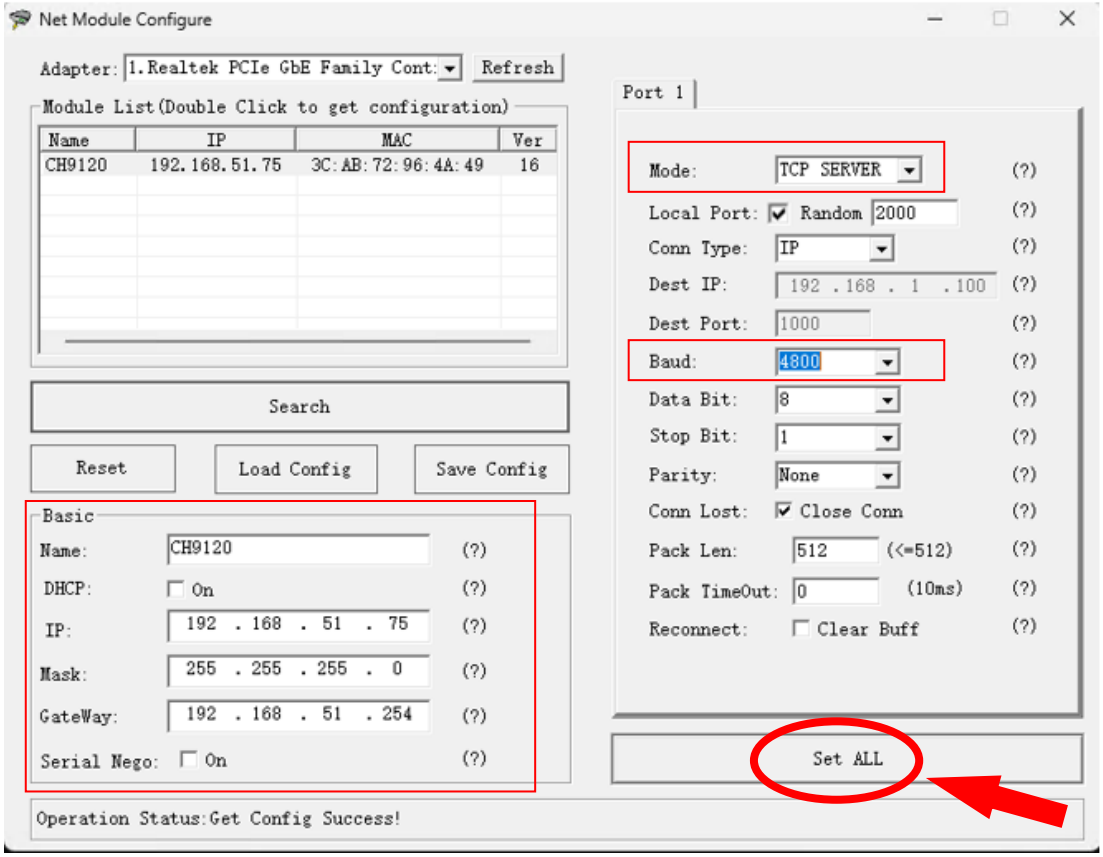
12.2 Connection

Open the "CH9120 Network Configuration Tool" to configure the device IP and network mode.

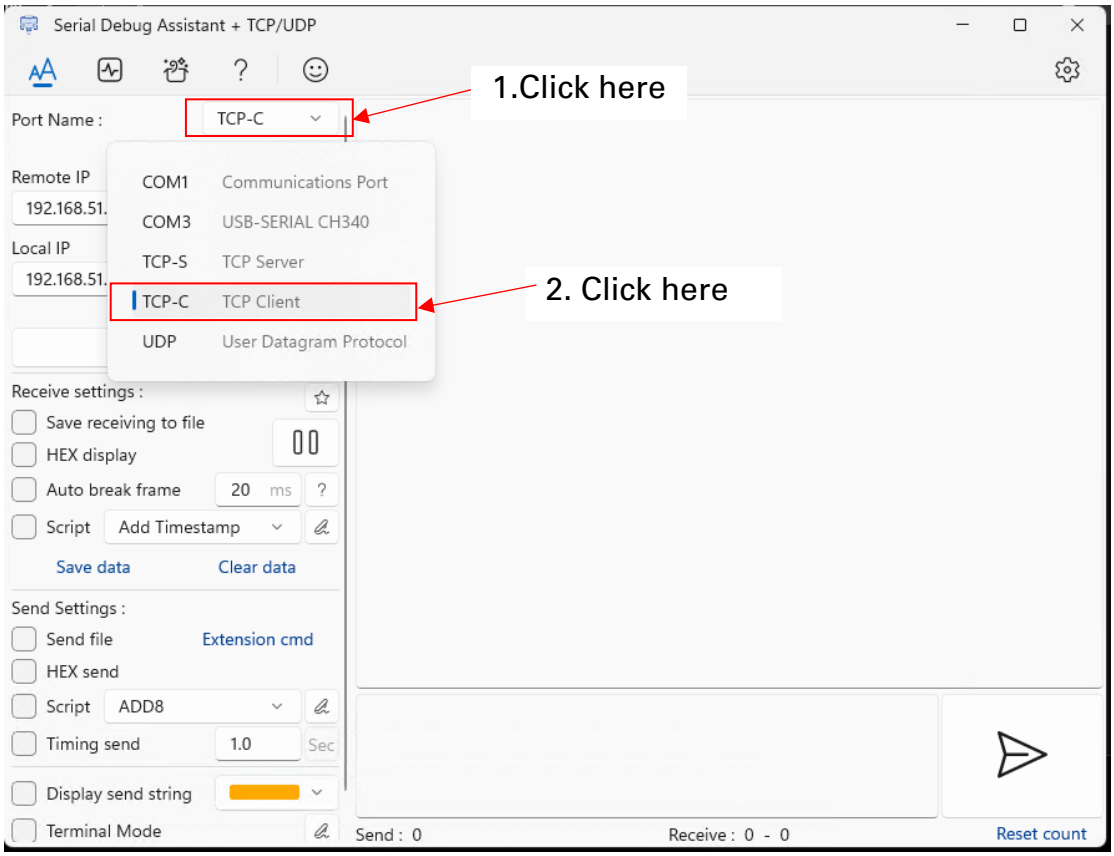
1. Click "Search device"

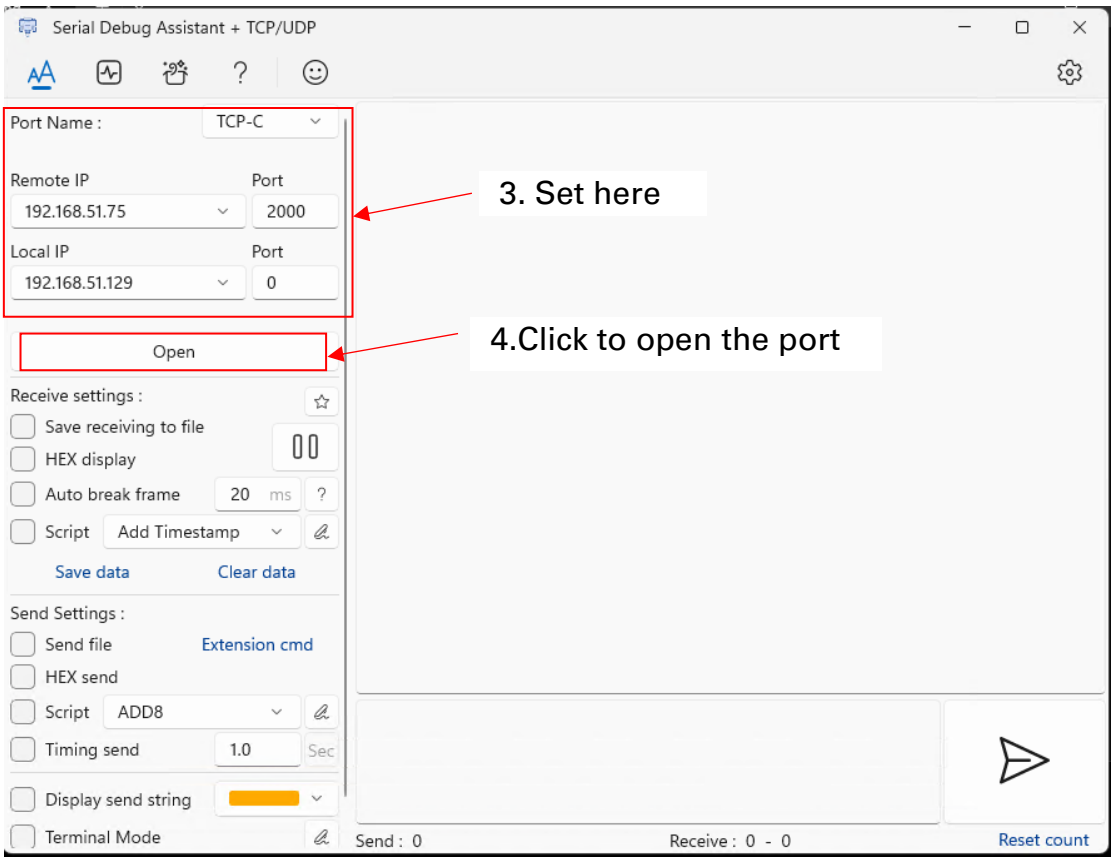


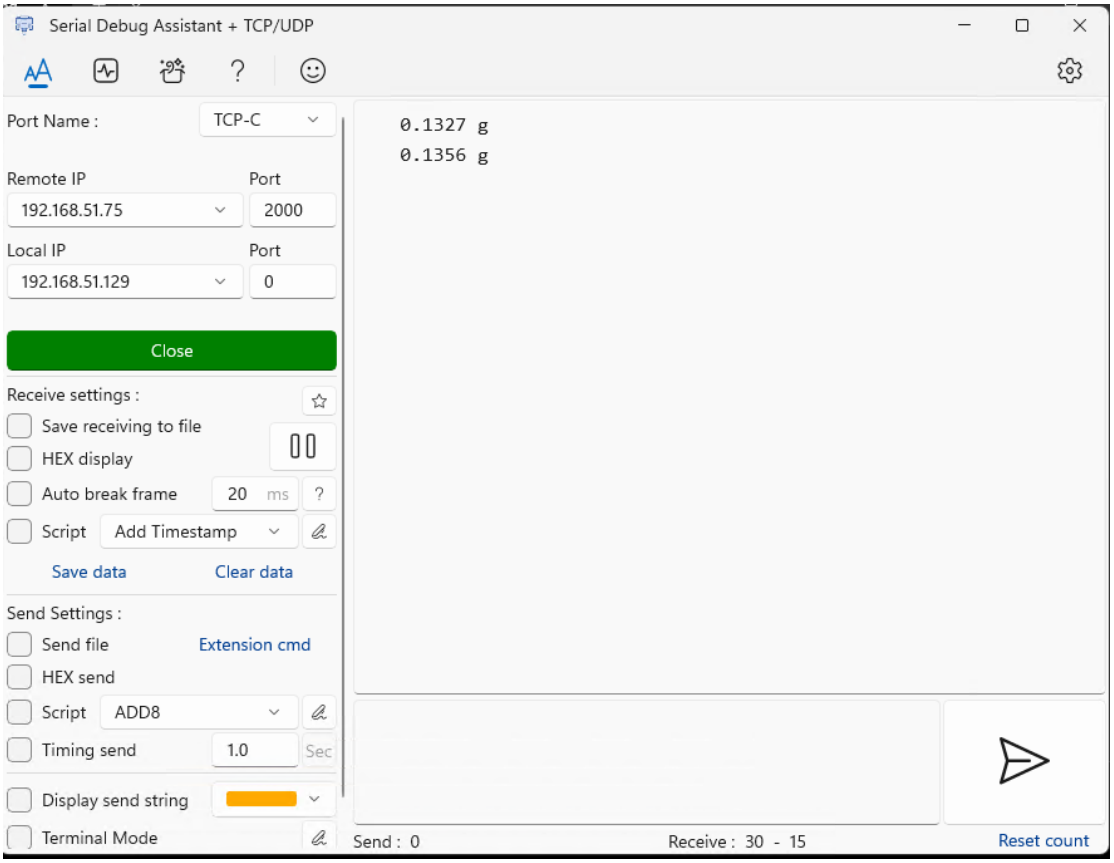
2. Type “Device Name”, “IP Address”, “Subnet Mask and Gateway”, select TCP server as Network Mode, and click Configure Device Parameters to save the configuration.



4. Open the built-in serial port debugging assistant of Microsoft to collect data.




Serial Debug Assistant + TCP/UDP
Port Name :
TCP-C
Remote IP
192.168.51.75
Port
2000
Local IP
192.168.51.129
Port
0
3. Set here
Open
4.Click to open the port
Receive settings :
Save receiving to file
HEX display
Auto break frame
20
ms
Script
Add Timestamp
Save data
Clear data
Send Settings :
Send file
Extension cmd
HEX send
Script
ADD8
Timing send
1.0
Sec
Display send string
Terminal Mode
Send : 0
Receive : 0 - 0
Reset count


Serial Debug Assistant + TCP/UDP
Port Name :
TCP-C
0.1327 g
0.1356 g
Remote IP
192.168.51.75
Port
2000
Local IP
192.168.51.129
Port
0
Close
Receive settings :
Save receiving to file
HEX display
Auto break frame
20
ms
Script
Add Timestamp
Save data
Clear data
Send Settings :
Send file
Extension cmd
HEX send
Script
ADD8
Timing send
1.0
Sec
Display send string
Terminal Mode
Send : 0
Receive : 30 - 15
Reset count

12.3 Output format and remote instructions

The output format and remote instructions of the network interface are consistent with RS-232, See Chapter 11.2 for changing the output format and Chapter 11.3 for remote instructions. See (14.3 Communication Settings) for the setting mode of the balance network port

13 Bluetooth communication

Polaris balances have a built-in Bluetooth module, which allows communication to be set up between the balance and mobile phones, tablets and computers.

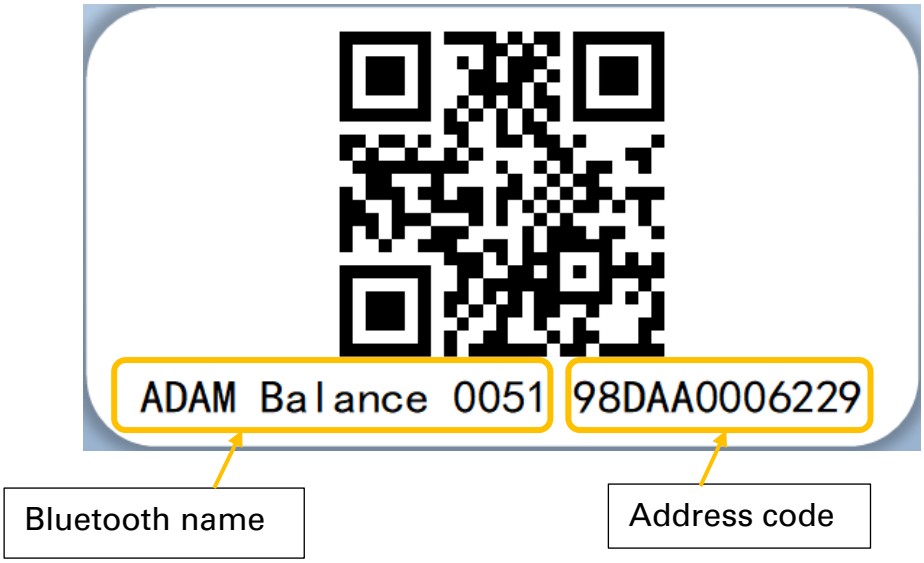
The built-in Bluetooth module of this balance adopts BT-DX-04E, which supports the dual Bluetooth protocol of SPP3.0+BLE4.2.

Bluetooth module serial port basic parameters are as follows：

- Module serial default parameters：4800bps/8/n/1（Baud Rate/Data Bit/No Check/Stop Bit）
- Module BLE UUID: SERVICE UUID: FFE0
  NOTIFY UUID: FFE1
  WRITE UUID : FFE2

The parameters of the Bluetooth communication interface of the balance must be set to be consistent with the default parameters of the serial port of the Bluetooth module, otherwise communication will not be possible. Output format and remote instruction are consistent with RS-232; output format refers to chapter 11.2, remote instruction refers to 11.3. Refer to 14.3 Communication settings for the setting method of Bluetooth interface of balance.

A QR code label with the Bluetooth name and address code can be found on the side of the balance:



Connection method：

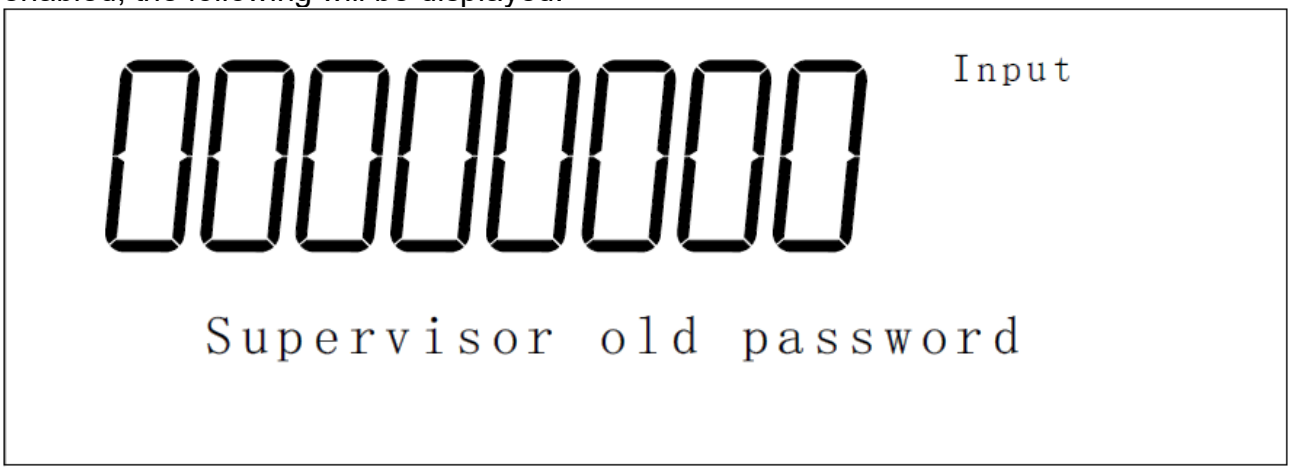
- For Android

Download SPP Bluetooth serial port tool, turn on Bluetooth on your device, search for "ADAM Balance", connect and enter pairing code 1234 to establish the connection between the balance and the system.

- For Microsoft
  Turn on Bluetooth on your device, look for "ADAM Balance," add it, and enter the pairing code 1234 as prompted to establish the connection between the balance and the device. Open and use Microsoft's own serial debugging assistant (or ADAMDU) to achieve two-way read and write operations.
- For ISO
  Turn on Bluetooth on your device and look for "ADAM Balance" to establish a direct connection between the device and balance. Two-way read and write operation will be through the Bluetooth serial port assistant app downloaded on the device.

14 Supervisor menus

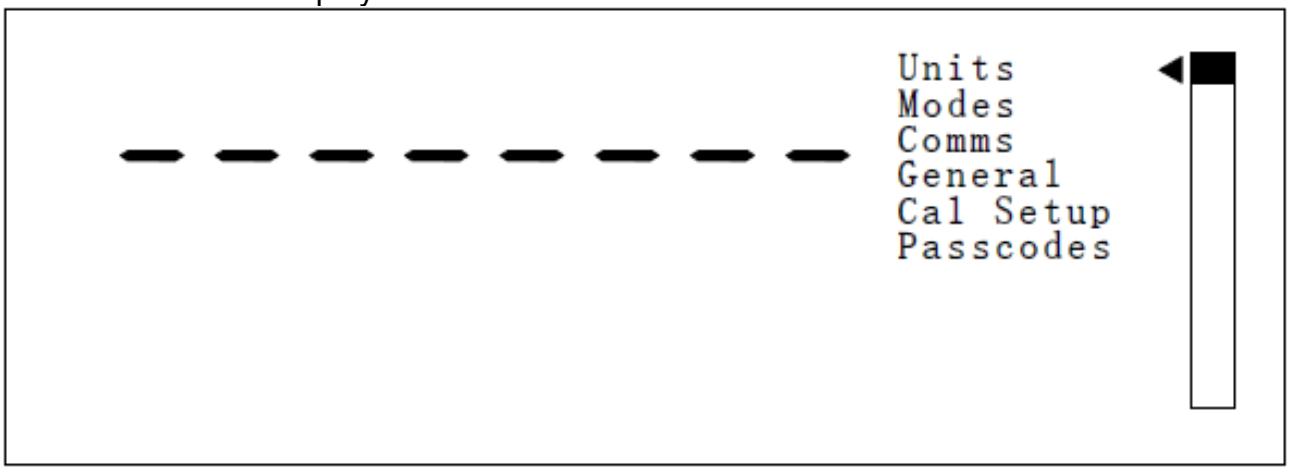
Press **[Setup]** to enter the Supervisor menu when in normal weighing. The Supervisor menu will be displayed when the Supervisor password is not enabled. If passcode is enabled, the following will be displayed:



The password is required, using numeric entry method to input the password.
If a passcode is incorrectly entered, the message “Error message Code” will flash and the display.

If the passcode has been enabled and correctly entered, the balance will allow the operator to access the Supervisor menu by which the user can enable/disable weighing units or modes, set balance parameters for the conditions, set time and date, and set parameters for the RS-232 interface, calibration and security.

This screen will be displayed:



Press ↑ or ↓ to select the desired menu. Press ↵ to enter the sub-menu or confirm operation. Press 【**Back**】 to return to the main menu or press 【**Esc**】 to return to normal weighing.

14.1 Enable weighing units

Select “**UnitS**” and press ↵ - the unit name will be displayed, e.g. **“Unit Milligrams”**, **“Unit Carats”**. The right-hand side of the display will show “OFF” or “ON”. Press ↑ or ↓

to move the arrow to the corresponding position to enable or disable the unit. Pressing ↵ will confirm the setting and enter the next weighing unit. Repeat for each weighing unit in turn. Note: Grams (g) is always enabled.

After setting up, press 【**Back**】 to return to the main menu or press 【**Esc**】 to return to normal weighing.

14.2 Enable weighing modes

The same steps are followed to enable or disable the weighing modes：

Select "**Modes**" and press ↵. Below the screen will display the first mode, such as "Parts Mode" and the right-hand side of the display will show "OFF" or "ON". Press ↑ or ↓ to move the arrow to the corresponding position to enable or disable the mode. Press ↵ to confirm the setting and enter the next weighing mode.

When setting up is complete, press 【**Back**】 to return to the main menu or press 【**Esc**】 to return to normal weighing.

14.3 Communication settings

Press ↵ when the arrow points to **"Comms"**.

Press ↑ or ↓ to move the arrow to the corresponding position and select the corresponding port. The port list is as follows:

COM1-RS-232	
COM2-USB	Setting USB parameters at the back
Ethernet	Setting RJ45 parameters at the back
Bluetooth	Setting built-in Bluetooth parameters

Select and press ↵ to enter the parameter setting of the corresponding port.

Press ↑ or ↓ to move the arrow to the required option, and press ↵ to enter the menu after selection.

Press ↑ or ↓ to move the arrow to change the corresponding parameter. Press ↵ to confirm after selection.

Press 【**Back**】 to return to the main menu or press 【**Esc**】 to return to normal weighing.

The menu content of each port setting is the same, as shown in the following table.

Enable	ON = Enable interface OFF =Disable interface
Baud Rate	To set as 4800, 9600, 19200, 38400,115200.

Parity	None= No parity checks Even=Even check Odd=Odd check
Stable	OFF = Print when it is unstable. ON = Print only when stable.
Continuous	OFF = Data is sent only when **[PRINT]** is pressed. ON = Continuous data transmission through serial port
Periodic	OFF = No-periodic data transmission ON = RS-232 is set to output data periodically. The setting range is 1 to 99 seconds.
Format	Single = Single line format output Standrd = Standard format output Format 1= User-defined format 1 output（see section 14.3.1） Format 2 = or Format 2（see section 14.3.1）

14.3.1 Custom format FROMS #1 #2 (Only weighing mode is valid)

If FROM 1 or 2 is selected, the optional contents of each line are shown in the table below:

End	Conclusion of the report （Return to the main menu after entering END）
Instru ID	Instrument ID number
Serial No	Serial number
Time	Time
Date	Date
Net WT	Net weight (Gross weight - Tare weight)
Gross WT	Gross weight
Tare WT	Tare weight
Operator	Operator number
CR LF	Blank line

Press ↑ or ↓ to move the arrow to the corresponding position and select the output data of each line. Press the ↵ to enter the next line if the current information is correct.

For example: “LINE No 1”, “Date”——Output date in the first line
“LINE No 2”, “Time”——Output time in the second line

Continue the operation until the format of the form is set. Up to 15 lines can be set. after 15 lines are set or "END" is selected, the balance will return to the port selection submenu.

Press【**Back**】to return to the main menu or press 【**Esc**】 to return to normal weighing.

14.4 Setup parameters

Press ↵ when the arrow points to “General”.

Press ↑ or ↓ to move the arrow to select the required menu option.

Press ↵ to enter the menu.

Press ↑ or ↓ to move the arrow to change the parameter.

Press the ↵ to confirm after the change is completed.

Press 【**Back**】 to return to the main menu or press 【**Esc**】 to return to normal weighing.

The menu is as follows：

Language	**English**（default） **French** **German** **Spanish** **Portuguese** **Italian**
Time	Input the time using the numeric enter method (Chapter 8.1). The time format is :hour: minute: second.
Date Form	**Europe** (European date format: day/month/year) **USA** (US date format: month/day/year) **Other** (Other date formats: year/month/day)
Date	Input the time by numeric enter method, Week. The date sequence entered is consistent with the set date format.
Inst ID	Input the ID number of the user balance with the numeric entry method (see 8.1). and input value is 1-9999999.
Buzzer	**OFF**= Turn off prompt tone **ON**= Turn on prompt tone
BL Colour	White=Display backlight colour is white Blue = Display backlight colour is blue
BL Mode	On = Display backlight is always on Auto = When the stable symbol of the balance appears for 10s, the backlight goes out, and it lights up immediately after the stable symbol disappears. Off = Turn off backlight
Light Mode	On= The lighting within the draft shield is always on. Auto= Lights out after the stable symbol of the balance appears for 10s, Lights up immediately after the stable symbol disappears. OFF=Turn off the light
Power Down	OFF = Disable automatic power down ON = Enable automatic power down, setting range 1-9 minutes, The balance will automatically turn off after the corresponding minutes when the stability symbol appears. When the stable symbol disappears, it will be re-timed.
Filter	Filter tracking and average weighing can bring the most accurate measurement and eliminate instability. The higher the filtering value, the greater the filtering and the slower the speed, But the more stable the performance, the more accurate it is. The lower the filtering value, the faster the measurement. But the performance may not be so stable and accurate. Set the range of level 1 (low) - 9 (high). Recommended value commonly used：5
Filling switch	You can jump to this menu only after setting the filter parameters

	OFF = No filter. Recommended settings for normal use. ON = It can provide accurate filtering when dumping substances, such as liquid or powder, into the container on the pan for weighing, which can bring better performance.
Stability	Set the balance stability parameters, The numerical value corresponds to the fractional value of the fluctuation of the weight reading. The larger the value, the more stable the interval. Optional value: **0.5d** **1d** **2d** （default） **5d** **10d**
Auto- Zero	**off** = disable auto zero **1d** = The balance automatically returns to zero within 1 division value. **2d**（default） **5d** **10d** **20d**

14.5 Calibration settings

Press ↑ or ↓ to move the arrow to select "**Cal Setup**" and Press ↵

Press ↑ or ↓ to move the arrow to select the required menu option.

Press **[Setup]** to enter the menu**.**

Press ↑ or ↓ to move the arrow to change the parameter.

When the change is completed, press ↵ to confirm.

Press 【**Back**】 to return to main menu or press【**Esc**】to return to normal weighing.

The menu is as follows：

Enable	**No** = Enable user calibration **Yes** = Enable user calibration（default）
Report	**OFF** = Disable **ON** = Printing calibration report after successful calibration.
Time cal	**OFF** = Disable（default） **ON** = Enable. Use the numeric entry method (see 8.1) to input 1-24 hours, when the corresponding time interval is entered, the balance will start the calibration procedure.
Temp cal	**OFF** = Disable（default） **ON** = Enable. Use the numeric entry method (see 8.1) to input the temperature variation of 0.2 to 4 °C. The balance will start the calibration procedure if the set temperature change is exceeded.
Internal	**YES** = Enable internal calibration **NO** = Enable external calibration
Inter mass	Decide whether to correct the internal calibration weight value after comparing with the external weight, such as abrasion, or dust accumulation. This value can be adjusted by +/- 1000d. Adjustment can restore the accuracy of internal

	calibration. When adjusting, use the numeric enter method (see 8.1) to adjust the internal calibration weight. this operation should only be considered by professional users when the external reference weight is accurate and the weight reading after internal calibration is incorrect.

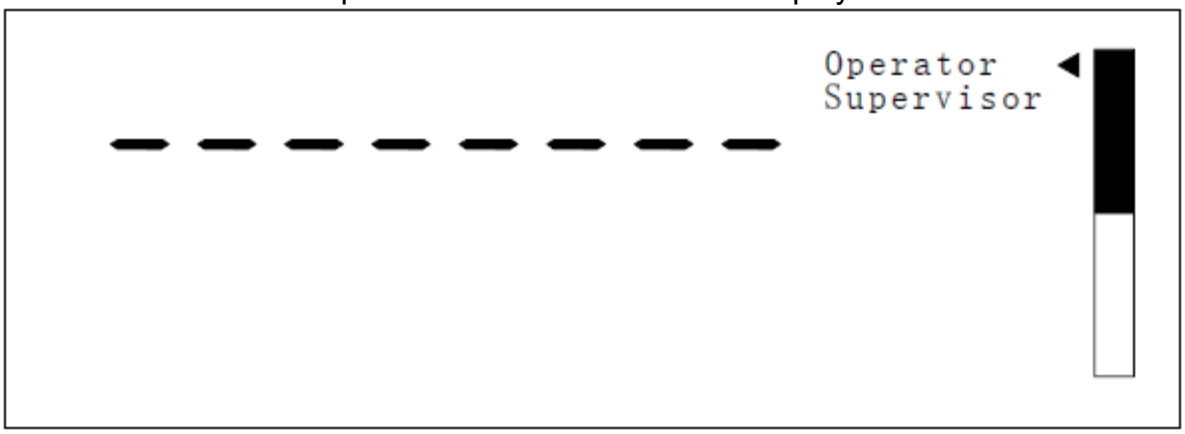
14.6 Password management

To ensure the safety of the balance, it is necessary to set a password. There are two kinds of passwords: Operator password and Supervisor password. The Operator password allows authorised users to log in to the balance and use the basic weighing function of the balance, but if the Supervisor password is set, the user cannot enter the Supervisor menu. The Operator account and password set after the Supervisor password are set can take effect, otherwise the user account and password will not take effect.

Note: The current password is required to modify or cancel the password.

Forgotten Password：
Polaris balances do not have a Forgotten Password option. Please keep your Supervisor password safe. If you no longer have the Supervisor password, please contact Adam.

Operation method：
Press ↵ when the arrow points to **“Passcodes”**. The display will show：



Choose “Operator” to switch to the Operator account (See 14.6.2 for details).
Choose “Supervisor” to manage related accounts (See 14.6.1 for details).

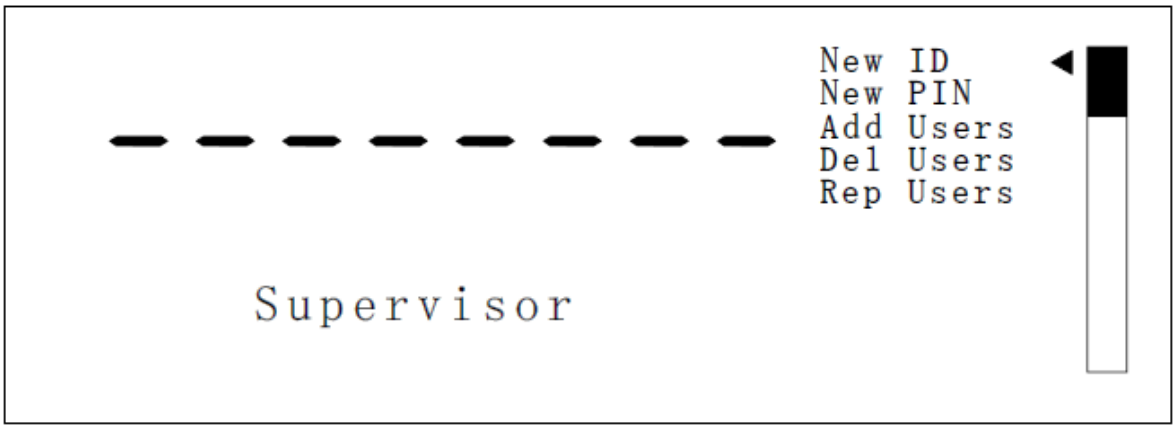
Press【**Back**】 to return to the superior menu or press 【**Esc**】 to return to normal weighing during the whole operation.

14.6.1 Manage related accounts

Press ↑ or ↓ to move the arrow points to “**Supervisor**”, and then press↵.

The screen will display “Supervisor old password” to ask for the old Supervisor password. No Supervisor password is set when the balance leaves the factory, and the default is 0. To set the password, use the numeric enter method (see 8.1).

Enter the password and press ↵ to display the screen：



“New ID” to set Supervisor ID.
“New PIN” to set Supervisor password.
“Add Users” to add operator account.
“Del Users” to delete operator account.
“Rep Users” to manage operator account.

14.6.1.1 Supervisor ID settings

Press ↑ or ↓ to move the arrow to **“New ID”**.

Press ↵, and the screen will prompt "Supervisor ID". Input the ID value of the Supervisor account using the numeric entry method (see 8.1). The setting range of the ID value is 00000000-9999999.

Press ↵ to confirm after setting.

14.6.1.2 Supervisor password settings

Press ↑ or ↓ to move the arrow to “**New PIN**”.

Press ↵, and the screen will prompt “**Supervisor Password**”. Input the ID value of the Supervisor account using the numeric entry method (see 8.1). The setting range of the ID value is 00000000-9999999. 0000000 means no Supervisor password is set.

Press ↵ to confirm after setting.

14.6.1.3 Add operator account

Press ↑ or ↓ to move the arrow to “**Add Users**”.

Press ↵, and the screen will prompt "**User xx ID**" - enter the ID value of the corresponding operator using the numeric entry method (see 8.1). and the setting range of the ID value is 00000000-9999999.

Press ↵ to confirm after setting, the screen will display **"User xx PASSCODE**". Enter the corresponding login password of the user using the numeric entry method (see 8.1)

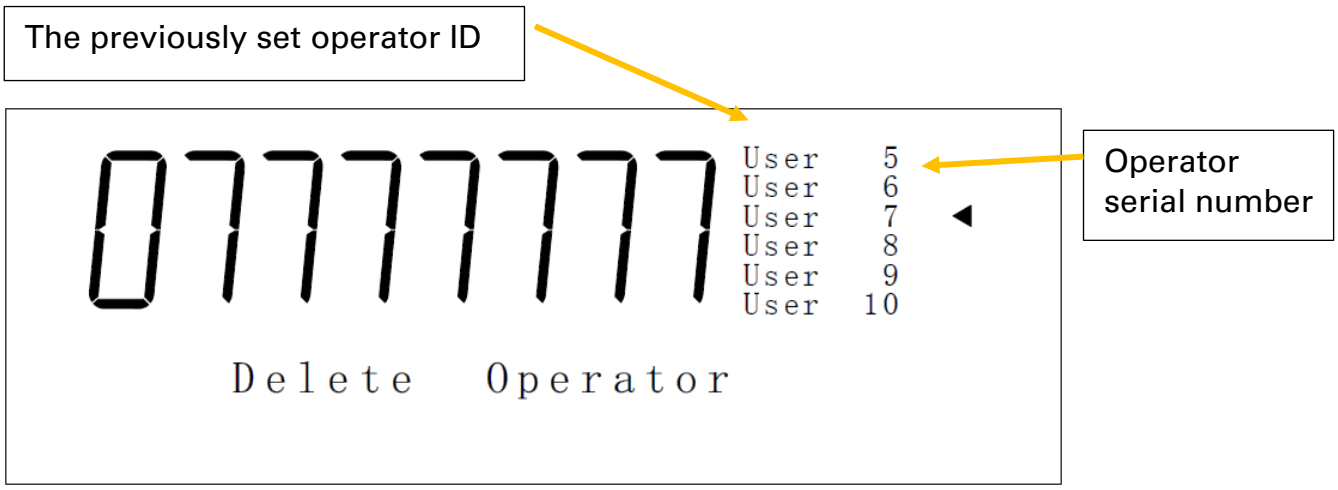
Press ↵ to confirm after setting.

Repeat the previous steps if you want to continue adding.

14.6.1.4 Delete operator account

Press ↑ or ↓ to move the arrow to **"Del Users".**

Press ↵ and the screen will be displayed：



Press ↑ or ↓ to move the arrow to select the operator serial number and corresponding ID number to be deleted.

Press ↵ to confirm after selection. Note**:** all subsequent serial numbers will move forward by one number after deletion.

Repeat the previous steps if you want to continue deleting.

14.6.1.5 Manage the operator account (change the account number and password)

Press ↑ or ↓ to move the arrow to "**Rep Users**".

Press ↵, and the screen will display the operator serial number and the corresponding ID number.

Press ↑ or ↓ to move the arrow to select the operator serial number that needs to be changed.

Press ↵ after selection.
The screen will be displayed "**User xx ID**". Input the new ID value using the numeric entry method.

Press ↵ after input. The screen will display **"User xx PASSCODE"**. Input the new password with the numeric entry method (see section 8.1).

Press ↵ after input.

Repeat the previous steps if you want to continue to change the operator account.

After changing the menu, the Supervisor will need to switch the account to the corresponding Operator account. This will prevent the balance menu from being changed.

14.6.2 Switch operators

Press ↑ or ↓ to move the arrow to **"Operator"** and press ↵.

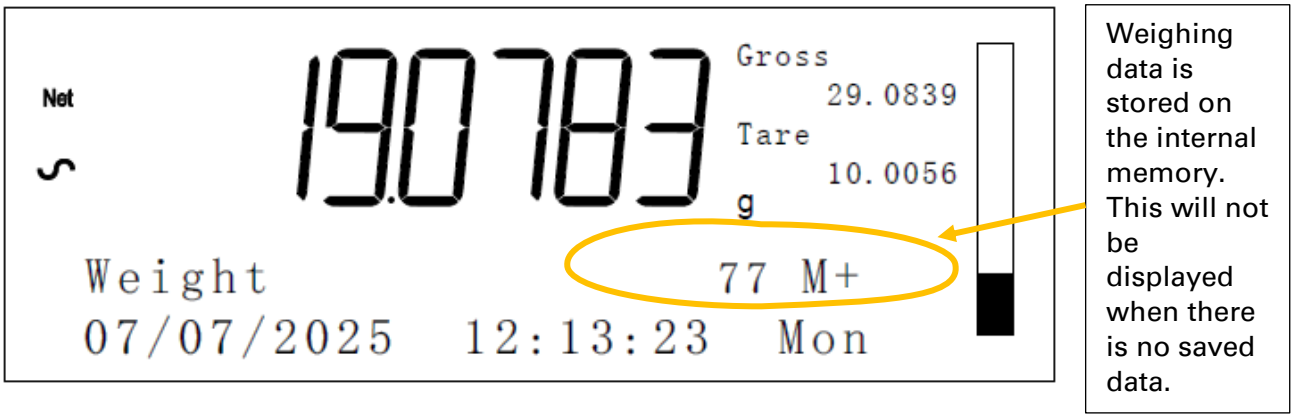
The screen will jump to "**Operator choice**"selection interface，Press ↑ or ↓ to move the arrow to select the account to be accessed.

Press ↵ after selection, and when prompted, enter the password of the corresponding account using the numeric entry method (see 8.1).

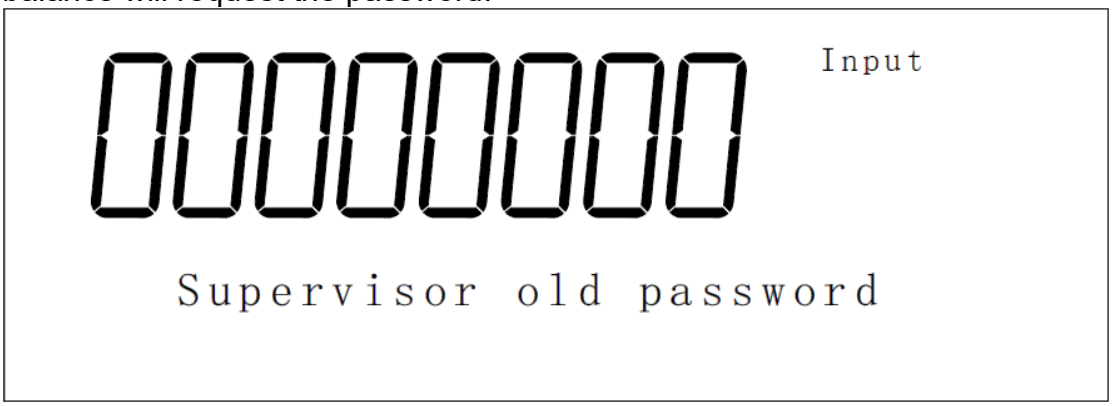
Press ↵ after input, and the balance will automatically jump to the weighing interface.

15 Internal storages

240,000 test data records can be stored in the balance's internal memory, and the test data can be copied to a flash drive via the USB interface, or sent to a printer, computer, mobile phone, etc. through different interfaces of the balance. When the internal storage is turned on and the data is stored, the weighing interface of the balance will display the following status:

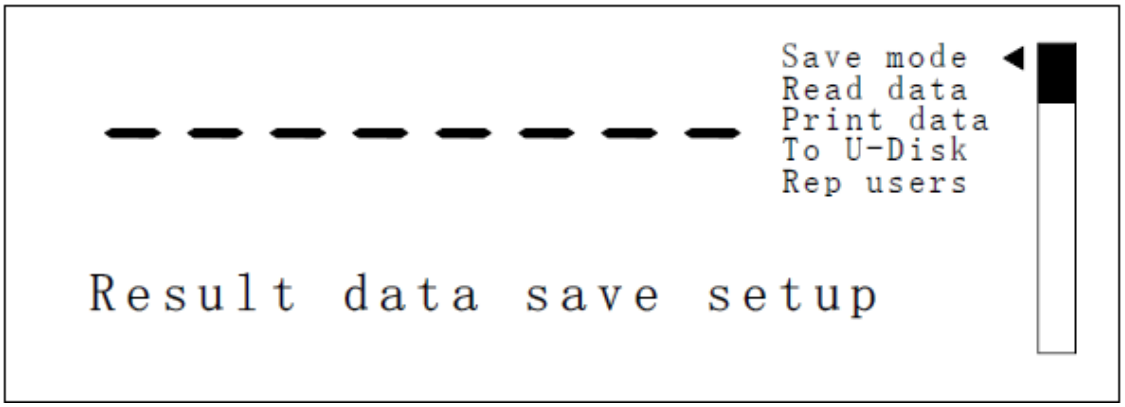


Press and hold the Print key for 5 seconds. The internal storage menu will be displayed when the Supervisor password is disabled. If the Supervisor password is enabled, the balance will request the password:



The password is required currently, enter the Supervisor password with the numeric entry method (8.1).
When the wrong password is entered, the screen will flash and display. "CoDE ERROR", and then return to the weighing interface.

If the correct password has been enabled and entered, the internal memory can be accessed:

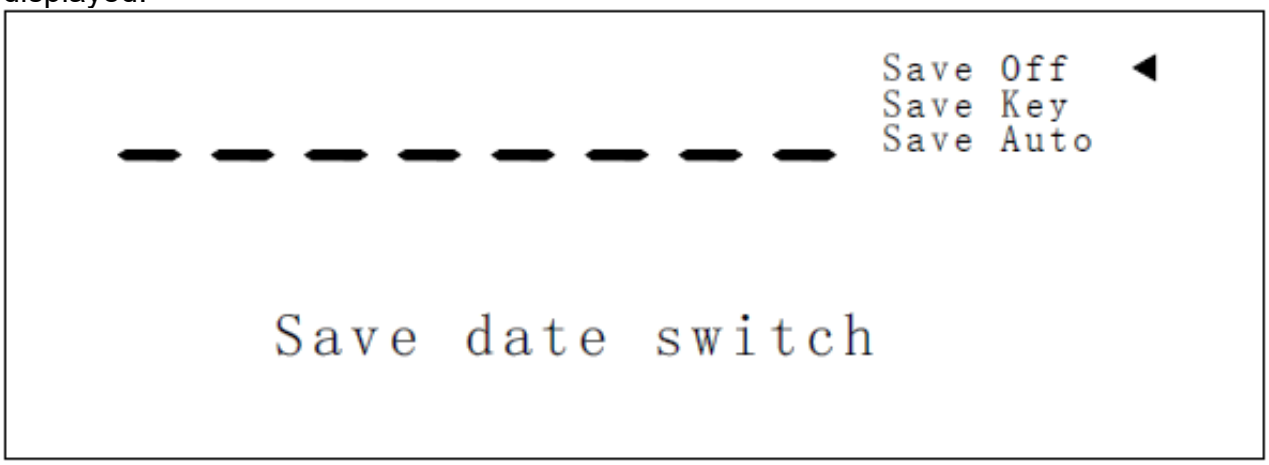


Press【**Back**】to return to main menu and press 【**Esc**】to return normal weighing.

15.1 Storage mode settings

In this menu, you can set several modes, such as closing internal storage, key storage and automatic storage. By default, the internal storage is closed when leaving the factory.

Press ↵ to enter when the arrow points to **"Save Mode"**, and this screen will be displayed:



Press ↑ or ↓ to move the arrow to select the corresponding internal storage mode. See the table below for various modes and definitions:

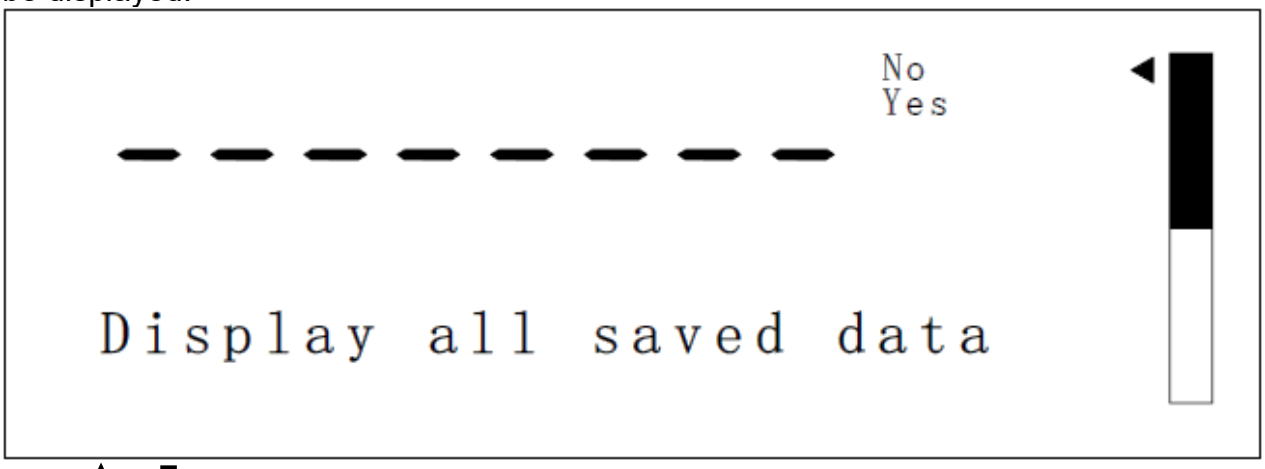
Save Off	Disable internal storage. No weighing data will be stored on the internal memory
Save Key	Key storage, Measurement data will be stored on the internal memory when 【**Print**】 is pressed.
Save Auto	Auto storage, the first weight loaded after the balance has seen zero will be automatically stored when the stable symbol appears. If you want to store it again, remove the load, and load it after the balance returns to zero.

Press ↵ to confirm after selection.

15.2 Reading internal storage data

This menu can display the data stored in the balance on the display through a series of operations.

Press ⬆ or ⬇ to move the arrow to "**Read Data**". Press ↵ to enter, and this screen will be displayed:



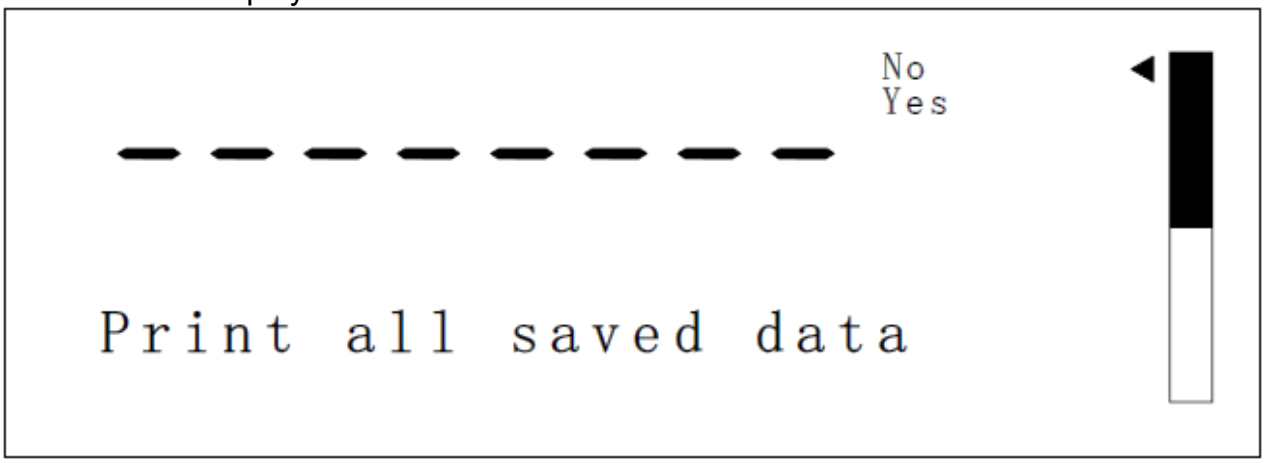
Press ⬆ or ⬇ to move the arrow to "**Yes**". Press ↵ to read the internal data of the balance.

Press ⬆ or ⬇ to scroll through the data stored internally

15.3 Output internal storage data

This function can output the test data stored in the balance to printers, computers, tablets and mobile phones and more through different ports of the balance.

Press ⬆ or ⬇ to move the arrow points to **"Print Data"**, press ↵ to enter, and this screen will be displayed:



Press ⬆ or ⬇ to move the arrow points to **"YES"**. Press 【**Setup**】and the screen will prompt you to select the corresponding port, as shown in below.

Display	Corresponding port
COM RS-232	RS-232 interface
COM TO USB	USB interface
ETHERNET	RJ45 interface
BLUETOOTH	Built-in Bluetooth

Press ↵ after selecting the port. The screen will show “--------”, and start transmitting data. The balance will automatically jump to the main menu after data transmission is finished.

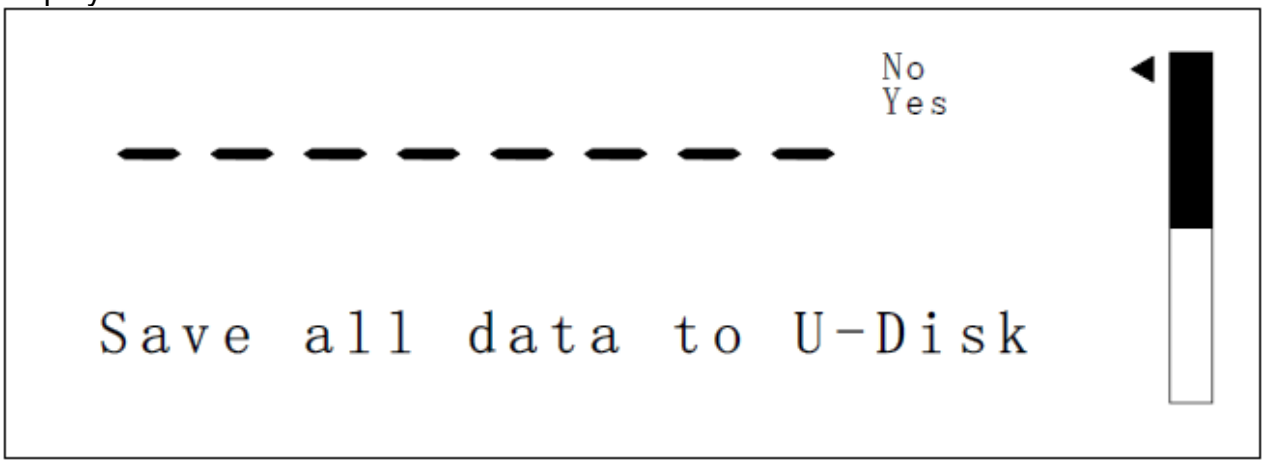
15.4 Copying data to USB flash drive

This function can copy the data stored in the balance to the flash drive through the USB interface.

Operating method:

Insert the flash drive into the USB interface on the right side of the balance.

Press ↑ or ↓ to move the arrow to **“TO U-Disk”** and press ↵. This screen will be displayed:



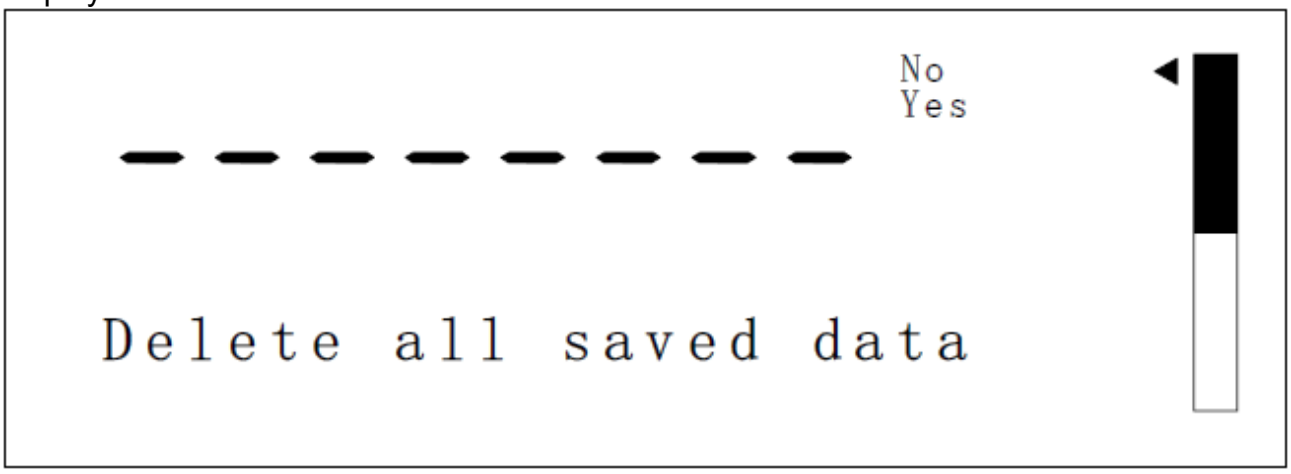
Press ↑ or ↓ to move to **“Yes”** and press ↵. If the flash drive is not inserted, the display box on the right side will display "Insert U-Disk”. When the USB flash drive is inserted, the screen will display “--------” and start transmitting data. “**Save end pull out U-Disk**” will be displayed after data transmission is finished. The balance will automatically jump to the main menu.

15.5 Deleting stored data

All stored test data in the balance can be deleted from this menu.

Operating method:

Press ↑ or ↓ to select **"Delete Dat"** and press ↵ to enter, and this screen will be displayed:



Press ↑ or ↓ to move the arrow points to **"Yes"**, then press ↵ and the screen will display "---------". When all the data is deleted, the balance will automatically jump to the main menu.

15.6 Internal data storage format

The format of internal storage data cannot be changed, and the output format in different modes is as follows.

Weighing:

```
NO:            1          <CR><LF>
Weight                    <CR><LF>
Date:     09/07/2025      <CR><LF>
Time:     16:51:30        <CR><LF>
ID No:     1              <CR><LF>
Net:           2.778 g    <CR><LF>
Tare:          0.013 g    <CR><LF>
Gross:         2.791 g    <CR><LF>
Operator: 00000000        <CR><LF>
                          <CR><LF>
```

Parts counting:

```
NO:            2         <CR><LF>
Parts                    <CR><LF>
Date:     09/07/2025     <CR><LF>
Time:     16:52:30       <CR><LF>
ID No:     1             <CR><LF>
Count:            10 PCS <CR><LF>
Operator: 00000000       <CR><LF>
                        <CR><LF>
```

Percentage weighing:

```
NO:            3          <CR><LF>
Percent                   <CR><LF>
Date:     09/07/2025      <CR><LF>
Time:     17:00:20        <CR><LF>
ID No:     1              <CR><LF>
Percent:       100.0 %    <CR><LF>
Operator: 00000000        <CR><LF>
                          <CR><LF>
```

Checkweighing:

```
NO:            8         <CR><LF>
Chk Wt.                   <CR><LF>
Date:     09/07/2025     <CR><LF>
Time:     17:04:45       <CR><LF>
ID No:     1             <CR><LF>
Net:           2.014 g   <CR><LF>
Low:           1.100 g   <CR><LF>
High:          5.000 g   <CR><LF>
Operator: 00000000       <CR><LF>
                         <CR><LF>
```

Check counting:

```
NO:           11         <CR><LF>
Chk Parts                <CR><LF>
Date:     09/07/2025     <CR><LF>
Time:     17:05:37       <CR><LF>
ID No:     1             <CR><LF>
Count:            10 PCS <CR><LF>
Low:               8 PCS <CR><LF>
High:             15 PCS <CR><LF>
Operator: 00000000       <CR><LF>
                         <CR><LF>
```

Hold function:

```
NO:            1         <CR><LF>
Hold                     <CR><LF>
Date:     10/07/2025     <CR><LF>
Time:     09:19:20       <CR><LF>
ID No:     0             <CR><LF>
Net:           2.778 g   <CR><LF>
Operator: 00000002       <CR><LF>
                         <CR><LF>
```

Animal weighing:

```
NO:            2         <CR><LF>
Animal                   <CR><LF>
Date:     10/07/2025     <CR><LF>
Time:     09:20:20       <CR><LF>
ID No:     0             <CR><LF>
Net:          15.899 g   <CR><LF>
Operator: 00000002       <CR><LF>
                         <CR><LF>
```

Net weight/total weight:

```
NO:            3         <CR><LF>
Net/Total                <CR><LF>
Date:     10/07/2025     <CR><LF>
Time:     09:22:40       <CR><LF>
ID No:     0             <CR><LF>
Total:        32.795 g   <CR><LF>
Operator: 00000002       <CR><LF>
                         <CR><LF>
```

Density determination:

```
NO:           19         <CR><LF>
Density                  <CR><LF>
Date:     09/07/2025     <CR><LF>
Time:     17:27:10       <CR><LF>
ID No:     1             <CR><LF>
    3.587 g/cc           <CR><LF>
Operator: 00000001       <CR><LF>
                         <CR><LF>
```

Formulation:

```
NO:            4        <CR><LF>
Formulate               <CR><LF>
Date:     10/07/2025    <CR><LF>
Time:     09:46:53      <CR><LF>
ID No:     0            <CR><LF>
Total:         8.004 g  <CR><LF>
Operator: 00000011      <CR><LF>
                        <CR><LF>
```

Net quantity/Total quantity:

```
NO:           15        <CR><LF>
PCS/Total               <CR><LF>
Date:     02/07/2025    <CR><LF>
Time:     11:21:10      <CR><LF>
ID No:     1            <CR><LF>
Total:            36 PCS<CR><LF>
Operator: 00000006      <CR><LF>
                        <CR><LF>
```

16 Accessories spare parts (available from your accessories supplier)

Accessories that are available for use with Polaris models include the following：

• Density determination kit（For 0.0001g and 0.001g units only）
Density determination kits include everything needed to carry out precise and repeatable measurement. The kit allows a sample to be weighed in air and then a liquid to determine the density of the sample. It also allows a glass sinker of known volume to be weighed in air or in a liquid, to determine the density of the liquid.

• Anti-vibration table
The anti-vibration table is a support for laboratory balances that isolate the balance from vibration through the floor. The table has a granite surface for the balance with a separate tabletop surrounding the balance.

• Adam thermal printer (ATP 2)
A compact thermal printer is available which is ideal for use with laboratory balances.

• In-use protective cover (supplied with your Polaris)
For cleanliness and hygiene reasons, and to protect the keypad and display from liquids, chemicals/particulates and general wear, we recommend our in-use cover for Polaris. One is supplied with your balance; further covers can be ordered from your Adam supplier.

• Security lock
A fixed security loop is designed into the rear of the balance. A cable lock is available which can be passed through the loop and locked to a fixed point e.g. workbench to reduce incidences of theft.

• Dust cover
A vinyl dust cover is available to protect your equipment whilst not in use.

• BTM 02 Bluetooth module
BTM 02 Bluetooth module is used for computers without Bluetooth. It is directly connected to the USB interface of the computer and communicates directly with the built-in Bluetooth output of the balance.

• BTM 03 Bluetooth module
BTM 03 Bluetooth module can be directly plugged into the Adam ATP2 printer for wireless communication between Polaris and the printer.

• ADAMDU
ADAMDU (Data Utility) is an application that allows you to quickly and easily capture data from an Adam laboratory balance or weighing scale and perform various functions on the collected readings such as graph the data, perform basic mathematical statistical analysis, and export the readings to several common file formats. ADAMDU allows you to quickly export data to other applications (e.g. MS Excel, MS Word or the Windows Clipboard). ADAMDU can provide basic remote control of the balance/scale.

ADAMDU can collect data from up to 8 different balances/scales simultaneously; each data collection session can be individually monitored, configured and customised to your requirements. ADAMDU can also speak the readings received. This is ideal if you want to stay informed of a scale's progress whilst completing other tasks. See http://www.adamdu.com/ for further details and to download a free evaluation copy.

If you need to order any spare parts and accessories, contact your supplier or Adam. A partial list of such items is as follows:

- Power supply module
- Stainless steel top pan
- Draft shield parts
- Serial and printer cables
- Replacement keypad

Note: Not all items are available for all models or can be fitted by the end user. Some parts require dealer or service agent fit.

17 Safety and maintenance

CAUTION
Use the AC adapter designed by the manufacturer for the balance. Other adapters may cause damage to the balance.

Avoid subjecting the balance to rough treatment or shocks during transport, setting up and operation. Do not overload the balance beyond its maximum capacity, and do not drop material onto the platform which could damage the balance.

Do not spill liquids on the balance as it is not water-resistant. Liquids may damage the case and if it gets inside the balance, it may cause damage to the electronics. Use of our in-use protective covers is recommended.

Material that has a static electric charge could influence the weighing. Discharge the static electricity of the samples, if possible. Another solution to the problem is to wipe both sides of the pan and the top of the case with an anti-static agent.

18 Troubleshooting

Note:
Service of a Polaris balance will generally be necessary when the balance does not perform as expected. The balances are not user serviceable. For Service Information, see section 19.0 and contact Adam Equipment or your supplier.

Problems usually fall into one of the following categories:

Mechanical Problems:
Polaris balances consist of complicated and fragile mechanical parts. Damage can be caused by overloading the balance, or from accidental impacts. The most fragile parts at risk of damage are the flexures. Dust, dirt, spills and other foreign objects in the balance can also cause issues with operation.

Electronic Problems:
These are the rarest of the problems affecting balances. If an electronic problem is suspected make sure the mechanical problems that can cause similar symptoms have been eliminated before attempting electronic repairs. Except for cables, most electronic repairs are solved by board replacement.

For guidance on using your balance, contact your Adam supplier, or Adam directly.

The trouble-shooting table in section 18.2 is a guide of common problems and their solutions. Note that many problems may have multiple solutions and there may be problems found that are not listed in the table. For Service Information, contact your Adam supplier, or Adam directly.

18.1 Error codes

See the following table for the specific code and meaning:

Trouble code	Description
Low	Setting number is less than the limit number or less than the minimum limit weight.
High	Setting number is greater than the limit number or the maximum limit weight.
Range	The set lower limit is greater than the upper limit.
Stable	The weight is unstable.
Load	Load overload is greater than full scale +90d.
Cal Pos	Error in position of internal calibration motor.
Code	Error in password input.
Cal Temp	An error occurred during temperature calibration.
ADC UL	AD value of weight is too low, below the minimum working range of one million.
ADC OL	AD value of weight is too large, greater than the maximum working range of 50 million.
ADC Error	Error in weight AD value, no output.
Temp Error	Error in temperature AD value.
Eeprom Err	Storage error.
Eedata Err	Read and write error.

18.2 Trouble-shooting guide

BALANCE DOES NOT FUNCTION		
Problems	**Possible causes**	**Suggestions**
The balance does not power on	Power supply failure	Check adapter is working Check adapter is correct for the balance Normal adapter is 18VDC, 830mA *Power supply circuit board failure *Short circuit on any circuit board
The display does not turn on but the calibration motor moves when the balance is powered on	Power is getting to balance, display is not working	*Display cables may be faulty *Display module failure
The display stays on the initial test screen when the balance is powered on. Calibration weight motor is on.	Unstable balance Balance not working correct Power supply	*Check if balance is stable by using service menu and view A/D values Put draft shield over pan Check power supplies
BALANCE WORKS BUT IS NOT STABLE		
Balance is unstable by a few divisions	Noise or vibration from environment Friction in mechanics	Check the balance is positioned correctly to avoid vibration, wind or air movement, it is on a solid table, and is not near sources of heat or cool air Check balance with weights if problem occurs when sample is used. Static electricity on the samples can cause drifting and instability Check the area around the weighing pan for hair, dust, obstructions under the pan *A complete inspection of the mechanics to look for sources of friction may be needed
Balance is very unstable and does not weigh correctly	Mechanical problems Balance programming Electronic problems	*A complete inspection of the mechanics to look for sources of friction *Verify the A/D is also unstable. If the A/D is OK then suspect the programming of the balance. Reset parameters, check linearity and redo the calibration Some electronic problems can also cause this, but all mechanical problems must be resolved first
BALANCE IS NOT ACCURATE		
You must have accurate and trusted weights to test a balance. If you suspect that the balance is not accurate then you must know your weights are accurate.		
Balance is not accurate	Repeatability Eccentric loading Linearity	Verify the balance shows the same value when the same mass is placed on the centre of the pan more than once Verify the balance shows the same reading (within a tolerance depending upon the model) when a mass is placed at positions around the pan Verify the balance is acceptable throughout the weighing range. The balance must give acceptable readings from low weights up to the capacity.
Poor repeatability	Usually a mechanical problem	Inspect the area around the pan for hair, dust or other obstructions,

		*Inspection of the mechanics may be needed for any possible problems.
Poor eccentric loading	A mechanical problem	Inspect the area around the pan for hair, dust or other obstructions.
Poor linearity	Usually a mechanical problem Electronic Problems	Re-check repeatability *Inspection of the flexures for damage or loose hardware may be required *Use the Linearity Function in the service menu to reset linearity *A problem in the analogue circuit board or power supplies can cause poor linearity. Make sure all mechanical problems have been eliminated first
OTHER PROBLEMS:		
Cannot calibrate	Zero shifted more than allowed Calibration timeout	*Check all flexures for damage *Reset dealer calibration *Verify linearity and repeatability *The balance may be unstable. Verify stability as above
Calibration weight motor does not stop		*Check the cables to the motor, try plugging the balance into the power again *Look for friction in the calibration weight movement * Check the microswitch that controls the position of the motor.
Doesn't print	USB / RS-232 not working	Check parameters match the device connected Verify cable is correct *RS-232 circuits damaged
Display dark, keys beep	Display contrast poor Cable unplugged or damaged	*Check the cables to the display *Replace the display which could be damaged

*To be carried out by authorised technicians only.

19 Service information

This manual covers the details of operation. If you have a problem with the balance that is not directly addressed by this manual, then contact your supplier for assistance. To provide further assistance, the supplier will need the following information:

A. Details of your company

-Name of your company:
-Contact person's name:
-Contact telephone, e-mail,
-Fax or any other methods:

B. Details of the unit purchased

(This part of information should always be available for any future correspondence. We suggest you fill in this form as soon as the unit is received and keep a print-out in your records for reference.)

Model name of the balance:	**Polaris_____**
Serial number of the unit:	
Software revision number (Displayed when power is first turned on):	
Date of Purchase:	
Name and contact details of supplier:	

C. Brief description of the problem

Include any recent history of the unit. For example:

-Has it been working since it was delivered?
-Has it been in contact with water/liquid/particles?
-Damaged from a fire?
-Electrical storms in the area?
-Dropped on the floor, etc.?

20 Balance menu structure

Operator menu

Tare	**Tare**								
Zero	**Zero**								
Print	**Output data in a set format**								
Unit	**Switch the available weighing units**								
Cal	**Internal or external calibration**								
Mode	**Weight**								
	Parts	Select quantity 10,25,50,100Pcs		Loading sampling items					
	Percent	Sample ref		Load 100% sample					
		Input ref		Enter the weight of 100% sample.					
	Chk Wt.	**Low Limit Switch**	**OFF**		**High Limit Switch**	**OFF**			
			ON	**Set low limit weight**		**ON**	**Set High limit weight**	**Buzzer Switch OFF/In/Out**	
	Chk Parts	**Low Limit Switch**	**OFF**		**High Limit Switch**	**OFF**			**Finish counting sampling**
			ON	**Set low limit weight**		**ON**	**Set High limit weight**	**Buzzer Switch OFF/In/Out**	
	Hold	**Manu Hold**							
		Auto Hold							
		Peak Hold							
	Animal	**Run**	**Press 【Setup】 after loading in manual mode**						

			Load weights directly in automatic mode			
		SETUP	Manual	Input Animal Measure Time	Input Animal Measure Delay	
			Auto			
	Net/Total	Repeatedly load items and press [Setup] to count the net /total weight.				
	Density	Solid	Water	Input Water Temp	Air WT	Liquid WT
			Ethanol	Input Ethyl Temp		
			Other	Input Density		
		Liquid	Input Volume			
	Formulate	Free	Load the item and press【Setup】			
		Recipe	Recall	Recall the stored formula		
			Delete	Delete the stored formula		
			New	Input Recipe ID	Enter the weight of each item in the formula and start measuring	
	PCS/Total	Select quantity 10,25,50,100Pcs		Loading sampling items	Repeatedly load items and press [Setup] to count the net /total quantity.	
Setup / ⏻	In the weighing interface, long press 5s to turn off and short press to turn on.					
	Not set Supervisor password				Enter Supervisor menu	
	Set Supervisor password			Input Supervisor password		

Supervisor Level Access

Note: Some menu options are not available, or extra options may be visible depending on if the model is internal or external calibration, and whether it is an approved model. Conditions of approval in some countries necessitates adding or removing some options from the user interface.

Supervisor	**Unit**	**Milligrams** OFF/On, **Kilograms** OFF/On, **Carats** OFF/On, **Pennyweight** OFF/On, **Grains** OFF/On, **Troy ounces** OFF/On, **Ounces** OFF/On, **Pounds** OFF/On, **Drams** OFF/On, **Teals(Hong Kong)** OFF/On, **Teals(Taiwan)** OFF/On, **Teals(Singapore)** OFF/On, **Mommes** OFF/On, **Tolas** OFF/On, **Ticals** OFF/On, **Newtons** OFF/On, **Custom** OFF/On.			
	Modes	**Parts** OFF/On, **Precent** OFF/On, **Chk Wt.** OFF/On, **Check Parts** OFF/On, **Hold** OFF/On, **Animal** OFF/On, **Net/Total** OFF/On, **Density** OFF/On, **Formulate** OFF/On, **PARTS TOTAL** OFF/On.			
	Serial	**COM-1 RS232** **COM-2 USB** **Ethernet** **Bluetooth** **WIFI**	**ENABLE**	**OFF/ON**	
			BAUD RATE	**4800/9600/19200/38400 /115200**	
			PARITY	**None/Even/Odd**	
			STABLE	**OFF/On**	
			CONTINUOUS	**OFF/On**	
			PERIODIC	**OFF/On**	
			Format	**Single/Standard/Format1/Format2**	
	Setup	**Language**	**English/French/German/Spanish/Portuguses/Italian**		
		Time	**HH:MM:SS**		
		Date format	**Europe/USA/Other**		
		Date	**Set date**		
		Inst ID	**Set user ID**		
		Buzzer	**OFF/On**		
		BK Color	**White/Blue**		
		BK Mode	**On/AUTO/OFF**		
		Light Mode	**On/AUTO/OFF**		
		Power Down	**OFF/On**		
		Filter	**Level 1-10**	**Filling**	**OFF/ON**

		Stability	0.5d/1d/2d/5d/10d			
		Auto-Zero	off/1d/2d/5d/10d/20d			
	Cal Setup	Enable	NO/YES			
		Report	OFF/On			
		Time Cal	OFF			
			On	Input calibration time		
		Temp Cal	OFF			
			On	Input calibration temp		
		Internal	NO/YES			
		Inter Mass	Input internal cal mass			
	Passcode	Operator	Operator Choice	User xx password		
		Supervisor	Input password	New ID	Input Supervisor ID	
				New PIN	Input Supervisor password	
				Add Users	Input User ID	Input User PASSCODE
				Del Users	Delete Operator	
				Rep Users	Replace Operator	

Internal storage menu

Internal memory is standard on every balance. Press【Print】for 5 seconds to enter weighing interface.

Internal storage Press【Print】for 5 seconds to enter weighing interface	**Input Supervisor old Password** (Password is not enabled or skipped as Supervisor login.)	**Save Mode**	**Save data Switch**	**Save Off** **Save Key** **Save Auto**	
		Read Data	**NO**		
			YES	**Display the stored data**	
		Print Data	**NO**		
			YES	**Print Data Interface**	**COM RS232** **COM TO USB** **ETHERNET** **BLUETOOTH** **WIFI**
		To U-Disk	**NO**		
			YES	**Wait for storage to end**	
		Delete Data	**NO**		
			YES	**Delete all internal data**	

21 Language

The default language is English, and many national languages can be set (14.4 parameter setting). The menus displayed in different language interfaces are shown in the following table:

Table 1 (right display area)

English	French	German	Spanish	Portuguese	Italian
Supervisor	Supervis	Inspektor	Supervisor	Supervisor	Supervisor
Dealer	Dealer	Handler	Distribuid	Vendedor	Commercian
Factory	Usine	Fabrik	Fabrica	Fabrica	Fabbrica
Units	Unites	Einheiten	Unidades	Unidades	Unita
Modes	Modes	Modi	Modos	Modos	Modalita
Comms	Comms	Komms	Comunicaci	Comunica	Comunicazi
General	General	Allgemein	General	Geral	Generale
Cal Setup	Config cal	Kal Einst	Disp Cal	Config Cal	Config Cal
Passcodes	Code acces	Passworter	Contrasena	Cod Senha	Codi acces
Weight	Poids	Gewicht	Peso	Peso	Peso
Parts	Pieces	Teile	Piezas	Partes	Parti
Percent	Pourcent	Prozent	Porcentaje	Por cento	Percento
Chk Wt.	Verif Poid	Prufen Gw.	Verif peso	Verif peso	Assegno
Chk Parts	Verif pcs	Kont Teile	Verif piez	Pecas chk	Ricamb chk
Hold	Maintien	Halten	Retener	Segurar	Tenere
Animal	Animal	Tier	Animal	Animal	Animale
Net/Total	Net/Total	Net/Gesamt	Neto/Total	Liq/Total	Net/Totale
Density	Densite	Dichte	Densidad	Densidade	Densita
Formulate	Formuler	Formuli	Formular	Formular	Formulare
Pcs/Total	Pcs/Total	Pcs/Total	piez/Total	Pcs/Total	Pcs/Total
Enable	Activer	Aktivieren	Habilitar	Ativar	Abilitare
Report	Rapport	Bericht	Reporte	Relatorio	Rapporto
Time cal	Cal tps	Zeit Kalib	Hora Cal	Cal Tempo	Tempo Cal
Temp cal	Cal temp	Temp Kalib	Temper Cal	Cal Temper	Temper Cal
Internal	Interne	Intern	Interna	Interno	Interno
Inter mass	Masse int	Zwischmass	Masa inter	Mass Inter	Inter Mess
Comm rs232	Comm rs232	Komm rs232	Comm rs232	Comm rs232	Comm rs232
Com to usb	Com to usb	Kom to usb	Com to usb	Com to usb	Com to usb
Ethernet	Ethernet	Ethernet	Ethernet	Ethernet	Ethernet
Bluetooth	Bluetooth	Bluetooth	Bluetooth	Bluetooth	Dente blu
Wifi	Wifi	Wlan	Wifi	Wifi	Wifi
ADC counts	Valeur ADC	Zahlim ADC	Cuent ADC	Contar ADC	Conta ADC
Data comm	Donnees	Datenaust	Com Datos	Com. dados	Comun dati
Calibrate	Calibrer	Kalibriere	Calibre	Calibrar	Calibrare
Linear cal	Cal Linear	Lin Kal	Cal Linear	Cal linear	Cal linear
Calibrate	Calibrer	Kalibriere	Calibrar	Calibrar	Calibrare
Int mass	Masse Int	Int-Masse	Masa inter	Massa Int	Int Mass
Defaults	Par defaut	Fehlwert	Predeter	Padroes	Predefinit

Switches	Commutat	Schalter	Interrupt	Modos	Interrutto
Customer	Client	Kunde	Cliente	Cliente	Cliente
Cal temp	Cal Temp	Cal Temp	Cal. Temp	Cal Temp	Cal Temp
Creep	Ramper	Kriechgang	Repelente	Fluencia	Strisciare
Reset	Reinitiali	Zuruckset	Reset	Repor	Resettare
Warm Up	Prechauff	Vorwarmung	Calentam	Aquecimen	Riscaldare
No default	No default	Kein stdrd	Nin Defect	Sem padrao	Ne default
Load	Charger	Last	Carga	Carga	Carico
Unload	Dechargez	Entladen	Descargue	Descarreg	Scaricare
Wait	Attendre	Warten	Espera	Aguarde	Attendi
Custom	Client	Kunde	Cliente	Cliente	Cliente
Ref Wt.	Poids ref	Bezugsgew	Peso refer	Peso refer	Peso rifer
No cal	Pas de cal	keine Kali	Sin calibr	Sem calibr	Nes calibr
Choose	Cal masse	Kal-masse	Elegir	Escolha	Scegli
Auto cal	Cal Auto	Auto kal	Cal Auto	Cal auto	Cal auto
Go to posn	Vers pos	Zu postion	Vaya coloc	Ir par pos	Vai al pos
Cal wt. on	Cal pd on	Klgew an	Peso en	Peso cal	Peso cal
Cal wt.off	Cal pd off	Klgew aus	Peso de	Cal Deslig	Cal Spegni
Ref qty	Qte ref	Ref anzahl	Cantid res	Qti refer	Qti rifer
Solid	Solide	Fest	Solido	Solido	Solido
Liquid	Liquide	Flussigkei	Liquido	Liquido	Liquido
Water	Eau	Wasser	Agua	Agua	Acqua
Ethanol	Ethanol	Ethanol	ETANOL	Etanol	Etanolo
Other	Autre	Andere	Otro	Outro	Altro
Water temp	Temp eau	Wassertemp	Temp agua	Agua temp	Temp acqua
Ethyl temp	Temp ethyl	Ethyl Temp	Temp etan	Temp etili	Temp etili
Air Wt.	Pds air	Luft gewic	Peso Aire	Peso ao Ar	Aria Wt.
Liquid Wt.	Pds liquid	Flus Gewic	Peso liqui	Peso liqui	Peso liqui
Volume	Volume	Volumen	Volumen	Volume	Volume
100% Wt.=	100% PDS=	100% Wt.=	100% peso=	100% peso=	100% Wt.=
Sample ref	Ref echant	Beispi Ref	Ref muestr	Ref amostr	Esempi rif
Input ref	Ref entree	Eingab Ref	Ref entrad	Ref entrad	Rif input
Off	Off	Aus	Apagado	Desligar	Spento
In	Dans	In	Entrada	Dentro	In
Out	Hors	Aus	Salida	Fora	Cambio
Check Low	Veri faibl	Kont nied	Comp bajo	Veri baixo	Cont basso
Check ok	Cochez ok	Aktivie ok	Verifi ok	Verifi ok	Control ok
Check High	Cont haut	Kont hoch	Cheq alto	Verif alto	Contr alto
OFF	OFF	AUS	DE	Desligar	Spento
ON	ON	AN	EN	Acender	Su
No	Non	Nein	No	Nao	No
Yes	Oui	Ja	Si	Sim	Si
English	Anglais	English	Ingles	Ingles	Inglese
French	Frncais	Franzoe	Frances	France	Francese

German	Allmnd	Deutsch	Aleman	Alemao	Tedesco
Spanish	Espagnl	Spanish	Espanol	Espanhol	Spagnolo
Portuguese	Portuguese	Portuguese	Portugues	Portugues	Portoghese
Italian	Italian	Italian	Italiano	Italiano	Italiano
Europe	Europe	Europa	Europa	Europa	Europa
USA	USA	USA	USA	USA	EUA
Other	Autre	Andere	Otro	Outro	Altro
On	On	An	En	Acender	Su
Auto	Auto	Auto	Auto	Auto	Auto
OFF	OFF	AUS	Apagado	Desligar	Spento
White	Blanc	WeiB	Blanco	Branco	Branco
Blue	Bleu	Blau	Azul	Azul	Blu
Seconds	Seconde	Sekunde	Segundo	Segundo	Secondo
Minute	Minute	Minute	Minuto	Minuto	Minuto
Hour	Heure	Stunde	Hora	Hora	Ora
Day	Jour	Tag	Dia	Dia	Giorno
Month	Mois	Monat	Mes	Mes	Mese
Year	Annee	Jahr	Ano	Ano	Anno
Date	Date	Datum	Fecha	Data	Dattero
Monday	Lundi	Montag	Lunes	Segunda	Lunedi
Tuesday	Mardi	Dienstag	Martes	Terca	Martedi
Wednesday	Mercredi	Mittwoch	Miercoles	Quarta	Mercoledi
Thursday	Jeudi	Donnerstag	Jueves	Quinta	Giovedi
Friday	Vendredi	Freitag	Viernes	Sexta	Venerdi
Saturday	Samedi	Samstag	Sabado	Sabado	Sabato
Sunday	Dimanche	Sonntag	Domingo	Domingo	Domenica
None	Aucun	Nichts	Ninguno	Nenhum	Nessuno
Even	Pair	Sogar	Par	Par	Perfino
Odd	Impair	Ungewohn	Non	Impar	Strano
Single	Unique	Einzeln	Simple	unico	Singolo
Standrd	Standrd	Standard	Estandar	Padrao	Norme
Format1	Format1	Format1	Formato1	Formato1	Formato1
Format2	Format2	Format2	Formato2	Formato2	Formato2
End	Fin	Ende	Fin	Fim	Fine
Instru ID	Id instru	Instru Id	ID Instru	Instru Id	Instru Id
Serial No	Serie num	Serien-Nr.	Serie num	Serie num	Serie num
Time	Heure	Zeit	Hora	Hora	Ore
Date	Date	Datum	Fecha	Data	Dattero
Net Wt.	PDS net	Netto	Peso neto	Peso Liq	Peso netto
Gross Wt.	PDS brut	Brutto	Peso bruto	Peso bruto	Lordo WT
Tare Wt.	PDS tare	Tara	Peso Tara	Peso Tara	Tara WT
Operator	Operateur	Operator	Operador	Operador	Operatore
CR LF	Intlgne	Leerzei	CR LF	CR LF	CR LF
Active	Actif	Aktiv	Activo	Ativo	Attivo

ID No:	No ID:	ID-Nr:	ID Nr:	No ID:	Numero ID:
Ser No:	No Ser:	Ser-Nr:	Ser Nr:	Ser Nao:	Ser No:
Date:	Date:	Datum:	Fecha:	Data:	Dattero:
Time:	Heure:	Zeit:	Tiempo:	Hora:	Ore:
Net:	Net:	Netto:	Neto:	Liquida:	Rete:
Count:	Compte:	Zaehlng:	Cuenta:	Contagem:	Contare:
Percent:	Pourcnt:	Prozent:	Porcien:	Percent:	Percento:
Gross:	Brut:	Brutto:	Bruto:	Bruto:	Lordo:
Tare:	Tare:	Tara:	Vicia:	Tara:	Tara:
Unit Wt.	Pds uni:	St-Gew:	Unidad:	Peso uni:	Singolo:
Total Wt.	Pds total:	Gesamtgew:	Pes total:	Pes total:	Total Pes:
Ref Wt.	Pds ref:	Ref-Gew:	Pes ref:	Peso ref:	Peso rif:
Low:	Inf:	Untergr:	Bajo:	Baixo:	Basso:
High:	Sup:	Obergr:	Alto:	Alto:	Alto:
Operator:	Operateur:	Operator:	Operador:	Operador:	Operatore:
NO:	NO:	NO:	NO:	NO:	NO:
Error Data	Erreur	Fehlerdate	Dato error	Dados erro	Dati error
Density:	Densite:	Dichte:	Densidad:	Densidade:	Densita:
Low	Bas	Nied	Bajo	Baixo	Basso
Ok	Ok	Ok	Ok	Ok	Ok
High	HAUT	HOCH	ALTO	Alto	Alto
Cal	Cal	Kal	Cal	Cal	Cal
Internal	Interne	Intern	Interno	Interno	Interno
External	Externe	Extern	Externo	Externa	Esterno
Mass	Masse	Masse	Masa	Missa	Masso
Signed	Signe	Unterz.	Firmado	Assinado	Firmato
Total	Total:	Esamt:	Total:	Total:	Totale:
Low	Faible	Niedrig	Bajo	Baixo	Basso
High	Haut	Zu hoch	Alto	Alto	Alto
Range	Portee	Bereich	Gama	Gama	Gamma
Stable	Stab	Stabili	Estabil	Estavel	Stalla
Load	Charge	Uebrla	Carga	Carregar	Carico
Cal Pos	Cal pos	Cal-pos	Pos cal	Cal Posi	Cal Pos
Code	Code	Code	Codigo	Codigo	Codice
Cal Temp	Etalonnage	Kalib	Calulo	Cal Temp	Taratura
ADC UL	ADC UL	ADC UL	ADC UL	ADC UL	ADC UL
ADC OL	ADC OL	ADC OL	ADC OL	ADC OL	ADC OL
ADC Error	ADC erreur	ADC fehler	ADC Error	ADC Error	ADC Error
Temp Error	Temp erreu	Temperatur	Temp	Temp	Temp
Eeprom	Eeprom	Eeprom	Eeprom	Eeprom	Eeprom
Eedata	Eedata	Eedata	Eedata	Eedata	Eedata
Input	Entree	Eingabe	Entrada	Entrada	Immissione
Enable	Activer	Ermoglich	Permita	Ativar	Abilitare
Baud Rate	Baud Rate	Baudrate	Velocidad	Taxa tran	Baud Rate

Parity	Parity	Paritaet	Paridad	Paridade	Parita
Stable	Stable	Stab druck	Estable	Estable	Stalla
Continuous	Continu	Kont druck	Continuo	Continuo	Continuo
Periodic	Periodique	Periodisch	Periodico	Periodico	Periodico
Format	Format	Foramt	Formato	Formato	Formato
Weight ADC	Poids ADC	Gewicht AD	Peso ADC	Peso ADC	Peso ADC
Temp ADC	Temp ADC	Temp ADC	Temp ADC	Temp ADC	Temp ADC
Temp	Temp	Temp	Temp	Temp	Temp
Comm-rs232	Comm-RS232	Comm-RS232	Comm-RS232	Comm-RS232	Comm-RS232
Comm-usb	Comm-USB	Comm-USB	Comm-USB	Comm-USB	Comm-USB
Ethernet	Ethernet	Ethernet	Ethernet	Ethernet	Ethernet
Bluetooth	BlueTooth	BlueTooth	BlueTooth	BlueTooth	BlueTooth
Wifi	Wifi	Wlan	Wifi	Wifi	Wifi
Parts	Pieces	Teile	Partes	Pecas	Parti
APW g/pcs	APW g/pcs	APW g/pcs	APW g/pcs	APW g/pcs	APW g/pcs
Total Wt.	Total Poid	Gesamgewic	Total Peso	Total Peso	Total Peso
Gross Wt.	PDS brut	Brutto-LB	Peso bruto	Peso bruto	Lordo WT
Tare Wt.	PDS tare	Tara WT	Peso tara	Peso Tara	Tara WT
Not Set	Non defini	Nicht fest	No estable	Nao defini	Non impost
High Wt.	Elev poids	Hohes Gewi	Alto peso	Eleva Peso	Eleva Peso
Low Wt.	Poids faib	Gerin Gewi	Bajo peso	Baixo peso	Pidot peso
High pcs	Haute Piec	Hohe Stk	Alta Pieza	Altas pcs	Alti Pezzi
Low pcs	Bas Piecs	Niedri Stk	Bajas piez	Baixa pcs	Bassi Pezz
Load 100%	Charg 100%	Laden 100%	Carga 100%	Carga 100%	Caric 100%
Hold	Tenir	Halten	Sostener	Segure	Tenere
Manu Hold	Maint manu	Manu Hold	Manual	Manu Hold	Manu Hold
Auto Hold	Maint auto	Auto Hal	Automatica	Auto Hold	Automatico
Peak Hold	Maint pic	SpitzenHal	Pico	Pico Hold	Picco
Run	Start	Durch	Funcion	Executar	Correre
Setup	Reglage	Setup	Dispos	Configura	Configuraz
Manual	Manuelle	Manuell	Manual	Manual	Manuale
Auto	Auto	Auto	Automatico	Automovel	Automatico
Start ?	Commence ?	Anfangen ?	Inicio ?	Inicio ?	Inizia ?
Load pan	Pan charge	Pan last	Carga pan	Carga pao	Carico pan
Delay	Delai	Verzoegert	Retrasar	Atraso	Ritardo
Paused	En pause	Pausiert	Pausado	Pausado	Pausa
Stopped	Arrete	Gestellt	Detenido	Parado	Fermata
Finished	Fini	Fertig	Terminado	Finalizado	Finito
Total No.	Total No.	Gesamt No.	Total No.	Total No.	Totale No.
Total Wt.	Total poid	Gesamt Gw.	Total peso	Total peso	Total peso
Item:	Article:	Artikel:	Articulo:	Item:	Articolo:
Item	Article	Artikel	Articulo	Item	Articolo
Item N=	Artic N=	Artik N=	Artic N=	Item N=	Artic N=
Target	Cible	Ziel	Objetivo	Alvo	Bersagli

Actual	Reel	Wirklich	Real	Atual	Attuale
Free	Libre	Kostenlos	Libre	Livre	Gratuito
Recipe	Recette	Rezept	Receta	Receita	Ricetta
Recall	Rappeler	Ruckruf	Recordar	Relembre	Ricordare
Delete	Supprimer	Loschen	Borrar	Suprimir	Cancella
New	Nouveau	Neu	Nuevo	Novo	Nuovo
Parts	Piece	Teile	Parte	Pecas	Parti
Total PCS	Total PCS	Gesamt PCS	Total PCS	Total PCS	Totale PCS
Power off	Eteindre	Strom aus	Apagar	Desligar	Spegni
Language	Langue	Sprache	Idioma	Idioma	Lingua
Time	Heure	Zeit	Hora	Hora	Ore
Date Form	Format Dat	Datum Form	Fecha Form	Data Forma	Datte Form
Date	Date	Datum	Fecha	Data	Dattero
Inst ID	Instru ID	Instru ID	Instru ID	Instru ID	strumen ID
Buzzer	Alarme	Summer	Bocina	Buzzer	Cicalino
BL Colour	BL Couleur	BL Farbe	Colo fundo	Fundo Cor	RU Colore
BL Mode	BL Mode	BL Modus	Modo fundo	Fundo Mode	RU Moda
Light Mode	Lum Mode	Licht Modu	Modo luz	Modo luz	luce Moda
Power Down	Eteindre	Ausschalte	Apagado	Desligar	Spegnere
Filter	Filtre	Filter	Filtro	Filtro	Filtro
Stability	Stabilite	Stabilitat	Estabilida	Estabilida	Stabilita
Auto-Zero	Auto-zero	Auto-Null	Auto-cero	Zero auto	Azze-auto
New ID	Nouveau ID	Neue ID	Nuevo ID	Novo ID	Nuovo ID
New PIN	Nouve Code	Neue Code	Nuevo Code	Novo Code	Nuovo Code
Add Users	Ajou utili	Hinzu Benu	Agre usuar	Adic Usuar	Aggi Utent
Del Users	Supp utili	Benu losch	Elim usuar	Excl Usuar	Canc Utent
Rep Users	Remp utili	Benu erset	Reem usuar	Subs usuar	Sost Utent
Passcode	Code	Passwort	Contrasena	Acesso	Acesso
Operator	Operateur	Operator	Operador	Operador	Operatore
Supervisor	Superviseu	Aufseher	Supervisor	Supervisor	Supervisor
U_Disk Err	U_Disk Err	U_Disk-Feh	U_Disk Err	U_Disk Err	U_Disk Err
NO U-Disk	NON U-Disk	NEI U-Disk	NO U-Disk	Nao U-Disk	NO U-Disk
Pull Out	Arracher	Ziehen aus	Arrancar	Puxa fora	Estrarre
Save end	Enregi rin	Speic rnde	Guarda fin	Salvar rim	Salva rine
Insert	Inserer	Einfugen	Insertar	Inserir	Inserire
U-Disk	U-Disk	U-Disk	U-Disk	U-Disk	U-Disk
Save Mode	Mode sauve	Speich mod	Modo ahorr	Modo Guard	Moda Salva
Read Data	Sauve lec	Lies Daten	Leer datos	Ler dados	Leggi dati
Print Data	Sauve impr	Druckdaten	Impr datos	Impr dados	Stamp dati
To U-Disk	Disque U	Zur U-Disk	A U-Disk	Par U-Disk	Su U-Disk
Delete Dat	Supp sauve	Loschen Da	Eliminar da	Excluir Da	Elimina da
Save Off	Arret sauv	Speich aus	Guard apag	Guardar	Risparmia
Save Key	Touch sauv	Sch speich	Clav Guard	Salva chav	Salva chia
Save Auto	Sauve auto	Aut speich	Auto Guard	Salva auto	Salva auto
User	User	Benu	Usua	Usua	Uten

Table 2 (bottom display area)：

English	French	German	Spanish	Portuguese	Italian
Calibration	Calibrage	Kalibrierprotokoll	Calibracion	Calibracao	Calibrazione
Enable calibration	Activer letalonnage	Aktivieren Kalibrierung	Habilitar calibracion	Ativar calibracao	Abilita calibrazione
Calibration report switch	Rapport de calibrage	Fur Kalibrierprotokoll	Informe de calibracion	Modo relatorio de calib	Rapporto di calibrazione
Time calibration switch	Calibrage temps	Fur die Zeitkalibrierung	Calibracion de tiempo	Modo calibracao de tempo	Calibrazione dell'ora
Temp calibration switch	Calibrage température	Temperat Kalibrierschalte	Calibracion temperatura	Modo cal de temperatura	Calibrazione temperatura
Internal calibration	Calibrage interne	Interne Kalibrierung	Calibracion interna	CalibraCAcao interna	Calibrazione interna
Internal mass weight	Poids de la masse interne	Inneres Massengewicht	Peso de masa interna	Massa interna	Peso della massa interna
Average switch	Changement moyen	Durchschnittlicher Wechse	Cambio promedio	Interruptor medio	Interruttore medio
Temperature compensation	Compensation de temperatu	Temperatur-Kompensation	Compensacion de temperatu	Compensacao de temperatur	Compensazione termica
Linear correct	Correction lineaire	Lineare Korrektur	Correccion lineal	Correcao linear	Correzione lineare
Flicker switch	Interrupteur scintillemen	Flicker-Schalter	Interruptor de parpadeo	Interruptor de cintilacao	Interruttore sfarfallio
Internal calibration	Calibrage interne	Interne Kalibrierung	Calibracion interna	Calibracao interna	Calibrazione interna
Customer choice	Choix du client	Wahl des Kunden	Choix du client	Escolha do cliente	Scelta del cliente
Defaulting parameter	arametre par defaut	Default-Parameter	Parametro por defecto	Parametro padrao	Parametro predefinito
Factory reset	Reinitialisation dusine	Herstellungs-reset	Restaurar a fabrica	Reposicao de fabrica	Resetta factory
Default linear parameter	Lineaire par defaut	Standard-linear	Lineal predeterminado	Linear padrao	Lineare di default
Default temp parameter	Temperature par defaut	Standardtemperatur	Temperatura predeterminad	Temperatura padrao	Temperatura predefinita
Default creep parameter	Creep par defaut	Standard creep	Creep predeterminado	Rastejamento padrao	Scorrimento predefinito

Creep time choice	Choix du temps de fluage	Wahl der Kriechzeit	Tiempo de creep	Tempo de arrepio	Tempo di scorrimento
Error message	Message derreur	Fehlermeldung	Mensaje de error	Mensagem de erro	Messaggio di errore
Input internal cal mass	Masse detalonnage interne	Eingebaute Kalib Masse	Cal interna del masa	Calib interna de massa	Calibrazione interna massa
Low limit switch	Interrupteur limite basse	Schalter Unterer Grenzwer	Interruptor limite bajo	Modo de limite baixo	Finecorsa basso
High limit switch	Interrupteur limite haute	Hoher endschalter	Interruptor limite alto	Modo de limite alto	Interruttore corsa alto
Buzzer switch	Interrupteur dalarme	Summer-Schalter	Interruptor de zumbador	Interruptor de campainha	Interruttore cicalino
Calibration report	Rapport de calibrage	Kalibrierprotokoll	Informe calibracion	Modo relatorio calib	Rapport calibrazione
Unit Grams	Unite Grammes	Einheit Gramm	Gramos unitarios	Unidade de gramas	Unita di misura Grammi
Unit Milligrams	Unite milligramme	Einheit Milligramm	Unidad Miligramo	Unidade Miligrama	Unita misura Milligrammo
Unit Kilograms	Unite kilogrammes	Einheit Kilogramm	Unidad Kilogramos	Unidade Quilogramas	Unita Chilogrammi
Unit Carats	Unite carats	Einheit Karat	Quilates unitarios	Unidade Quilates	Unita di carati
Unit Pennyweights	Unite pennyweights	Einheit Pennyweights	Pesos unitarios	Unidade Pennyweights	Pennyweights unitari
Unit Grains	Unite grains	Einheit Getreide	Granos unitarios	Uidade de Grao	Grani unitari
Unit Troy ounces	Unite onces troy	Einheit Feinunzen	Unidad Onzas Troy	Unidade oncas Troy	Unita once Troy
Unit Ounces	Unite onces	Einheit Unzen	Onzas unitarias	Unidade Oncas	Unita di once
Unit Pounds	Unite livres	Einheit Pfund	Libras unitarias	Unidade Libra	Unita di sterline
Unit Drams	Unites drams	Einheit Drams	Drams de la unidad	Unidade Drams	Unita Dram
Unit Teals (Hong Kong)	Unite teals (Hong Kong)	Einheit Teals (Hongkong)	Unidad Teals (Hong Kong)	Unidade Teals (Hong Kong)	Unita Teals (Hong Kong)
Unit Teals (Taiwan)	Unite Sarcelles (Taiwan)	Einheit Teals (Taiwan)	Unidad Teals (Taiwán)	Unidade Teals (Taiwan)	Unita Teals (Taiwan)
Unit Teals (Singapore)	Unite Teals (Singapour)	Einheit Teals (Singapur)	Unidad Teals (Singapur)	Unidade Teals (Cingapura)	Unita Teals (Singapore)
Unit Mommes	Unite Mommes	Einheit Mommes	Unidad Mommes	Unidade Mommes	Unita Mamme
Unit Tolas	Unite Tolas	Einheit Tolas	Unidad Tolas	Unidade Tolas	Unita Tolas

Unit Ticals	Unites Ticals	Einheit Ticals	Unidades Ticales	Unidade Ticals	Unita Ticals
Unit Newtons	Unite Newtons	Einheit Newton	Newtons unitarios	Unidade Newtons	Unita Newton
Unit Custom	Unite personnalisable	Einheit Benutzerdefiniert	Unidad personalizada	Unidade personalizada	Unita personalizzata
Weight Mode	Mode de poids	Gewichtsmodus	Modo de peso	Modo de peso	Modalita peso
Parts Mode	Mode de piece	Teile-Modus	Modo de pieza	Conta Pecas	Modalita Parte
Precent Mode	Mode pourcentage	Prozent-Modus	Modo de porcentaje	Modo de percentagem	Modalita percentua
Check Weight Mode	Mode verification poids	Prufmodus	Modo de peso verificacion	Modo de peso verificacao	Modalita di controllo
Check Parts Mode	Mode verification piece	Menge der Detektion	Modo pieza verificacion	Modo de Pecas verificacao	Modalita Check Parts Mode
Hold Mode	Mode de maintien	Halte-Modus	Modo de espera	Modo de espera	Modalita di attesa
Animal Mode	Mode Animal	Tier-Modus	Modo Animal	Modo Animal	Modalita animale
Net/Total Mode	Mode Net/Total	Netto-/Gesamt-Modus	Modo Neto/Total	Modo Liquido/Total	Modalita Netto/Totale
Density Mode	Mode Densite	Dichte-Modus	Modo de densidad	Modo de densidade	Modalita densita
Formulate Mode	Mode de formulation	Formulieren-Modus	Modo de formulacion	Modo de Formulacao	Modalita di formulazione
Parts Total Mode	Mode piece/Total	Teile-/Gesamt-Modus	Modo pieza/Total	Modo Pecas/Total	Modalita Parte/Totale
Display ADC counts	Afficher le nombre d'ADC	ADC-Zahler anzeigen	Mostrar recuentos de ADC	Exibir contagens de ADC	Visualizza i conteggi ADC
Internal Calibration	Calibrage interne	Interne Kalibrierung	Calibracion interna	Calibracao Interna	Calibrazione interna
First Calibration					
Factory Calibration	Calibrage en usine	Werksk-alibrierung	Calibracion de fabrica	Calibracao de fabrica	Calibrazione di fabbrica
Time auto Calibration	Calib automatique temps	Automatische Zeit kalibr	Calib automatica tiempo	Calib automatica tempo	Calib automatica dellora
Temp auto Calibration	Calib automatique tempera	Automatische Temper kalib	Calib automatica tempera	Calib automatica tempera	Calib automatica tempera
Dealer Calibration	Calibrage du revendeur	Handler-Kalibrierung	Calibracion distribuidor	Calibracao do revendedor	Calibrazione rivenditore
External Calibration	Calibrage externe	Externe Kalibrierung	Calibracion externa	Calibracao Externa	Calibrazione esterna

Linear Calibration	Calibrage lineaire	Lineare Kalibrierung	Calibracion lineal	Calibracao linear	Taratura lineare
Unit Choice	Selectionnez lunite	Wahlen Sie die Einheit	Seleccione la unidad	Selecione a unidade	Seleziona lunita
Mode Choice	Selectionnez le mode	Wahlen Sie den Modus	Seleccionar modo	Selecionar modo	Seleziona la modalita
Communication Port	Communication Port	Kommunikation sanschluss	Puerto de comunicacion	Porta de comunicacao	Porta di comunicazione
Setting Custom Unit	Unite personnalisable	Definierten Einheit	Configuracion la unidad	Configur unidad personal	Dell unita personalizzata
Comm-rs232 enable	Comm-RS232 activer	Comm-RS232 ermoglich	Comm-RS232 Permita	Comm-RS232 Ativar	Comm-RS232 Abilitare
Comm-rs232 baud rate	Comm-RS232 baud rate	Comm-RS232 baudrate	Comm-RS232 Velocidad	Comm-RS232 Taxa tran	Comm-RS232 Baud Rate
Comm-rs232 parity	Comm-RS232 parity	Comm-RS232 paritaet	Comm-RS232 Paridad	Comm-RS232 Paridade	Comm-RS232 Parita
Comm-rs232 stable	Comm-RS232 stable	Comm-RS232 stab druck	Comm-RS232 Estable	Comm-RS232 Estable	Comm-RS232 Stalla
Comm-rs232 continuous	Comm-RS232 continu	Comm-RS232 kont druck	Comm-RS232 Continuo	Comm-RS232 Continuo	Comm-RS232 Continuo
Comm-rs232 periodic	Comm-RS232 Periodique	Comm-RS232 periodisch	Comm-RS232 Periodico	Comm-RS232 Periodico	Comm-RS232 Periodico
Comm-rs232 format	Comm-RS232 Format	Comm-RS232 foramt	Comm-RS232 Formato	Comm-RS232 Formato	Comm-RS232 Formato
Comm-usb enable	Comm-usb activer	Comm-usb ermoglich	Comm-usb Permita	Comm-usb Ativar	Comm-usb Abilitare
Comm-usb baud rate	Comm-usb baud rate	Comm-usb baudrate	Comm-usb Velocidad	Comm-usb Taxa tran	Comm-usb Baud Rate
Comm-usb parity	Comm-usb parity	Comm-usb paritaet	Comm-usb Paridad	Comm-usb Paridade	Comm-usb Parita
Comm-usb stable	Comm-usb stable	Comm-usb stab druck	Comm-usb Estable	Comm-usb Estable	Comm-usb Stalla
Comm-usb continuous	Comm-usb continu	Comm-usb kont druck	Comm-usb Continuo	Comm-usb Continuo	Comm-usb Continuo
Comm-usb periodic	Comm-usb Periodique	Comm-usb periodisch	Comm-usb Periodico	Comm-usb Periodico	Comm-usb Periodico
Comm-usb format	Comm-usb Format	Comm-usb foramt	Comm-usb Formato	Comm-usb Formato	Comm-usb Formato
Comm-Ethernet enable	Comm-Ethernet activer	Comm-Ethernet ermoglich	Comm-Ethernet Permita	Comm-Ethernet Ativar	Comm-Ethernet Abilitare

Comm-Ethernet baud rate	Comm-Ethernet baud rate	Comm-Ethernet baudrate	Comm-Ethernet Velocidad	Comm-Ethernet Taxa tran	Comm-Ethernet Baud Rate
Comm-Ethernet parity	Comm-Ethernet parity	Comm-Ethernet paritaet	Comm-Ethernet Paridad	Comm-Ethernet Paridade	Comm-Ethernet Parita
Comm-Ethernet stable	Comm-Ethernet stable	Comm-Ethernet stab druck	Comm-Ethernet Estable	Comm-Ethernet Estable	Comm-Ethernet Stalla
Comm-Ethernet continuous	Comm-Ethernet continu	Comm-Ethernet kont druck	Comm-Ethernet Continuo	Comm-Ethernet Continuo	Comm-Ethernet Continuo
Comm-Ethernet periodic	Comm-Ethernet Periodique	Comm-Ethernet periodisch	Comm-Ethernet Periodico	Comm-Ethernet Periodico	Comm-Ethernet Periodico
Comm-Ethernet format	Comm-Ethernet Format	Comm-Ethernet foramt	Comm-Ethernet Formato	Comm-Ethernet Formato	Comm-Ethernet Formato
Comm-BlueTooth enable	Comm-BlueTooth activer	Comm-BlueTooth ermoglich	Comm-BlueTooth Permita	Comm-BlueTooth Ativar	Comm-BlueTooth Abilitare
Comm-BlueTooth baud rate	Comm-BlueTooth baud rate	Comm-BlueTooth baudrate	Comm-BlueTooth Velocidad	Comm-BlueTooth Taxa tran	Comm-BlueTooth Baud Rate
Comm-BlueTooth parity	Comm-BlueTooth parity	Comm-BlueTooth paritaet	Comm-BlueTooth Paridad	Comm-BlueTooth Paridade	Comm-BlueTooth Parita
Comm-BlueTooth stable	Comm-BlueTooth stable	Comm-BlueTooth stab druck	Comm-BlueTooth Estable	Comm-BlueTooth Estable	Comm-BlueTooth Stalla
Comm-BlueTooth continuous	Comm-BlueTooth continu	Comm-BlueTooth kont druck	Comm-BlueTooth Continuo	Comm-BlueTooth Continuo	Comm-BlueTooth Continuo
Comm-BlueTooth periodic	Comm-BlueTooth Periodique	Comm-BlueTooth periodisch	Comm-BlueTooth Periodico	Comm-BlueTooth Periodico	Comm-BlueTooth Periodico
Comm-BlueTooth format	Comm-BlueTooth Format	Comm-BlueTooth foramt	Comm-BlueTooth Formato	Comm-BlueTooth Formato	Comm-BlueTooth Formato
Comm rs232 periodic time	Rs232 Periodique Heure	Comm rs232 Paritaet Zeit	Comm rs232 Periodico Hora	Comm rs232 Periodico Hora	Comm rs232 Periodico Ore
Comm usb periodic time	Comm usb Periodique Heure	Comm usb Paritaet Zeit	Comm usb Periodico Hora	Comm usb Periodico Hora	Comm usb Periodico Ore
Comm ethernet period time	Ethernet Periodique Heure	Ethernet Paritaet Zeit	Ethernet Periodico Hora	Ethernet Periodico Hora	Ethernet Periodico Ore
Comm BT periodic time	Comm BT Periodique Heure	Comm BT Paritaet Zeit	Comm BT Periodico Hora	Comm BT Periodico Hora	Comm BT Periodico Ore
Comm wifi periodic time	Com wifi Periodique Heure	Comm wifi Paritaet Zeit	Comm wifi Periodico Hora	Comm wifi Periodico Hora	Comm wifi Periodico Ore
Set time	Regler Heure	Garnitur Zeit	Configurar Hora	Por Hora	Mettere Ore

Set date	Regler Date	Garnitur Datum	Configurar Fecha	Por Data	Mettere Dattero
Set day for week	Definir jour la semaine	Wochentag festlegen	Establece dia para semana	Definir dia de semana	Imposta giorno settimana
Input current time	Saisir l instant T	Eingabe aktuellen Uhrzeit	Tiempo actual de entrada	Insira hora atual	Tempo corrente ingresso
Input current date	Saisir la date du jour	Aktuelles Datum eingeben	Fecha actual de entrada	Insira data atual	Inserisci data corrente
Input calibration temp	Temp detalonnage dentree	Temperaturkalibrierun g	Temp calibracion entrada	Temp calibracao entrada	Temp calibrazion ingresso
Input calibration time	Heure detalonnage dentree	Zeit detalonnage dentree	Hora detalonnage dentree	Hora detalonnage dentree	Ore detalonnage dentree
Language	Langue	Sprache	Idioma	Idioma	Lingua
Time	Heure	Zeit	Hora	Hora	Ore
Date format	Format Date	Datum Format	Fecha Formato	Data Formato	Dattero Formato
Date	Date	Datum	Fecha	Data	Dattero
Instrument ID	ID dinstrument dentree	Input Instrument ID	ID de instrumento	ID do Instrumento	ID strumento di input
Buzzer switch	Alarme Switch	Summer Schalter	Bocina Switch	Campainha Mudar	Cicalino Cambia
BackLight colour	BackLight Couleur	Farbe Hintergrundbeleuch	Color de fondo	Cor luz de fundo	Colore Retroilluminazione
BackLight mode	BackLight Mode	Modus Hintergrundbeleuch	Modo de fondo	Modo luz de fundo	Modalita retroillumina
Light mode	Lum Mode	Licht-Modus	Modo de luz	Modo luz	Modalita luce
Power down time	Eteindre	Ausschalten	Apagado automatico	Desligar	Spegnere
Filter speed	Filtre	Filter	Filtro	Filtro	Filtro
Stability	Stabilite	Stabilitat	Estabilidad	Estabilida	Stabilita
Auto zero	Auto-zero	Automatischer Nullpunkt	Auto-cero	Zero auto	Azzeramento automatico
Filling switch	Interrupteur remplissage	Schaltkasten fullen	Interruptor de llenado	Interruptor enchimento	Completament interruttore
Power down switch	Interrupteur mise tension	Schalter zum Ausschalten	Interruptor de apagado	Interruptor desligamento	Interruttore spegnimento

Comm-rs232	Comm-RS232	Comm-RS232	Comm-RS232	Comm-RS232	Comm-RS232
Comm-usb	Comm-USB	Comm-USB	Comm-USB	Comm-USB	Comm-USB
Ethernet	Ethernet	Ethernet	Ethernet	Ethernet	Ethernet
Bluetooth	BlueTooth	BlueTooth	BlueTooth	BlueTooth	BlueTooth
Wifi	Wifi	Wlan	Wifi	WIFI	Wifi
Wait for stablity	Attendez la stabilite	Warten auf Stabilitat	Espera la estabilidad	Esperar pela estabilidade	Aspetta la stabilita
Sample reference weight	Poids refer lechantillon	Proben-Referenzgewicht	Peso referencia muestra	Peso Referencia Amostra	Peso riferimento campione
Set the number of sample	Definir nombre dechantil	Festlegen Anzahl Stichpro	Establecer numero muestra	Definir onumero amostras	Imposta numero campioni
reference_weight_msgs	Choix du poids reference	Wahl des Referenzgewichts	Eleccion del peso referen	Escolha do peso referen	Scelta del peso riferimen
Set low limit weight	Definir pds limite basse	Untere gewichts festlegen	Establecer limite bajo	Define peso limite baixo	Impostare il limite basso
Set high limit weight	Definir pds limite haute	Obere gewichts festlegen	Establecer limite alto	Definir peso limite alto	Impostare limite superior
Set low limit pcs	Def une limite basse pcs	Unteres festlegen pcs	Establecer limit bajo pcs	Definir limite baixo pcs	Imposta limit infer pcs
Set high limit pcs	Def une limite elevee pcs	Obergrenze festlegen pcs	Establecer limit alto pcs	Defina limite alto pcs	Imposta limit massimo pcs
Hold Mode Choice	Choix du mode de maintien	Auswahl des Haltemodus	Eleccion modo retencion	Escolha do modo de espera	Scelta della moda attesa
Animal Measure Mode	Mode de mesure animal	Tier-Mess-Modus	Modo de medicion animal	Modo de Medicao Animal	Modalita misurazione ani
Animal Measure Threshold	Seuil de mesure animal	Schwellenwert Tiermabe	Umbral de medida animal	Limite de Medida Animal	Soglia di misura animale
Animal Measure Time	Temps de mesure animal	Tier-Messung Zeit	Tiempo de medicion animal	Tempo de Medicao Animal	Animale Misura il tempo
Animal Measure Delay	Retard de mesure animal	Verzogerung Messung Tiere	Retraso demedicion animal	Atraso de Medicao Animal	Ritardo della misura ani
Animal measure	Mesure animal	Tier-Messung	Medida animal	Medida de Animal	Misura animale
Substance form choice	Choix forme substance	Wahl der Stoffform	Eleccion forma sustanci	Escolha forma substanci	Scelta forma sostanza
Liquid Choice	Choix de liquide	Flussige Wahl	Liquid Choice	Escolha Líquida	Scelta Liquida

Select Formulate Mode	Mode Formulation Select	Wahlen Formulier modus	Selec modo formulacion	Selecion ModoFormulacao	Selez modal Formulazion
Select Recipe	Selectionnez la recette	Rezept auswahlen	Seleccionar receta	Selecionar Receita	Seleziona la ricetta
Delete Recipe	Supprimer la recette	Rezept loschen	Eliminar receta	Excluir receita	Elimina ricetta
Choose Calibration Weight	Choisis poids detalonnage	Wahlen Kalibriergewicht	Elija pesa calibracion	Escolha peso calibracao	Scegli pesocalibrazione
Input Multiplier	Multiplicateur dentree	Eingabe-Multiplikator	Multiplicador de entrada	Multiplicador de entrada	Moltiplicatore di input
Decimal Select	Selection decimale	Dezimal-Auswahl	Seleccion decimal	Selecao decimal	Selezione decimale
Delete Operator	Supprimer Operateur	Loschen Operator	Eliminar Operador	Suprimir Operador	Cancella Operatore
Replace Operator	Remplacez Operateur	Ersetzen Operator	Reemplazar Operador	Sostituisci Operador	Substituir Operatore
Operator choice	Operateur choix	Operator wahl	Operador eleccion	Operador escolha	Operatore scelta
Opeartor old password	Opeartor Ancien code	Opeartor alter Code	Opeartor codigo antiguo	Opeartor codigo antigo	Opeartor vecchio codice
Supervisor old password	Superviseur Ancien code	Aufseher alter Code	Supervisor codigo antiguo	Supervisor codigo antigo	Supervisor vecchio codice
Supervisor	Superviseur	Aufseher	Supervisor	Supervisor	Supervisor
Supervisor ID	Superviseur ID	Aufseher ID	Supervisor ID	Supervisor ID	Supervisor ID
Supervisor password	Superviseur code	Aufseher code	Supervisor codigo	Supervisor codigo	Supervisor codice
Wait for storage to end	Attendre fin du stockage	Warten Speicher endet	Espera fin almacenamiento	Aguarde fim armazenamento	Attendi che storage finis
Save Data	Enregistrer les donnee	Daten speichern	Guardar datos	Guardar dados	Salva i dati
Result Data Save setup	Enregist donnees resultat	Ergebnisdaten Speichern	Resultado de guardado	Resultado de Dados Salvo	Salva Dati Risultato
Save Data Switch	Basculeur sauvegarde donn	Speicherdatenumschalter	Interruptor Guardar Datos	Salvar opcao de dados	Interruttore Salva dati
Save Record Sum:	Sauvegarde Sum:	Speichere Summe:	Guardar datos Sum:	Salvar dados Soma:	Salva dati Sum:
Display All Saved Data	Mostrar todos los datos	Zeige All speichere Daten	Mostrar todos datos	Exibir todos dados salvos	Mostra Tutti Dati Salvati

Print All Saved Data	Imprimer tout les donnees	Gib alle Daten speichern	Imprimir Todo Guardar Dat	Imprimir Todos os Dados	Stampa tutti dati salvati
Print Data Interface	Interface impression donn	Daten-Druck-Interface	Interfaz Impresion Datos	Interface dados impressao	Interfaccia dati stampa
Save all data to U-Disk	Enregistrer sur U-Disk	Auf U-Disk speichern	Guardar datos en U-Disk	Guardar dados no U-Disk	Salva i dati su U-Disk
Delete All Saved Data	Supprimer toutes donnees	Alle Daten loschen	Eliminar todos los datos	Excluir todos os dados	Elimina tutti i dati
Weight	Poids	Gewichts-Modus	Peso	Peso	Peso
Parts	Piece	Teile-Modus	Pieza	Pecas	Parte
Precent	Pourcentage	Prozent-Modus	Porcentaje	Percentagem	Percentuale
Check Weight	Verificati poids	Prufmodus	Peso verificaci	Peso verificacao	Peso controllo
Check Parts	Verificati piece	Teile Prufmodus	Pieza verificaci	Pecasverificacao	Parte controllo
Hold	Maintien	Halte-Modus	Espera	Espera	Attesa
Animal	Animal	Tier-Modus	Animal	Animal	Animale
Net/Total	Net/Total	Netto-/Gesamt	Neto/Total	Liquido/Total	Netto/Totale
Density	Densite	Dichte-Modus	Densidad	Densidade	Densita
Formulate	Formulation	Formulieren	Formulacion	Formulacao	Formulazione
Parts/total	Piece/Total	Teile-/Gesamt	Pieza/Total	Pecas/Total	Parte/Totale

22 Warranty information

Adam Equipment offers Limited Warranty (Parts and Labour) for any components that fail due to defects in materials or workmanship. Warranty starts from the date of delivery.

During the warranty period, should any repairs be necessary, the purchaser must inform its supplier or Adam Equipment. The company or its authorised technician reserves the right to repair or replace the components at the purchaser's site or any of its workshops depending on the severity of the problems at no additional cost. However, any freight involved in sending the faulty units or parts to the service centre will be borne by the purchaser.

The warranty will cease to operate if the equipment is not returned in the original packaging and with correct documentation for a claim to be processed. All claims are at the sole discretion of Adam Equipment.

This warranty does not cover equipment where defects or poor performance is due to misuse, accidental damage, exposure to radioactive or corrosive materials, negligence, faulty installation, unauthorised modifications or attempted repair or failure to observe the requirements and recommendations as given in this User Manual.

This product may include a rechargeable battery that is designed to be removed and replaced by the user. Adam Equipment warrants that it will provide a replacement battery if the battery manifests a defect in materials or workmanship during the initial period of use of the product in which the battery is installed.

As with all batteries, the maximum capacity of any battery included in the product will decrease with time or use, and battery cycle life will vary depending on product model, configuration, features, use, and power management settings. A decrease in maximum battery capacity or battery cycle life is not a defect in materials or workmanship and is not covered by this Limited Warranty.

Repair carried out under the warranty does not extend the warranty period. Components removed during the warranty repairs become the company property.

The statutory rights of the purchaser are not affected by this warranty. In the event of dispute then the terms of this warranty are governed by UK law. For complete details on Warranty Information, see the terms and conditions of sale available on our website.

CE

Manufacturer's Statement

Adam Equipment Co.
Maidstone Road, Kingston
Milton Keynes, MK10 0BD
United Kingdom
This product complies with European standards and the following terms and conditions.

2004/108/EC, EMC clause	Standard EN61326-1:2013, Electronic Measuring Equipment, Control and Laboratory Use–EMC Clause–Part 1: General Requirements.
2006/95/EC, Lower pressure guide clause	Standard EN61010-1:2010, measurement safety requirements, control and laboratory equipment –Part 1: General requirements
2011/65/EC, RoHS, Restrictions on the use of certain harmful substances in electrical and electronic equipment	Restricted substance means that the maximum concentration value mentioned in item 4(1) calculated by the weight of uniform material does not exceed the specified limit.
2009/23/EC non-automatic weighing equipment instruction	Standards EN 45501:1992, AC:1993 (only applicable to certified instruments with non-automatic weighing)

Comply with FCC standards

This weighing instrument product has been inspected and meets the requirements of Class A defined by digital equipment, and the fifteenth part of FCC regulations shall be implemented. In the process of business operation, these restrictions can ensure that the company is legally protected from unnecessary losses. The balance of our company will produce radio wave radiation during production and use. If it is not installed and used according to the instruction manual, it may interfere with radio communication. If the user operates in a residential area, it is likely to cause harmful interference, and at this time, the user will be fully responsible for the related losses.

In order to maintain and control the radio radiation generated by the balance during use, all coils in this product are connected by shielding.

The legitimate rights and interests of users who refit the scales without the permission of ADAM will not be protected by law.

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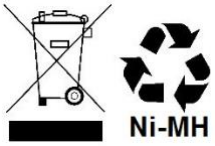
WEEE COMPLIANCE



Any electrical or electronic equipment (EEE) components or assembled parts must be recycled or disposed of, which has been included in the European directive 2012/19/EU defined by EEE devices, and the harm to our health or environment without introducing harmful substances is listed in 2011/65/EC or the revised legislation.

The battery handling shall be carried out according to local laws and restrictions.

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Adam Equipment reserves the right to make changes to the technology, features, specifications and design of the equipment without notice.

All information contained within this publication is to the best of our knowledge timely, complete and accurate when issued. However, we are not responsible for misinterpretations which may result from the reading of this material.

The latest version of this publication can be found on our website.

www.adamequipment.com

23. Draft shield assembly

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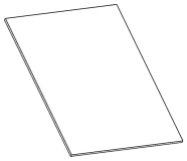
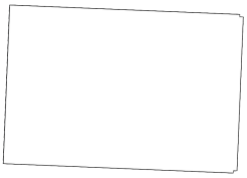
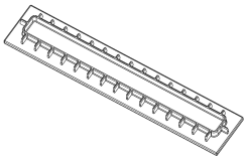
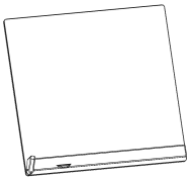
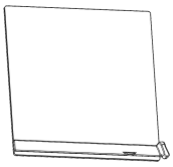
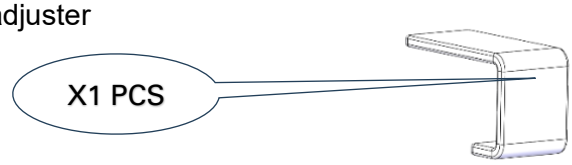
Assembly parts are as follows：

Code	Simple drawing	Qty	Code	Simple drawing	Qty
A	Front glass 	1	G	Right hand light bar	1
B	Back panel 	1	H	Left hand light bar	1
C	Top slide door	1	I	Rear top plate 	1
D	Right hand door 	1	J	Rear back plate	1
E	Left hand door 	1	K	Balance	1
F	Right corner clip	1	L	Left corner clip	1

2. The tools required for assembly are as follows:

M. Corner clip adjuster



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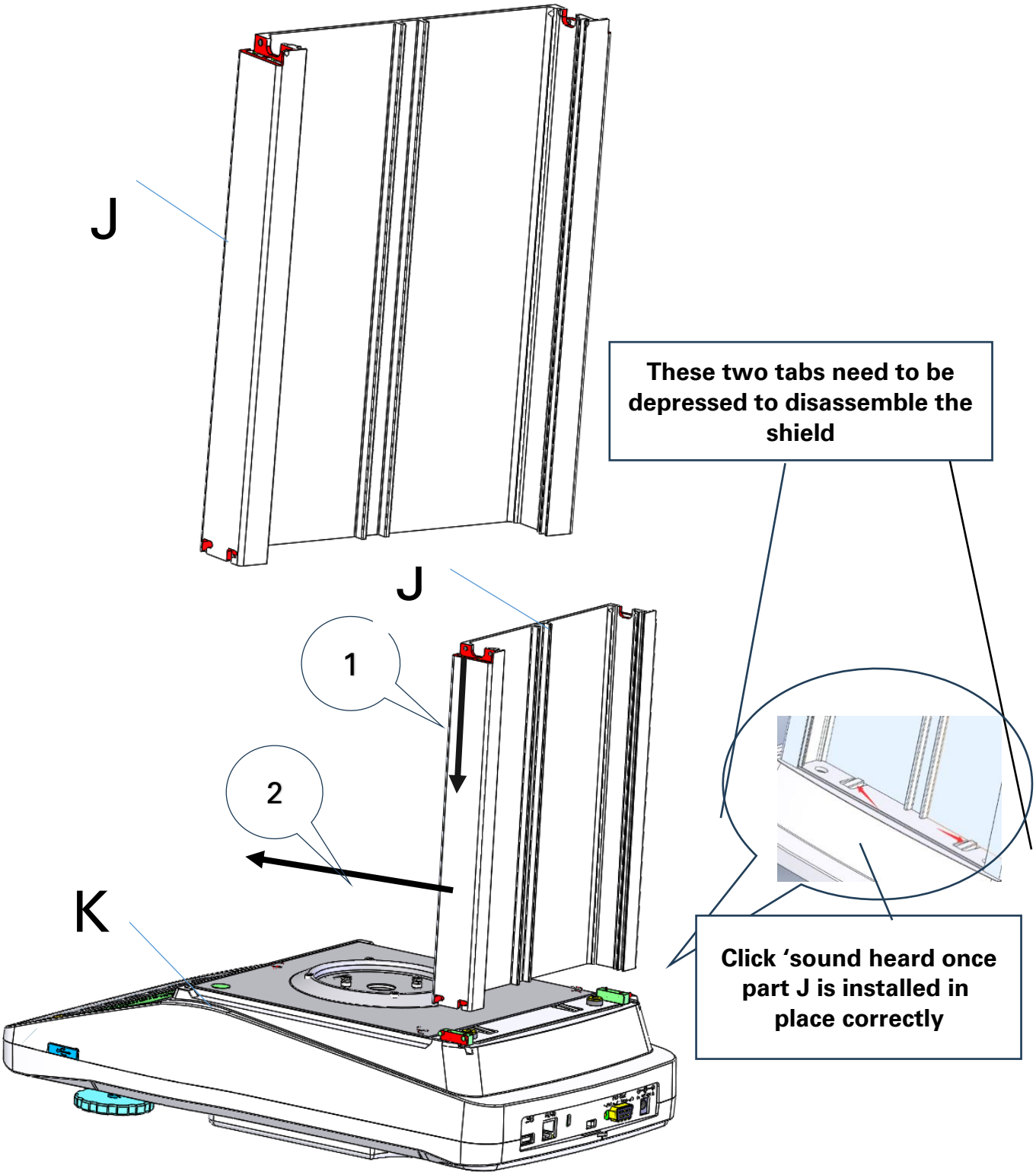
Step 1：Fix rear back plate



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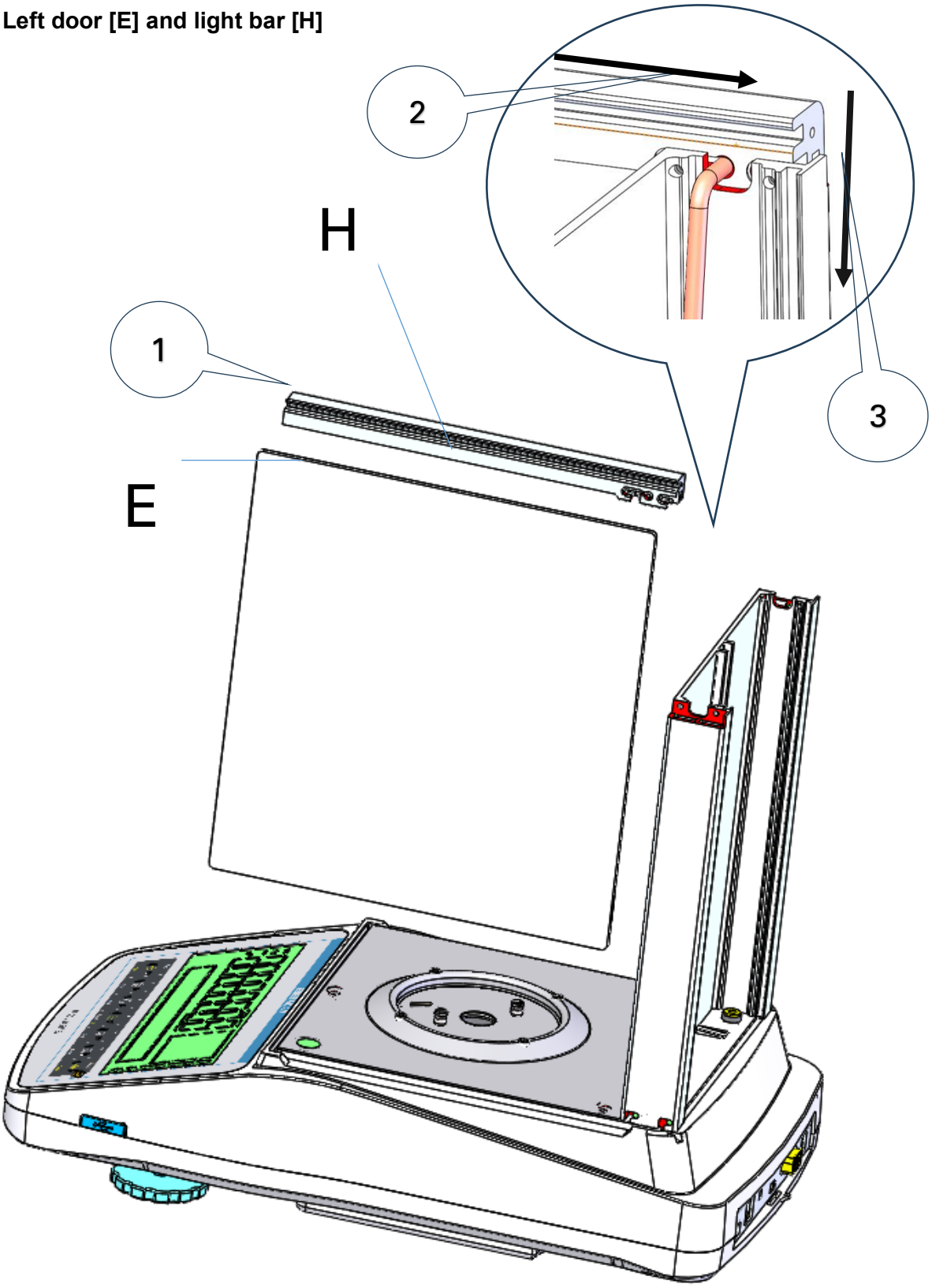
Step 2: Left door [E] and light bar [H]



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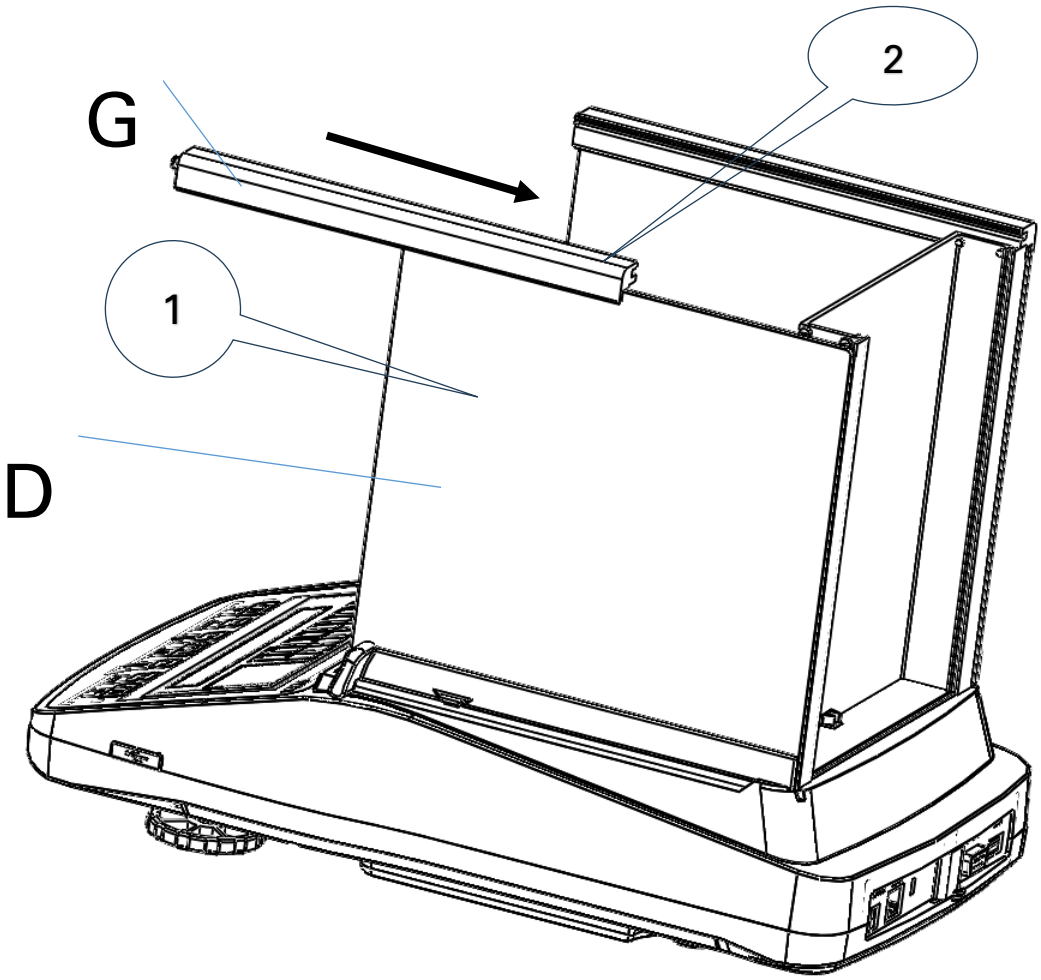
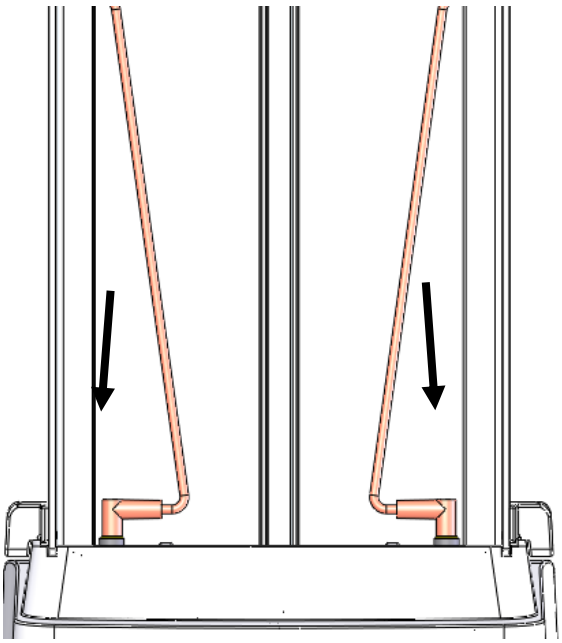
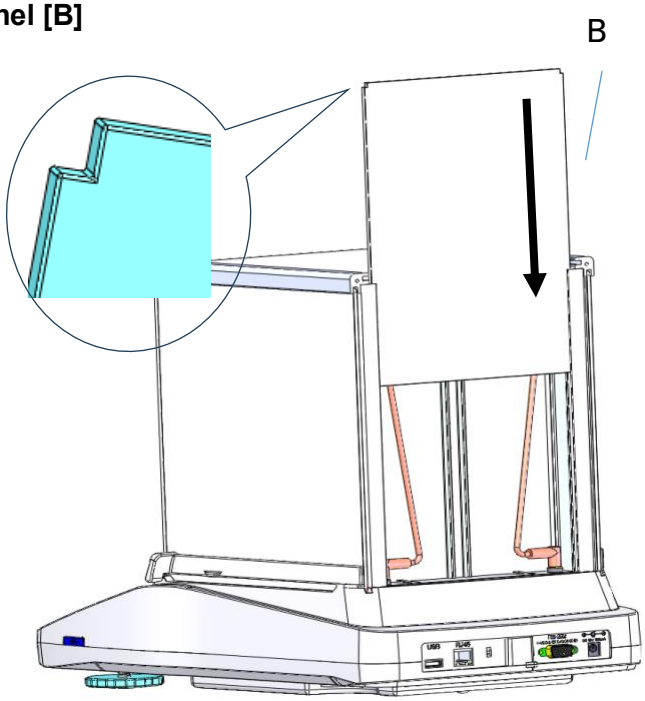
Step 3: Right door [D] and light bar [G]



Step 4: Connect the lights and add back panel [B]





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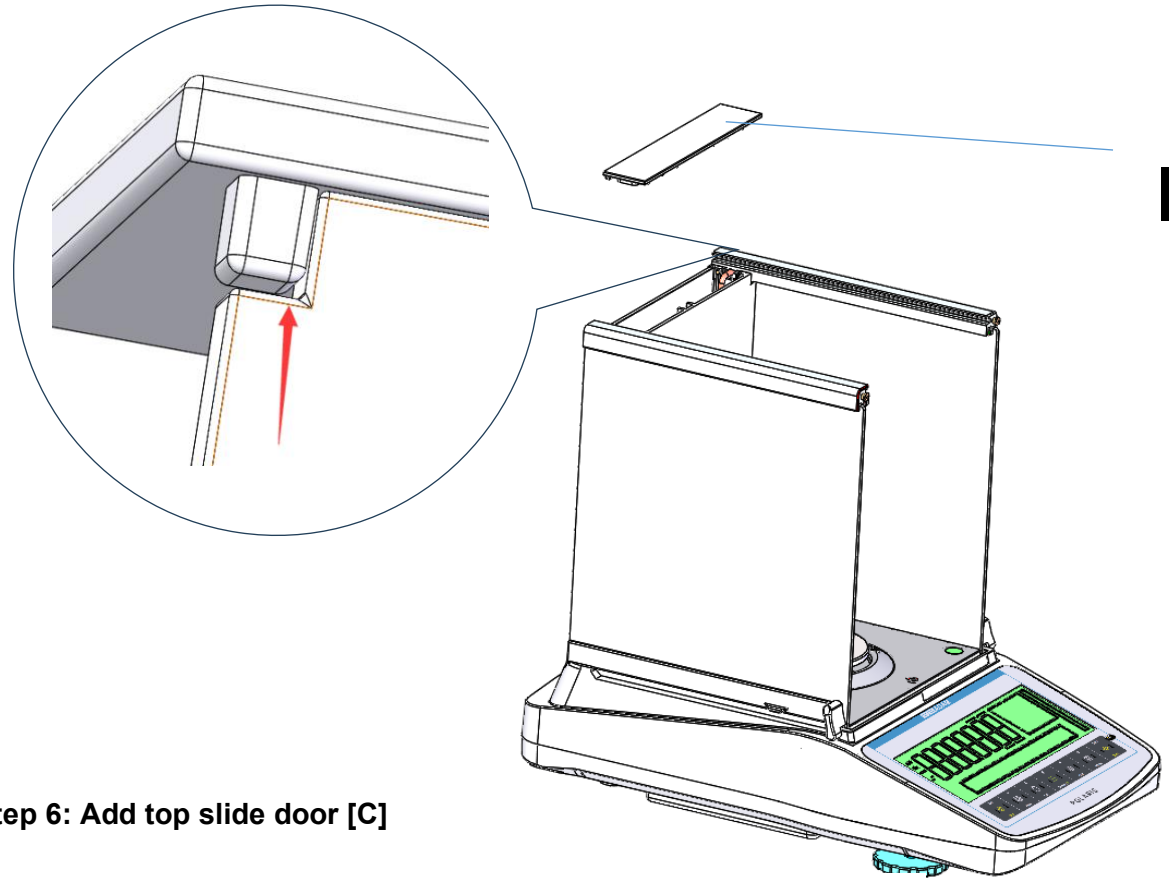
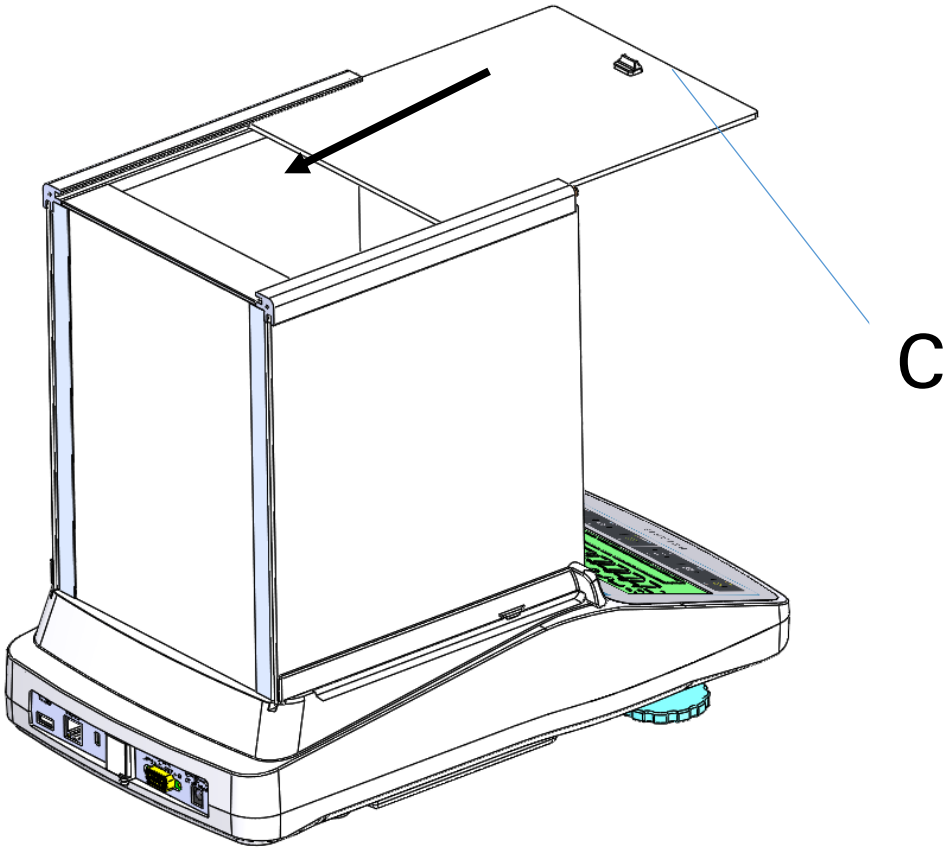
Step 5: Fit rear top plate [I]



Step 6: Add top slide door [C]



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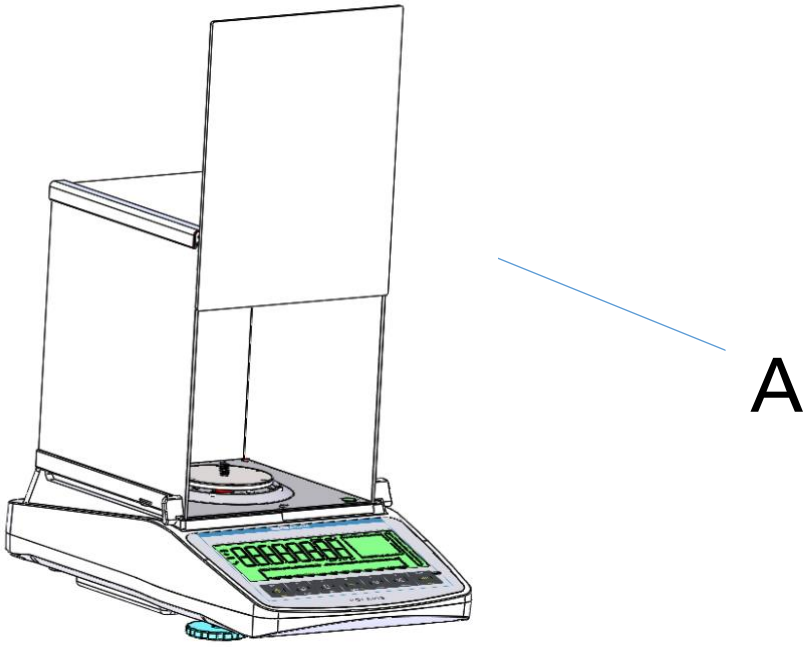
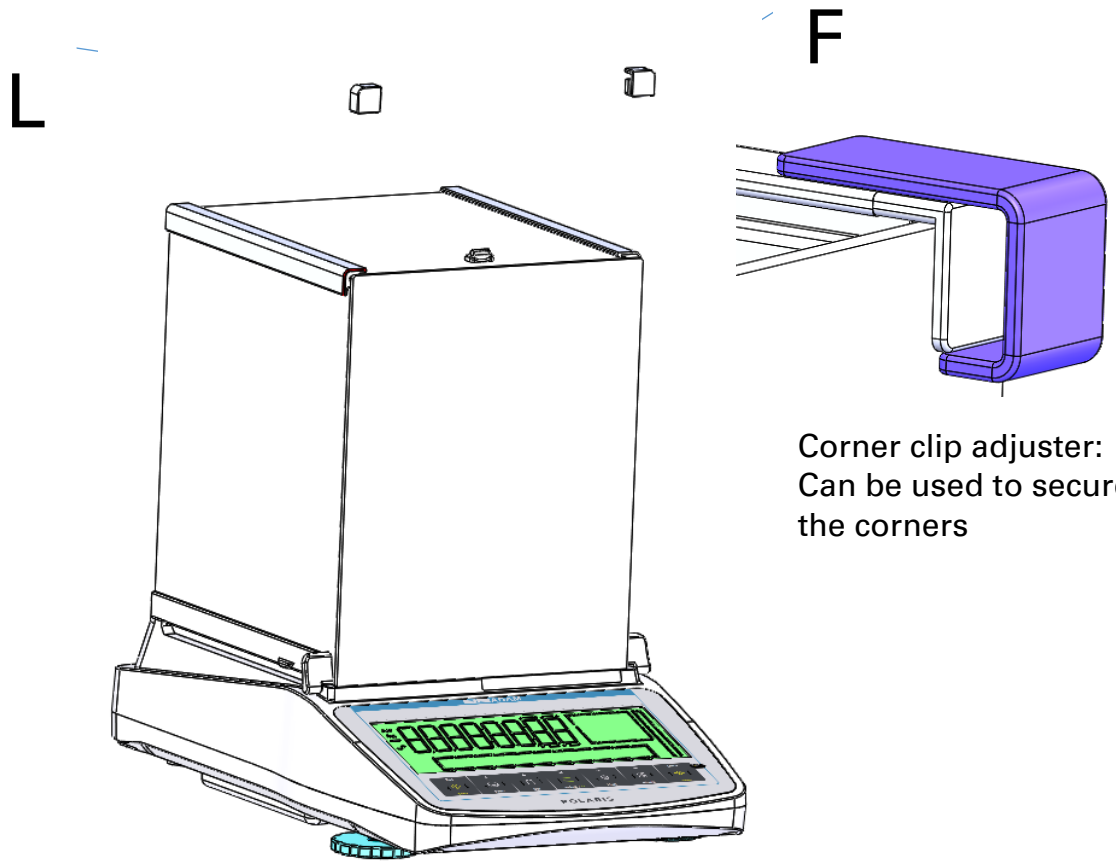
Step 7: Fit front glass [A]



Step 8: Fit corner clips [F and L]



Corner clip adjuster:
Can be used to securely fit the corners

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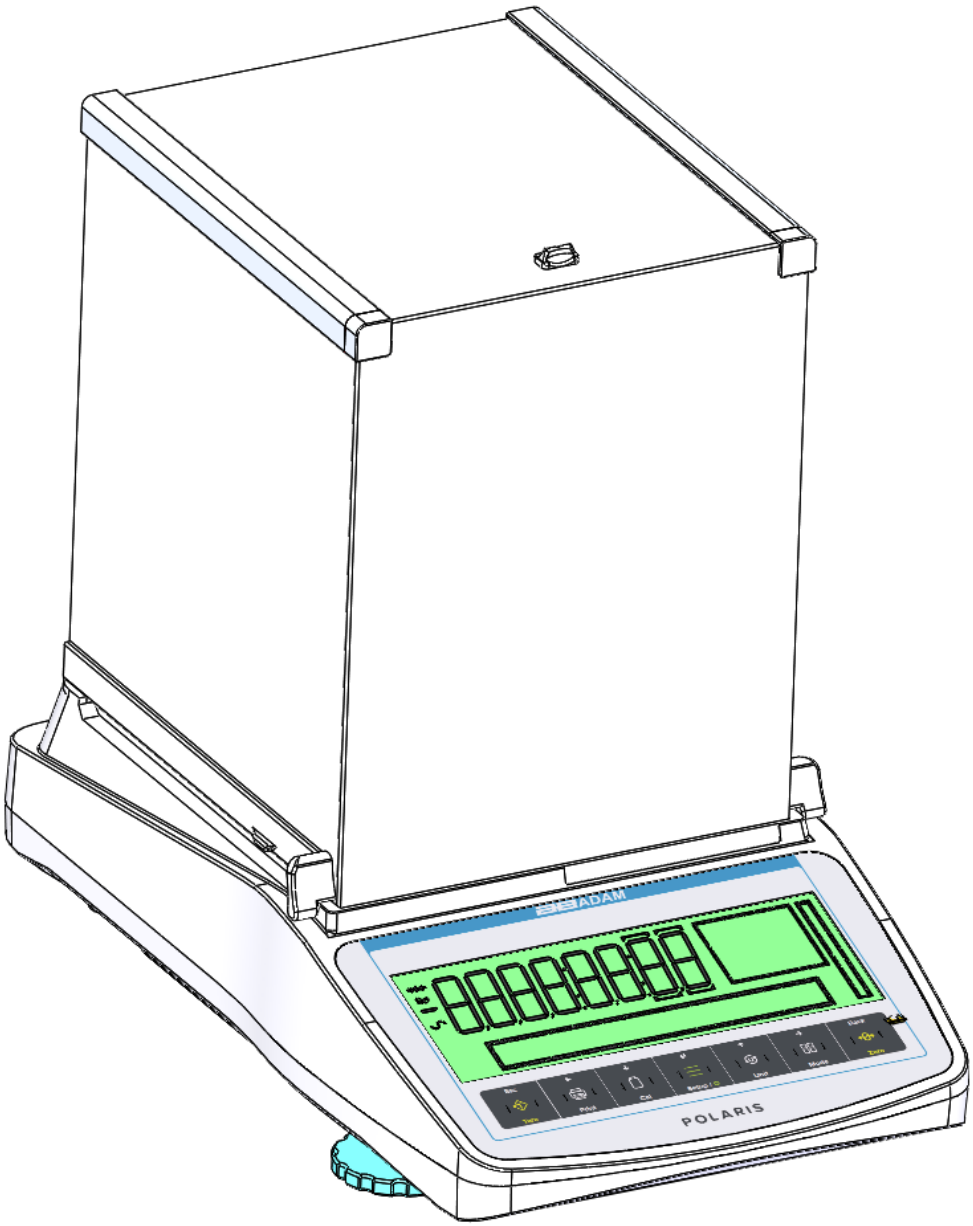

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