



PR Series Balances

Instruction Manual

Balanças Série PR

Manual de Instruções

Balance de Série PR

Manuel d'instruction

PR Serie Waagen

Bedienungsanleitung

Bilancia Serie PR

Manuale di Istruzioni

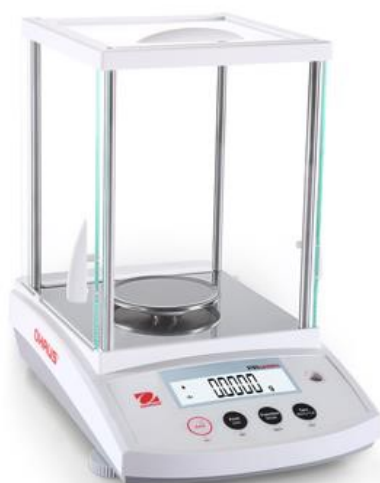


Table of Contents

1. INTRODUCTION	EN-3
1.1 Description	EN-3
1.2 Features	EN-3
1.3 Definition of Signal Warnings and Symbols	EN-3
1.4 Safety Precautions	EN-3
2. INSTALLATION	EN-4
2.1 Unpacking	EN-4
2.2 Select the Location	EN-4
2.3 Leveling	EN-4
2.4 Connecting Power and Acclimating the Balance	EN-4
2.5 Connecting the Interface	EN-5
2.6 Initial Calibration	EN-5
3. OPERATION	EN-6
3.1 Overview of Display, Home Screen	EN-6
3.2 Principal Functions and Main Menu	EN-7
3.3 Overview of Parts and Features – Draft Shield Mode	EN-7
3.4 Overview of Parts and Features – Non-Draft Shield Models	EN-7
4. APPLICATIONS	EN-8
4.1 Weighing	EN-8
4.2 Parts Counting	EN-8
4.3 Percent Weighing	EN-10
4.4 Additional Features	EN-12
5. MENU SETTINGS	EN-13
5.1 Menu Navigation	EN-13
5.1.1 Changing Settings	EN-13
5.2 Calibration	EN-14
5.2.1 Calibration Sub-menu (InCal models)	EN-14
5.2.2 Internal Calibration (not applicable to ExCal models)	EN-14
5.2.3 Cal Adjust (not applicable to ExCal models)	EN-14
5.2.4 Span Calibration	EN-14
5.2.5 Linearity Calibration	EN-15
5.3 Balance Setup	EN-17
5.3.1 Filter Level	EN-17
5.3.2 AZT (Auto Zero Tracking)	EN-17
5.3.3 Auto Tare	EN-17
5.3.4 Graduations	EN-18
5.3.5 Date Format	EN-18
5.3.6 Date Setup	EN-18
5.3.7 Time Format	EN-18
5.3.8 Time Setup	EN-19
5.3.9 Brightness	EN-19
5.3.10 Auto Dim	EN-19
5.3.11 Approved Mode	EN-20
5.4 Weighing Units	EN-20
5.5 RS232 Interface Setup	EN-21
5.5.1 Baud Rate	EN-21
5.5.2 Transmission	EN-22
5.5.3 Handshake	EN-22
5.6 Print Settings	EN-22
5.6.1 Stable Only	EN-22
5.6.2 Numeric Only	EN-23
5.6.3 Single Header	EN-23
5.6.4 Auto Print	EN-23
5.6.5 Header	EN-24
5.6.6 Date and Time	EN-24
5.6.7 Balance ID	EN-24
5.6.8 Balance Name	EN-24

5.6.9	User Name	EN-24
5.6.10	Project Name	EN-24
5.6.11	Application Name	EN-24
5.6.12	Result	EN-24
5.6.13	Gross	EN-24
5.6.14	Net	EN-25
5.6.15	Tare	EN-25
5.6.16	Line Feed	EN-25
5.7	GLP	EN-25
5.7.1	Header	EN-25
5.7.2	Balance Name	EN-25
5.7.3	User Name	EN-25
5.7.4	Project Name	EN-25
5.8	Factory Reset	EN-26
5.9	Lockout	EN-26
6.	LEGAL FOR TRADE (LFT)	EN-27
6.1	Settings	EN-27
6.2	Verification	EN-27
6.3	Sealing	EN-28
7.	PRINTING	EN-29
7.1	Connecting, configuring and Testing the Printer / Computer Interface	EN-29
7.2	Output format	EN-30
7.3	Printout Examples	EN-30
8.	MAINTENANCE	EN-32
8.1	Calibration	EN-32
8.2	Cleaning	EN-32
8.3	Troubleshooting	EN-32
8.4	Service Information	EN-33
9.	TECHNICAL DATA	EN-34
9.1	Specifications	EN-34
9.2	Drawings and Dimensions	EN-42
9.3	Accessories	EN-43
9.4	Communication	EN-43
9.4.1	Interface Commands	EN-43
9.4.2	RS232 (DB9) Pin Connections	EN-45
10.	SOFTWARE UPDATES	EN-45
11.	COMPLIANCE	EN-46

1. INTRODUCTION

1.1 Description

The PR balance is a precision weighing instrument that will provide you with years of service if properly cared for. PR balances are available in capacities from 62 grams to 6200 grams.

1.2 Features

Operation Controls: backlit display, with 3 weighing applications and many features.



1.3 Definition of Signal Warnings and Symbols

Safety notes are marked with signal words and warning symbols. These show safety issues and warnings. Ignoring the safety notes may lead to personal injury, damage to the instrument, malfunctions and false results.

WARNING	For a hazardous situation with medium risk, possibly resulting in injuries or death if not avoided.
CAUTION	For a hazardous situation with low risk, resulting in damage to the device or the property or in loss of data, or injuries if not avoided.
Attention Note	For important information about the product For useful information about the product

Warning Symbols



General Hazard



Electrical Shock Hazard



Alternating current



Direct current

1.4 Safety Precautions



CAUTION: Read all safety warnings before installing, making connections, or servicing this equipment. Failure to comply with these warnings could result in personal injury and/or property damage. Retain all instructions for future reference.

- Verify that the AC adapter's input voltage range and plug type are compatible with the local AC mains power supply.
- Make sure that the power cord does not pose a potential obstacle or tripping hazard.
- Do not position the balance such that it is difficult to reach the power connection.
- The balance is for indoor use only. Do not operate the equipment in hazardous or unstable environments.
- Operate the equipment only under ambient conditions specified in these instructions.
- Do not drop loads on the pan.
- Use the balance only in dry locations.
- Disconnect the equipment from the power supply when cleaning.
- Use only approved accessories and peripherals.
- Service should only be performed by authorized personnel.

2. INSTALLATION

2.1 Unpacking

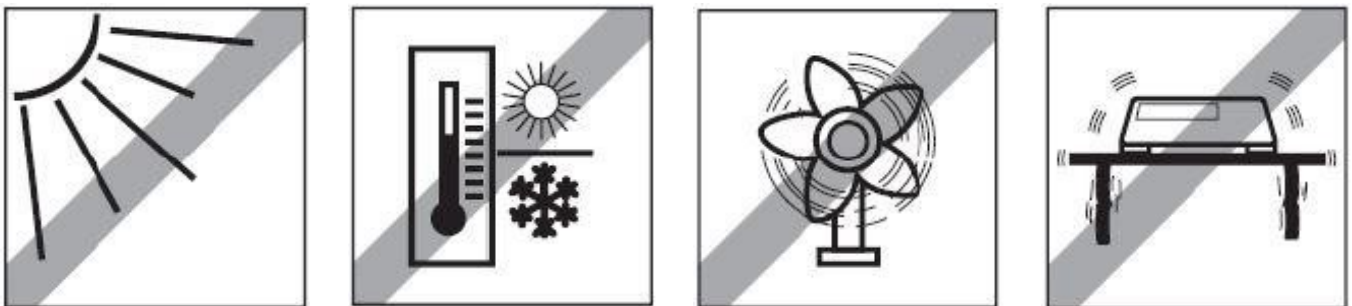
Carefully remove your PR balance and each of its components from the package. The included components vary depending on the balance model. Save the packaging to ensure safe storage and transport. Please read the manual completely before installing and using the PR balance to avoid incorrect operation.

Components included:

- Balance
- Power adapter + Attaching plug
- Stainless steel pan
- Pan support (for 0.1 g / 0.01 g model only)
- Warranty card

2.2 Select the Location

Avoid heat sources, rapid temperature changes, air current or excessive vibrations. Allow sufficient space.



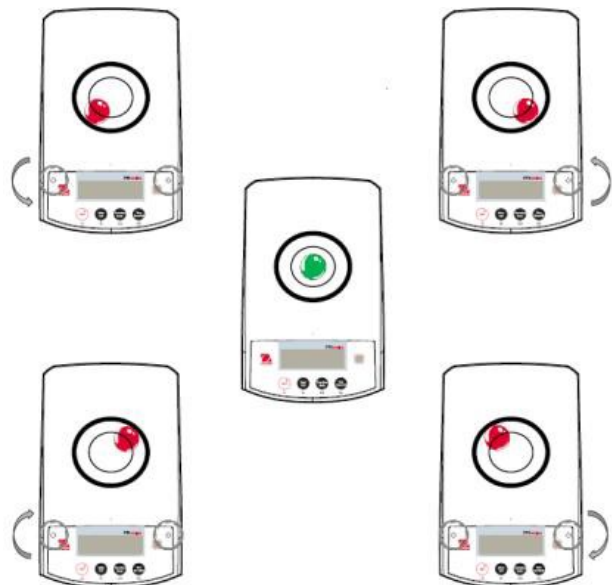
2.3 Leveling

Be sure the balance is level before it is used or after its location is changed.

The PR balance has a level bubble in a small round window beside the display.

To level the balance, adjust the 2 leveling feet until the bubble is centered in the circle.

Please refer to the right figure for leveling.



2.4 Connecting Power and Acclimatising the Balance

Connect the DC output connector to the power receptacle on the rear of the balance. Then connect the AC adapter plug to a suitable electrical outlet.

Acclimatising

It is suggested that the balance should not be used until it has been connected to power and acclimatised to the environment for a certain period of time. In the case of a balance with the precision above 0.1 mg, the acclimatisation time should be 1.5 hours; in the case of balance with the precision of 0.01 mg, the acclimatisation time should be more than 4 hours.

2.5 Connecting the Interface

The PR balance has a RS232 port.

Use the RS-232 port to connect either to a computer or a printer with a standard (straight-through) serial cable.

Interface connections on the rear of the balance



RS232

RS232: Used to connect to PC or Printer

Note: See the Printing section for Connecting, Configuring and Testing the Printer / Computer Interface.

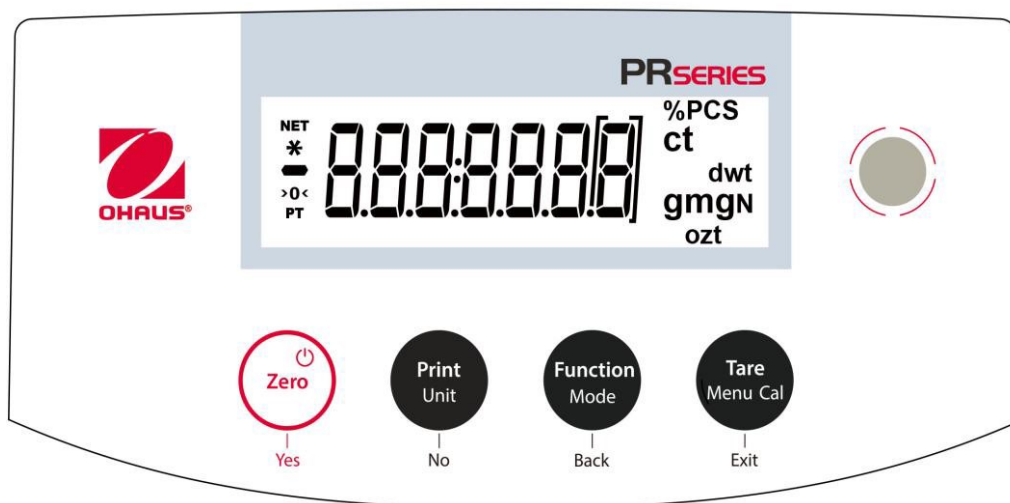
2.6 Initial Calibration

When the PR balance is first installed, or when it is moved to another location, it must be calibrated to ensure accurate weighing results. PR balances are classified into two categories, InCal models and ExCal models. InCal models have a built-in calibration mechanism which can calibrate the balance automatically and does not require the use of external calibration masses. If preferred, InCal models can also be manually calibrated with external masses. ExCal models are calibrated with external masses. Make sure to have the appropriate calibration masses available before beginning calibration.








3. OPERATION

3.1 Overview of Controls and Display

CONTROLS



CONTROL FUNCTIONS

Button	 Yes	 No	 Back	 Exit
Primary Function (Short Press) 	On / Zero <ul style="list-style-type: none"> If the balance is Off, turns on the balance. If balance is On, sets zero. 	Print <ul style="list-style-type: none"> Sends the current displayed value to the serial interface. 	Function <ul style="list-style-type: none"> Operation is dependent on the application mode. 	Tare <ul style="list-style-type: none"> Performs tare operation.
Secondary Function (Press and Hold) 	Off <ul style="list-style-type: none"> Zeroing current value. 	Unit <ul style="list-style-type: none"> Changes weighing units. 	Mode <ul style="list-style-type: none"> Changes application mode. 	Menu-Cal <ul style="list-style-type: none"> Enters the main menu. Calibration is the first sub-menu. Views the preset Tare value.
Menu Function (Short Press) 	Yes <ul style="list-style-type: none"> Accepts the current (blinking) setting on the display. 	No <ul style="list-style-type: none"> Rejects the current (blinking) setting on the display. Increments a value being entered. 	Back <ul style="list-style-type: none"> Reverts back to previous menu item. Decrements a value being entered. 	Exit <ul style="list-style-type: none"> Immediately exits the sub-menu. Aborts a calibration in progress.

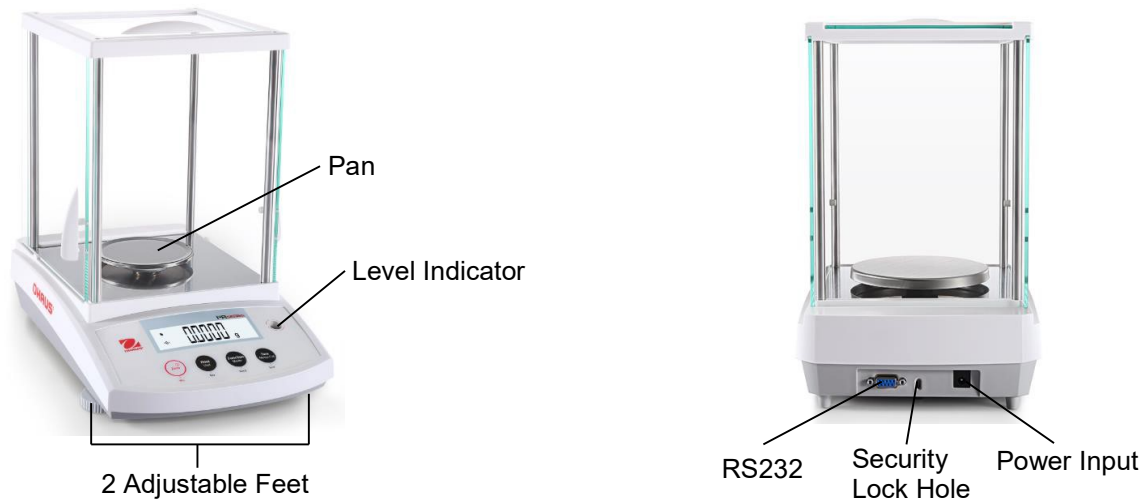
MAIN APPLICATION SCREEN



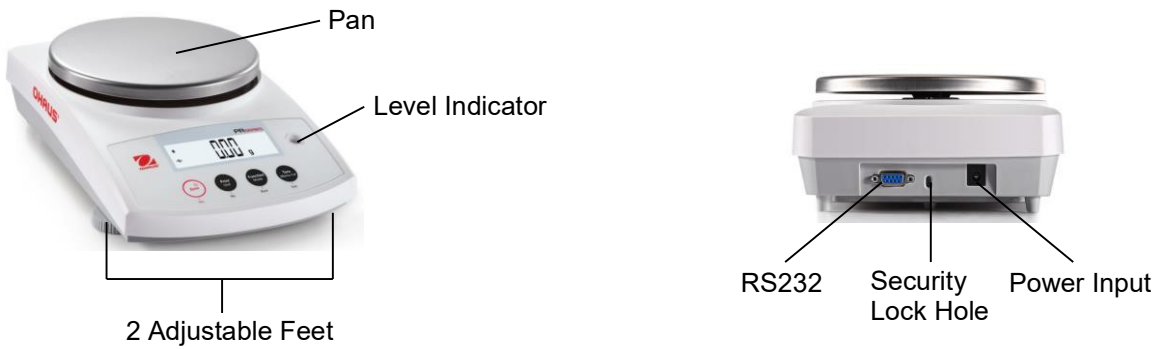
3.2 Principal Functions

- Weighing: First press **Zero** to set the display to zero. Place an object on the pan. The display indicates the gross weight.
- Taring: With no load on the pan, press **Zero** to set the display to zero. Place an empty container on the pan and press **Tare**. Add objects to the container and its net weight is displayed. After the container and the objects are removed, the load will be displayed as a negative number. Press **Tare** to clear.
- Zero: Press **Zero** to zero the balance.

3.3 Overview of Parts and Features – Draft Shield Models



3.4 Overview of Parts and Features – Non-Draft Shield Models



4. APPLICATIONS



The PR balance can be operated in 3 application modes by long pressing the **Function / Mode** button.

4.1 Weighing

Note: Before using any application, be sure the balance has been leveled and calibrated.

Use this application to determine the weight of items in the selected unit of measure.

Weighing

<div>1. Press Tare or Zero if necessary to begin.</div> <div>2. Press and hold the Function / Mode button to select LWE 10H (this application is the default).</div>	<div></div>
<div>3. Place objects on the pan to display the weight. Once the reading is stable, the * will appear.</div> <div>4. The resulting value is displayed in the active unit of measure.</div>	<div></div>

Item Settings

To view or adjust the current settings.


- **Weighing Units:** Change the displayed unit. See Section 5.4 for the detailed processes.
- **Filter Level:** Change Filtering level. See Section 5.3.1 for more information.
- **GLP Data:** See Section 5.7 for more information.
- **Print Settings:** Change printing settings. See Section 7 for more information.


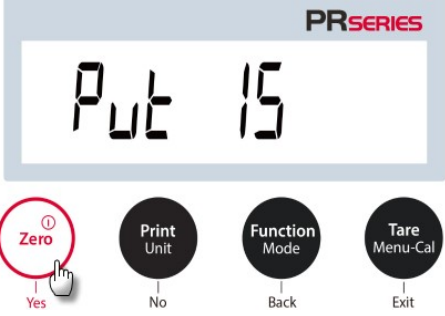
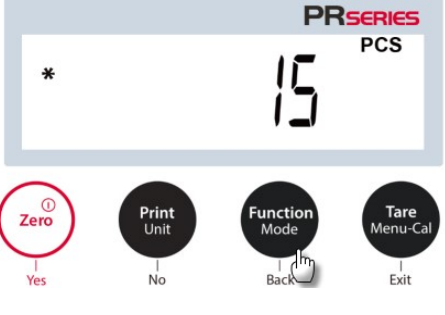


4.2 Parts Counting

Note: Before using any application, be sure the balance has been leveled and calibrated. The minimum piece weight should be no less than 0.1d. In the LFT mode, the minimum piece weight is 3e, the minimum Sample Size is 10.

Use this application to count samples of uniform weight.

Parts Counting

<div>1. Press Tare or Zero if necessary to begin.</div> <div>2. Press and hold the Function / Mode button until Count appears.</div>	<div></div>
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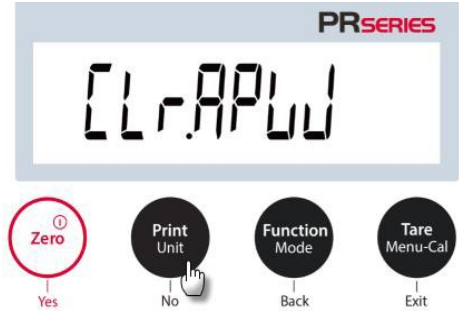
<p>3. After confirmation by pressing Yes, the message <code>Clr.APW</code> will appear on the screen.</p>	 <p>The display shows 'Clr.APW' in large digits. Below the screen are four buttons: 'Zero' (circled in red with a hand cursor), 'Print Unit', 'Function Mode', and 'Tare Menu-Cal'. Under each button are labels: 'Yes' under Zero, 'No' under Print Unit, 'Back' under Function Mode, and 'Exit' under Tare Menu-Cal.</p>
<p>4. Press Yes, and the message <code>Pwt 15</code> will display with the numeral <code>15</code> (default) flashing. The user can press No or Back to increase or decrease the value. For instance, to increase the value to 15, please press No. Then, <code>Pwt</code> and <code>15</code> will flash simultaneously.</p>	 <p>The display shows 'Pwt 15' in large digits. Below the screen are four buttons: 'Zero' (circled in red with a hand cursor), 'Print Unit', 'Function Mode', and 'Tare Menu-Cal'. Under each button are labels: 'Yes' under Zero, 'No' under Print Unit, 'Back' under Function Mode, and 'Exit' under Tare Menu-Cal.</p>
<p>4. Place 15 samples on the pan. Press the Function / Mode button so that the weight of the 15 samples is used to establish the average piece weight (APW). The display will show <code>15</code> pieces.</p>	 <p>The display shows '*' on the left and '15 PCS' on the right in large digits. Below the screen are four buttons: 'Zero' (circled in red), 'Print Unit', 'Function Mode' (with a hand cursor), and 'Tare Menu-Cal'. Under each button are labels: 'Yes' under Zero, 'No' under Print Unit, 'Back' under Function Mode, and 'Exit' under Tare Menu-Cal.</p>
<p>5. Remove the 15 samples from the pan and then place additional samples on the pan. The corresponding number of pieces will display on the screen.</p>	 <p>The display shows '*' on the left and '20 PCS' on the right in large digits.</p>
<p>6. To view the total weight or the number of pieces of the objects, press the Function / Mode button.</p>	 <p>The display shows '*' on the left and '4000000 g' on the right in large digits. Below the screen are four buttons: 'Zero' (circled in red), 'Print Unit', 'Function Mode' (with a hand cursor), and 'Tare Menu-Cal'. Under each button are labels: 'Yes' under Zero, 'No' under Print Unit, 'Back' under Function Mode, and 'Exit' under Tare Menu-Cal.</p>

Item Settings

To view or adjust the current settings.

Sample size: The sample size ranges from 1 to 100. The default value is 10.

Note: If the APW of the last parts counting operation needs to be kept, the user can press **No** when the display shows the message **CLr.APW** (clear the average piece weight. Place additional objects on the pan, and the corresponding number of pieces will display.



APW Optimization:

Improving counting accuracy by re-calculating the piece weight automatically as parts are added.

APW Optimization occurs only when the number of pieces added to the pan is between one and three times the number already on the pan.



Print Settings:

Changing printing setup. See Section 7 for more information.

4.3 Percent Weighing

Note: Before using any application, be sure the balance has been leveled and calibrated.

Use Percent Weighing to display the weight of a test object as a percentage of a pre-established reference sample.

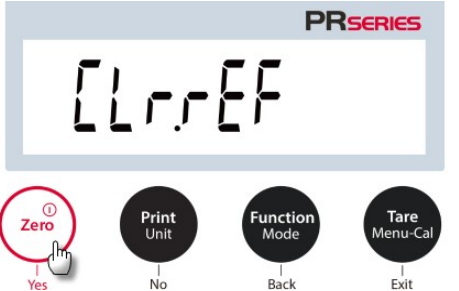
Note: The minimum reference weight should be no less than 0.1d.





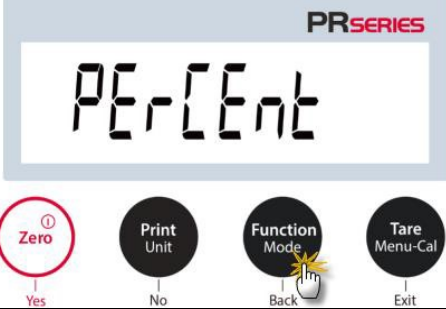
Percent Weighing

1. Press and hold the **Function / Mode** button until **PERCENT** appears.




2. After confirmation by pressing **Yes**, the message **CLr.rEF** (clear the reference) will appear on the screen.



3. Press Yes , and <i>PUT REF</i> (put the reference weight) will display.	
4. Place the reference sample on the pan to display the weight. When the reading is stable, the * appears. 5. Press the Function / Mode button so that the weight of the reference sample is stored in memory. The display will show 100%.	
6. Remove the reference sample, and place the test object on the pan. The ratio of the test object to the reference sample weight is displayed as a percentage.	
7. To view the reference sample weight or the percentage of the test object weight to the reference sample weight, press the Function / Mode button.	
8. To establish a new reference sample weight, long press the Function / Mode button and repeat the steps described above.	

Item Settings

Note: If the reference weight of last Percent Weighing operation needs to be kept, press No when the message <i>CLr REF</i> (Clear reference) displays.	
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Printing Setup:

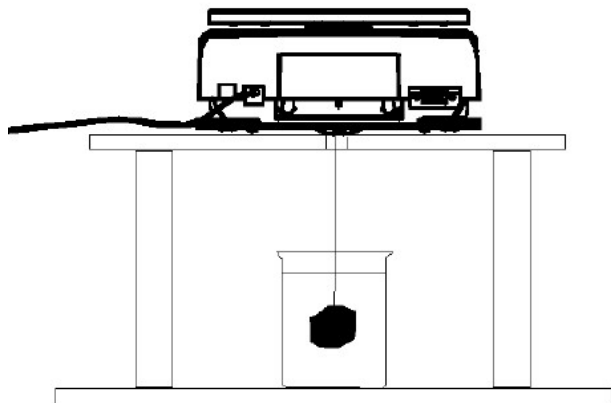
Changing printing setup. See Section 7 for more information.

4.4 Additional Features

Weigh Below

Note: Ensure the balance has been leveled and calibrated.

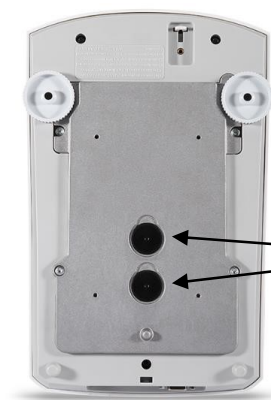
The PR balance is equipped with a weigh below hook for weighing below the balance (as shown below).



Before turning the balance over, remove the pan and draft shield elements (if present) to prevent damage. Do not place the balance on the pan support cone or load cell pins.

To use this feature, remove power from the balance, then remove the protective cover for the weigh below opening.

Power on the balance, and then use a string or wire to attach items to be weighed.



Weigh below
protective cover



Weigh below hook

5. MENU SETTINGS

5.1 Menu Navigation

Calibration	Setup	Unit	RS232	Print	GLP	Reset	Lock
InCal	Filter Level	Gram	Baud Rate	Stable Only	Header 1	Reset All	Calibration
Cal Adjust	AZT	Kilogram	Parity	Numeric Only	Header 2		Setup
Span Cal	Auto Tare	Milligram	Handshake	Single Header	Header 3		RS232
Linearity Cal	Graduations	Carat		Auto Print	Balance Name		Print
	Date Format	Pound		Header	User Name		GLP
	Date Setting	Ounce		Date and Time	Project Name		Reset
	Time Format	Ounce Troy		Balance ID			
	Time Setting	Penny Weight*		Balance Name			
	Brightness	Newton		User Name			
	Auto Dim	Grain		Project Name			
	LFT	TW Tael		Application Name			
		Custom 1		Result			
				Gross Weight			
				Net Weight			
				Tare Weight			
				Signature Line			
				Line Feed			

5.1.1 Changing Settings

To change a menu setting, navigate to that setting using the following steps:

Enter the Menu

Long press the Menu button to enter the **Menu**.

Select the Sub-Menu

Press **No** to step between the sub-menus, and press **Yes** to enter the sub-menu.

Select the Menu Item

Press **No** to step through the Menu Items, and press **Yes** to enter the displayed Menu Item.

5.2 Calibration

PR balances offer a choice of three calibration methods: Internal Calibration (for InCal models only), Span calibration and Linearity Calibration.

Attention: Do not disturb the balance during any calibration.

5.2.1 Calibration Sub-menu (InCal models)

Note: ExCal models only have Span Calibration and Linearity Calibration.

5.2.2 Internal Calibration (not applicable to ExCal models)

Calibration is accomplished with the internal calibration mass. Internal Calibration can be performed at any time, provided the balance has warmed up to operating temperature and is level.

With the Balance turned On and no load on the pan, press the **Tare / Menu-Cal** button enter into the internal calibration setting. Or press the **Tare / Menu-Cal** button and select **InCAL** to initiate the internal calibration.

Set the internal calibration functionality.		InCAL Incal
On = enabled Off = disabled. Incal = initiate the internal calibration		
On on	OFF off	InCAL Incal

The screen shows the status, and then press any button to return to the current application after calibration.

5.2.3 Cal Adjust (not applicable to ExCal models)

Use this calibration method to fine tune the effect of the Internal Calibration.

Calibration Adjust may be used to adjust the result of the Internal Calibration by ± 100 divisions.

Note: Before making a calibration adjustment, perform an Internal Calibration. To verify whether an adjustment is needed, place a test mass equal to the **span calibration value** on the pan and note the difference (in divisions) between the nominal mass value and the actual balance reading. If the difference is within +/- division, calibration adjustment is not required. If the difference exceeds +/-1 division, calibration adjustment is recommended.

Example:

Expected weight reading:	200.000g (Test mass value)
Actual weight reading:	200.014g
Difference in grams:	- 0.014g
Difference in divisions:	- 14 (InCal Adjust value)

To perform a Calibration Adjustment, select InCal Adjustment from the list of Calibration Menu; enter the value (positive or negative divisions) to match the difference noted earlier in the procedure.


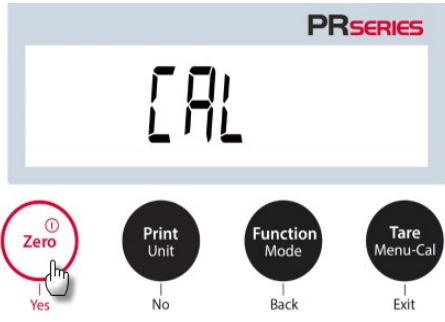
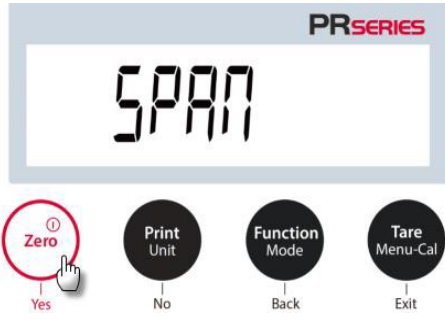



Recalibrate using Internal Calibration. After calibration, place the test mass on the pan and verify that the mass value now matches the displayed value. If not, repeat the procedure until Internal Calibration reading agrees with the test mass.

5.2.4 Span Calibration

Span calibration uses two calibration points, one at **zero load** and the other at **specified full load** (span). For detailed calibration mass information please refer to the specification tables in the "Span Calibration Points", SPECIFICATIONS, Section 9.

With the balance turned On and no load on the pan, Span Calibration can be performed. The best accuracy is achieved using the mass closest to the full span value.

Steps for span calibration

<p>1. Press and hold the Tare / Menu-Cal button, and the Calibration Menu will display.</p>	
<p>2. Press Yes to enter the Calibration Menu.</p>	
<p>3. To change the calibration mode, press No until SPAN (span calibration) is displayed.</p>	
<p>4. The calibration mass value will be shown in the screen. After the display shows 200.0000 g, please place weight(s) of 200 g on the pan for calibration. To change to the calibration point of half full capacity (e.g. 100 g), press the Function / Mode button. If 0.0000 g is displayed, please take away the mass.</p>	
<p>5. Once the span calibration is completed successfully, CAL.donE will display. Press any button to return to the previous screen.</p>	
<p>6. Remove the weight, and the reading will be set to zero.</p>	

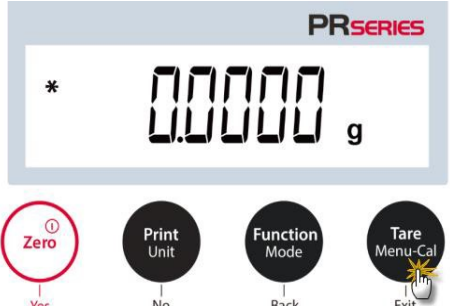

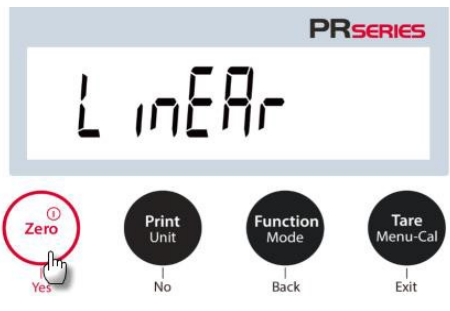




5.2.5 Linearity Calibration

Linearity calibration uses three calibration points, one at zero load and the others at specified loads.

With no load on the balance, press Linearity Calibration to begin the process.

The balance captures the zero point, and then prompts for the next weight.

Continue to follow the instructions on the display until the calibration is completed. Steps for linearity calibration

<p>1. Press and hold the Tare / Menu-Cal button, and the Calibration Menu will display.</p>	
<p>2. Press Yes to enter the Calibration Menu.</p>	
<p>3. To change the calibration mode, press No until LINEAR (linearity calibration) is displayed.</p>	
<p>4. The calibration mass value will be shown in the display. After the display shows 100.0000 g, please place weight(s) of 100 g on the pan for calibration.</p>	
<p>5. Remove the weight of 100 g from the pan. After a while, 200.0000 g will be displayed on the screen. Please place weight(s) of 200 g on the pan.</p>	
<p>6. Once the linearity calibration is completed successfully, CALdone will display. Press any button to return to the previous screen.</p>	
<p>7. Remove the weight, and the reading will be set to zero.</p>	

5.3 Balance Setup

Enter this sub-menu to customize the balance functionality.

Note: The factory default settings are shown below in **bold**.

5.3.1 Filter Level

Set the amount of signal filtering.		F I L T E R
Low = faster stabilization time with less stability. Medium = normal stabilization time with normal stability. High = slower stabilization time with more stability.		
Low Low	Med Medium	HIGH High

5.3.2 AZT (Auto Zero Tracking)

Set the automatic zero tracking functionality.		AZT Auto Zero Tracking
Off = disabled. 0.5d = display maintains zero up to a drift of 0.5 graduation per second. 1d = display maintains zero up to a drift of 1 graduation per second. 3d = display maintains zero up to a drift of 3 graduations per second.		
0.5 d 0.5 d	1 d 1 d	3 d 3 d

5.3.3 Auto Tare

Set the automatic tare. When Automatic Tare is set to On, the first object placed on the pan will be deemed as a container and tared automatically. Off = disabled. On = enabled.		
A.T.A.R.E Auto Tare	OFF Off	ON On

5.3.4 Graduations

Set the displayed readability of the balance.

1 Division = standard readability.

10 Divisions = readability is increased by a factor of 10.

For example, if the standard readability is 0.01 g, selecting 10 Divisions will result in a reading of 0.1 g.

Graduation	1 Division	10 Division

5.3.5 Date Format

Set the current date format.

Date Format:

YY/MM/DD

MM/DD/YY

DD/MM/YY

Date Format: YY/MM/DD MM/DD/YY DD/MM/YY		
	Date Format	MM/DD/YYYY
	DD/MM/YYYY	YYYY/MM/DD

5.3.6 Date Setup

Set the current date in the desired date format.

To set the current date, press **No** or **Back** to increase or decrease the value.

For example, if the current date is 22nd June, 2017,

MM/DD/YY: 06.22.17

DD/MM/YY: 22.06.17

YY/MM/DD: 17.06.22

Set the current date in the desired date format. To set the current date, press No or Back to increase or decrease the value. For example, if the current date is 22 nd June, 2017, MM/DD/YY: 06.22.17 DD/MM/YY: 22.06.17 YY/MM/DD: 17.06.22	
	Date

5.3.7 Time Format

Set the time format.

Time Format:

24hr

12hr

Time Format	24hr	12hr

5.3.8 Time Setup

Set the current time in the desired time format.	Time
To set the current time, press No or Back to increase or decrease the value.	08.00.00

5.3.9 Brightness

Set the brightness of the display. Medium High Low	Brightness	Medium
	High	Low

5.3.10 Auto Dim

Set whether the balance automatically turns off the display backlight of the display.	Auto dim	
Off = disabled. 10 minutes = become dim if there is no motion for 10 minutes. 20 minutes = become dim if there is no motion for 20 minutes. 30 minutes = become dim if there is no motion for 30 minutes.		
10 min	20 min	30 min

5.3.11 Approved Mode

Use this menu to set the Legal for Trade status.	LFL
OFF = standard operation. ON = operation complies with Legal Metrology regulations.	

For PRxxxN models:

Use this menu to set the Legal for Trade status.	LFL
OFF = standard operation. ON 1d = operation complies with Legal Metrology regulations, e=1d ON 10d = operation complies with Legal Metrology regulations, e=10d	

Note: When Approved Mode is set to On, the menu settings are affected as follows:

Calibration Menu:

- For InCal models, only Internal Calibration is available. All other functions are hidden.
- For ExCal models, the entire Calibration menu is hidden.

Balance Setup Menu:

- Filter Level is locked at the current setting.
- Auto Zero Tracking is limited to 0.5 Division and Off. The selected setting is locked.
- Auto Tare is locked at current setting.
- Graduations are forced to 1 Division and the menu item is hidden.

Communication Menu (Communication->Print Settings->Print Output):

- Stable Weight Only is locked On.
- Numeric Value Only is locked Off.

Communication Menu (Communication->Print Settings->Auto Print):

- Auto print mode selections are limited to Off, On Stability, and Interval. Continuous is not available.

Lockout Menu:

- Menu is hidden

5.4 Weighing Units

Enter this sub-menu to activate the desired units of measure.

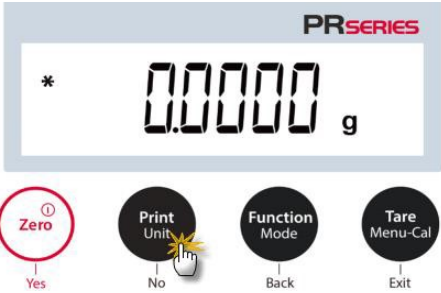
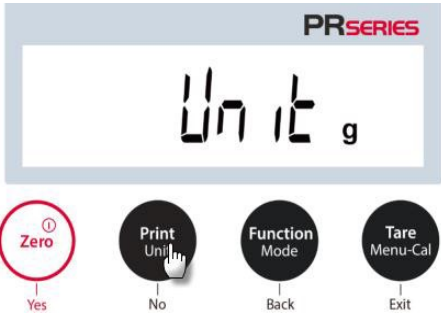

PR balances provide a choice of 12 units, which are all set On by default.

Note: Due to national laws, the balance may not include some of the units of measure listed below.


NTEP model: The Unit menu is used to enable or disable a specific unit. (SET ON, SET OFF).

Unit	Display
Gram	g
Kilogram	kg
Milligram	mg
Carat	ct
Pound	lb
Ounce	oz
Ounce Troy	ozt
Penny weight	dwt
Newton	N
Grain	GN
TW Tael	t
Custom 1	C

Changing Weighing Units

1. Press and hold the Print / Unit button until the <i>Unit Menu</i> is displayed.	
2. The default unit is gram (g). To change the unit, press No to advance to the next unit.	
3. Press Yes to set the unit displayed to the weighing unit.	

5.5 RS232 Interface Setup

Enter this sub-menu to customize RS232 standard settings. Data may be output to either a printer or a PC.	
---	---

5.5.1 Baud Rate

Set the baud rate (bits per second).	
<div>1200 = 1200 bps</div> <div>2400 = 2400 bps</div> <div>4800 = 4800 bps</div> <div>9600 = 9600 bps</div> <div>19200 = 19200 bps</div> <div>38400 = 38400 bps</div>	

5.5.2 Transmission

Set the data bits, stop bit, and parity.

8-N-1 = 8 data bits, no parity, stop bit 1
8-N-2 = 8 data bits, no parity, stop bit 2
7-E-1 = 7 data bits, even parity, stop bit 1
7-E-2 = 7 data bits, even parity, stop bit 2
7-N-1 = 7 data bits, no parity, stop bit 1
7-N-2 = 7 data bits, no parity, stop bit 2
7-O-1 = 7 data bits, odd parity, stop bit 1
7-O-2 = 7 data bits, odd parity, stop bit 2

PAR-ITY	8-N-1
Parity	8 data bits, stop bit 1

5.5.3 Handshake

Set the flow control method.

NONE = no handshaking
XON-XOFF = XON/XOFF handshaking
HARDWARE = hardware handshaking

H.SHAKE	NONE
Handshake	None
ON-OFF	HARDWARE
Xon / Xoff	Hardware

5.6 Print Settings

Enter this sub-menu to customize data transfer settings.

Print

5.6.1 Stable Only

Off = values are printed immediately regardless of stability.
On = values are printed only when the stability criteria are met.

STABLE

5.6.2 Numeric Only

Off = All results selected are printed.
On = Only numeric data values are printed.

NUM

5.6.3 Single Header

Off = Headers will be printed for every print requirement.
On = Headers will be printed once a day.

S in.HEAD

5.6.4 Auto Print

Enable or disable the functionality of auto print, and set the specific auto print mode.

A.Pr int

1. Off = disabled

OFF

2. On Stability
= printing occurs when the stability criteria are met.

ON.StAb

When On Stability is selected, set the conditions for printing.

Load = Prints when the displayed load is stable.

LoAd

Load and Zero = Prints when the displayed load and zero reading is stable.

LoAd.ZEr

3. Print Interval
= printing occurs at the defined time interval.
When Print Interval is selected, set the time interval using the numeric keypad.

Note:
Settings of 1 to 3600 seconds are available. Default is 0.

IntEr

4. Continuous
= printing occurs continuously.

Cont inu

5.6.5 Header

On = the header is printed. Off = the header is not printed.	HEADER
--	--------

5.6.6 Date and Time

On = the date and the time are printed. Off = neither the date nor the time is printed.	dttm
---	------

5.6.7 Balance ID

On = the balance ID is printed. Off = the balance ID is not printed.	BAL ID
--	--------

5.6.8 Balance Name

On = the balance name is printed. Off = the balance name is not printed.	BAL.NAME
--	----------

5.6.9 User Name

On = the user name is printed. Off = the user name is not printed.	USR.NAME
--	----------

5.6.10 Project Name

On = the project name is printed. Off = the project name is not printed.	PRJ.NAME
--	----------

5.6.11 Application Name

On = the application name is printed. Off = the application name is not printed.	APP.NAME
--	----------

5.6.12 Result

On = the weighing result is printed. Off = the weighing result is not printed.	RESULT
--	--------

5.6.13 Gross

On = the gross weight is printed. Off = the gross weight is not printed.	Gross
--	-------

5.6.14 Net

On = the net weight is printed. Off = the net weight is not printed.	Net
--	-----

5.6.15 Tare

On = the tare weight is printed. Off = the tare weight is not printed.	Tare
--	------

5.6.16 Signature Line

On = the Signature Line is printed. Off = the Signature Line is not printed.	SIGN. L IN
---	------------

5.6.17 Line Feed

1 Line = move the paper up one line after printing. 4 Lines = move the paper up four lines after printing.	FEED
1 Line 1 Line	4 Lines 4 Lines

5.7 GLP

Enter this menu to set the Good Laboratory Practices (GLP).	GLP
---	-----

5.7.1 Header

Enables the printing of GLP headings. There are up to 3 headings available. Alphanumeric settings up to 16 characters are available for each Header setting.	Header 1 Header 1
Header 2 Header 2	Header 3 Header 3

5.7.2 Balance Name

Set the balance name. Alphanumeric settings up to 16 characters are available for each Header setting.	BAL.NAM7
---	----------

5.7.3 User Name

Set the user name. Alphanumeric settings up to 16 characters are available for each Header setting.	USR.NAM7
--	----------

5.7.4 Project Name

Set the user name. Alphanumeric settings up to 16 characters are available for each Header setting. The default is blank.	PRJ.NAM7
---	----------

5.8 Factory Reset

Use this sub-menu to reset the all menu settings to their Factory default settings. Reset All = resets all menus to their factory default settings. Exit = return to application main screen without resetting any menus.	RESET
--	-------

5.9 Lockout

Use this sub-menu to lock / unlock certain menus. Off = the menu is unlocked. On = the menu is locked.	LOCK
--	------

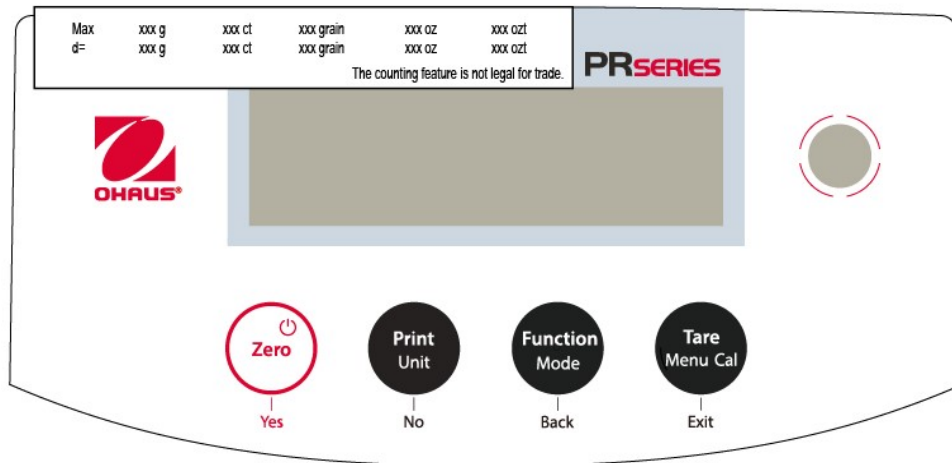
6. LEGAL FOR TRADE (LFT)

When the balance is used in trade or a legally controlled application it must be set up, verified and sealed in accordance with local weights and measures regulations. It is the responsibility of the purchaser to ensure that **all pertinent legal requirements** are met.

6.1 Settings

Before verification and sealing, perform the following steps in order:

1. Verify that the menu settings meet the local weights and measures regulations.
2. Verify the units enabled meet the local weights and measures regulations.
3. Perform a calibration as explained in the Calibration section.
4. Enter the Calibration menu and set the Internal Calibration, making sure that they meet the local weights and measures regulations.
 - a) Press the **Tare / Menu-Cal** button and select **InCal**.
 - b) Press the **Print/Unit** button to toggle the Internal Calibration setting **On** or **Off**.
Attention: Internal Calibration must be disabled when the balance is used for trade in Canada.
 - c) Press the **Zero** button to confirm, and then Press the **Tare / Menu-Cal** button to exit the menu.
5. Enable the Approved Mode in the Balance Setup menu. For models with selectable graduation size, set the desired value in the LFT menu as explained in Section **Approved Mode**.
6. For Measurement Canada and NTEP Certified models with selectable graduation size, attach the appropriate capacity and readability label to the balance in the location shown below.
 - a) Retrieve the set of two labels from the packaging.
 - b) Take the label that corresponds to the graduation size set in the LFT menu.
 - c) Remove the clear plastic protective cover from the terminal, if present.
 - d) Remove the liner from the adhesive backing and attach the label to the area above the display.
 - e) Reinstall the clear plastic protective cover, if present.



Note: When Approved Mode is set to On, external calibration can't be performed.

6.2 Verification

A weights and measures official or authorized service agent must perform the verification procedure.

6.3 Sealing

After the Balance has been verified, it must be sealed to prevent undetected access to the legally controlled settings. Before sealing the device, ensure the Approved Mode setting in the Balance Setup menu has been set to ON.

- If using a paper seal, place seals over the security switch and the bottom housing as shown.
- If using a wire seal, pass the sealing wire through the holes in the security screw and the bottom housing as shown.

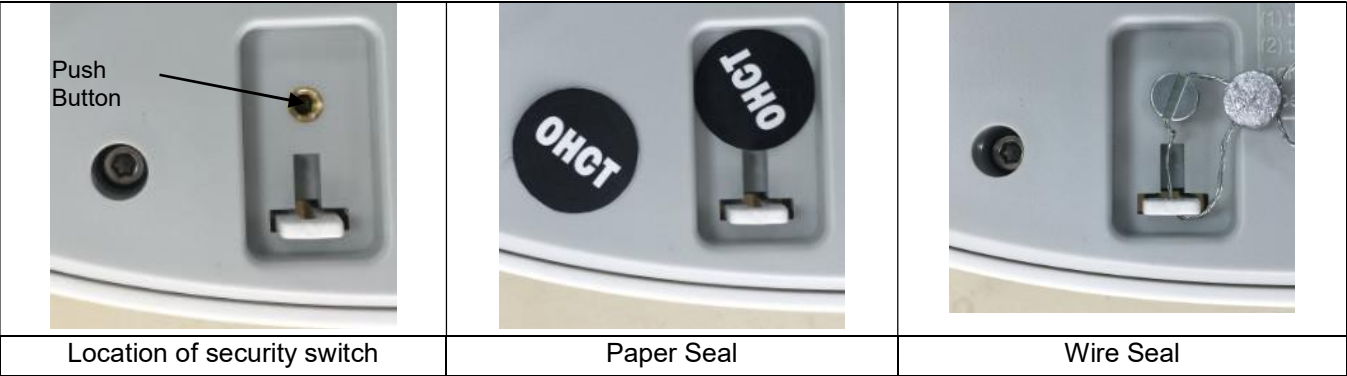


Figure 6-1. Sealing

7. PRINTING

7.1 Connecting, configuring and Testing the Printer / Computer Interface

Use the built-in RS-232 Port to connect either to a computer or a printer.
If connecting to a computer, use HyperTerminal or similar software like SPDC described below.

(Find HyperTerminal under **Accessories/Communications** in Windows XP.)

Connect to the computer with a standard (straight-through) serial cable.

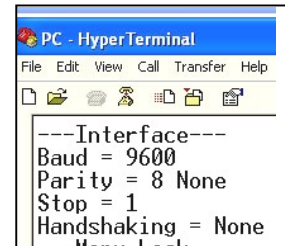
Choose **New Connection**, “connect using” COM1 (or available COM port).

Select **Baud=9600; Parity=8 None; Stop=1; Handshaking=None**. Click **OK**.

Choose Properties/Settings, then ASCII Setup. Check boxes as illustrated:

(**S**end line ends...; **E**cho typed characters...; **W**rap lines...)

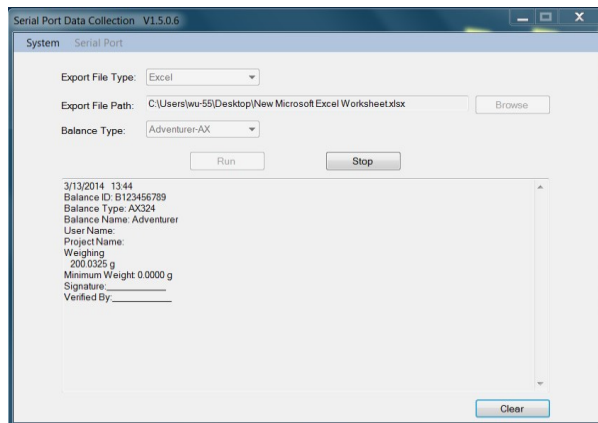
Use RS232 Interface Commands (Section 9.6.1) to control the balance from a PC.



SPDC Software

The Serial Port Data Collection / SPDC software is provided by Ohaus and can be used on operating systems that do not have the HyperTerminal software mentioned above. SPDC software can preliminarily collect and transfer the data to Microsoft files (such as Excel, Word, etc.).

Choose the export file type and export file path and then press Run as shown below.



System Requirements

- PC running Windows 98®, Windows 98SE®, Windows ME®, Windows 2000®, Windows XP®, Windows 7® or Windows 8® (32-bit).

Note: **The latest SPDC software support English and Chinese language and can be downloaded from the Ohaus' website. For more information, refer to the *SPDC Data Collection Instruction Manual*.**