



OPH-D/P/T/Z Series

User Manual

Warnings

- Avoid using the balance in any harsh environment.
- Only trained professionals are allowed to do repair work.
- Turn power off before connecting/disconnecting the power source.
- Avoid overloading or dropping material onto the platform as that could damage the balance.
- Do not spill liquids on the balance as that could damage the balance.
- Material that has a static charge could influence the performance of the balance.
- Electromagnetic interference can affect the reading of the balance.
- Unplug the power before cleaning and use a piece of soft cloth (do not use any aggressive cleaning agent); Make sure no liquid enters the balance.

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Overview

Thank you for using Optima scales for your important application. Here is the list of models this manual covers:

Model #	Max Weight (grams)	Accuracy (grams)
OPH-D202	200	0.01
OPH-D302	300	0.01
OPH-D502	500	0.01
OPH-D602	600	0.01
OPH-D2001	2000	0.1
OPH-D3001	3000	0.1
OPH-D5001	5000	0.1
OPH-D6001	6000	0.1
OPH-P103	100	0.001
OPH-P203	200	0.001
OPH-P303	300	0.001
OPH-T202	200	0.01
OPH-T302	300	0.01
OPH-T502	500	0.01
OPH-T602	600	0.01
OPH-T2001	2000	0.1

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Model #	Max Weight (grams)	Accuracy (grams)
OPH-T300I	3000	0.1
OPH-T500I	5000	0.1
OPH-T600I	6000	0.1
OPH-Z10K	10K	0.1
OPH-Z20K	20K	0.1
OPH-Z30K	30K	0.1

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Contents

- Scale main unit
- Scale pan
- User Manual
- AC adapter
- Calibration weight (optional)
- Windshield (optional)

Preparation

1. Carefully remove contents from the package which may include fragile parts.
2. Carefully assemble the scale by placing the scale pan and the windshield (if applicable).
3. Place the scale in a firm and flat surface, and avoid location where the scale maybe subject to vibration, sunlight, airflow, contact with water, and strong electromagnetic wave.
4. Level the scale by using the bubble level indicator (if available) and adjusting the feet of the scale.
5. Locate scale in the following condition:
 1. Temperature : $12.5^{\circ}\text{C} \sim 27.5^{\circ}\text{C}$
 2. Temperature Fluctuation : $\leq 5^{\circ}\text{C/h}$
 3. Humidity : $50\% \sim 80\%$
6. Plug in the scale to a surge protected power outlet.
7. Press the ON/OFF key in the front panel to turn the scale on and wait for it to finish initialization (i.e. when the display shows a weight of 0).
8. Let the scale warm up for 30 minutes before calibration and use.
9. Make sure any weight placed on the scale is not beyond the rated maximum.
10. If scale is not used for an extended period of time, disconnect all power.

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Calibration

After all the preparation procedure has been performed (remember the scale needs to warm up for 30 minutes), follow the steps below for calibration:

- Span calibration
 1. Verify the pan is empty.
 2. Press the CAL (calibration) key for about 5 seconds to enter into calibration mode. When display shows “-CAL-”, release the CAL key.
 3. Load the indicated weight on the blinking display and wait for the reading to stop blinking.
 4. Unload the weight
 5. “---” will be displayed briefly to indicate the completion of span calibration.
 6. Test the calibration by testing different known weights.
 7. Re-calibrate if measurements are found to be inaccurate.

- Linear calibration
 1. Verify the pan is empty.
 2. Press the CAL (calibration) key for about 5 seconds to enter into calibration mode. When display shows “-CAL-”, release the CAL key.
 3. Press and hold the MODE key for about 5 seconds, and the blinking number indicates what weight should be placed on the pan.
 4. Load the indicated weight, and wait for the display to stop blinking (scale has recorded this linear value).
 5. Unload the weight.
 6. Wait for the next blinking number and repeat steps 4 and 5 to calibrate the next value.
 7. When the display shows “0.000”, it means the linear calibration is completed.

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Basic Weighing

After the scale has been properly calibrated, the scale is now ready for use:

1. Place the object(s) of interest on the scale pan as close to the center as possible.
2. Read the value on the display when the reading is stable.
3. Remember NOT to overload the scale since this may permanently damage the scale.

Tare

1. Make sure the scale is stabilized.
2. Press the TARE key.

Changing Units

- Press the UNIT key to change between the following units:
 - CT (caret)
 - OZ (ounce)
 - lb (pound)
 - g (gram) = default

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Counting Function

To perform counting function , follow the procedure below:

1. Verify scale is in weighing mode (display shows “0.000”).
2. Press the MODE key, and the display will show “10” and blink.
3. The unit “g” will change to “pcs” on the display.
4. Press the CAL key to select a sample size (10, 20, 50, 100, 150, 200, 250, 500).
5. Place the number of samples selected from step 4 on the weighing pan and press the MODE key.
6. This will put the scale into the counting mode.
7. Press the MODE key again to exit the counting mode back to the weighing mode.

RS232 Communication (Optional)

RS232 port Parameters

- Data format : 10 bit data frame (bit1, bit2,, bit 10)
 - bit1 : start bit
 - bit 2-9 : data bits
 - bit 10 : stop bit
- Baud rate : 9600 bps
- All data in ASCII code
- Physical pinout:
 - Pin 2:TXD (Transmit)
 - Pin 3: RXD (Receive)
 - Pin 5: GND (Ground)

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Troubleshooting

Q: The scale is not showing an accurate reading.

A: Make sure the scale is placed on a firm and flat surface and that there are no external interference. Please revisit the “Preparation” section of this manual. Also, please make sure the calibration procedure has been performed correctly. It won't hurt to run through the calibration process again when in doubt!!!!

Q: The scale does not turn on.

A: Make sure the power cord is plugged in, and that there is power. One easy way to test this is by connecting another appliance to the same outlet and see if it's operational.

Technical Support

Please email support@optimascale.com if you have any further questions.