Radwag WTC 2000

Radwag WTC 2000 NTEP Precision Balance User Manual

Model: WTC 2000 (2000g x 1.0g)

1. Introduction

This manual provides essential information for the proper installation, operation, and maintenance of your Radwag WTC 2000 NTEP Precision Balance. Please read this manual thoroughly before using the device to ensure safe and efficient operation. The WTC 2000 is a Class III NTEP certified balance, suitable for legal-for-trade applications, offering a maximum capacity of 2000g with a readability of 1.0g.

2. Safety Information

- Always operate the balance on a stable, level surface free from vibrations.
- Avoid exposing the balance to extreme temperatures, humidity, or direct sunlight.
- Do not overload the weighing pan beyond the maximum capacity of 2000g.
- Disconnect the power supply before cleaning or performing any maintenance.
- Use only the original power adapter supplied with the balance.
- Keep the balance away from strong electromagnetic fields.

3. Product Overview

The Radwag WTC 2000 Precision Balance is designed for accurate and reliable weighing in various industrial and scientific applications. It features a backlit LCD display for clear readings and a durable construction with a stainless steel weighing pan.

Figure 3.1: Front view of the WTC 2000 Precision Balance, showing the display and control buttons.

Figure 3.2: Side view of the WTC 2000 Precision Balance, highlighting its compact design.

4. Setup

4.1 Unpacking

Carefully remove the balance from its packaging. Retain all packaging materials for future transport or storage. Verify that all components listed in the packing list are present and undamaged.

4.2 Placement

Place the balance on a firm, level, and vibration-free surface. Ensure the location is free from drafts, direct heat sources, and rapid temperature changes, which can affect weighing accuracy.

4.3 Leveling

Adjust the leveling feet located at the bottom of the balance until the air bubble in the spirit level (usually located near the display) is centered. This ensures accurate measurements.

4.4 Power Connection

Connect the supplied power adapter to the balance's power input port and then plug it into a suitable electrical outlet. Allow the balance to warm up for at least 30 minutes before initial use for optimal stability.

Figure 4.1: The balance display showing 0.00g, indicating readiness for weighing after setup.

5. Operation

5.1 Basic Weighing

1. Turn on the balance by pressing the **POWER** button.
2. Wait for the display to show 0.00g. If not, press the **TARE/ZERO** button to zero the display.
3. Place the item to be weighed gently on the center of the weighing pan.
4. Read the stable weight value displayed on the LCD.
5. Remove the item from the pan.

5.2 Calibration

The WTC 2000 balance features external calibration. Refer to the on-screen prompts and the full technical manual for detailed calibration procedures using certified calibration weights. Regular calibration ensures continued accuracy, especially for legal-for-trade applications.

5.3 Advanced Functions

The WTC 2000 offers several advanced weighing modes and functions:

Figure 5.1: Visual representation of the WTC 2000's key functions.

- **Plus/Minus Control:** This function allows for checking if a sample's mass falls within predefined minimum and maximum thresholds. The display provides a visual bar graph for quick assessment.

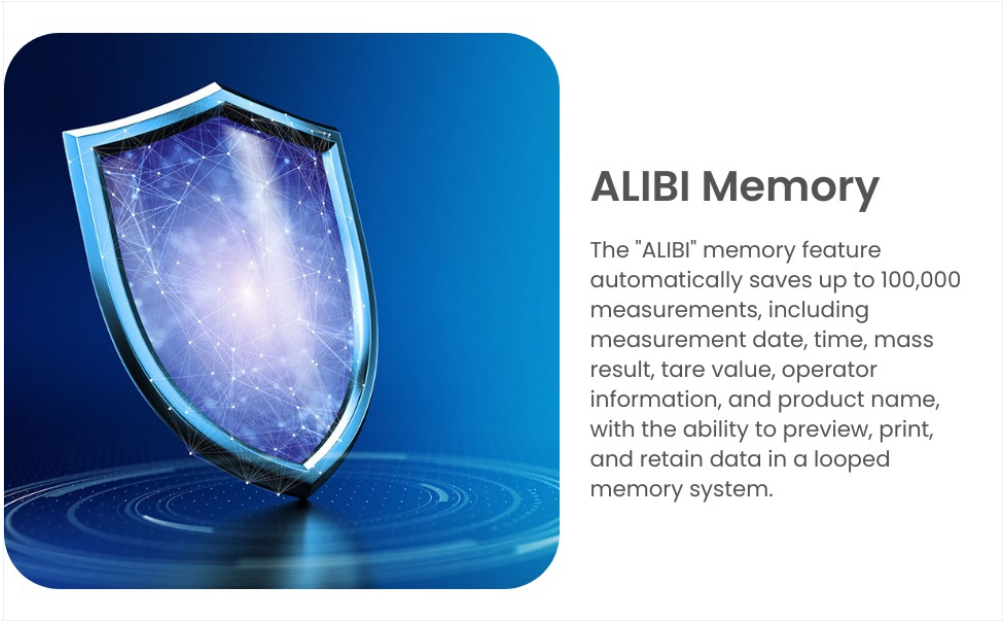

Figure 5.2: Plus/Minus Control interface.

- **Percent Weighing:** Measures the weight of a sample as a percentage of a reference weight.
- **Parts Counting:** Enables counting of identical items by weighing a sample and calculating the total quantity.
- **Peak Hold:** Captures and displays the maximum weight applied to the pan during a measurement cycle.
- **GLP Procedures:** Supports Good Laboratory Practice (GLP) protocols for data integrity and traceability.
- **ALIBI Memory:** Automatically saves up to 100,000 measurements, including date, time, mass result, tare value, operator information, and product name. Data can be previewed, printed, and retained in a looped memory system.

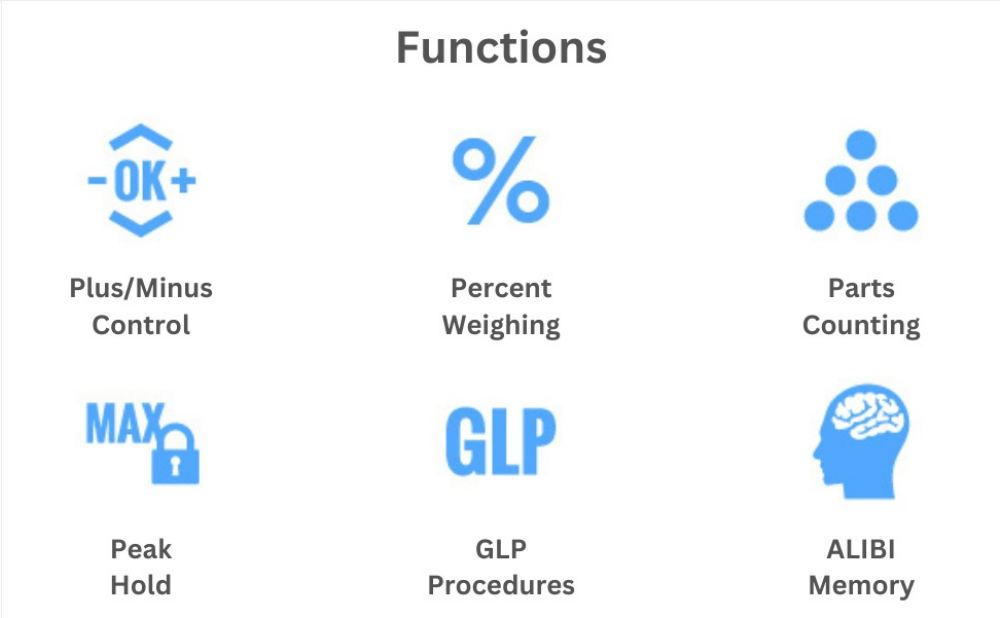

Figure 5.3: ALIBI Memory feature for data logging.

5.4 Communication Interfaces

The WTC 2000 balance is equipped with multiple communication interfaces for connectivity with peripheral devices such as printers, computers, or USB flash drives.

Figure 5.4: Rear view of the balance showing RS232, USB-A, and USB-B ports.

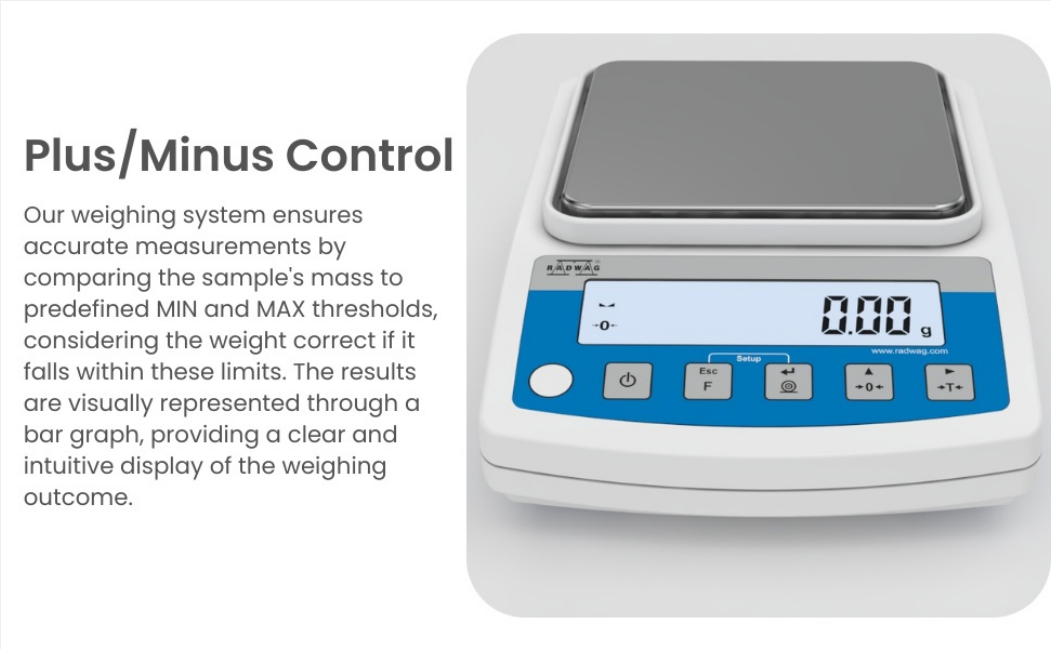

Figure 5.5: Detailed diagram of the communication ports.

- **2x RS232:** For connecting to serial devices like printers or older computer systems.
- **USB-A:** For connecting USB flash drives for data transfer.
- **USB-B:** For connecting the balance directly to a computer.

6. Maintenance

6.1 Cleaning

To clean the balance, use a soft, damp cloth with a mild detergent. Do not use abrasive cleaners or solvents. Ensure no liquids enter the balance housing or ports. The stainless steel weighing pan can be removed for separate cleaning.

6.2 Care and Storage

When not in use, keep the balance covered to protect it from dust and debris. Store the balance in a dry, temperature-controlled environment. Avoid dropping or subjecting the balance to mechanical shocks.

7. Troubleshooting

Problem	Possible Cause	Solution
Balance does not turn on	No power, faulty adapter, power button issue	Check power connection, try another outlet, ensure adapter is functional.
Inaccurate readings	Not level, vibrations, drafts, temperature changes, needs calibration	Re-level the balance, move to a stable location, perform calibration.
Display shows "Err" message	Overload, internal error	Remove excess weight, turn off and restart the balance. If persistent, contact support.
Communication issues	Incorrect cable, driver issues, port settings	Verify cable connections, install necessary drivers, check port settings on connected device.

8. Specifications

Below are the key technical specifications for the Radwag WTC 2000 Precision Balance:

Parameter	Value
Maximum Capacity (Max)	2000 g
Readability (d)	1.0 g
Verification Unit (e)	1.0 g
Tare Range	-2000 g
Stabilization Time	2 s
Adjustment	External
Leveling System	Manual
Display	LCD (backlit)
Protection Class	IP43
Weighing Pan Dimensions	128 mm x 128 mm
Packaging Dimensions	330 x 250 x 140 mm
Net Weight	1 kg
Gross Weight	2 kg
Communication Interface	RS232 (x2), USB-A, USB-B
Power Supply	Adapter: 100 – 240V AC 50/60Hz 0.6A, 12V DC 1.2A
Operation Time on Batteries	15 h (average time)
Environmental Conditions	+15 ÷ +30 °C

Accessories and Software

The WTC 2000 balance supports various accessories and software for enhanced functionality:

- **Power Adapters:** RS 232 cables (scale - printer), Cigarette lighter receptacle power supply cables.
- **Displays:** Receipt Printer, RS 232, RS 485 cables.
- style="font-weight: bold;">Software: RAD-KEY, R-Panel, Scales Editor 2.1, LabVIEW Driver, R-LAB.

Device Dimensions

The overall dimensions of the WTC 2000 Precision Balance are approximately 230mm (width) x 160mm (depth) x 60mm (height).

Figure 8.1: Device dimensions (side and front views).

For more detailed information, including the full datasheet and NTEP Certificate of Conformance, please visit the official Radwag website: radwag.com/en/,w1,5W1

9. Warranty and Support

Radwag products are manufactured to high-quality standards. For warranty information, please refer to the documentation included with your purchase or contact your local Radwag distributor. For technical support, troubleshooting assistance, or service inquiries, please contact Radwag customer service or visit the official Radwag website for contact details.