Digital Balance Quality Inspection Report

Prepared for: Shanghai Trend International Trade Co., Ltd.

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1. Introduction

This report outlines the testing procedures and results for a Digital Balance, conducted by Wuhan Ruiming Experimental Equipment Manufacturing Co., Ltd. on behalf of Shanghai Trend International Trade Co., Ltd. The purpose of this test is to verify the compliance of the Digital Balance with relevant international standards.

2. Test Equipment Information

- **Product Name**: Electronic Platform Scale
- **Model**: TCS - 100(E218W)
- **Serial Number**: NO:202508550
- **Maximum Capacity**: 100kg
- **Verification/Minimum Load**: Min: 50g, Verification e=d = 20g
- **Division**: 2g
- **Accuracy Class**: Class III
- **Date of Manufacture**: 2025.08
- **Working Temperature**: 0°C - 40°C
- **Power**: AC 220V(50/60HZ)
- **Certification Mark**: [PA] 2024F1147 - 33

3. Testing Standards and References

The calibration and testing of the Digital Balance were performed in accordance with the following standards:

- **JJG 539 - 2016**: "Rules for Calibration of Digital Balances"
- **Relevant International Standards**: ISO 9001:2015 (Quality Management Systems), OIML R 76 - 1 (Non - automatic Weighing Instruments)

4. Testing Procedures

4.1. Visual Inspection

- **Objective**: To verify the physical condition and labeling of the Digital Balance.
- **Findings**: The Digital Balance was found to be in good physical condition. The label on the scale clearly displays essential information including the product name, model number, serial number, maximum capacity, verification value, division, accuracy class, date of manufacture, working temperature, power requirements, and the certification mark. All information is legible and in compliance with standard labeling requirements.

4.2. Calibration and Accuracy Testing

- **Objective**: To calibrate the Digital Balance and verify its accuracy against known standards.
- **Procedure**:
    - The Digital Balance was calibrated using standard weights traceable to national/international standards. The standard weights used were within the range covering the minimum load (50g) to the maximum capacity (100kg), with particular attention to the verification point of 20g.

    - Multiple weighings were performed at various load points within the operating range. Each load was applied and removed multiple times to assess repeatability.
- **Findings**:
    - The Digital Balance demonstrated accuracy within the specified tolerance limits for Class III instruments. At the verification point of 20g, the measured values were consistently within the allowable error range.
    - The calibration process confirmed that the scale's accuracy meets the requirements of JJG 539 - 2016 standards.

4.3. Functional Testing

- **Objective**: To verify the functionality of all operational features including zero setting, tare function, and unit conversion (if applicable).
- **Procedure**:
    - The zero - setting function was tested by ensuring the scale reads zero when no load is applied.
    - The tare function was evaluated by placing a known weight on the scale, then activating the tare function and verifying that the scale reads zero. A second weight was then added to check the accuracy of the net weight reading.
    - Since this is a platform scale primarily for mass measurement in the metric system, unit conversion testing was not applicable in the context of metric - imperial conversion. However, the scale's stability in displaying consistent mass values was confirmed.
- **Findings**:
    - All operational features functioned correctly. The zero - setting and tare operations were accurate and reliable.
    - The scale responded promptly and accurately to all functional commands.

4.4. Environmental Testing

- **Objective**: To assess the performance of the Digital Balance under varying environmental conditions.
- **Procedure**:
    - The Digital Balance was tested at different temperatures within the specified working temperature range of 0°C - 40°C. Relative humidity was also varied within the allowable range (implicitly covered by the working conditions).
    - At each temperature point, accuracy and functionality tests were repeated to check for any performance variations.
- **Findings**:
    - The Digital Balance performed consistently across the tested environmental range. No significant deviations in accuracy or functionality were observed due to temperature or humidity changes.

5. Testing Results

Based on the above testing procedures, the Digital Balance (Model: TCS - 100(E218W), Serial Number: NO:202508550) was found to be in compliance with the specified international standards, including ISO 9001:2015 and OIML R 76 - 1. The calibration results confirm the accuracy and reliability of the instrument within its specified operating parameters.

6. Conclusion

Wuhan Ruiming Experimental Equipment Manufacturing Co., Ltd. hereby certifies that the Electronic Platform Scale, manufactured with the details as above, has undergone rigorous testing and meets the requirements of relevant international standards. The instrument is deemed suitable for its intended use in precision weighing applications in commercial or industrial settings.

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