



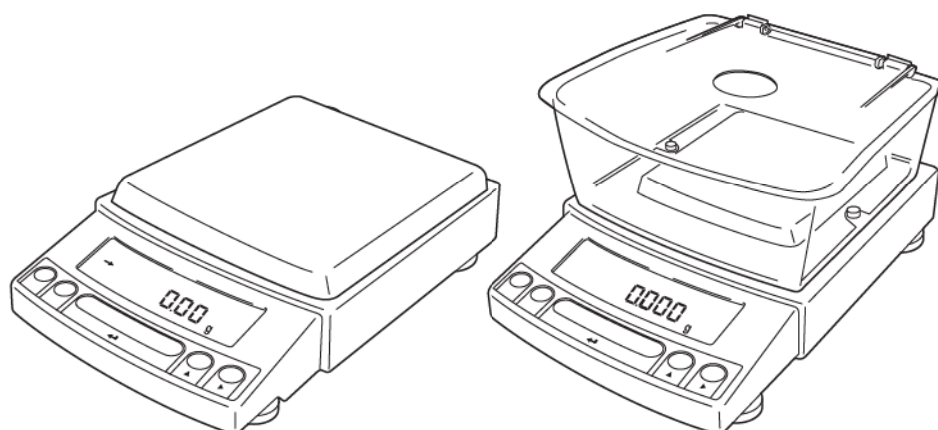
321-56829-21F
Nov. 2010



Electronic Balance Instruction Manual

UW series
UX series

For Basic Operation



Read the instruction manual thoroughly before you use the product.
Keep this instruction manual for future reference.

 **SHIMADZU CORPORATION**
KYOTO JAPAN

ANALYTICAL & MEASURING INSTRUMENTS DIVISION

Contents

1. Introduction	1
2. Name and Function of Components	2
2.1 Components	2
2.2 Key Panel and Operation	4
2.3 Balance Display and Function	5
3. Specifications	6
4. Installation	8
4.1 Choosing the Installation Site	8
4.2 Unpacking and Delivery Inspection	10
4.3 Installation	13
4.4 Turning ON the Power	18
4.5 Span Calibration	19
5. Basic Operation	22
5.1 Weighing	22
5.2 Changing the Unit Display	23
6. WindowsDirect Function	24
6.1 Introduction: Experience it!	24
6.2 Set Up WindowsDirect	24
6.2.1 Setting Up the Balance	24
6.2.2 Cable Connection	25
6.2.3 Setting Up the Computer	25
6.2.4 Start and Checking Operation	27
6.3 Troubleshooting the WindowsDirect Communication Function	28
7. Menu Item Selection	30
7.1 What is the Menu?	30
7.2 Menu Map	30
7.3 Menu Item Selection Procedure	31
7.4 Setting Numeric Values	33
7.5 Related Useful Functions	34
7.5.1 Last Menu Recall	34
7.5.2 Returning to the Default Settings (menu reset)	34
7.5.3 Menu Lock	35

8. Built-in Clock Set-up	36
8.1 Date	36
8.2 Date Output Style	36
8.3 Time	37
8.4 Setting Display During Stand-by	37
9. Display Selection	38
9.1 Bar graph display	38
9.2 Changing the Minimum Display Digit (10d:1d)*	38
10. Calibration	39
10.1 What is calibration?	39
10.2 Calibration Execution	40
10.2.1 Span Calibration Using the Built-in Weight (UW Series Only)	40
10.2.2 Calibration Check Using the Built-in Weight (UW Series Only)	41
10.2.3 Span Calibration Using External Weights*	42
10.2.4 Calibration Check Using External Weights*	43
10.3 Calibration Setting	44
10.3.1 Selecting the Calibration Type	44
10.3.2 PSC Fully-automatic Calibration (UW series only)	44
10.3.3 Clock-CAL Fully-automatic Calibration (UW series only)	45
10.3.4 PCAL: Calibration of the Built-in Weight (UW series only)*	46
10.3.5 PCAL Password Setting (UW series only)*	47
10.4 For GLP/GMP/ISO Conformance	48
10.4.1 Calibration Report Setting	48
10.4.2 Balance ID Setting	48
11. Environment	49
11.1 Overview	49
11.2 Stability and Response (Averaging)	49
11.3 Stability Detection and Settings	50
11.3.1 Stability Detection Band	51
11.3.2 Timing of Stability Mark Illumination and Data Output	52
11.4 Tracking	52
12. Units	53
12.1 Unit Display Set-up	53
12.2 Percentage (%) Conversion	54

*Not applicable to a verified balance as a legal measuring instrument in the EU

13. Enhancing Productivity	55
13.1 Checkweighing and Target Display	55
13.1.1 Checkweighing (Comparator) Display Type 1	56
13.1.2 Checkweighing (Comparator) Display Type 2	56
13.1.3 Target Mode	57
13.2 Piece Counting (PCS)	58
13.3 Auto Print	59
13.4 Auto Zero*	61
13.5 Zero Range	62
13.6 Taring/Printing at Stability*	63
13.7 Pretaring Value*	64
14. Application Functions	65
14.1 Solid Specific Gravity Measurement	65
14.2 Liquid Density Measurement	67
14.3 Peak Hold*	69
14.4 Interval Timer*	71
14.5 Add-on Mode	72
14.6 Animal Weighing*	74
14.7 Formulation Mode	77
15. Connecting Peripheral Instruments	79
15.1 Electronic Printer	79
15.2 Personal Computer - RS-232C -	80
15.2.1 Connecting the Cable	80
15.2.2 Data Format	81
15.2.3 Using Command Codes	83
15.2.4 Multi-Connection Mode	88
15.3 Communication Setting	91
15.3.1 Overview	91
15.3.2 Handshaking	91
15.3.3 Format	92
15.3.4 Communication Speed	92
15.3.5 Parity / Bit Length	92
15.3.6 Stop Bit	92
15.3.7 Delimiter	93
15.4 Decimal Point Symbol in Output Data	93
16. Maintenance and Transportation	94
16.1 Maintenance	94
16.2 Moving the Balance	94

*Not applicable to a verified balance as a legal measuring instrument in the EU

17. Troubleshooting	95
17.1 General Display	95
17.2 Error Display	96
17.3 Troubleshooting	97
17.4 LCD (Liquid Crystal Display) Check	97
Appendices	98
A-1. Menu Map	98
A-2. Standard Accessories and Maintenance Parts List	103
A-3. Optional Accessories List	104
A-4. Specifications of Connectors	105
A-5. Table of Unit Conversion Constants	106
A-6. Performance Checks	107
A-7. Below-Weigh Hook Dimensions	108
A-8. Index	109

This is a “Table of Contents preview” for quality assurance

The full manual can be found at <http://the-checkout-tech.com/estore/catalog/>

We also offer free downloads, a free keyboard layout designer, cable diagrams, free help and support.

<http://the-checkout-tech.com> : *the biggest supplier of cash register and scale manuals on the net*