SHIMADZU

# AP series

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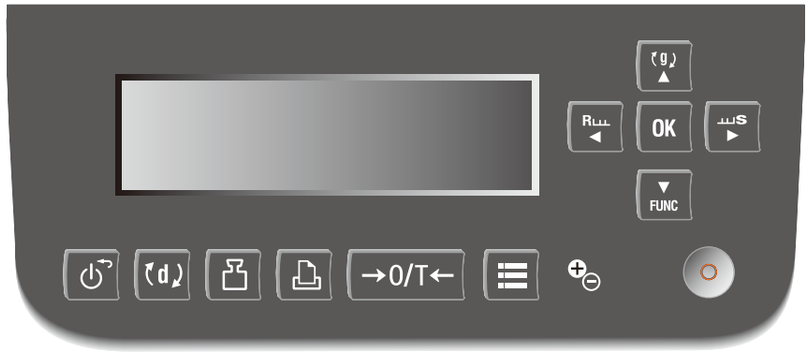
Explanation Sheet『Operation Guide』

## Measurement Keys + Application Function Operation Keys




| Key Name | During Measurement | | During Menu Operations |
|---|---|---|---|
| | Short Press | Long Press (Approx. 3 or more seconds) | |
| [POWER] | Switches across to the Operation Mode/Stand-by mode. | – | Returns to the Weight Measurement Mode |
| [1d/10d] | Switches across to minimum display when in the Weight Measurement Mode. (0.1mg ⇔ 0.1mg/0.1mg ⇔ 1mg) *1 | – | – |
| [CAL] | Executes calibration | Calls the setting Calibration menu in the System Settings. | – |
| [PRINT] *2 | Outputs weighing values to external equipment (printer, PC). | Calls the printer setup menu in the System Settings. | – |
| [0/T] *3 | Executes taring (zero setting) | Calls the Zero/Taring menu. | – |
| [MENU] | Calls the menu when in the weight measurement mode. Calls the statistical calculation menu when statistical calculations are executed. Calls the menus for each application function when application functions are executed. | – | Returns to the weight measurement mode. |
| [ION] | Ionizer ON/OFF | Calls the ionizer setup menu. | – |
| [OK] | – | – | • Sets the menu.<br>• Moves to the next operation with the wizard. |
| [UP] ▲ | Switches between units when in the weight measurement mode. Displays the unit weight when in the parts counter measurement mode. Displays the standard weight when in the percent measurement mode. | Calls the unit registration menu when in the weight measurement mode. Switches between sample numbers when in the parts counter measurement mode. Switches between percent standards when in the percent measurement mode. | • Scrolls back through menu items.<br>• Increases the number when numerals are being input. |
| [DOWN] ▼ | Switches across to the application function mode when in the weighing mode. | Recalculates unit weights during parts counter measurements | • Scrolls through menu items.<br>• Decreases the number when numerals are being input. |
| [LEFT] ◀ | Adjusts to gain increased response for the weight display. | – | Moves to the top menu item. Moves one digit to the left when numerals are being input. |
| [RIGHT] ▶ | Adjusts to gain increased stability for the weight display. | – | Moves to the lower menu item. Moves one digit to the right when numerals are being input. |

*1 Not applicable to a verified balance as a legal measuring instrument in the EU.
*2 Output is not made until the display is stable with a verified balance as a legal measuring instrument in the EU.
*3 Either “Taring” (at a weight exceeding 2.0% of the capacity) or “Zero-setting” (at a weight within 2.0% of the capacity) takes place with a verified balance as a legal measuring instrument in the EU.

## Display Panel

In addition to display the results of weight measurements, it is also possible to select called out menu items on the display panel. A flexible display will be shown depending on the function selected.

## ■ Display Examples when Measuring Weight


| No. | Status | Descriptions | | Refer To |
|---|---|---|---|---|
| (1) | Measurement mode display area | Displays the current function. | | |
| (2) | Account/Time display area | The account name used to log-in and current time are displayed. | | P.59 |
| | | | Indicates that communications with externally-connected equipment is taking place. | P.108 |
| | | | Indicates that a USB memory is connected. | P.128 |
| | | | Menu lock | P.56 |
| (3) | weighing value display area | Displays the results and units used in measuring mass and the measurement status. | | |
| | | → | Stability Mark: Displayed when the weighing value is stable. | P.50 |
| | | NET | NET: Indicates the sample weight. | P.28 |
| | | TARE | Displays the mass of taring (empty container). | P.28 |
| | | Gross | Gross: Indicates the sum of the tare and sample weight. | P.28 |
| | | HOLD | (HOLD) Displays the status of [HOLD], which fixes the measurement value display in place. | P.78 |
| | | →0← | (AUTO ZERO) Displays whether the measurement value is within the zero range or not.*1 | P.45 |
| | | − | Minus : Displayed when the weighing value is in the minus status. | – |
| | | NET | NET: Indicates that the weighing value displayed when measuring formulas (formulation) is the net value minus the weight of the tare container. It also indicates that weighing is in progress. | P.88 |
| | | | Comparator: Displays the analog bar and comparator mark that indicate Pass/Fail in accordance with preset conditions. | P.98 |
| | | | (ANALOG BAR) Displays the current measurement value in the analog bar. | P.98 |
| | | [ ] | Bracket *2 | |
| (4) | Status Area | The current setting is displayed in this area. | | |
| | | MW | Displays the minimum weighing value and unit. | P.102 |
| | | R S | Smart Setting Indicator: Indicates the level at which response and stability are currently being adjusted. | P.49 |
| | | Displays the status of the printer (option) connected. | | |
| | | | Auto-print_Setting in progress | P.121 |
| | | | Auto-print _ Operations in progress | P.121 |
| | | | Interval_ Setting in progress | P.123 |
| | | | Interval _ Operations in progress | P.123 |
| | | Measurement Status: Indicates the measurement status. | | |
| | | | Fast Filling | P.48 |
| | | | Zero Tracking | P.44 |
| | | | Statistical Calculation | P.97 |
| | | Error Status: Indicates the cause of error statuses. | | |
| | | | Calibration required | P.36 |
| | | | Insufficiency battery | P.15 |
| | | | Insufficient USB memory | P.128 |

*1 Using a verified balance as a legal measuring instrument in the EU: Indicates that the balance is set exactly to “Zero” with the zero-setting function (within ±0.25e: e = verification scale interval).
*2 Using a verified balance as a legal measuring instrument in the EU: The figure(s) bordered by the bracket is(are) the auxiliary indicating device.

# Menu Map Sheet

The menu map is a diagram that shows the entire system of menu items in an easy-to-understand style.
See ☞ [How to use Menus] (P.24) for details on the menu setting mechanisms and menu operation methods.

## ■ Using the Menu Map

| Menu Map Symbols | Operation Explanations |
|---|---|
| [ UP], [ DOWN] | Select the required menu. |
| [ RIGHT], [ OK] | Set the selection or move across to the lower level menu. |
| [ LEFT] | Move to the upper level menu. |
| ☞ | Refers to the relevant page in the instruction manual. |
| * | Default settings (when the menus are reset). |

### Menu Configuration

| | | Default settings | Items Set for Each User | relevant page in the instruction manual |
|---|---|---|---|---|
| Mode Selection | Standard Measurement | Standard Measurement | ○(*1) | ☞ P.22 |
| | Parts Counter Measurement | | | ☞ P.72 |
| | Percent Measurement | | | ☞ P.75 |
| | Averaging Measurement*3 | | | ☞ P.78 |
| | Solid Specific Gravity Measurement*3 | | | ☞ P.80 |
| | Liquid Density Measurement*3 | | | ☞ P.83 |
| | Add-on Mode | | | ☞ P.86 |
| | Formulation Mode | | | ☞ P.88 |
| | Sample Preparation(W Series only) | | | ☞ P.91 |
| | Buffer Solution Preparation(W Series only) | | | ☞ P.94 |
| | Sample Preparation (W Series only) | | | ☞ P.95 |
| Menu for Each Applied Measurement | Menus that correspond with the applied measurement in use will be displayed. | | | ☞ P.71 |
| | Statistical Calculation | | | ☞ P.97 |
| Measurement setting | Fast Filling | OFF | ○ | ☞ P.48 |
| | Zero Tracking | ON | ○ | ☞ P.44 |
| | Zero/Tare Timing Change*3 | immediate | ○ | ☞ P.47 |
| | Auto Zero*3 | OFF | ○(*2) | ☞ P.45 |
| | Auto tare | OFF | ○ | ☞ P.46 |
| | Stability Detection Range*3 (50, 100, 1000 count) | 1 | ○ | ☞ P.50 |
| | Stability Mark Illumination Timing*3 | Standard | ○ | ☞ P.51 |
| | Switching between Units | g | ○ | ☞ P.52 |
| | Registering Units*3 (a part of the unit) | g | | ☞ P.52 |
| | Target Measurement | OFF | ○(*2) | ☞ P.98 |
| | Pass/Fail Judgment | OFF | ○(*2) | ☞ P.100 |
| | MW Setting | OFF | ○(*2) | ☞ P.102 |

| | | | | |
|---|---|---|---|---|
| System setting | System Settings | Date | | ☞ P.66 |
| | | Date output style | YY/MM/DD | ☞ P.66 |
| | | Time | | ☞ P.66 |
| | | Brightness | 3 ○ | ☞ P.67 |
| | | Sound Volume | ON ○ | ☞ P.67 |
| | | Ion emission Time (W/X-series only) | 10 sec. | ☞ P.107 |
| | | Balance ID | 0000____ | ☞ P.65 |
| | | Screen Saver | 10 min. | ☞ P.64 |
| | | Auto Off | OFF display | ☞ P.64 |
| | | Decimal Point Display Symbol | Period | ☞ P.28 |
| | | Bar-Code Transferal (W Series only)*3 | Not transferred | ☞ P.131 |
| | | Language | Japanese | ☞ P.68 |
| | | Menu Reset(Password) | | ☞ P.55 |
| | | Menu setting output | | ☞ P.57 |
| | | Menu Lock | OFF ○ | ☞ P.56 |
| | Print Setting | Display capture | OFF | ☞ P.128 |
| | | Interval timer*3 (Averaging output interval) | OFF | ☞ P.123 |
| | | Auto print | OFF | ☞ P.121 |
| | | Date/Time output | OFF | ☞ P.126 |
| | | Barcode ID output (W Series only)*3 | OFF | ☞ P.126 |
| | | Sample ID output | OFF | ☞ P.126 |
| | | Output Timing*3 | immediate | ☞ P.121 |
| | Save Memory Setting | Weight value saved in USB memory (W Series only)*3 | OFF | ☞ P.128 |
| | | Sensitivity calibration record saved in USB memory (W Series only)*3 | OFF | ☞ P.128 |
| | | Browse weight values*3 | | ☞ P.69 |
| | | Browse CAL/Inspection records*3 | | ☞ P.69 |
| | | Delete internal memory (Password) (Delete all data)*3 | | ☞ P.70 |
| | | Internal memory output*3 (Possible only configuration information output) | | ☞ P.129 |
| | | USB memory saving format (W Series only)*3 | Print format | ☞ P.128 |
| | Communication Setting | RS232C | Standard | ☞ P.117 |
| | | USB | Standard | ☞ P.117 |
| | Calibration Setting・Inspection | Pre-Calibration Procedures | W/X:Internal weight Calibration Y:External weight Calibration*4 | ☞ P.30 |
| | | ISO Output | | ☞ P.125 |
| | | Timer CAL (W/X-series only) | OFF | ☞ P.38 |
| | | PSC (W/X-series only)*3 | OFF | ☞ P.36 |
| | | Adjustment of internal weight (W/X-series only)*3 | ON | ☞ P.34 |
| | | Periodic Inspection (W/X-series only) | | ☞ P.39 |
| | User setting | Log-in function | OFF | ☞ P.59 |
| | | Administrator | | ☞ P.60 |
| | | User 1-10 | | ☞ P.60 |
| Menu History | | | | ☞ P.58 |

*1 Only mode selection can be set for each user. The values set for each mode (unit weights for individual measurements, recipe formation, etc.) shared by all users.
*2 Only ON/OFF can be set for each user. Other set values (zero range, target values, etc.) are shared by all users.
*3 Not applicable to a verified balance as a legal measuring instrument in the EU.
*4 Not applicable to verified balance as a legal measuring in Brazil and India.