

ABW / ABW S

Software version: u6.06 & above

ABW



ABW S



Easy Reference:

| | |
|--|--|
| Model name of the scale: | |
| Serial number of the unit: | |
| Software revision number (Displayed when power is first turned on): | |
| Date of Purchase: | |
| Name of the supplier and place: | |

CONTENTS

P.N. 3.03.6.6.15715, Revision A, Nov 2021

| | | |
|--------------|---|----|
| 1.0 | INTRODUCTION | 2 |
| 2.0 | SPECIFICATIONS | 3 |
| 3.0 | SAFETY PRECAUTIONS | 4 |
| 4.1 | ASSEMBLING OF SCALE | 4 |
| 5.0 | WEIGHING | 5 |
| 5.1 | BEFORE WEIGHING | 5 |
| 5.2 | WEIGHING | 5 |
| 5.3 | USER FUNCTIONS | 6 |
| 5.3.1 | CHECK WEIGHING | 6 |
| 5.3.2 | PARTS COUNTING FUNCTION | 6 |
| 5.3.3 | PERCENTAGE WEIGHING | 6 |
| 7.0 | CALIBRATION | 10 |
| 7.1 | AUTOMATIC EXTERNAL CALIBRATION | 10 |
| 8.0 | ERROR MESSAGE | 11 |
| | WARRANTY INFORMATION | 12 |

WARNING:



Please read carefully following instructions for installation and use before starting your work with a new balance. Failure to use the balance in accordance with the advice in the user manual could mean that the product gives incorrect readings.

1.0 INTRODUCTION

- The ABW and ABW S models are supplied with a power supply adapter, to charge the internal rechargeable battery.
- In use cover fitted as standard on all ABW models, the ABW S does NOT have an in use cover available.
- Front and rear display
- 5 weighing units: kg, g, lb, oz, and lb:oz
- Check-weighing / Parts counting and Percentage weighing functions
- Indicators for Stable, zero, net weight, and low battery functions
- ABW has Stainless steel pan with ABS case and pan support
- ABW S has Stainless steel pan with stainless steel top case, ABS base and pan support
- Sealed Membrane keypad
- Overload Protection
- Spirit level and leveling feet
- Auto calibration, zero tracking and tare

2.0 SPECIFICATIONS

| Model | ABW 4 | ABW 8 | ABW 16 | ABW 32 |
|---------------|--------------------------|--------------|---------------|---------------|
| Capacity | 4Kg | 8Kg | 16Kg | 32Kg |
| Readability | 0.5g | 1g | 2g | 5g |
| Repeatability | 1g | 2g | 5g | 10g |
| Linearity ± | 1g | 2g | 5g | 10g |
| Units | kg / g / lb / oz / lb:oz | | | |
| IP rating | IP67 | | | |

| Model | ABW 4S | ABW 8S | ABW 16S | ABW 32S |
|---------------|--------------------------|----------------|----------------|----------------|
| Capacity | 4Kg / 9lb | 8Kg / 18lb | 16Kg / 35lb | 32Kg / 70lb |
| Readability | 0.1g / 0.0002lb | 0.5g / 0.001lb | 1g / 0.002lb | 2g / 0.004lb |
| Repeatability | 0.2g / 0.0004lb | 1g / 0.002lb | 2g / 0.004lb | 5g / 0.01lb |
| Linearity ± | 0.2g / 0.0004lb | 1g / 0.002lb | 2g / 0.004lb | 5g / 0.01lb |
| Units | kg / g / lb / oz / lb:oz | | | |
| IP rating | IP68 | | | |

| Model | ABW 2M | ABW 4M | ABW 8M | ABW 16M |
|---------------|--------------------------|---------------|---------------|----------------|
| Capacity | 2000g | 4000g | 8000g | 16000g |
| Readability | 0.5g | 1g | 2g | 5g |
| Repeatability | 1g | 2g | 4g | 10g |
| Linearity ± | 1g | 2g | 4g | 10g |
| Units | kg / g / lb / oz / lb:oz | | | |
| IP rating | IP67 | | | |

| Model | ABW 5aM | ABW 9aM | ABW 18aM | ABW 35aM |
|---------------|--------------------------|----------------|-----------------|-----------------|
| Capacity | 5lb / 2kg | 9lb / 4kg | 18lb / 8kg | 35lb / 16kg |
| Readability | 0.001lb / 0.5g | 0.002lb / 1g | 0.005lb / 2g | 0.01lb / 5g |
| Repeatability | 0.002lb / 1g | 0.005lb / 2g | 0.01lb / 4g | 0.02lb / 10g |
| Linearity ± | 0.002lb / 1g | 0.005lb / 2g | 0.01lb / 4g | 0.02lb / 10g |
| Units | kg / g / lb / oz / lb:oz | | | |
| IP rating | IP67 | | | |

| | | | | |
|-----------------------|---|-------------|---------------|----------------|
| Stabilization time | 1 second | 1 second | 1 second | 1 second |
| IP rating | IP67 | | | |
| Operating temperature | 0°C to 40°C 32°F to 104°F | | | |
| Power supply | 12VDC @ 800mA adapter 6v 3.2aH rechargeable battery Typical battery life expectancy: 55 hours | | | |
| Calibration | External calibration | | | |
| Calibration Weights | 1kg,2kg,4kg | 2kg,4kg,8kg | 5kg,10kg,16Kg | 10kg,20kg,32kg |
| Display | 6 digits 20mm LED | | | |

3.0 SAFETY PRECAUTIONS

Caution:

Please use only the original DC adapter supplied with the scale. Other cords or adapters may damage the scale.

Notice:

- Avoid extremes of temperature, do not place in direct sunlight or near air conditioning vents.
- Battery should be removed if the scale is not used for a long period of time.
- Do not stack material on the scale when it is not in use.
- Avoid high humidity that might cause condensation.
- Static may influence the weighing result, to reduce the static wipe the pan and the scale with anti-static wipes.
- When the battery is running low on charge, the battery light will flash Red every 1 second, when the battery gets very low on charge, the display will show "BAT LO" and then turn off within 2 seconds.

4.0 SET UP

4.1 ASSEMBLING OF SCALE

- Put the scale on a stable and even table.



- Adjust the height of the feet to level the scale; the spirit level bubble should be in the center of the spirit level.
- Put the pan support in place, inserting the pan support pins into the holes on top of the scale. Place the stainless steel pan on the support.
- Avoid excess force to weighing pan or the load cell could be damaged.

5.0 WEIGHING

5.1 BEFORE WEIGHING

Check the setting of the auto power off function, see section 6. If the auto power off function is on, the scale will power off after a period of time if the scale is not used and it has a stable reading.

5.2 WEIGHING

- Press  /Esc to turn on the scale. The display will show the software revision. Then it will begin its self-checking test from 9 to 0. When reading is stable, the display will show "3", stable symbol, zero symbol, and the weighing unit used the last time the scale was used.
- Press and hold **[FUNC/→]** until "S1 Un" will be displayed then press **[→0←/↵]** to confirm selection and use **[Tare/↑]** key to select units from "kg" / "g" / "lb" / "oz"/"lb:oz".
- Press  /Esc to return to normal weighing.
- Check if the reading is "3", if not, press **[→0←/↵]**. "3" and the zero symbol will be displayed.
- Put the item to be weighed on the pan. When the reading is stable, the gross weight will be shown.

If a container is used, put the container on the pan and press the **[Tare/↑]** key when the reading is stable. The display will show "3", the zero symbol and 'NET'. Load the container or remove material from the container, the scale will show the net weight of the material added or removed.

5.3 USER FUNCTIONS

The check weighing, parts counting and percent weighing functions can be accessed using the **[FUNC/→]** key.

5.3.1 CHECK WEIGHING

- When in normal mode, press **[FUNC/→]** and the display shows “**F1 CHK**”.
- Press **[→0←/↵]** to set the high limits. The display will show the “000000” with one digit flashing and the ‘HI’ LED lit.
- Press **[Tare/↑]** to increase the flashing digits;
- Press **[FUNC/→]** to select the digit;
- Press **[→0←/↵]** to accept the value and move to set the low limits. The display will show “000000” with one digit flashing and the ‘LO’ LED lit.
- Use the same method to set the low limits.
- In order to change the display to “bP inL” or “bP otL” or “bP oFF” to have beeper sound when the weight is between the limits, outside the limits, or off please check section 6.

5.3.2 PARTS COUNTING FUNCTION

- In normal weighing mode, press **[FUNC/→]** and then **[Tare/↑]** until the display shows “**F2 PCS**”
- Press **[→0←/↵]** and then use the **[Tare/↑]** key to go through the preset sample piece values of 10, 20, 50, 100 or 200 pieces. For example, if you selected PC-20, hand count out 20 pieces and put them on the scale.
- Press the **[→0←/↵]** key once the stability indicator comes on to confirm the entered value. The display will show the number of pieces placed on the pan.
- If more items are put on the pan, the increased count value will be shown.
- Press **[FUNC/→]** to exit and go back to the normal weighing mode.

5.3.3 PERCENTAGE WEIGHING

- In the weighing mode, press **[FUNC/→]** and then **[Tare/↑]** until the display shows “**F3 PER**”.

- Press the [**→0←/ ↵**] key to set the reference sample value, the display will show "**PEr 100**".
- Place the item to be set at 100% on the pan and press the [**→0←/ ↵**] key when the stability indicator comes on.
- The display will show "**433%**".
- When another item with a different weight value is put on the pan, the relative % value would be shown against the initial reference sample value.
- Press [**FUNC/→**] key to exit and go back to weighing mode.

6.0 USER MENU SETTING

In normal weighing mode, press [**FUNC/→**] and hold for 3 seconds. The display will show first parameter “S1 Un “. Use [**Tare/↑**] key to scroll through the menu and [**→0←/ ←**] key to select your option.

| User Function | Description | Options | Default setting |
|---------------|------------------------------------|---|--|
| "S1 Un" | Units selection | g, kg, lb, oz, lb:oz | g |
| "S2 CHK" | Check weighing parameter | <p>F1 LLK: (<i>upper and lower limits</i>)</p> <ul style="list-style-type: none"> • LLK of - allows user to set upper/lower limits • LLK on – upper/lower limit set by user will be locked <p>F2 Led: (<i>LED indicator</i>)</p> <ul style="list-style-type: none"> • Led of – LED indicator will be displayed individually • Led on – LED indicator will be displayed sequentially <p>F3 bEP: (<i>buzzer sound</i>)</p> <ul style="list-style-type: none"> • bP inL – beeper sound when check weighing is within the limits • bP otL – beeper sound when the check weighing is outside the limits • bP ofF – beeper sound off <p>F4 PS: (<i>passcode setting</i>)</p> <ul style="list-style-type: none"> • display will show “P1 - - - - ” to set the passcode and then “P2 - - - - ” to confirm the passcode. The passcode will lock all parameters. <p>NOTE: If the setting is 0000 no password is required.</p> | <p>LLK of</p> <p>Led of</p> <p>bP ofF</p> |
| "S3 br" | Brightness setting | You can choose from 4 levels of brightness: br 1, br 2, br 3, br 4 , where 1 is the lowest and 4 is the highest | br 2 |
| "S4 AoF" | Auto power saving Auto shut off | <u>Auto power saving</u> SLP of: power saving disabled | SLP of |

| | | | |
|----------|-----------------------------|---|-------|
| | | <p>SLP on: auto power saving activates after 10 seconds and display will show 1 segment : “_”.</p> <p><u>Auto power off of the scale</u> After setting the Auto power saving, the display will show “oFF 0”. Use [Tare/↑] key to scroll and select the time you want the scale to power off automatically (0 ,1 ,5 or 10 minutes), by pressing the [→0←/ ←] key. Note: with setting at 0, the scale will not automatically power down.</p> | oFF 0 |
| “S5 diS” | Display mode setting | ALL – display will show all the readings StAb – display will show only the stable readings | ALL |
| “S6 FI” | Filter setting | nor – medium speed FASt – fast speed SLow – slow speed | nor |
| “S7 AZr” | Zero tracking range setting | 0.5 1.0 1.5 | 1.0 |
| “S8 CAL” | Calibration | See chapter 7 | |

7.0 CALIBRATION

- Calibration before use is recommended for best accuracy. It is suggested that the scale be calibrated when first installed and any time the scale is moved to a different environment.
- Ensure weights are ready before calibrating, the weight should be of a known accuracy, for example OIML class M1 or Class 4 of ASTM E617.
- Do not calibrate the scale if a proper calibration weight is not available.
- The scale will calibrate according to the weighing units selected (Imperial or metric)

7.1 AUTOMATIC EXTERNAL CALIBRATION

- In normal weighing mode, press **[FUNC/→]** and hold for 3 seconds. The display will show first parameter "S1 Un". Use **[Tare/↑]** key to scroll through the menu until it will show "S8 CAL". Press the **[→0←/↵]** key, to access the parameter; display will show "UnLoAd".
- Press the **[→0←/↵]** key and display shows last calibration weight with first digit flashing. You can modify the value using **[FUNC/→]** and **[Tare/↑]** keys; then press **[→0←/↵]** to accept calibration mass. The display will stop flashing and the stable indicator will be on.
- Add the calibration mass as displayed to the pan and when stable indicator on press **[→0←/↵]** key. The display will show "PASS", and then returns to normal weighing after 3 seconds.

Calibration selectable values for all models:

| | | | |
|-------------------|-------------------|---------------------|---------------------|
| ABW 4 / ABW 4S | ABW 8 / ABW 8S | ABW 16 / ABW 16S | ABW 32 / ABW 32S |
| 1Kg/2kg/4kg | 2Kg/4kg/8kg | 5Kg/10kg/16kg | 10Kg/20kg/32kg |

If it is outside of the previous calibration value by more than 5%, it will show "FAIL L" or "FAIL H" indicating the new calibration weight was too low (FAIL L) or too high (FAIL H) in respect to the previous calibration value.

8.0 ERROR MESSAGE

| | |
|----------|-------------------------|
| --AdO | A/D counts are too high |
| --AdL | A/D counts are too low |
| BEEP 15 | Wrong operation |
| - -OL- - | Overload 9d |
| “BATTLO” | Low battery indication |
| -- Err - | Over zero key range |

WARRANTY INFORMATION

Adam Equipment offers Limited Warranty (Parts and Labour) for the components failed due to defects in materials or workmanship. Warranty starts from the date of delivery.

During the warranty period, should any repairs be necessary, the purchaser must inform its supplier or Adam Equipment Company. The company or its authorized Technician reserves the right to repair or replace the components at any of its workshops depending on the severity of the problems. However, any freight involved in sending the faulty units or parts to the service center should be borne by the purchaser.

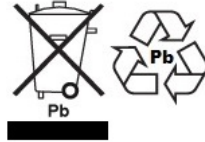
The warranty will cease to operate if the equipment is not returned in the original packaging and with correct documentation for a claim to be processed. All claims are at the sole discretion of Adam Equipment.

This warranty does not cover equipment where defects or poor performance is due to misuse, accidental damage, exposure to radioactive or corrosive materials, negligence, faulty installation, unauthorized modifications or attempted repair or failure to observe the requirements and recommendations as given in this User Manual. Additionally rechargeable batteries (where supplied) are not covered under warranty.

Repairs carried out under the warranty does not extend the warranty period. Components removed during the warranty repairs become the company property.

The statutory right of the purchaser is not affected by this warranty. The terms of this warranty is governed by the UK law. For complete details on Warranty Information, see the terms and conditions of sale available on our web-site.

WEEE 2012/19/EU



This device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements. Disposal of batteries (if fitted) must conform to local laws and restrictions.

Cet appareil ne peut être éliminé avec les déchets ménagers. L'élimination de la batterie doit être effectuée conformément aux lois et restrictions locales.

Dieses Gerät nicht mit dem Hausmüll entsorgt.

Dispositivo no puede ser desechado junto con los residuos domésticos

Dispositivo non può essere smaltito nei rifiuti domestici.

FCC / IC CLASS A DIGITAL DEVICE EMC VERIFICATION STATEMENT

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules and Canadian ICES-003/NMB-003 regulation. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CALIFORNIA PROPOSITION 65 - MANDATORY STATEMENT

WARNING: This product includes a sealed lead-acid battery which contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm



Adam Equipment products have been tested with and are always supplied with mains power adaptors which meet all legal requirements for the intended country or region of operation, including electrical safety, interference and energy efficiency. As we often update adaptor products to meet changing legislation it is not possible to refer to the exact model in this manual. Please contact us if you need specifications or safety information for your particular item. Do not attempt to connect or use an adaptor not supplied by us.

ADAM EQUIPMENT is an ISO 9001:2015 certified global company with more than 50 years' experience in the production and sale of electronic weighing equipment.

Adam products are predominantly designed for the Laboratory, Educational, Health and Fitness, Retail and Industrial Segments. The product range can be described as follows:

- Analytical and Precision Laboratory Balances
- Compact and Portable Balances
- High Capacity Balances
- Moisture analysers / balances
- Mechanical Scales
- Counting Scales
- Digital Weighing/Check-weighing Scales
- High performance Platform Scales
- Crane scales
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