LIGHTTELLS Corporation Limited

Water Activity Analyzer

AW-600
User Manual

QAQC LAB
www.qclabequipment.com

Lighttells

Product Introduction

The AW-600 portable Water Activity Analyzer is designed to measure the vapor pressure of free water escaped from samples to the air in the test chamber to predict the condition of growth of bacteria, there are two measurement mode: Quick Mode and Equilibrium Mode. The AW-600 is a compact, portable, easy to use, reliable and robust designed product.

Package Contents

- AW-600 main unit (probe) x 1
- AW-600 sample holder x 1
- AW-600 metal stand x 1
- 5V Power Adapter x 1
- micro USB Power cable x 1
- Sample cup x 3
- Bottle for self-made saturated brine x 1
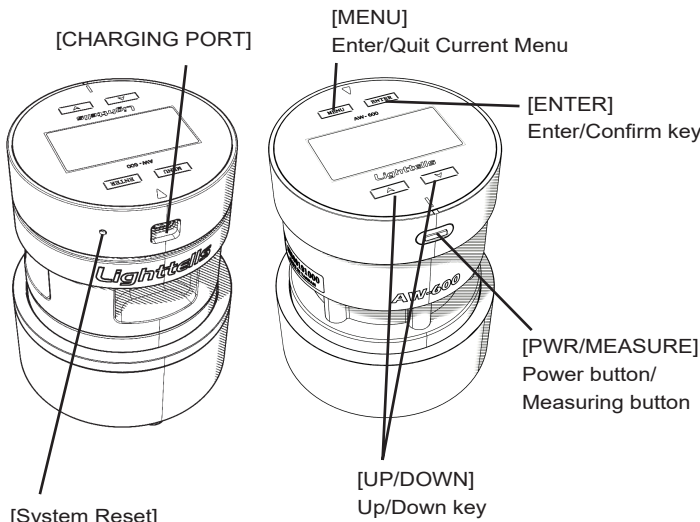- User Manual with Limited Warranty Page x 1

Main Features

- Support both Quick mode and Equilibrium mode
- Easy to calibrate (single point)
- Touch panel
- Metal housing (quickly equilibrate with ambient temperature)
- Very easy to use.
- High airtight test chamber, high stability.
- Built-in rechargeable battery
- Store up to 100 records
- Calendar and Time settings
- Auto Power Saving

⚠ AW-600 is a high accuracy instrument designed for indoor use, any fluctuate temperature would extend the measuring time and affect the result.

AW-600 Hardware

● Touch Panel Button Names

[CHARGING PORT]

[MENU]
Enter/Quit Current Menu

[ENTER]
Enter/Confirm key

[PWR/MEASURE]
Power button/
Measuring button

[UP/DOWN]
Up/Down key

[System Reset]
Press the System Reset button by paperclip or pen point to reset system in case the system is crashed.

● Power/Measure
Long press on the [PWR/MEASURE] button for two seconds to power on/off AW-600

Quick click on the [PWR/MEASURE] button for sample measuring.

● Charging
Plug the power adapter to an AC 110/220 outlet, connect the micro USB cable between the power adapter and the micro USB port of AW-600. It takes around 5 hours for fully charge from a drained battery. After full charged, the AW-600 could work continuously up to 8 hours.
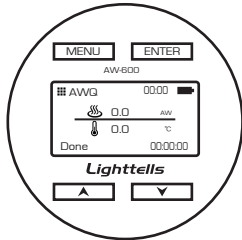
⚠ AW-600 might not be able to power on when the battery is completely drained. Please connect the charger to AW-600 for few minutes to power on AW-600.

AW-600 Main Menu

● AWQ/AWE

AWQ: Quick mode
(requires 6 minutes)

AWE: Equilibrium mode
(requires 12+ minutes)

AW-600 Setup Menu

● Setting

<Date >
Click [ENTER] to switch field YYYYMMDD, click [UP/DOWN] button to adjust number. Click [ENTER] to save setting or click [MENU] to abort.

<Time>
Click [ENTER] to switch field HH MM, click [UP/DOWN] button to adjust number. Click [ENTER] to save setting or click [MENU] to abort.

<Mode>
Click [UP/DOWN] button to select Equilibration/Quick, press [ENTER] to save setting.

<Unit>
Metric/Imperial

<Scale>
Select Decimal Scale: 0.01/0.001

<Power>
Time to turn off power: OFF/10min/5min/3min

<Clear Log>
Click ENTER to clear all records.
Click MENU to abort

<Reset>
Click ENTER to reset to factory setting
Click MENU to abort

● Logger

Each measurement is automatically stored in AW-600. AW-600 can store up to 100 measured records from the most recent to earlier results. Click [UP/DOWN] button for checking logs.
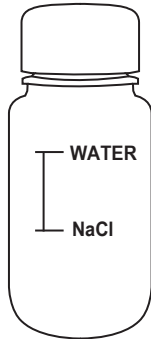
● Information

The product information (HW and SW version) is shown in this menu

---

● Calibration

Put certain amount of saturated brine in the sample cup (1/2 cup), put the cup in the sample holder, properly stand the AW-600 main unit (probe) above the sample holder.
Click ENTER to start calibration, it might take tens of minutes to complete.
Click MENU to abort
When the calibration is done, you will hear a long beep for reminder. If the calibration was failed, please do it again under a stable temperature and stable humidity environment.

How to make a saturated brine:
There is an empty bottle in the AW-600 hard case, you will see there are 2 lines marked "WATER" and "NaCl" on the bottle. Put NaCl (Salt) in the bottle till the amount reaches the line of "NaCl", then pour tape water or distilled water in the bottle till reaches the line of "WATER", close the lid and shake it to mix the water and NaCl and leave it at least 8 hours, then use the brine for calibration. The brine can be recycled for next time using.
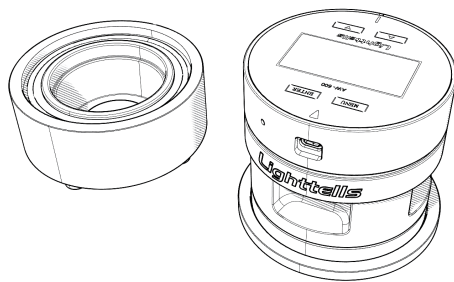
WATER

NaCl

Specification

Display	1.6" 128x64 mono OLED
Battery	Li-ion 1150mAh Battery
Sensor	Relative Humidity Sensor
Range of Application	0 - 40 °C
	0 – 1.00 Aw
	5 – 99 %RH
Accuracy	AWQ Mode: ±0.015 aw
	AWE Mode: ±0.01 aw
Read time	AWQ Mode: up to 6 min
	AWE Mode: 12 min+
Resolution	0.001Aw
Log	100 records
Weight	328g(Main unit)
Dimension	95 x 95 x 137 mm
Working Temp.	0 - 40ºC
Storage Temperature	-10 - 70oC
AC Adapter	110 - 240V, 50/60Hz
Charging input	5V, 0.5A
Certification	CE, FCC, RoHS

Further instruction you shall know how to use AW-600 properly Environment Temperature: We all know the temperature varies vapor pressure, as the temperature of a liquid increases, the kinetic energy of its molecules also increases. As the kinetic energy of the molecules increases, the number of molecules transitioning into a vapor also increases, thereby increasing the vapor pressure.

Therefore, we strongly recommend to use AW-600 indoors or in a stable environment (ex: labs), and always put the main unit on the AW-600 stand or on the sample holder when it's idling in order to isolate temperature from the placement plane.

We do not recommend using AW-600 while charging because the charging heat would interfere the vapor pressure. If you had just done the charging, the recommended AW-600 using time is 30 minutes later.

The AWQ mode uses an algorithm to project the full equilibrium value of the sample and displays 2 decimal places. (AWE mode displays 3 decimal places)

● Warranty Information

This Limited Warranty applies to LIGHTTELLS product model name AW-600 purchased from an authorized LIGHTTELLS dealer by the original purchaser for normal use and not for resale. LIGHTTELLS warrants that a AW-600 product is free from defects in materials and workmanship, with the exceptions stated below.
This limited warranty lasts for 1 year from date of purchase, depending on when and where it was originally purchased. A valid proof of purchase may be required to prove eligibility. If you do not have a valid proof of purchase, the limited warranty period will be measured from the date of sale from LIGHTTELLS to the authorized distributor.

The limited warranty does not cover damage resulting from improper or unreasonable use or maintenance, misuse, accident, modification or alteration to hardware or software, tampering, unsuitable physical or operating environment beyond product specifications, or failure caused by a product for which LIGHTTELLS is not responsible. There is no warranty of uninterrupted or error-free operation. There is no warranty for product with removed or altered identification labels. LIGHTTELLS DOES NOT PROVIDE ANY OTHER WARRANTIES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOME JURISDICTIONS DO NOT ALLOW THE LIMITATION OF IMPLIED WARRANTIES, SO THIS LIMITATION MAY NOT APPLY TO YOU. LIGHTTELLS is not responsible for returning to your product which is not covered by this limited warranty.

Limited Warranty Card

Model Name: AW-600 Water Activity Analyzer

Serial Number:

Date of Purchase: _____ YY
_____ MM _____ DD

Customer Name:

Customer Address:

Authorized Dealer Name / Stamp

Lighttells Lighttells Corp. Ltd.
http://www.lighttells.com