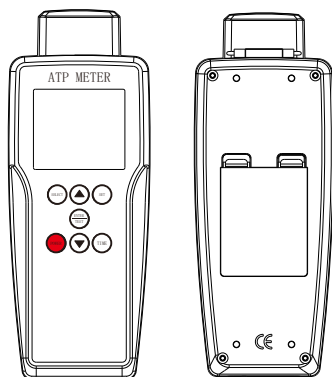


## AMTAST ATP Fluorescence Detector Manual

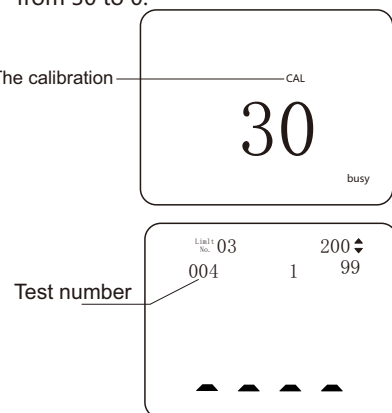
### ATP-2



Rear cover: For mounting 2 \* AA batteries. Data interface: Data can be transmitted to PC through data line.

## 3.Display

After startup, the instrument performs an internal calibration check for 30 seconds, and the digital display counts backwards from 30 to 0:



4

## 1.Operating principles

### 1.operation principle

ATP bioluminescence detector uses biochemical luminescence technology to turn the invisible ATP concentration into visible light output, so as to indirectly display the number of microorganisms with quantitative results. The value is between 0 and 9999, expressed in relative light unit RLU. Although RLU is not an actual unit of light intensity, it can provide a realistic detection method for ATP biochemical luminescence detection. So 1RLU is equal to 1fmol of ATP

RLU readings can be compared with a user set limit range to provide a comprehensive result limit, namely pass  $\ominus$  A warning  $\omin�$  Or not  $\omin�$ . In order to ensure that you can get timely and accurate test results when using ATP bioluminescence detection system, please pay attention to the following:  
Please read the user manual carefully before use. ATP bioluminescence detector must be used together with ATP fluorescence sampling stick.

1

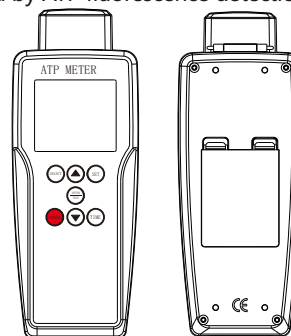
## 4.Technical parameters

Precision	$4X10^{-18}$ mol ATP
Detection limit	$\leq 1.0$ CFU/ml
Detection range	0RLU~9999 RLU (Relative luminous unit)
Fecal coliform	$\geq 1 \times 10^{-6}$ CFU
Testing time	1 second-60 second
Testing interference	$\pm 2\%$ or $\pm 2$ RLU
background value	$\leq 1$ RLU
Check out the mode	RLU or Coliform screening
Limit number can be set	More than 1000
Storage size	More than 3000
Test results	USB port results can be transferred to a PC
Size (W×H×D)	199mm×76mm×37mm
Weight (battery included)	265 g
Operating temperature range	0°C~ 40°C
Relative humidity range	20 % -85 %
Continuous degree	600
Power Supply	2x1.5V AA(UM-3) battery
Standard Accessories	Main Unit Carrying Case(B04)
Optiopnal Accessories	Test Swabs RS-232C Data Cable with Software

5

### 2. before use

Please read the user manual carefully before using the instrument to master the system composition and use method. Please confirm whether the product you purchased is complete according to the component content specified by ATP fluorescence detection system.



The host The battery cable

2

## 5.ATP Test swab instructions

### 5.1AtP test Notes for swab test

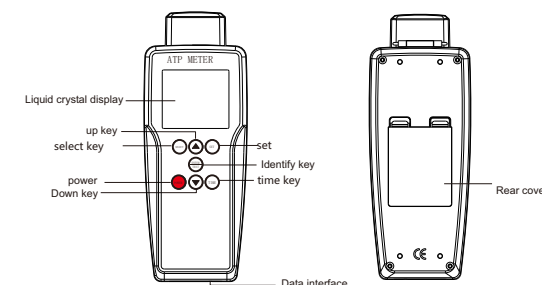
- ◆ Open the test tube and take out the swab for sampling;
- ◆ Do not touch the swab or test stick;
- ◆ After the detection tube is removed from the refrigerator, it should be placed for about 5 minutes before detection to restore it to room temperature;
- ◆ The swab sample can be placed for about 4 hours under the condition of avoiding light ,
- ◆ After the sample has reacted with the solution in the swab, place it in the fluormeter and read it within 2 minutes.
- ◆ The swab solution has been diluted and is safe for use on food surfaces.

**Note: Store away from light before use.**

ATP swabs and ATP fluorescence detectors were used to detect cleanliness and total bacterial count of public places, indoor

6

## 2.Page instructions



LCD : display the test process and test results.  
Up key: view the last set of test results and have other menu selection results.  
Down key: View the next set of test results and have other menu selection results.  
Confirm key: key to start detection.  
select key: Enter limit setting.  
Time key: Press to enter the time setting.  
On key: button switch machine.  
Set key: it has some other special functions, such as entering the delete interface.

3

dining utensils, desktops, operators' hand surfaces, medical and health industry operating tables and medical scopes. It is the product for HCCP monitoring in food industry

### 5.2ATP test swab test operation

1. This reagent should be matched with ATP fluorescence detector.
2. Luciferase was found in ATP swabs, and repeated freezing and thawing would lead to its gradual inactivation. In order to achieve better use effect, the number of freezing and thawing should not exceed 3 times, and need to avoid light storage.
3. Disposable gloves should be worn during the experiment to avoid contamination by exogenous ATP.
4. Do not touch the swab or swab during the sampling process and ensure that the swab is in direct contact with the surface of the object being tested.

7

5. After the sample reacts with the solution in the swab, place it in the fluorometer and read it within 2 minutes.
6. The smear area for standard operation is 10x10 cm<sup>2</sup>. For irregular tables, it is important to ensure that each test is performed continuously and consistently at each control point. The control point should consider the different special structure of the table and set their own standards, such as table smoothness, instrument joints, sunken areas, whether there are cracks in tableware (easy to hid dirt), etc
7. It detects the cleanliness of the surface of objects with low visual resolution. Therefore, if there is visible dirt at the control point under test, or the swab head becomes obviously black after application, the subsequent operation can be stopped to avoid waste of the swab.
8. If there is excess liquid on the surface of the object to be tested, wait for the surface liquid to dry slightly before testing, so as not to dilute the reagent. (No need to be dry)

8

9. If you need to test the liquid, you can use the sampler to absorb drops and add two drops of sample in the test tube, put the test specimen shaking, and mix with the luminescent reagent. (Do not wipe the liquid directly)

## 6.Code error

In operation, the instrument itself has a variety of self-checks, once there is a problem, will display an error code:

Error code	Possible causes
E1 Out of operating temperature range	<ul style="list-style-type: none"> <li>√The operating temperature of the instrument exceeds the normal range</li> <li>√The instrument is stored outside the operating temperature range adjust the instrument to the normal temperature range before use</li> </ul>
E2 Failure to self-calibrate	<ul style="list-style-type: none"> <li>×Equipment damaged or wrong</li> <li>√Unstable instrument environment</li> <li>√The protective mouth is dirty or severely cracked</li> <li>× Equipment is damaged or wrong</li> <li>× Protective port is damaged</li> </ul>
E3 Can't store	<ul style="list-style-type: none"> <li>√ The device has no power or loose battery</li> <li>× The memory function of the device is damaged or faulty</li> </ul>

9

Tip: most of the problems are temporary, press THE OK button or take out the battery more than 10 seconds and then put back in can be solved. If the fault persists, contact technical support engineers.

## 7.Instrument buzzer

The instrument emits various beeps during normal use:

Types of buzzes	Possible causes
Shorthigh	Startor shut down the test specimen and PCconnected to record the clearance results
Longhigh	Instrument self-calibration is completed, specimen testing is completed, and result records are cleared
Long bass	Enter invalid date Enter invalid value of the limit

## 8.Fault preview

The detector failure is generally due to the battery, such as can not open, shut down, abnormal shutdown, most of the reasons for the battery is

10

dead, loose battery caused by the battery is still unable to work normally, please contact the manufacturer.

The following table lists some typical cases and their possible causes.

√ Indicates that users can solve the problem by themselves.

X indicates a problem that may require technical assistance. Please contact the manufacturer.

situation	The cause of the problem
Abnormal shutdown	<ul style="list-style-type: none"> <li>√ If the instrument is not used for more than 10 minutes, it will automatically shut down and enter the standby state</li> </ul>
Press the keyboard and there is no response	<ul style="list-style-type: none"> <li>√ Some keys are only effective after a certain program is selected</li> <li>× the instrument is damaged or wrong</li> </ul>
Test result readings always show RLU or always lower than expected	<ul style="list-style-type: none"> <li>√Improper swab use, √Swab expired, √Shut down and restart</li> <li>√Operating instruments in an unstable environment,</li> <li>√ The protection mouth is dirty and can be seriously cracked</li> <li>× Equipment is damaged or wrong</li> </ul>
The USB interface does not work	<ul style="list-style-type: none"> <li>√ The interface is improperly inserted</li> <li>× The PC serial interface or system software fails</li> <li>× Equipment is damaged or wrong</li> <li>× The cable or interface is damaged</li> <li>√ The PC software is incorrectly installed or selected</li> </ul>

11