



# TW1018-VII

## Human Body Static Comprehensive Tester Instruction Manual

### Product introduction

TW1018-VII is Horb Technology's seventh-generation comprehensive human body electrostatic tester. It is designed with a high-performance 32-bit MCU chip. It can quickly detect the grounding status of wrist straps, anti-static clothing and anti-static shoes and display the grounding status through a 3.5-inch LCD touch color screen. Measure the resistance of the object to determine whether it can be used in the anti-static area (EPA). The judgment standard meets the requirements of ANSI/ESD S20.20 and IEC 61340 standards; the comprehensive tester host can independently test wrist straps and anti-static clothing. It can also be combined with the gate access control system for combined testing.

The access control system integrates functions such as gates, ESD testing, identity recognition, local storage, and network management. Identity recognition includes face recognition, fingerprint, QRCode, ID/IC card, ID card, identity verification person comparison and other recognition functions. It is combined with the TW1018-VII comprehensive tester host and used with the foot pedal to produce a total of one set of outputs. Anti-static shoe resistance test interface, two sets of access control signal output interfaces and a set of RS232 serial communication interface; the system can be connected to the clean cloud intelligent control platform of Zhongming Technology for network operation; it can also be used as a single machine or multi-machine service. In the case of multiple machines, data can be uploaded and downloaded, personnel information can be synchronized, and measurement data can be shared.



### Technical parameters

| No. | Project           | parameter  | Remarks/Instructions  |
|-----|-------------------|--|---|
| 1   | Usage environment | For indoor use, temperature: 0°C~50°C, humidity: 20%~85%RH |   |
| 2   | Working voltage   | DC_12V/10A   | Stand-alone use, configurable 12V/1.5A power supply   |
| 3   | working mode      | Reception, testing, attendance, ESD                        | 1. "Reception" defaults to factory settings;<br>2. "Test" stand-alone use. If you need this mode, it needs to be set before leaving the factory. Otherwise, after |

|   |                                    |  |   |
|---|------------------------------------|--|---|
|   |                                    |  | installation, you need to disassemble the machine before reselecting the mode;<br>3. Attendance and ESD modes are reserved and temporarily unavailable. |
| 4 | Measuring range                    | 0.1MOhms~1000Mohms   |   |
| 5 | Wrist strap/clothing/ground system | Setting value: 0.75MOhms~35Mohms (adjustable),<br>accuracy: FS±10%   |   |
| 6 | man/shoe/ground system             | Setting value: 0.75MOhms~1000Mohms (adjustable),<br>accuracy: FS±10% |   |
| 7 | show                               | 3.5-inch touch screen  |   |
| 8 | communication                      | RS232 serial communication   |   |
| 9 | size                               | SUS304 stainless steel shell, overall size L145mm*W151mm*H38mm       |   |

Tip: For the technical parameters of the wristband/clothes/person/shoes system, refer to the American National Standards Institute (ANSI)/Electrostatic Discharge (ESD) Association standards-ANSI/ESD S20.20 and the International Electrotechnical Commission IEC 61340-5-1 Personnel grounding requirements are established.

## packing list

| category | Material name  | Quantity | Description/Remarks   |
|----------|--|----------|---|
| 1        | TW1018-VII human body static electricity comprehensive tester host | 1set     |   |
| 2        | IN: 220V 50/60HZ OUT: DC12V 10A power supply                       | 1pc      | Tester fully loaded configuration                                       |
| 3        | 3P buckle color single-head terminal cable                         | 2pc      | Connect to RS232 serial port;<br>connect to pedal three-color LED light |
| 4        | 2P buckle color single-head terminal cable                         | 2pcs     | Connect the 2-way gate; connect the pedal                               |
| 5        | 4P buckle color single-head terminal cable                         | 1pc      | Connect the positive and negative poles of the pedal                    |
| 6        | Gate Management System User Operation Manual                       | 1pc      |   |
| 7        | Gate and access control system instruction manual                  | 1pc      |   |
| 8        | TW1018-VII Instruction Manual                                      | 1pc      |   |
| 9        | Product certificate  | 1pc      |   |
| 10       | BFN warranty card  | 1pc      |   |

## Function introduction

### ● Function introduction

#### ✧ **ESD Measurement function:**

ESD measurement has three independent modules: single-channel (or dual-channel) wrist strap resistance measurement, anti-static clothing resistance measurement and left and right anti-static shoe resistance measurement; all measurements can be completed at one time;

#### ✧ **Display function:**

It adopts a 3.5-inch display screen to display the date, time, local number, resistance value of anti-static clothes, wrist straps and left and right anti-static shoes.;

#### ✧ **Communication function:**

Through RS232 serial port communication, it can be connected to the computer serial port to facilitate function expansion.;

#### ✧ **Local clock function:**

It can be set manually or automatically synchronized; after being connected with the gate, the synchronized network will display the date (year, month, day) and time (hour, minute, second);;

#### ✧ **Control function:**

Two sets of access control signal output interfaces are reserved to control the opening of the gate access control.;

#### ✧ **LED light display:**

A set of red, green and yellow light interfaces for external pedal LED lights;

#### ✧ **Language support:**

Supports Chinese (Simplified), Chinese (Traditional), and English;

#### ✧ **System functions:**

1. Adjustment function of upper and lower resistance limits: After entering the permission password, you can directly touch the LCD screen to adjust the upper and lower resistance limits of wrist straps, anti-static shoes, and anti-static clothing;
2. Time adjustment function: the date and time can be adjusted;
3. Language settings: You can choose Chinese (Simplified), Chinese (Traditional), and English;
4. Working mode: four modes can be switched, reception (factory default), test, attendance (reserved), ESD (reserved);
5. The machine number: The initial machine number is No. 1, and the machine number can be changed;
6. Employee ID: Employee ID can be set or changed;
7. Volume setting: The host display interface is unavailable;
8. Restore factory settings: Restore self-set parameters to factory settings.。

### ● **Working environment**

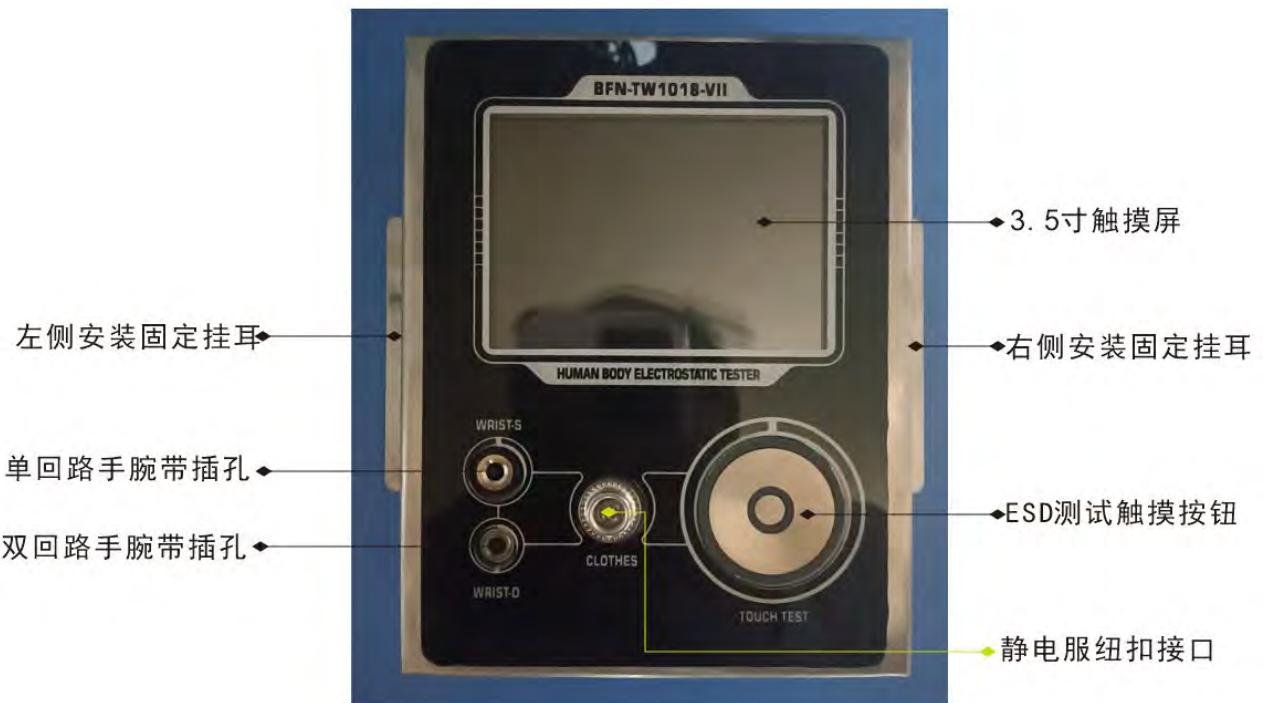
Usage environment: temperature: 0°C~50°C; relative humidity: 20%~85%RH;

Usage occasions: indoor use.

## Installation instructions

### ● Host interface description

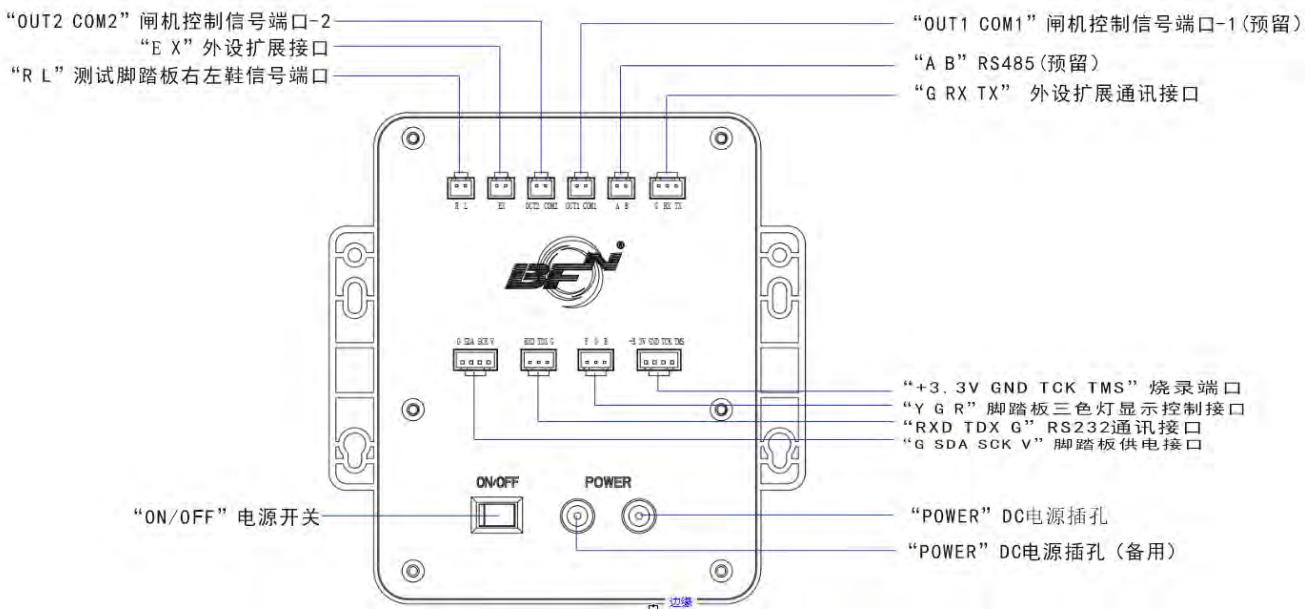
#### ✧ Front panel



#### Additional notes:

1. Only single-circuit wrist strap plugs (banana plugs) can be used for single circuits, as shown in the figure;
2. Only dual-circuit wrist strap plugs (headphone plugs) can be used for dual circuits, as shown in the figure;
3. When testing the touch button, the dryness of the fingers has an impact on the test sensitivity. Some people's fingers are dry and calloused, and the test will not respond. This is a normal phenomenon and can be solved by increasing the moisture of the fingers;
4. The surface of the touch screen is covered with an acrylic panel, and you can enter the setting interface by uncovering the acrylic panel.

#### ✧ Rear panel



#### Additional notes:

1. The left and right shoe signal ports of the pedal, "R" indicates the right shoe, and "L" indicates the left shoe;
2. Power interface, AC220V to DC12 V/7A, DC interface size:  $\phi 5.5\text{mm} \times \phi 2.1\text{mm}$ ;
3. Please refer to the wiring diagram for wiring.

#### ◆ Display interface description

| Item              | view | Description/Notes  |
|-------------------|------|--|
| Boot interface    |      | Display interface when booting   |
| display interface |      | The test function interface is displayed. The setting button in the lower right corner can enter the login password input interface. |
| settings button   |      | After clicking the "Settings" button, enter the password to enter the setting interface (default password 906718)                    |

|           |  |   |
|-----------|--|---|
| Main menu |  | <p>1. Enter "Machine Number" to modify the device number;</p> <p>2. "Time" synchronizes network time manually or automatically through the host computer;</p> <p>3. "Mode" refers to the working mode. You can choose "reception, attendance, ESD, test" and other modes according to your needs. Note: Attendance and ESD are reserved and are not supported in this version. The factory default is [Reception] mode;</p> <p>4. "Language" can choose Chinese (Simplified), Chinese (Traditional), or English;</p> <p>5. "Work Shoes" can set the upper and lower limits for ESD testing of work shoes;</p> <p>6. "Wristband" can set the upper and lower limits of the wristband ESD test;</p> <p>7. "Calibration" can calibrate the accuracy of the host. This tester has been rigorously tested and calibrated before leaving the factory. Use this function with caution.</p> <p>8. "Employee" can clear all employee information, so use it with caution;</p> <p>9. "Factory" can restore factory settings, use with caution;</p> <p>10. "Volume" is not available;</p> <p>11. "Clothing" sets the upper and lower resistance limits for electrostatic clothing ESD testing;</p> <p>12. "Sensor" is under development.</p> |
|           |  |   |

## ❖ Main menu

### 1. In test mode (single machine use)

During the test, it is determined whether the ESD test is qualified according to the system parameter settings. When the test is qualified, TW1018-VII outputs a gate opening signal and the gate access control is opened; when the test fails, the gate is not opened. **Important reminder: If you need this mode, you need to set it up in the TW1018-VII comprehensive tester setting interface before leaving the factory. You need to disassemble the human body comprehensive tester and uncover the acrylic panel of the host before**

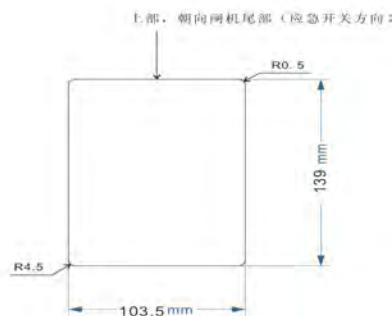
adjusting it after inserting it into the gate. Adjustment

## 2. In reception mode

After needing to be combined with the control host (face machine), you can select the "ESD" test item to test or not test all according to your needs, and then perform identity recognition through face recognition, card swiping, fingerprint and other modules before testing.

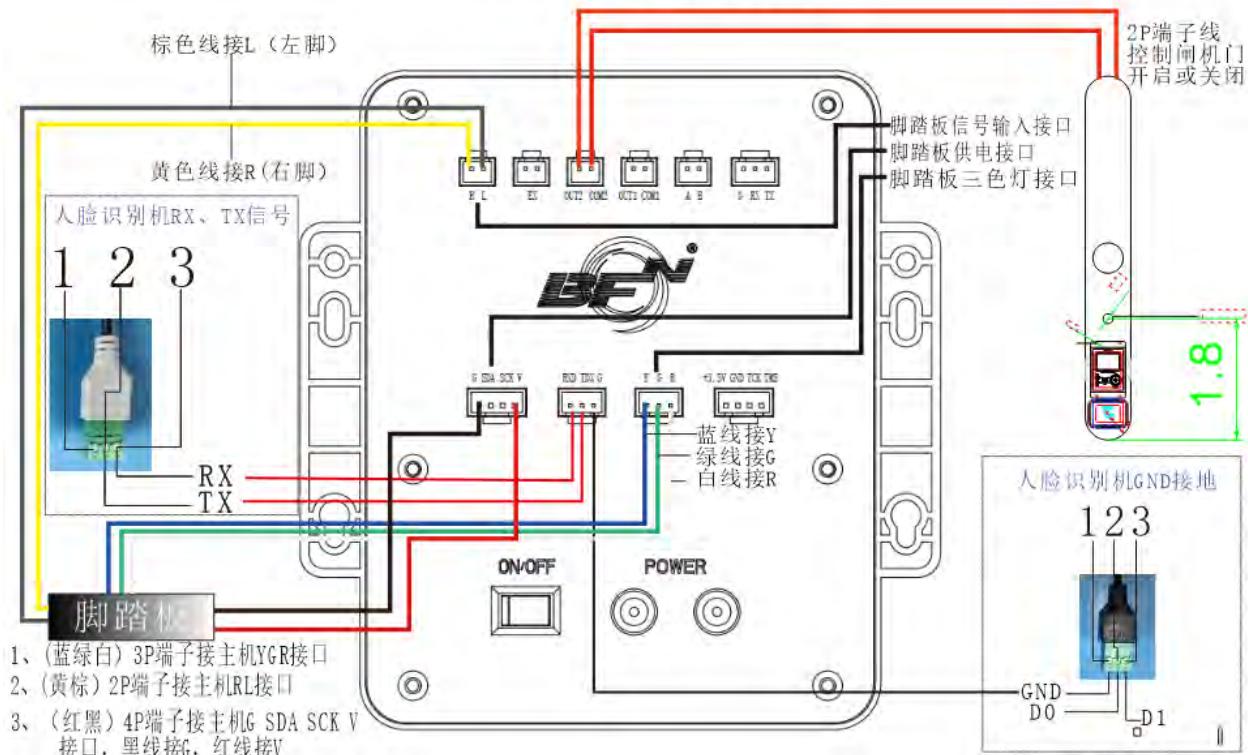
## ● Installation accessories structure diagram

### ✧ Embedded (gate) opening size diagram



## ● Installation wiring diagram

外部接线图



# 人脸识别机其他端子接口

Rs485预留接口



图-1



DC12V供电接口

图-2



网络接口

图-3



USB接口

图-4

## ◆ TW1018-VII Tester installation scene diagram



Installation view of  
test host of bridge arc  
tripod turnstile

## ● Installation steps

1. Embed and install the host machine on the upper cover of the gate, and use the pallet bracket to fix it;
2. Connect all ports according to the wiring diagram;
3. Power on the comprehensive tester and check whether the display and test functions are normal;
4. Power on all peripherals and check whether the tester control signals and peripheral control signals are normal.

## ● Operation Guide

1. Connect to the 12VDC power supply, turn the tester power switch to the ON position, and power on the product.
2. Wrist strap test:
  - 2.1 After wearing the wrist strap, select a test hole suitable for the wrist strap (single-way wrist strap or dual-way wrist strap), and insert the

Insert the plug on the wrist strap into the test hole of the wrist strap on the host computer, and touch the test button with your finger to perform the test;

  - 2.2 Determination of test results:
    - A) When the voice broadcast of the gate system fails, rewear and tidy up before testing or replacing the

wristband;

B) When the voice broadcast of the gate system is qualified, the wrist strap meets the standard;

### 3. Anti-static clothing test:

3.1 After putting on the anti-static clothing, clamp the anti-static clothing with one end of the chuck, fasten the clothing test hole on the host computer with the other end, and touch the test button with your finger to perform the test;

3.2 Determination of test results:

A) When the voice broadcast of the gate system fails, re-wear and tidy up before testing or replace anti-static clothing;

B) When the voice broadcast of the gate system is qualified, the anti-static clothing meets the standard;

### 4. Anti-static shoes test:

4.1 Step on the metal pedals of the left and right feet with both feet respectively, and touch the test button with your fingers to perform the test;

4.2 Determination of test results:

A) When the voice broadcast of the gate system fails, rewear and clean up before testing or replace anti-static shoes;

B) When the voice broadcast of the gate system is qualified, the anti-static shoes meet the standards;

### 5. Wrist strap, anti-static clothing and anti-static shoes are tested at the same time:

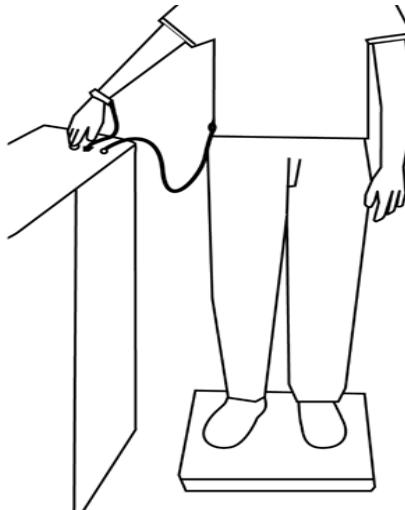
5.1 Wear anti-static clothes and anti-static wrist straps and connect them to the corresponding test holes of the test host, and step on them with both feet.

On the left and right foot pedals, touch the test buttons with your fingers to test;

5.2 Determination of test results:

A) When the voice broadcast of the gate system is unqualified, re-wear and tidy up before testing again or try again by replacing anti-static equipment;

B) When the voice broadcast of the gate system is qualified, the anti-static equipment meets the standards;



## FAQ

✧ **Possible reasons why there is no resistance value in the test, abnormal resistance value, or no resistance value displayed.:**

1. The wrist strap is not worn properly, not plugged in tightly or has poor contact. Re-wear, plug or replace the wrist strap;
2. Not wearing anti-static shoes or not fully standing on the metal plate of the foot pedal;
3. The tester is down, power off and then on again;
4. If the product is damaged, contact the supplier or manufacturer for repair.

## Adjustment and maintenance

✧ **Adjustment**

The TW1018-VII human body electrostatic comprehensive tester has been adjusted and calibrated by the manufacturer before leaving the factory. It can work continuously and stably, and there is no need for adjustment during use.

✧ **维护**

The TW1018-VII human body electrostatic comprehensive tester is a maintenance-free product that can be used continuously and stably. If the product cannot be used normally due to damage caused by improper use or other reasons, please hand it over to the supplier or manufacturer for repair. Do not Disassemble and repair by yourself; to ensure the accuracy of monitoring, **it is recommended to calibrate the equipment once a year.**

This manual is only applicable to users of the TW1018-VII Human Body Electrostatic Comprehensive Tester. It contains important information about the composition of the instrument and operating instructions. As the product will continue to improve reliability and operational performance, there may be subtle differences between the actual situation and the content of the manual. difference.

## 修改履历



官网  
Official website



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Public accounts

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