

492E

WRIST STRAP & FOOTWEAR TESTER

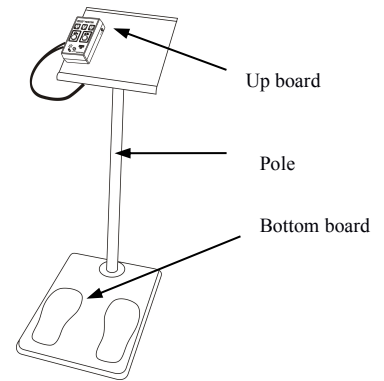
MANUAL OPERATION

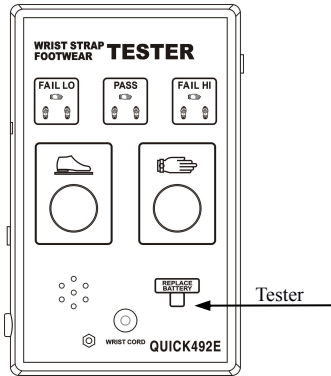
Thank you for purchasing this tester. The device is exclusively designed for testing the wearing of the wrist strap and footwear. Please carefully read this manual before operating the device. Store this manual in a safe, easily accessible place for future reference.

1. Summary

The tester is according with standards ANSI ESD S20.20 and can test the wearing quickly and conveniently of the wrist strap and the footwear (feet loops, conductive footwear and antistatic footwear). The testing parameters have been setting but the users can adjust the parameters by themselves as the demands. It is easy to operate and when the green lights are on means the wearing is all well and the red light being on means the wearing is not well (refer to the testing).

2. Picture





WRIST STRAP & FOOTWEAR

3. Parts

Please check whether the following parts are included and intact.
If some parts are damaged, please contact with the company or agents.

Main unit

Bottom board

Up board

One pole

9V battery

Grounding line

Line connecting to entrance guard system

Three screws (6*25)

Two clamps

Spanner

Manual operation

Maintaining card

Note: above parts are standard fittings. If the user wants to customize the tester, the parts may be different.

4.Specifications and characteristic

Specifications

Power supply: 9VDC or AC, or coupling adapters (12VDC)

Output: nine testing LED, sound, contact output and lower voltage indicating

Contact output: voltage $\leq 400V$ (peak value, DC /AC)
switch current $\leq 130mA$,
resistance $< 30 \Omega$

Qualification: Contact closing

Disqualification: Contact no closing

Precision: wrist strap's resistance $\pm 10\%$

Footwear's resistance $\pm 10\%$ (100K Ω or 750 K Ω)
 $\pm 20\%$ (100 M Ω)
 $\pm 30\%$ (1G Ω)

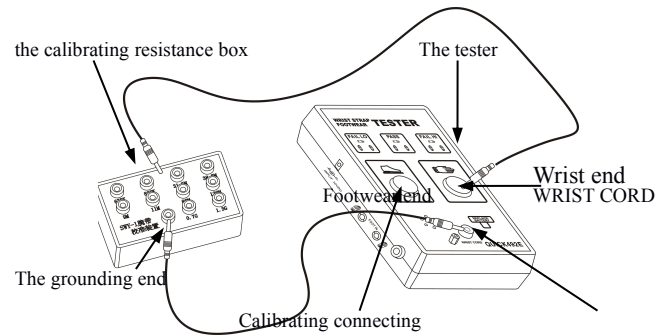
Weight: 0.6kg

Out size: 160mm \times 100mm \times 40mm

Characteristic

- 1 The tester can test the wearing station separately or together of the wrist cord and footwear of single foot or double feet. Judge the wearing station of every part and saving the testing time.
- 2 Put out a signal to the entrance guarding system with the additional connecting line for controlling the people in and out the locations in which need to defend the static.
- 3 For stable testing and correct information, the tester tests the information by 100V voltage with tiny current
- 4 When the power supply is lower, the red LED in the battery replace is on.

corresponding light of the wrist side or footwear side will be on. If user wants to change the testing modes or the testing resistances, corresponding location and then testing as the above steps (refer to the calibrating the parameter and the mode). adjust the digital switches in the inside of the tester (take off the mark), and move the keys to the The adjusting authority will make the adjusting in the company to be of no effect. Suggest maintain the device by the original company or authorized services.



100K Ω /750K Ω -100M Ω /1G Ω testing---foot loop, conductive footwear or antistatic footwear

Results are as followings while testing the above resistances:

	Standard resistance	Output
100KΩ	90KΩ	red (FAIL LO)
	110KΩ	green (PASS)
750KΩ	675KΩ	red (FAIL LO)
	825KΩ	green (PASS)
100MΩ	80MΩ	green (PASS)
	120MΩ	red (FAIL HI)
1GΩ	0.7GΩ	green (PASS)
	1.3GΩ	red (FAIL HI)

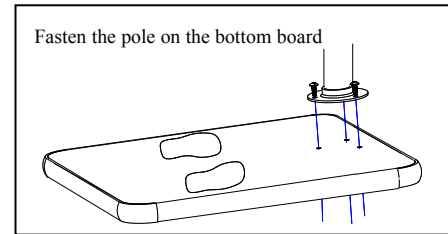
Calibration instruction

The calibrating method is very easy. In the integrated testing mode, connect the tester with the calibrating resistance box. Firstly, connect the grounding socket in the calibrating resistance box with the “WRIST CORD” or “FOOT IN” in the tester. Secondly, connect the corresponding resistance in the calibrating resistance box with the wrist side or footwear side. And then the

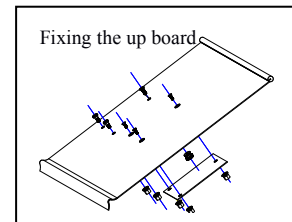
5. Install and connect

Install

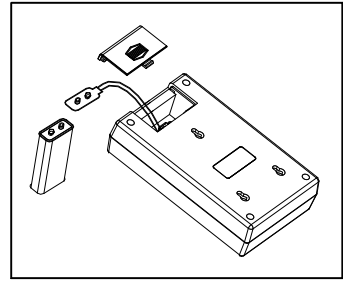
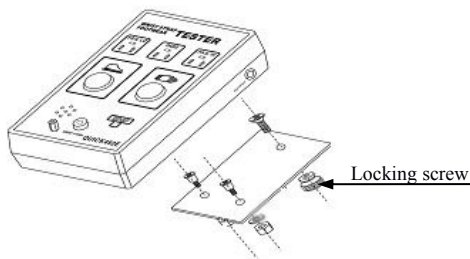
- 1 Take out the three screws (6*25) from the package and fasten the pole on the bottom board with the screws, and then screwing down the screws.



- 2 Fasten the up board on the pole with the three screws and nuts placing on the right of the up board.

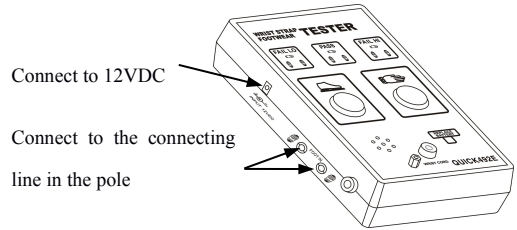


- 3 Fix up the tester on the up board (refer to the picture).
 Hang the tester which has three holes on the back of the tester on the three screws which are on the left of the up board and then screw down the fastening screw---one of the three screws (at the top left corner of the up board's back).



Replace the battery

Connect all lines



8. Calibration

Calibrating the parameters

750KΩ-10MΩ/35 MΩ testing—wrist strap

Results are as followings while testing the above resistances:

	Standard resistance	Output
750KΩ	675KΩ	red (FAIL LO)
	825KΩ	green (PASS)
10MΩ	9MΩ	green (PASS)
	11MΩ	red (FAIL HI)
35 MΩ	31.5 MΩ	green (PASS)
	38.5 MΩ	red (FAIL HI)

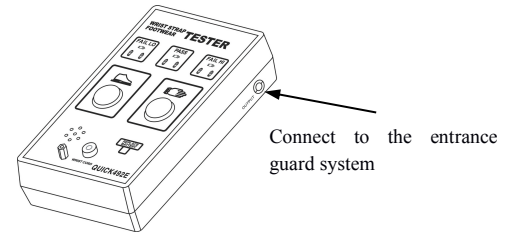
- 4) press the circular key with hand or foot ion at the left of the tester panel and keep about one to two seconds.
- 5) If the three green lights “PASS” are on, it means the wearing of the wrist strap cord and the footwear are all well.
- 6) If the corresponding red light “FAIL LO” or “FAIL HI” is on and hearing the alarming sound, it means the wearing of the corresponding the wrist strap cord or the footwear have something wrong. Check the wearing and connecting are well or not.

7. Replace the battery

The tester with an alarming circuit shows when not enough voltage. When the voltage is not enough in the testing process, the light in the “replace battery” will be on. At the time, please stop the testing process and replace the battery for precise testing.

The method of replacing the battery is very easy. Move out the battery lid at the back of the tester and replace one new battery.

- 1 Connect the two connector plugs on the pole to the jacks “FOOTIN” where there are left and right feet ions on the bottom left corner. Test the wearing station after putting on the footwear.



- 2 For output the testing information to the entrance guard system, Connect the connector plug of the connecting line to the jack “OUTPUT”(switch) on the top right corner of the tester, another connecting to the entrance guard system.

Note: * Please change the locations of the connector plugs if inserting the right foot’s (left foot’s) connector plug to the left foot’s (right foot’s) jack. Or else it may output the wrong information.

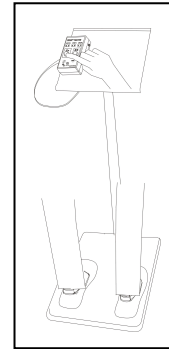
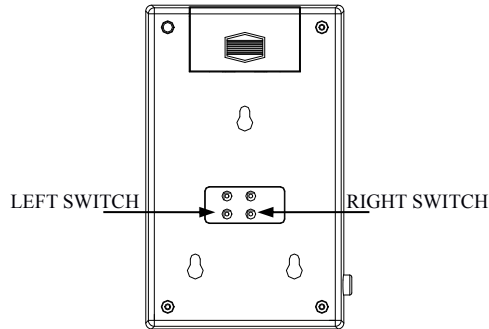
*** Please use the safe voltage when connecting to the system. Or else it may damage the tester or make unexpected accident.**

6. Testing illustrate

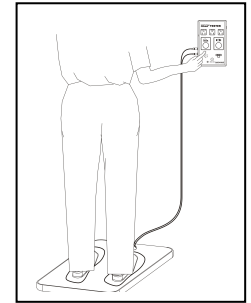
MODE

There are two switches inside the back of the tester and the functions of them are independent. One switch controls the testing modes, the other controls the ranges of the testing resistances.

User can adjust the testing modes and the ranges of the testing resistances suitable the demands. The testing modes include integrating test and single test.



Test the footwear



Test the footwear (not standard fittings)





Integrating test

- 1) Check whether inserting the two connector plugs in the pole to the corresponding sockets "FOOTIN" (left foot and right Foot) at the under-left side of the tester panel.
- 2) Wear the wrist strap and then insert the cord of it to the wrist cord socket or connect it with the joint pole.
Connect one side of the connecting line (with Crocodilian clamp) to the wrist strap cord, another side insert into the wrist cord socket
- 3) Stand on the two metal footmarks on the bottom board.





- 2) Press the circinal key with hand ion at the right of the tester panel and keep about one to two seconds.
- 3) If the green LED “PASS” is on, it means the wearing of the wrist strap is well.
- 4) If the red LED “FAIL LO” or “FAIL HI” with hand ion is on and hear the alarming sound, check the wearing and connecting is well or not.





2 test the wearing of the foot loop or conductive footwear or antistatic footwear

- 1) Stand on the two metal footmarks on the bottom board.
- 2) press the circinal key with foot ion at the left of the tester panel and keep about one to two seconds.
- 3) If the green LED “PASS” is on, it means the wearing of the corresponding feet loops or conductive footwear or antistatic footwear are well.
- 4) If the red LED “FAIL LO” or “FAIL HI” with foot ion is on and hearing the alarming sound, it means the wearing of the corresponding feet loops or conductive footwear or antistatic footwear have something wrong. Check the wearing and connecting is well or not.

Switch station	Testing resistance	
	Left	Wrist
	10M Ω	1G Ω
	10M Ω	100M Ω
	35M Ω	100M Ω
	35M Ω	1G Ω

Note: The key is white.

Switch station	Testing mode
	Right
	Integrating test (footwear 750K Ω)
	Integrating test (footwear 100K Ω)
	Single test (footwear 100K Ω)
	Single test (footwear 750K Ω)

- 1) When the **key2** of the right switch to the “ON”  or , the testing mode is integrating test mode. And when the **key 2** to the not “ON” station (down of the switch), the testing mode is single test. When the **key1** of the right switch to the “ON”  or , the testing resistant of the footwear is 750K Ω. And

when the key 1 to the not “ON” station (down of the switch), the testing resistant of the footwear is 100K Ω .

- 2 When the key 2 of the left switch to the not “ON” state, the testing resistance of the wrist strap is 10M Ω (high end). And when the key 2 to the “ON” state (up of the switch), the testing resistance of the wrist strap is 35M Ω (high end).
- 3 When the key 1 of the left switch to the not “ON” state, the testing resistance of the footwear is 100M Ω (high end). And when the key 1 to the “ON” state (up of the switch), he testing resistance of the footwear is 1G Ω (high end).

Setting mode in the factory

The setting mode in the factory is integrating test mode. At the time, the resistances of the wrist strap and footwear are as followings (except special order):

wrist strap resistance setting : low 750K Ω ,high 10M Ω ;

Footwear resistance setting: low 750K Ω , high 100M Ω 。

Operation instruction

Note: * Not touch any other metal parts in the testing

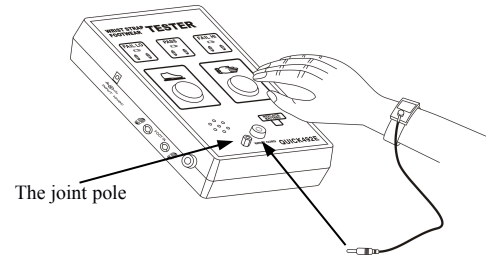
process.

*** Not use the meter when the battery is not enough for the precise measurement.**

Single testing

In the single testing mode, only test separately the wearing situation of the wrist strap or foot loop or conductive footwear or antistatic footwear

1 test the wearing of the wrist strap



The connecting line connects to the “WRIST

- 1) Wear the wrist strap and then insert the cord of it to the wrist cord socket or connect it with the joint pole.

Connect one side of the connecting line (with Crocodilian clamp) to the wrist strap cord, another side insert into the wrist cord socket.