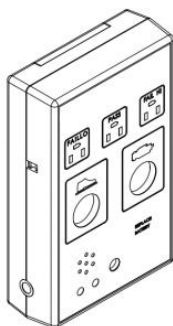




# QUICK 492E Combo Tester

## Instruction Manual



**Thank you for purchasing our products. Please keep the instruction manual properly for future reference.**



# Contents

1. Safety Instructions.....	1
2. Overview.....	2
3. Product Characteristics.....	2
4. Product Specifications.....	3
5. Functional Descriptions.....	4
5.1. Dimensions.....	4
5.2. Part Descriptions.....	5
6. Connection.....	6
7. Test Instructions.....	9
7.1. Mode Instructions.....	9
7.2. Individual Test Mode .....	13
7.2.1. Test the Wearing Status of Wrist Straps .....	14
7.2.2. Test the Wearing Status of Foot Rings, Conductive Shoes and Anti-static Shoes .....	15
7.3. Comprehensive Test Mode.....	16
8. Calibration.....	17
8.1. Calibration Parameters.....	17
8.2. Calibration Method.....	19
9. Replace the Battery.....	19

# 1.Safety Instructions



## CAUTION

- During the installation and use of this product, all electrical safety regulations of the country and regions must be strictly observed.
- If the product does not work properly, please contact the supplier or our company, and do not disassemble or change the product in any way. We are not responsible for any problems caused by unauthorized maintenance or modification.



## WARNING

- Don't install the product in a place where the surface is easy to shake or be impacted, as it may damage the product.
- Don't place the product in places where it may be exposed to rain or moisture.
- The product should be used away from places where there is magnetic interference.
- Don't use in flammable and explosive environments.
- When the product is not in use, please turn off the power supply to prolong the service life.

## 2.Overview

The combo tester can quickly test the grounding situation of workers, whether the wearing conditions of single-wire wrist strap, dual-wire wrist strap, anti-static shoes, foot rings and shoe covers conforms to the standard of static protection ANSI/ESD-S20.20-2021, the measurement range is  $100\text{K}\Omega \sim 1\text{G}\Omega$ , the test accuracy is not less than 10%, the test time is less than 1s. The operation of the tester is very simple, the green light indicates normal, while the red light indicates the test is not qualified

## 3.Product Characteristics

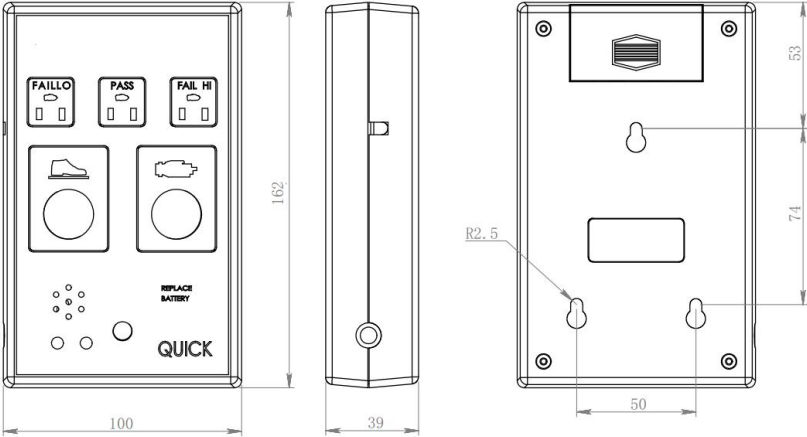
- Comprehensive test mode can test the wearing status of wrist straps and anti-static shoes simultaneously; individual mode can set to test the wearing status of wrist straps, foot rings separately, and you can choose to test single-wire or dual-wire wrist straps.
- Measuring range:  $100\text{K}\Omega$ - $1\text{G}\Omega$ , range adjustable.
- The access control system controls the signal, controlling the in-and-out personnel to meet the electrostatic protection requirements.
- Micro current to test, accurate data, stable test.
- Low voltage alarm: when the battery of the tester is low, the alarm indicator will flash.
- Produced according to GJB3007-97, SJ/T10694-2006 and ANSI/ESD-S20.20-2021.

## 4.Product Specifications

Product model	492E	
Power supply	9V battery	
	AC coupling adapter DC 8-12V	
Contact switch output	Voltage	$\pm 400\text{V}(\text{Max})$ (Peak value, DC or AC)
	Switch	130mA (Max)
	Test passed : contact switch off Test failed: contact switch on	
Accuracy	$\pm 10\%$	
Ambient environment	Indoor use, humidity 40% -60% RH	
Main host dimension (L*W*H)	100mm*162mm*39mm	
Footboard size	360mm×330mm×25mm	
Weight	About 8.6kg	

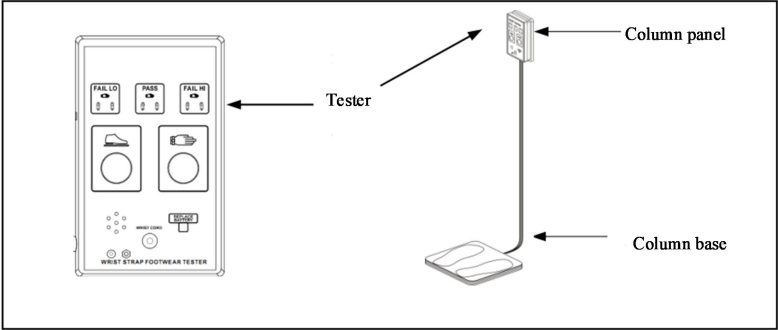
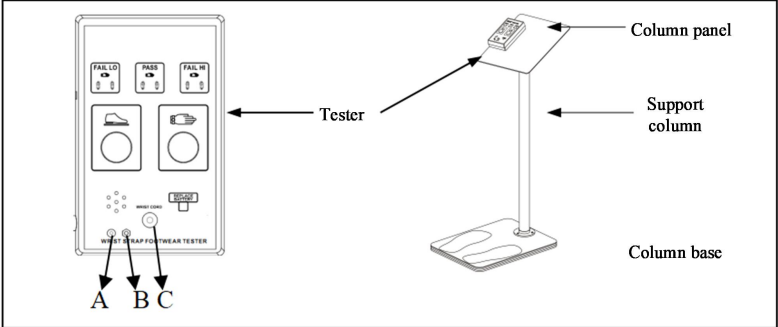
# 5.Functional Descriptions

## 5. 1. Dimensions



Unit: mm

# 5. 2. Part Descriptions



Note: In single-wire wrist strap test mode, connect the B or C port. In dual-wire wrist strap test mode, connect the A port.

## 6.Connection

1) The three-core plug and socket of the foot end test connecting cable (Feet In) are white; the connecting cable is a black two-core shielded wire (the white one is the foot test connecting wire, and the black one is the shielded grounding wire).

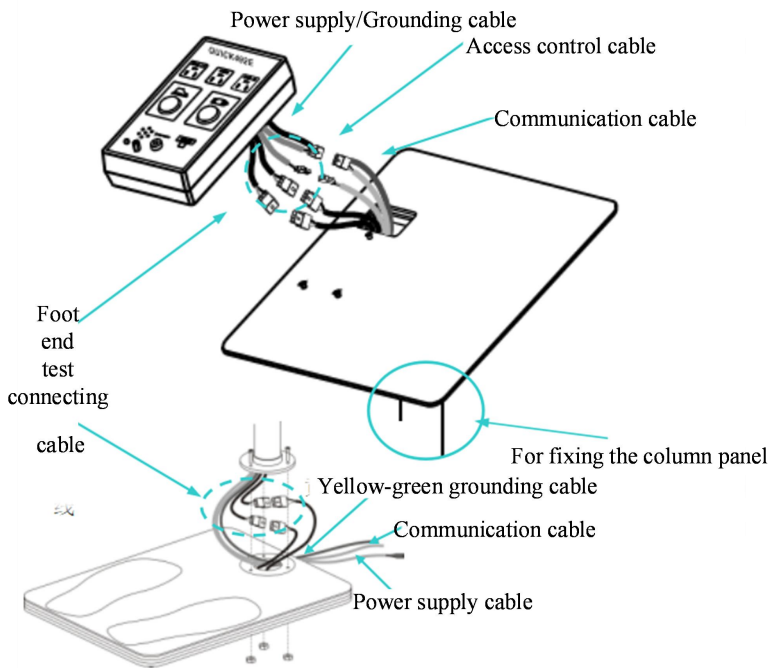
2) The plug and socket of the access control cable (Relay Out) are black; the cable is a gray two-core wire.

3) The four-core plug and socket for the power supply cable/grounding wire are white. And the yellow-green connecting cable is the grounding wire, and the two-core gray cable is the power supply connecting wire (the white wire is positive, and the black wire is negative).

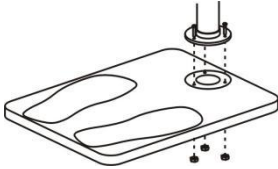
4) Connection of the foot end test: take out the support column from the package, and thread the foot end test connecting cable out of the column. Connecting the test connecting cable (three-core white plug) out from the top of the column with the connecting cable (three-core white socket) on the back of the tester, and then connecting the connecting cable from the bottom of the column with the connecting cable on the bottom plate according to the corresponding plug.

Note: \*After the foot test cable is connected, please test whether the connection is correct. If the test connecting cable at the foot end is inserted incorrectly, the output indication signal will be misaligned between the left and right feet. At this time, please change the position of the connection plug.

\*The area around the footboard must be kept dry to ensure that the stainless steel footboard is well insulated from the ground.



6) Fix the column: after the bottom connecting wires are connected, take out the three  $6 \times 25$  socket head cap screws in the package, fix the column on the bottom plate of the column according to the icon, and tighten the screws.



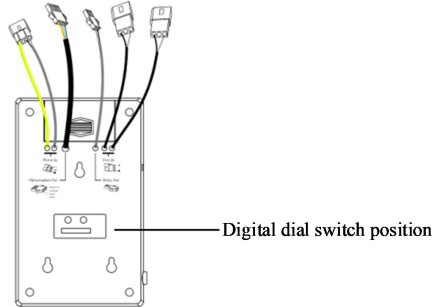
7) Fix the column panel: after the top connecting wires are connected, fix the column panel on the column with the three screws and nuts attached to the column panel. Then fix the tester on the column panel: there are three holes on the bottom plate of the back of the tester, and there are three screws on the left side of the column panel, which are used to hang the tester on the column panel.

8) Access control cable (gray) and power supply grounding cable (gray & yellow-green) can be selected as required. When in use, threading the access control connecting cable or a power supply grounding cable through the upright column, one end of the access control connecting cable or the power supply grounding cable threads out of the top of the upright column and is connected with a corresponding plug on the back of a tester, and the other end of the access control connecting cable or the power supply grounding cable threads out of the bottom of the upright column.

**△**Note: If it is connected to the access control system, the contact switch signal should meet its requirements, otherwise it may damage the tester or cause accidents.

## 7. Test Instructions

The combo tester has a digital switch with 10 dial switches. The dial switches 1 to 10 are used to control the test mode, the test resistance range of the wrist and foot, and the online address setting. Users can adjust it according to their needs. The digital switch is inside the back of the tester. Dial switch 9 has no specific function.



### 7. 1. Mode Instructions

When the digital dial switch "1" is OFF, it indicates in mode setting state.

1) When the digital dial switch "1" is at the bottom (OFF) and "2" is at the top (ON), it indicates that the current state is the comprehensive test state, that is, the wearing and grounding conditions of the wrist strap and the foot end can be tested at the same time.

2) When the digital dial switch "1" is at the bottom (OFF) and "2" is also at the bottom (OFF), it indicates the current state is the individual test state, that is, only the wearing and grounding of the foot end can be tested, and the grounding and wearing of the wrist strap cannot be tested at the same time.

3) When the dial switch 3 is at the top (ON), it indicates that the high end of the wrist test is  $35M\Omega$ ; when the dial switch 3 is at the bottom (OFF), it indicates that the high end of the wrist test is  $10M\Omega$ . Note: the lower end of the wrist is  $750K\Omega$ .

4) When the dial switch 4 is at the top (ON) and the dial switch 7 is at the bottom (OFF), it indicates that the high end of the foot test is  $1000\text{M}\Omega$ ;

When the dial switches 4 and 7 are both at the bottom (OFF), it indicates that the high end of the foot test is  $100\text{M}\Omega$ .

When the dial switch 7 is at the top (ON), it indicates that the high end of foot test is  $35\text{M}$ .

5) When the dial switch 5 is at the top (ON), it indicates that the low end of the foot test of the tester is  $750\text{K}\Omega$ ;

When the dial switch 5 is at the bottom (OFF) and the dial switch 6 at the top (ON), it indicates that the lower end of the foot test is  $400\text{K}\Omega$ ;

When the dial switches 5 and 6 are both at the bottom (OFF), it indicates that the low end of the foot test is  $100\text{K}\Omega$ .

6) When the dial switch 1 is at the bottom, the test gear is set by the dial switch.

When the dial switch 10 is at the top, it indicates in the dual-wire wrist strap test mode, and when 10 is at the bottom, it indicates in the single-wire strap test mode.

7) When the dial switch 1 at the top, it indicates that the working mode and test gear are set by the upper computer.

## Sheet 1 Dial Switch -- Mode Setting

Test terminal		Resistance	Digital dial switch (the switch is white)										High end		
			1	2	3	4	5	6	7	8	10				
Comprehensive test mode														Test wrist and foot simultaneously	
Individual test mode														Only test wrist or foot	
Test dual-wire wrist strap														Test dual-wire wrist strap	
Test single-wire wrist strap														Test single-wire wrist strap	
Wrist	Low end (KΩ)	100												Low end of wrist test 100KΩ	
		750												Low end of wrist test 750KΩ	
	High end (MΩ)	10													High end of wrist test 10MΩ
		35													High end of wrist test 35MΩ
Foot end	Low end (KΩ)	100													Low end of foot test 100KΩ
		500													Low end of foot test 500KΩ
		750													Low end of foot test 750KΩ
	High end (MΩ)	35													High end of foot test 35MΩ
		100													High end of foot test 100MΩ
		1000													High end of foot test 1000MΩ

<b>Sheet 2-Function Description of Digital Dial Switch</b>	
Switch 1	Used to set "Mode controlled by dial switch" or "Address number controlled by dial switch".
Switch 2	Used to set the mode is "Comprehensive test mode" or "individual test mode".
Switch 3	Used to set the resistance value on the high end of the wrist test.
Switch 4	Work with switch 7 to set the resistance value at the high end of the foot ring test.
Switch 5	Work with switch 6 to set the resistance value at the low end of the foot ring test.
Switch 6	Work with switch 5 to set the resistance value at the low end of the foot ring test.
Switch 7	Work with switch 4 to set the resistance value at the high end of the foot ring test.
Switch 8	Used to set the resistance value on the low end of the wrist test.
Switch 10	Used to set the single wire or dual-wire wrist strap test model.

Unless otherwise specified, the default status of the tester is set as follow:

Test mode: comprehensive test mode

Wrist strap test range: low-end 750K $\Omega$ , high-end 10M $\Omega$ ;

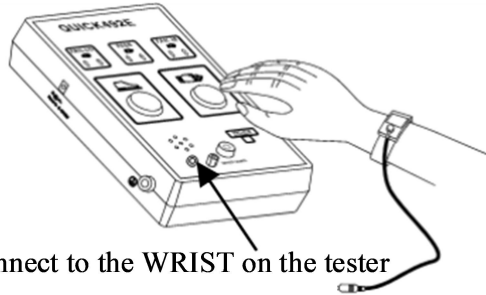
Foot ring test range: low-end 750K $\Omega$ , high-end 100M $\Omega$ .

\*Note: If it is a customized product, it will be set according to the requirements of customer.

## 7. 2. Individual Test Mode

- 1) Do not touch other metal parts during the test.
- 2) Do not use with insufficient voltage to prevent inaccurate test results.
- 3) Before the test, please check whether the tester is connect correctly to prevent inaccurate test results.
- 4) Install a 9V battery in the tester, or use an AC coupling adapter (8-12V DC) to supply power. Insert the output plug of the adapter into the jack (INPUT 12V DC) on the upper left side of the tester or into the power supply cable jack at the base of the column.
- 5) If it needs to be connected to the access control system, connect the contact signal connection cable to the access control system.
- 6) In the individual test state, the wearing conditions of the wrist strap, foot ring, conductive shoes and the anti-static shoes can be tested respectively.

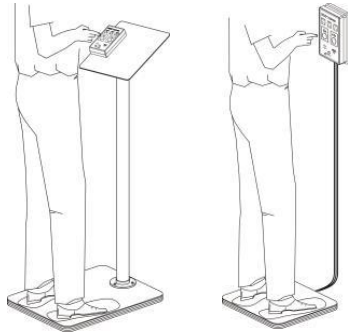
## 7.2.1. Test the Wearing Status of Wrist Straps



- 1) Wear the wrist strap and connect the wrist strap cable directly to the WRIST CORD or to the connecting post.
- 2) Touch the hand button (with the hand icon) on the tester and hold for 1 second.
- 3) If the "PASS" green light is on, indicating that the wrist strap is in good condition.
- 4) If the "FAIL L0" or " FAIL HI " red light of the hand is on, check whether the wearing is in good condition and whether the corresponding wrist strap and connecting wire are in good condition.

## 7.2.2. Test the Wearing Status of Foot Rings, Conductive Shoes and Anti-static Shoes

- 1) After wearing the foot ring, conductive shoes or anti-static shoes, the person to be tested shall stand on the footprints of the test board respectively.
- 2) Touch the touchpad (with the hand icon) on the tester and hold for 1 second.
- 3) If the "PASS" green light at the tested foot (single foot or both feet) is on, it indicates that the tested foot ring, conductive shoes or anti-static shoes are well worn.
- 4) If the "FAIL L0" or "FAIL HI" red light at the tested foot (single foot or both feet) is on, please check whether the connection is good and whether the corresponding foot ring, conductive shoes or anti-static shoes are well worn.



### **7. 3. Comprehensive Test Mode**

- 1) Check whether the connecting plug of the test connecting cable at the foot end is connected correctly.
- 2) Wear the wrist strap, foot ring, conductive shoes or anti-static shoes well.
- 3) Connect the wrist strap cable directly to the wrist WRIST CORD or to the connecting post.
- 4) The person to be tested shall stand on the two footprints on the bottom plate of the column.
- 5) Touch the touchpad (with the hand icon) on the tester and hold for 1 second.
- 6) If the three "PASS" green lights are on, it indicates that the wrist strap, foot ring, conductive shoes or anti-static shoes are well worn .
- 7) If the "FAIL L0" "or" FAIL HI " of the corresponding red light is on, check whether the connection is good and whether the corresponding wrist strap or foot ring, conductive shoes and anti-static shoes are well worn.

## 8. Calibration

### 8. 1. Calibration Parameters

Testing range---wrist strap:  $100\ \Omega$  - $10\text{M}\ \Omega$  / $35\text{M}\ \Omega$

Testing the following resistance should have the following output results:

	Standard resistance	Output results
100K	$90\text{K}\ \Omega$	Red (FAIL L0)
	$100\text{K}\ \Omega$	Green (PASS)
$750\text{K}\ \Omega$	$675\text{K}\ \Omega$	Red (FAIL L0)
	$750\text{K}\ \Omega$	Green (PASS)
$10\text{M}\ \Omega$	$10\text{M}\ \Omega$	Green (PASS)
	$11\text{M}\ \Omega$	Red (FAIL HI)
$35\text{M}\ \Omega$	$35\text{M}\ \Omega$	Green (PASS)
	$38.5\text{M}\ \Omega$	Red (FAIL HI)

Testing range--foot ring, conductive shoes or anti-static shoes:

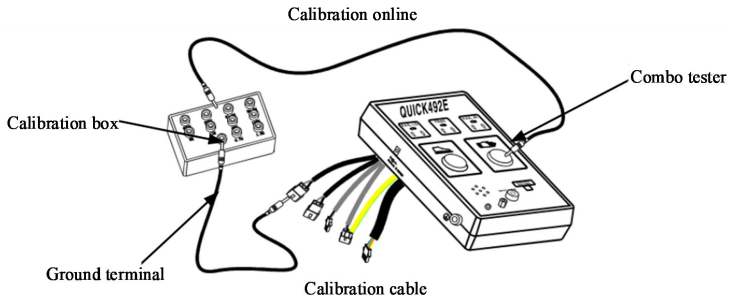
$100\text{K}\ \Omega$  / $500\ \text{K}\ \Omega$  / $750\text{K}\ \Omega$  - $35\text{M}\ \Omega$  / $100\text{M}\ \Omega$  / $1000\text{M}\ \Omega$

Testing the following resistance should have the following output results:

	Standard resistance	Output results
100KΩ	90KΩ	Red (FAIL L0)
	100KΩ	Green (PASS)
500KΩ	450KΩ	Red (FAIL L0)
	550 KΩ	Green (PASS)
750KΩ	675KΩ	Red (FAIL L0)
	750KΩ	Green (PASS)
35MΩ	35MΩ	Green (PASS)
	38.5MΩ	Red (FAIL HI)
100MΩ	100MΩ	Green (PASS)
	110MΩ	Red (FAIL HI)
1000MΩ	1000MΩ	Green (PASS)
	1100MΩ	Red (FAIL HI)

## 8. 2. Calibration Method

The calibration of the combo tester is simple. In the comprehensive test mode, you only need to connect the tester to the calibration box (see the connection icon for details). There is a corresponding output indication at the low end or high end of the wrist or foot ring during the test. When it is necessary to change the test mode or test range, adjust the digital switch inside the combo tester (visible by tearing off the label), turn the switch to the corresponding position, and then test (refer to the Calibration Parameters and Mode Instructions). Unauthorized adjustment may lead to invalid factory commissioning status, and it is recommended to be repaired by the original factory or authorized maintenance point.



## 9. Replace the Battery

The combo tester includes a low-voltage indicating alarm circuit, if the red light at the low-voltage alarm (REPLACE BATTERY) is on during use, stop the test and replace the battery. If the battery is not replaced and the test continues, the accuracy of the test results cannot be guaranteed. The replacement of the battery is very simple, just remove the battery cover on the back of the tester and replace it with a new battery.

## Warranty Card

●The warranty period of this product is calculated from the date of Purchase. During the warranty period, if the product breaks down during normal use, ow the original warranty card and enjoy Free service in the authorized repair company(or our company). Please keep the purchase certificate and this warranty card and show it before maintenance.

●During the warranty period, the following repairs need to be paid:  
a.Unable to offer valid warranty card or certificate;  
b.The purchase date, sales company and other items are not completely filled or the warranty card is altered;  
c.Damage caused by failure to follow the use methods and precautions in the manual;  
d.Damage caused by disassembly, repair and modification of products without authorization of the manufacturer;  
e.Replacement of vulnerable and consumable parts.

●All items of the warranty card shall be completely filled in by the agent or user to obtain a 12-month warranty period.  
●Please keep this warranty card properly It will not be re-offered after.

QUICK INTELLIGENT EQUIPMENT  
CO., LTD.  
ADD: NO.11, FengXiang Road, Wujin  
High-Tech Industrial Development  
Zone, Jiangsu, China  
TEL: 86-519-86225678  
FAX: 86-519-86558599  
POSTCODE: 213167  
WEBSITE: www.quick-global.com

## Warranty Card

Type: \_\_\_\_\_

Model No.: \_\_\_\_\_

Serial No.: \_\_\_\_\_

Delivery Date: \_\_\_\_\_

## Warranty File Card

Type: \_\_\_\_\_

Model No.: \_\_\_\_\_

Serial No.: \_\_\_\_\_

Delivery Date: \_\_\_\_\_

Address : \_\_\_\_\_

Postcode: \_\_\_\_\_

Telephone: \_\_\_\_\_

Contact Person: \_\_\_\_\_

QUICK INTELLIGENT EQUIPMENT CO., LTD.

ADD: NO.11, FengXiang Road, Wujin  
High-Tech Industrial Development Zone,  
Jiangsu, China

TEL: 86-519-86225678

FAX: 86-519-86558599

POSTCODE: 213167

WEBSITE: [www.quick-global.com](http://www.quick-global.com)

