

746 Wrist Strap Tester Installation, Operation and Maintenance



Figure 1. SCS 746 Wrist Strap Tester

Description

The SCS 746 Wrist Strap Tester verifies the functionality of an operator's wrist strap. A green LED indicates that the wrist strap is passing. A red LED indicates when the wrist strap is failing.

The Wrist Strap Tester can be powered by a power adapter or 9 volt battery. A warning light on the tester indicates when the battery power is too low and affecting the test results. The factory test limits are set to 750 kilohms and 10 megohms.

Each Wrist Strap Tester is calibrated with accepted procedures and standards traceable to the National Institute of Standards and Technology (NIST) and includes a NIST certificate.

Per ANSI/ESD S20.20 section 7.4 "A Compliance Verification Plan shall be established to ensure the Organization's fulfillment of the technical requirements of the ESD Control Program Plan. Process monitoring (measurements) shall be conducted in accordance with a Compliance Verification Plan that identifies the technical requirements to be verified, the measurement limits and the frequency at which those verifications shall occur. The Compliance Verification Plan shall document the test methods and equipment used for process monitoring and measurements. ... The test equipment selected shall be capable of making the measurements defined in the Compliance Verification Plan."

Per ANSI/ESD S1.1 Annex A.3 Frequency of System Testing "The wrist strap system should be tested daily to ensure proper electrical resistance."

The 746 Wrist Strap Tester and its accessories are available as the following item numbers:

Item	Description
746	Wrist Strap Tester
746P	Power Adapter, 120VAC Input, 9VDC 75mA Output, North America Plug

Packaging

- 1 Wrist Strap Tester
- 1 Power Adapter, 9VDC, North America Plug
- 1 Wall Mounting Kit (Dual Lock Fasteners)
- 1 9V Alkaline Battery
- 1 Certificate of Calibration

Features and Components

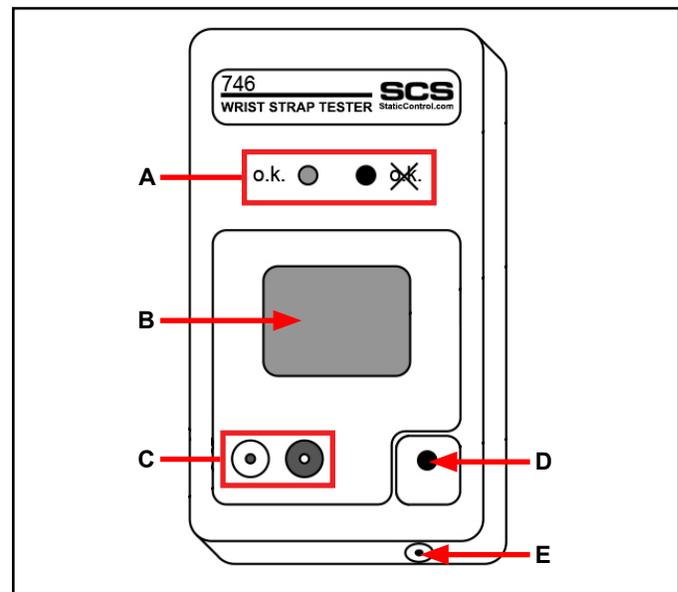


Figure 2. Wrist Strap Tester features and components

- A. Test Result LEDs:** Displays the test results.
- B. Test Switch:** Push down and hold your finger here to perform a test.
- C. Single-Wire Wrist Strap Jack:** Insert your single-wire wrist cord here to test your wrist strap.
- D. Low Battery LED:** Illuminates when the battery power is low and needs to be replaced.
- E. 9VDC Power Jack:** Connect the included power adapter here to power the Wrist Strap Tester.

Installation

1. Remove the tester from the carton and inspect for damage.
2. Determine the installation location of the tester. The enclosed dual lock fastening discs must be screwed to the wall using the attached template approximately 1.5m (5 feet) above the floor. Drill three holes of 5mm (0.2 inches) diameter at marked locations. Make sure the area on the tester in which the dual lock fastening strips are placed is free of dust and dirt. Attach the dual lock fastening strips to the back of the tester to the bottom and top in parallel; see drawing for locations.

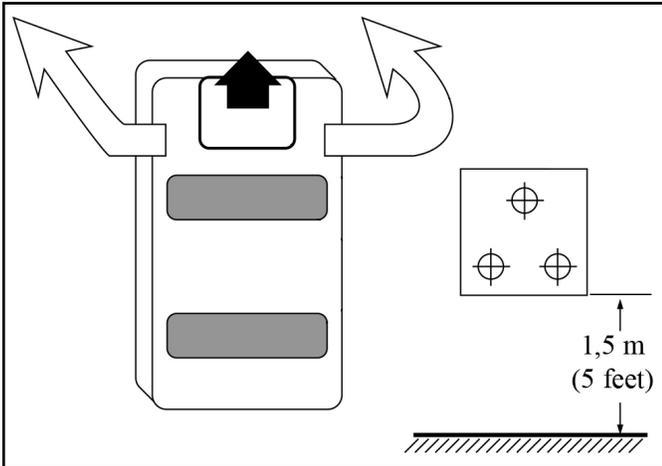


Figure 3. Installing the Wrist Strap Tester to a wall

3. Press the tester firmly against the discs to secure it to the wall. For removal of the tester, lift the top corners with both hands.
4. Connect the power adapter to the power jack located on the bottom-side of the tester. Route the wire from the supply to a nearby AC outlet and plug it into the outlet. Make sure the voltage and frequency match those listed on the power supply.

The Wrist Strap Tester may also be powered using a 9V alkaline battery. The battery compartment can be found on the back of the Wrist Strap Tester. Be sure to disconnect the power adapter from the Wrist Strap Tester when using the 9V battery to power the tester.

Operation

1. Slide the power switch to the ON position.
2. While wearing a wrist strap, plug the wrist cord into the wrist strap jack located on the face of the Wrist Strap Tester.
3. Push down and hold the test switch until the test results are displayed.

DO NOT touch any other metal while performing your test as this will affect your results.

4. A "PASS" test result is indicated by illumination of the green LED. A "FAIL" test result is indicated by illumination of the red LED.

If your ESD test fails, check your wrist strap and ensure that it is being worn correctly and/or needs to be replaced.

NOTE: Failures may be caused by dry skin or minimal sweat layer. For wrist straps, try using an approved dissipative hand lotion such as [Menda Reztore™ ESD Hand Lotion](#) to your wrist prior to use.



Figure 4. Using the Wrist Strap Tester

Calibration

The Wrist Strap Tester is calibrated to standards traceable to NIST. Frequency of recalibration should be based on the critical nature of those ESD sensitive items handled and the risk of failure for the ESD protective equipment and materials. In general, SCS recommends that calibration be performed annually.

The following procedure can be used to verify if the tester operates within its specifications.

NOTE: The tester has no adjustable components.

EQUIPMENT NEEDED

- Resistance Decade Box (700 kilohms to 11 megohms range, $\pm 1\%$ tolerance)
 - 2 Test Leads for the Resistance Decade Box
1. Slide the power switch to the ON position.
 2. Connect the two test leads to the resistance decade box.
 3. Connect one test lead to the wrist strap jack located on the face of the tester. Connect the second test lead to the test switch located on the face of the tester.
 4. Set the resistance decade box to the values shown in the table below. Press the test switch for all 4 resistance values listed in the table below. The LEDs should illuminate as indicated in the table.

Load Resistance	LED Result
750 kilohms	Red
900 kilohms	Green
9 megohms	Green
11 megohms	Red

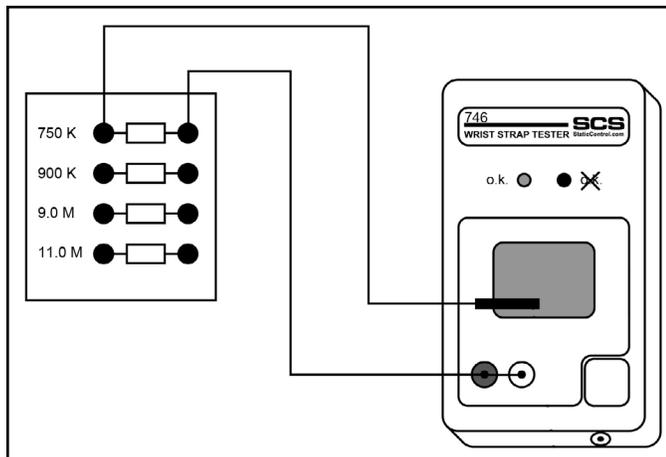


Figure 5. Verifying the calibration of the Wrist Strap Tester

Specifications

Input Voltage and Frequency (External Adapter)	AC/DC Power Adapter Power Input: 120VAC, 60 Hz Power Output: 9VDC @ 75mA Cable Length: 5 ft. (1.5 m)
Operating Temperature	50 to 95°F (10 to 35°C)
Environmental Requirements	Indoor use only at altitudes less than 6500 ft. (2 km) Maximum relative humidity of 80% up to 85°F (30°C) decreasing linearly to 50% @ 85°F (30°C)
Dimensions	6.25" L x 3.75" W x 1.5" H (158 mm x 95 mm x 38 mm)
Weight (without battery)	.5 lbs. (.2 kg)
Test Accuracy	+20% -0% for 750 kilohms test limit ±10% for 10 megohms test limits
Test Voltage	20VDC ($\pm 5\%$) @ open circuit
Certifications	cULus, CE
Country of Origin	Germany

Safety Information

Warning

To reduce the risks associated with environmental contamination:

When working with the automated equipment, always observe safety precautions as recommended by equipment manufacturer and your company's practices.

Caution

To reduce the risks associated with environmental contamination:

Dispose of the monitor in accordance with local, state, and federal regulations.

Notice

To reduce the risks associated with property damage:

Periodically check that the indicator is functioning properly.

Regulatory Information

To reduce the risks associated with environmental contamination from the device: At the end of service life, dispose of the unit in accordance with federal, state and local requirements.

WEEE Statement

The following information is only for EU-members States:

The mark shown to the right is in compliance with Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE). The mark indicates the requirement NOT to dispose the equipment as unsorted municipal waste, but use the return and collection systems according to local law.

Made in Germany

Limited Warranty, Warranty Exclusions, Limit of Liability and RMA Request Instructions

See the SCS Warranty -

<http://staticcontrol.descoindustries.com/Limited-Warranty.aspx>