

# TREK520 electrostatic voltmeter

A new type of handheld electrostatic voltmeters provides accurate, noncontacting measurements of electrostatic surface voltage for ESD applications in either ionized or non-ionized environments.

- No need to maintain fixed spacing.
- Inspect small spots for charge accumulation.
- Chopper stabilized circuit for accurate reading in ionized environments.
- 9V alkaline battery included (for 8 hours operating time)

**9265.099 TREK520-1** Electrostatic Voltmeter 0 to  $\pm 2$ kVDC  
Resolution: 1V - Accuracy better than 5% of full scale over a probe-to-surface distance of 5 to 25mm.

**9265.100 TREK520-2** Electrostatic Voltmeter 0 to  $\pm 2$ kVDC  
Resolution: 1V - Accuracy better than 5% of full scale over a probe-to-surface distance of 5 to 25mm. Model with Voltage Monitor Output(1/1000 Vmeas)

**9265.101 TREK523** Electrostatic Voltmeter 0 to  $\pm 20$ kVDC  
Resolution 10V - Accuracy better than 5% of full scale over a probe-to-surface (distance of 30 to 60mm)



## WALKING TEST SYSTEM

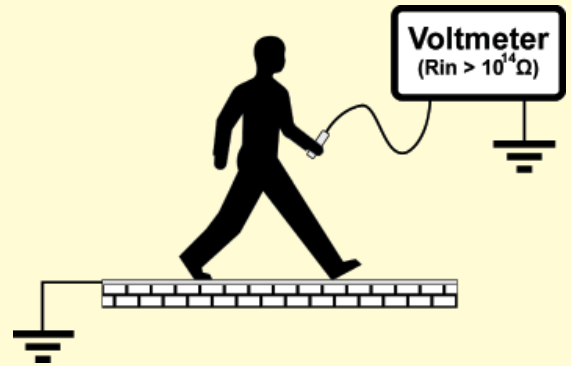
*How important is the walking test after the recent update of the IEC EN 61340-5-1 (Rev. 2017-01) "Protection of electronic devices from electrostatic phenomena"?*

Here some clarifications

The factory ESD Coordinator, when selecting flooring/footwear system ("personnel standing", without wriststrap connection to ground), often raises the following questions:

*"What are the benefits of the Walking Test equipment when I already have a megaohmmeter to measure point-to-point resistance, resistance to ground and surface resistivity? What has changed in the standard IEC 61340-5-1 (Rev. 2017-01) compared to the previous release (Rev. 2007-10)?"*

First of all we must note that ESD standards are constantly evolving and that European standard IEC 61340-5-1 is now aligned with the requirements of the American ANSI / ESD 20.20 (2014-7).



While for "personnel sitting" (sitting operators connected to GND with a wriststrap) the rules are known since long time, in the case of "personnel standing" the rules (Table 2: Personnel Grounding Requirements) now focus on the capability to ensure that the maximum electrical potential of the objects they handle is always lower than 100V.

This implies that the electrical potential on the operator's human body (HBV or Human Body Voltage), when walking with ESD footwear on the EPA floor, shall be less than 100V.

Even if the person/footwear system falls within the specifications required by Table 2 ( $R_{gp} < 1.0 \times 10^8 \Omega$ ), the person/ footwear / flooring system may not be able to keep the HBV under 100V.

Periodic monitoring of HBV is specified in the notes in Table 2 of the standard as a condition to avoid the use of the wriststrap when handling ESDS components.

The key feature of the Walking Test tool is to store data at such a resolution that, once exported to a PC, it should be possible to perform a thorough analysis of the 5 peaks required to calculate the average value required by the standard.

# WALKING TEST EVO

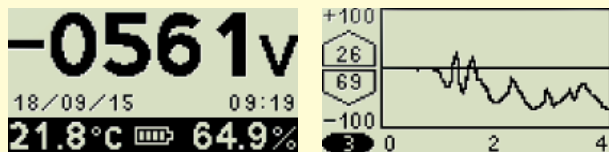
The WALKING TEST EVO is a portable measuring system that allows analysis of charge levels accumulated on the human body according to IEC 61340-5-1 standard.

It's fully portable and doesn't require a PC for data acquisition because all data are measured and logged in the internal memory. The operator can perform all necessary operations without any collaborator, and while he is walking the instrument is attached only with a single cable to a fixed position for the reference to the ground. The graphs of the tests can be displayed on the graphic LCD for a quick evaluation. Then they can be easily exported and analyzed on a PC for a professional documentation.

A program to manage the tests recorded in the instrument is included in the Walking Test EVO.

- Range:  $\pm 1050V$
- Resolution: 1 Volt
- Accuracy: 5% o  $\pm 5V$
- Input resistance:  $10^{14} \Omega$
- Humidity: 1 to 95%RH (accuracy:  $\pm 2\%RH$ )
- Temperature:  $-20^{\circ}C$  to  $+60^{\circ}C$  (accuracy:  $\pm 1^{\circ}C$ )
- Display: graphic LCD 128 x 64 pixel, 68x51mm
- Power supply: 6 alkaline batteries, LR6 1, 5V
- Dimensioni: 243x130x60mm (instrument)  $\varnothing 35x130mm$  (probe)
- Weight: 650g (instrument) - 250g (probe)

Humidity, Temperature, Date and Time of every test are memorized



MONITOR  
( Datalogger OFF)

DATALOGGER  
Graph n.3  
+Peak=26V  
-Peak=-69V

## Datalogger

In the internal memory of the instrument can be logged till to 10 graphs.

Sample rate: 200Hz

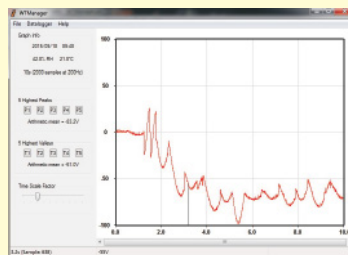
Max total graphs duration: 2minutes and 30 sec

Interface: USB

## Software WT Manager (included)

Program to manage the tests recorded in the instrument, compatibile with WIN XP/7/8/10

For each walking measurement, the five highest peaks (P1-P5) and the five highest valleys (T1-T5) are indicated with their arithmetic means.



9265.080 WALKING TEST EVO Meter with batteries and case  
9265.082 Instrument recalibration ISO9000 Traceable Certificate is supplied