

# **Test Station EVO USB**

## **mod.9264.925**

### **INSTRUCTION MANUAL**



## EC CONFORMITY

Units 9264.925 conforms to EC directives **EMC - 2004/108/CE** , the following harmonized standards are in use EN 60204-1, EN 61000-6-1, EN 61000-6-3.

## WARRANTY

This unit is guaranteed against all defects due to faulty materials and workmanship, within 12 months from the date of purchase.

A use not conforming to what specified might be dangerous to the safety of the operator and may damage the unit.

In such circumstances the manufacturer is relieved of any liability and the warranty itself will decay.

## REPAIR

Repairs have not been attempted by anyone other than authorized repair distributors.

Do not try to repair the unit by yourself.

## Protecting the environment

Separate collection. This product must not be disposed of with normal household waste.

Should you find one day that your product needs replacement, or if it is of no further use to you, do not dispose of it with household waste. Make this product available for separate collection.

Separate collection of used products and packaging allows materials to be recycled and used again.



Re-use of recycled materials helps prevent environmental pollution and reduces the demand for raw materials.

Local regulations may provide for separate collection of electrical products from the household, at municipal waste sites or by the retailer when you purchase a new product.



## TECHNICAL FEATURES

Test station for measuring and checking personnel grounding connection of wrist-  
straps and footwears, according to the IEC 61340-5-1.

The instrument includes:

- a fingerprint recognition system
- a datalogger

to export into a common USB disk (PenDrive) all measuring data regarding  
personnel access to EPA area.

Power Supply 9VDC 1A  
(a 100-240/9VDC switching adapter is included)

### Connectors:

External Power : jack 2.1mm or 2 way Phoenix connector  
Wrist strap inputs: 10mm stud, 4mm stud, 4mm banana  
Footwear inputs and Door opener: 4 way Phoenix connector  
USB Disk (PenDrive): USB

### Measuring ranges:

Wrist strap 50K $\Omega$  - 2G $\Omega$   
Footwear - each shoe 50K $\Omega$  - 2G $\Omega$   
Footwear - in series (Hand Free mode) 50K $\Omega$  - 2G $\Omega$

Measuring tolerance : 10%

Test Voltage : 50V/100V(selectable) +-10%

Relay output : max.60V - 1A - 50VA

Recognition: 1000 users, each of them recognizable by one of his 10 fingers  
(total of 10000 manageable fingerprints)

Recognition speed : 1.5sec

Datalogger : Last 10'000 accesses to the EPA area are memorized

### Software

TestStation EVO manager CDROM it's included. The software is compatible with  
Win XP/7/8/10

Display : LCD graphic display, 160x104pixel with backlight

Dimensions : 225x168x38mm

Weight : 650g



**9264.920**  
wrist-strap  
not included

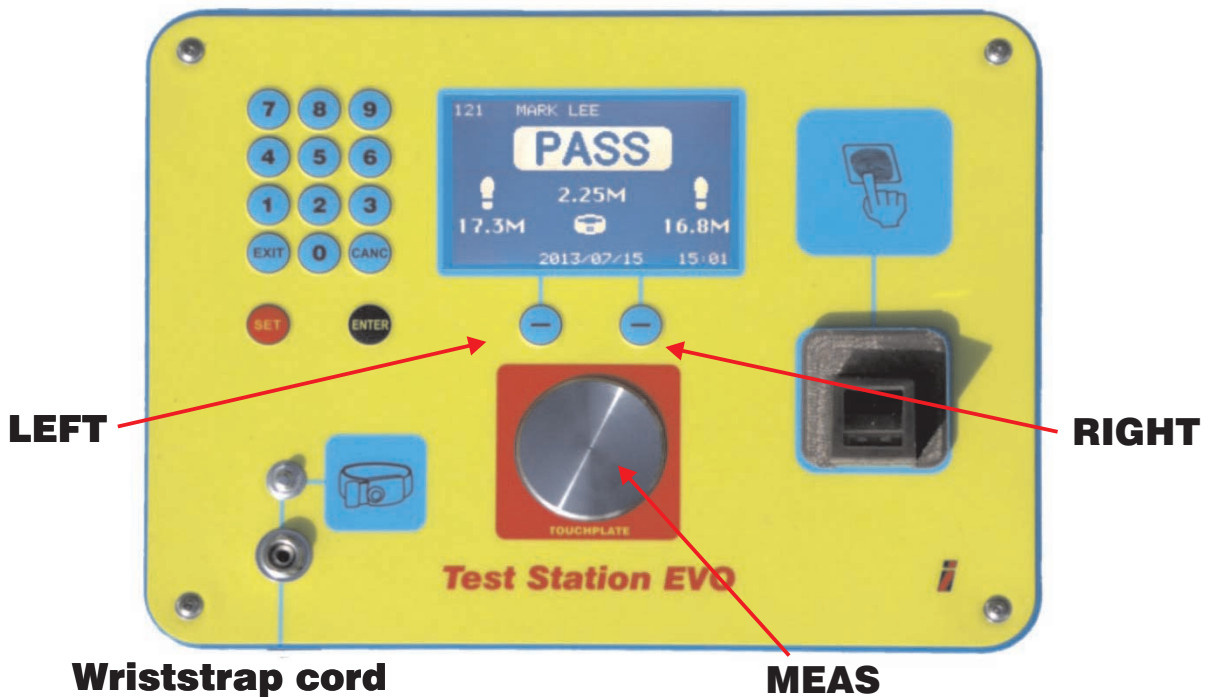


**9264.922**

- 9264.920**
- 9264.922**
- 9264.925**
- 9264.955**

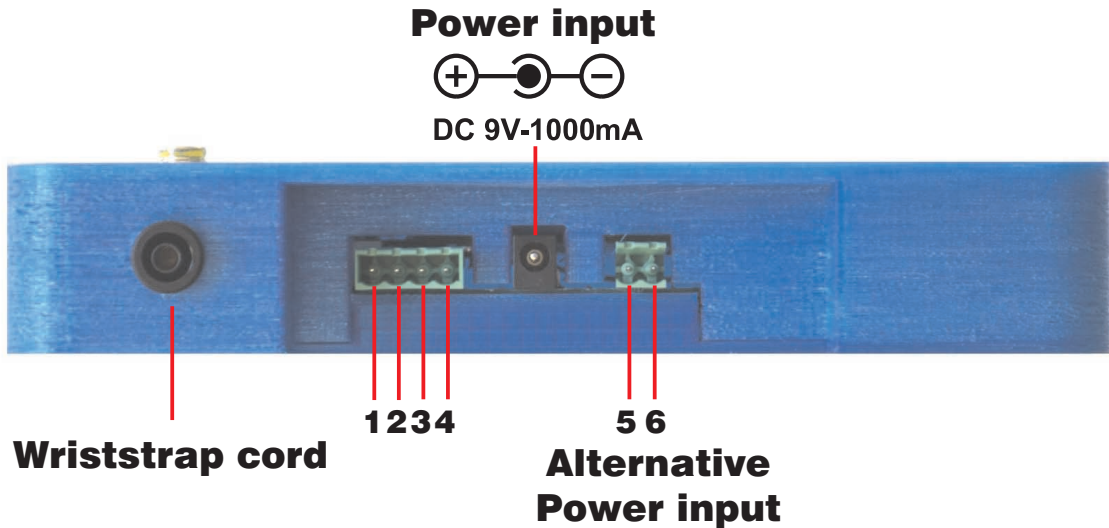
Test Station EVO USB wall mounting with footplate  
 Test Station EVO USB, stand-up version with footplate  
 Test Station EVO USB  
 Instrument recalibration  
 (ISO9000 Traceable Calibration Certificate is supplied)

**PANEL**



- MEAS** Metallic pushbutton for the measure
- 0-9** Keys for data entry
- EXIT** exit from recognition procedure or administrator menu
- CANC** cancel the last data entry
- SET** to view stat page, to enter in administrator menu and to acquire user's fingerprint
- ENTER** to enter in the administrator menu
- LEFT** move to previous page of the administrator menu or answer to questions.
- RIGHT** move to next page of the administrator menu or answer to questions.

## INPUT/OUTPUT



1 (IN)	Metal plate for the measurement of the left footwear
2 (IN)	Metal plate for the measurement of the right footwear
3 (OUT)	Normally open relay contact
4 (OUT)	Normally open relay contact
5 (IN)	GND
6 (IN)	+9Vdc

## CONFIGURATION (only for the administrator)

First of all the instrument needs to be configured by the administrator.

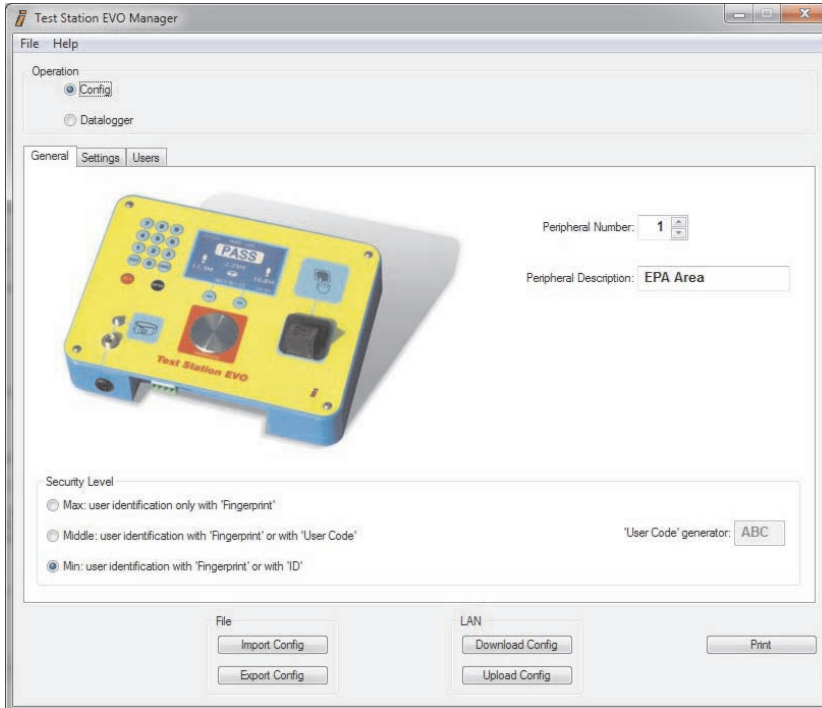
Follow these steps:

- 1) Launch the program
- 2) Peripheral Number
- 3) Settings
- 4) Users
- 5) Export the config file into a USB Disk (Pendrive)
- 6) Power the instrument and enter in the "Administrator menu"
- 7) Import the config file from a USB Disk (PenDrive) into the instrument
- 8) Set the date and time
- 9) Capture the user's fingerprints

### 1) Launch the program

The "Test Station EVO Manager" software doesn't need any installation: simply copy the \*.exe file from the CD-ROM in a directory of your PC and run it to be operative.

## 2) Peripheral Number

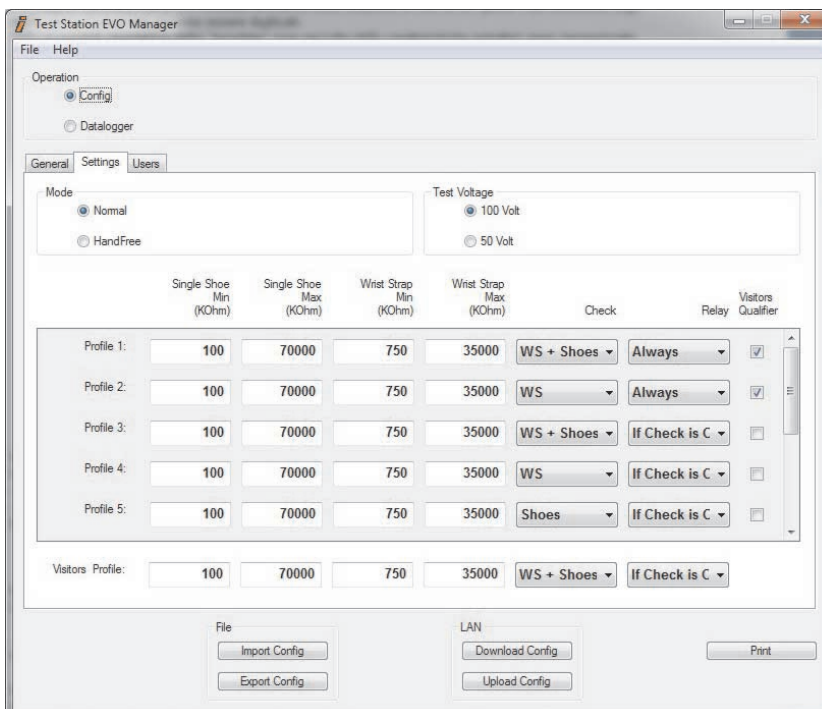


Peripheral Number: it's a unique number ID (from 1 to 100) that identify the TestStation. It's possible to use till 100 Test Station in a factory and "merge" the data collected from them.

Peripheral Description: It's a mnemonic description associated to the peripheral number (optional)

Security level: There are 3 security level that describes how the users are recognized.

## 3) Settings

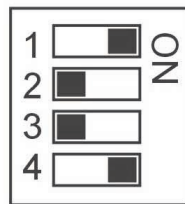


Mode:

- In Normal mode the test station works using MEAS, the metallic pushbutton, for the measure.
- In the HandFree mode the users doesn't need to use the MEAS pushbutton because the measure is executed only in the footwears applying the test voltage on the right shoe and measuring the FOOTWEARS L+R resistance.

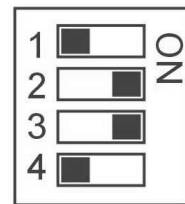
**IMPORTANT:** the mode of operation must be set also in the internal dip-switch. Open the back of the instrument and set correctly the dip-switch.

Normal mode:



- 1 = ON
- 2 = OFF
- 3 = OFF
- 4 = ON

HandFree mode:



- 1 = OFF
- 2 = ON
- 3 = ON
- 4 = OFF

The instrument is supplied in Normal mode that is the most used. Change the dip-switch only if you want to work in HandFree mode.

Test Voltage: is the voltage applied on the MEAS pushbutton (Normal mode) or the right footplate (HandFree mode) for measuring personnel grounding. It can be set at 50V or 100V and there isn't any risk for the users because there is current protection and the internal HV generator can't supply a dangerous to health power.

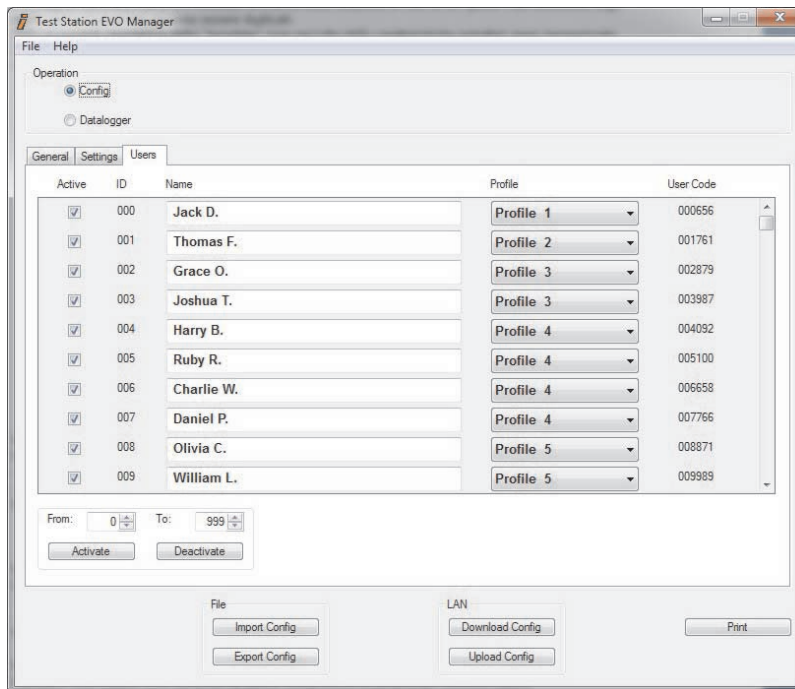
There are 10 profiles that can be associated to every active user.

For each profile are defined the:

- thresholds of the measure
- the check operation
- the relay action
- if the user is a visitor qualifier that has the permission to allow visitor to enter in the EPA area.

Even the visitors have a similar profile.

## 4) Users



The instrument recognizes till 1000 users, each of them is associated to a previous defined profile.

**WARNING:** do not overwrite a user. We suggest to make "Not Active" a user instead of deleting him or overwriting. A "Not Active" user is recognized by the instrument, but can't do anything. This to preserve data integrity for the future when the users will be eventually reactivated.

## 5) Import/export configuration from/to a pendrive

Press the "Export Config" button and save the created configuration into an external USB Disk (PenDrive). The program ask the directory to save: select the root directory of the pendrive. A file named CONFIGXX.TSC, where XX is the peripheral number, is created

**IMPORTANT: the PenDrive must be formatted in FAT or FAT32 filesystem, and for compatibility problems should NOT be "DUAL CHANNEL technology"**

## 6) Power the instrument and enter in the "Administrator menu"

Power the instrument and when the TestStation is ready keep pressing the SET button and then press ENTER

The administrator password will be asked.

**"123456"** is the default Administrator password

**IMPORTANT:** change immediately the administrator password because 123456 it's too simple.

After inserted you are in the administrator menu that has 7 pages

1/6: Admin

To set the peripheral number

2/6: General

To export/import configuration and to export the last 10000 collected records to a pendrive



- 3/6: Date/time  
To set the date and time
- 4/6: Users  
To view the users and capture their fingerprint
- 5/6: Password  
To change the administrator password.
- 6/6: Contrast  
To change the LCD Contrast.

Use:  
LEFT to move to the previous page of the administrator menu.  
RIGHT to move to the next page of the administrator menu.

## **7) Import the config file from a USB Disk (PenDrive) into the instrument**

Go to the "Admin" (page 1/6) and set the same Peripheral Number used previously in the PC program.

Go to the "General" (page 2/6) and import the configuration from the pendrive by pressing "1". The instrument open a file named CONFIGXX.TSC, where XX is the peripheral number, located in the root directory of the pendrive.

## **8) Set the date and time**

Go to the "Date/Time" (page 3/6) and set the correct date and time.

An internal supercapacitor backup allow the instrument to maintain the correct date and time even after 1 week without power.

## **9) Capture the user's fingerprints**

Go to the "Users" (page 4/6) and use the CANC ENTER buttons to scroll the users. Only the active users are visualized. Press SET to capture the fingerprint of the highlighted user. A prompt message will ask how many fingers to capture and follow the procedure. For every finger is needed to insert two time the fingerprint for a correct capture.

An active user line may end with (\*) or with ( )

(\*) user with captured fingerprint (can be recognized by the fingerprint sensor)

( ) user without captured fingerprint (can't be recognized by the fingerprint sensor)

Press EXIT button to exit from the administrator menu. The configuration file is correctly memorized into the eeprom memory of the instrument.

# **ACCESS TO THE EPA AREA**

Every access to the EPA Area consists in:

- 1) Recognition
- 2) Measuring
- 3) Result

## **1) Recognition**

Every active user with captured fingerprint (\*) can be recognized simply inserting his finger over the sensor.

In alternative, if the security level of the configuration, is 2 or 3 is possible to digit directly:

- the UserCode that is a 6 digit number (only for security level 2)
- the ID code that is a 3 digit number (only for security level 3)

A beep indicates that a correct recognition was executed.

After a correct recognition if the active user is a visitor qualifier it's possible to press the RIGHT button to allow a Visitor to enter in the EPA Area

## 2) Measuring

In Normal mode keep press the MEAS metallic pushbutton to measure wrist-strap and/or shoes , then release the MEAS button when the results of the measure are showed

In HandFree mode the measure starts automatically after the recognition when the SHOES L+R is under  $2G\Omega$  and stops automatically . Then the results of the measure are showed.

## 3) Results

If the user has passed the test, "PASS" it's written in the center of the display and a beep indicates the good result.

Otherwise "FAIL" it's written in the center of the display and the wrong measures blink.

In every case a new record of the access is added into the internal Datalogger



## STAT PAGE

The Stat page is visible when the SET button is pressed.



Active users (\*)

Users with captured fingerprint that can be recognized by the fingerprint sensor

Active users ( )

Users without captured fingerprint that can't be recognized by the fingerprint sensor

New Record:

Number of the access records from the last "Factory Set" or from the last "Save to USB Disk". This is useful to know when it's time to collect new records because this number should not exceed the 10000 internal storage record of the instrument's datalogger, to avoid data lost.

All Record:

Number of the access records from the last "Factory Set" .

## TEST

At any time it's possible to check the personnel grounding simply pressing the MEAS button. The measures will be showed but no action will be executed (the relay is disabled and no records are added into the internal datalogger)

"TEST" it's written in the center of the display

## COLLECT DATA

To export data into an external USB Disk (PenDrive):

- Power the instrument and enter in the Administrator menu (Keep press SET and then press ENTER. After digit the administrator password)
- Go to the "General" page (2/6) using the LEFT RIGHT buttons, insert the PenDrive, and press 1
- A file named LOGXX.TSL, where XX is the peripheral number, will be created in the root directory of the pendrive.
- Launch the "Test Station EVO Manager" software on your PC
- Press the "Add Data" and select the LOGXX.TSL file
- A table with the collected data is displayed and can be saved into a \*.txt file or \*.xls file (Microsoft Excel)

PN	ID	Visitor	Name	WS (KOhm)	L (KOhm)	R (KOhm)	Pass	Relay	Recogniti...	Date	Time
1	3	N	Joshua T.	1562	584971	748389	N	N	Fingerprint	2016-04-14	16:29:18
1	2	N	Grace O.	1956	647141	685860	N	N	Fingerprint	2016-04-14	16:28:44
1	6	N	Charlie W.	1499	0	0	Y	Y	Fingerprint	2016-04-14	16:28:36
1	2	N	Grace O.	1630	2892	3953	Y	Y	Keyboard	2016-04-14	16:27:28
1	1	N	Thomas F.	1522	0	0	Y	Y	Keyboard	2016-04-14	16:27:18
1	9	N	William L.	0	2822	3567	Y	Y	Fingerprint	2016-04-14	16:27:06
1	8	N	Olivia C.	0	3652	3880	Y	Y	Fingerprint	2016-04-14	16:26:56
1	7	N	Daniel P.	1629	0	0	Y	Y	Fingerprint	2016-04-14	16:26:50
1	6	N	Charlie W.	1373	0	0	Y	Y	Fingerprint	2016-04-14	16:26:28
1	4	N	Harry B.	1941	0	0	Y	Y	Fingerprint	2016-04-14	16:26:20
1	1	N	Thomas F.	1690	0	0	Y	Y	Fingerprint	2016-04-14	16:26:10
1	5	N	Ruby R.	1254	0	0	Y	Y	Fingerprint	2016-04-14	10:49:42
1	5	N	Ruby R.	2000000	0	0	N	N	Fingerprint	2016-04-14	10:49:02
1	9	N	William L.	0	2000000	2000000	N	N	Fingerprint	2016-04-14	10:48:28

# FINGERPRINT READER

## Security of biometric data

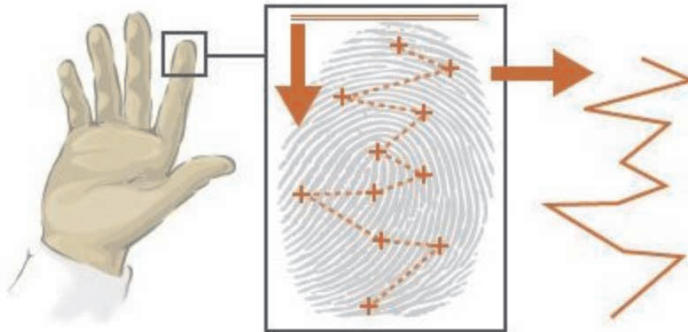
The fingerprint sensor capture a digital image of the fingerprint pattern.

The captured image it's not stored inside the Test Station EVO, therefore the biometric data of the users are safe and can't be duplicated.

Only a biometric template (a collection of extracted features) is memorized.

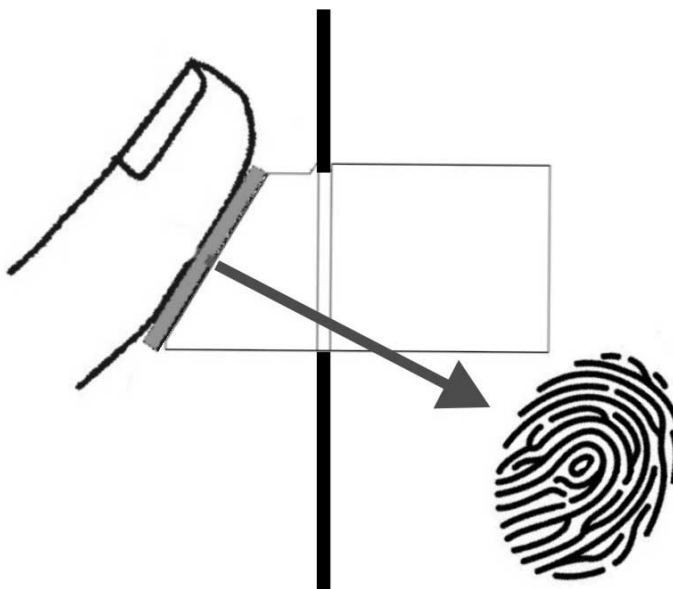
The template size is very small: about 400 byte.

The templates are used for a smart and secure identification of the operator



## Correct finger position

For a correct recognition insert the central point of the fingerprint in the central point of the glass of the optical sensor. If possible place the Test Station EVO where the sensor is not directly illuminated from the environment's light.



## Advice on how best to use the fingerprint reader

Clean the glass of the sensor only with a microfibre cloth or a cloth with detergent suitable for the cleaning of the lenses or the displays.

For the recognition of each person you can capture up to 10 fingerprints of right or left hand.

The footprint of the same finger can be captured more times so as to facilitate the approval of the operator.

Avoid capture fingerprints with cuts or abrasions.

Normally it is sufficient to capture from 1 to 3 times the fingerprint of the right index finger.

If you have problems try to:

- Store 3 times the fingerprint of the right thumb.
- Store 3 times the fingerprint of the left index finger.
- Store 3 times the fingerprint of the left thumb.

In very difficult cases it is recommended to store at least 2 times the fingerprints of the two index fingers and the two thumbs.

Remember to capture the fingerprints with clean hands and also access the EPA Area for recognition with clean hands.

## FACTORY RESET

To restore the Test Station EVO to it's original system state:

- Power the instrument and enter in the Administrator menu (Keep press SET and then press ENTER. After digit the administrator password)
- Go to the "General" page (2/6) using the LEFT RIGHT buttons, and press 9. Confirm by pressing RIGHT

### FACTORY SETTINGS:

Administrator password: 123456

Peripheral number: 1

Mode: Normal

Test Voltage: 100V

Security Level: Low

CHECK: wrist-strap + left footwear + right footwear

Relay action: "if check is OK"

1000 active user ("User 0" to "User 999") each of them is enabled as Visitor Qualifier

Footwear thresholds: 100K $\Omega$  (low) 70M $\Omega$  (high)

Wrist strap thresholds: 750K $\Omega$  (low) 35M $\Omega$  (high)

LCD Contrast: 20

**WARNING: ALL CAPTURED FINGERPRINTS WILL BE DELETED**

## TEST STATION EVO SELF-TEST

The Test Station EVO is provided with a self-test routine to check its functionality.

- 1) Power OFF the instrument
- 2) Keep pressed the key SET and without releasing it power on the Test Station EVO. The display will show:



```
KB: f           Eeprom: OK
FP: OK         USB: 03.68
Clock: 19

      104V 0933
Sx= > 2G 0001 1.11M
Wr= > 2G 0000 1.11M
Dx= > 2G 0000 1.11M
```

Keyboard test: 0 1 2 3 4 5 6 7 8 9 X C f E TP

Eeprom test: OK or ?? (blinking)

Fingerprint test: OK or ?? (blinking)

USB test: 03.69 or higher firmware release or blinking error

Clock test: seconds stepping from 00 to 59

Measure test:

Footwear Sx test: value in  $\Omega$  - value of ADC - Reference

Wrist strap test: value in  $\Omega$  - value of ADC - Reference

Footwear Dx test: value in  $\Omega$  - value of ADC - Reference

Press LEFT to execute the measure at 50V

Press RIGHT to execute the measure at 100V