

Matrix Technical Support Mailer – 49 COSEC Door PVR (Palm Vein Reader)

Dear Friends,

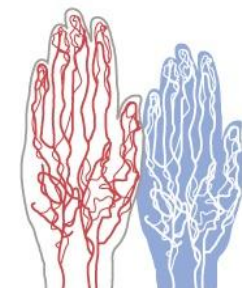
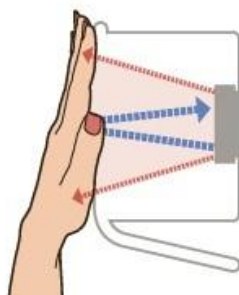
This technical mailer will guide through the technicalities of the newly introduced Palm vein reader and procedure for the Palm Enrollment.

Palm Vein Technology:

- In this technology ONE'S PALM is used as the "PASSWORD" for verification. The veins present in the palm of the individual are scanned & verified thus providing the access.
- Palm vein authentication has a high level of authentication accuracy due to the uniqueness and complexity of vein patterns of the palm.

Principle:

- Unlike the skin, through which near-infrared light passes, deoxygenated hemoglobin in the blood flowing through the veins absorbs near-infrared rays, causing it to be visible as black regions to the scanner.
- Arteries and capillaries, whose blood contains oxygenated hemoglobin, which does not absorb near-infrared light, are invisible to the sensor.
- An individual's palm vein image is converted by algorithms into data points, which is then compressed, encrypted, and stored by the software. Whenever anybody accesses it, the data is compared with stored one, thus verification is done.



Technical Advantages:

- Implementation of a contactless identification system enables applications in public places or medical facilities.
- The contactless feature of this device makes it suitable for use where a high level of hygiene is required.
- Eliminates any hesitation people might have about coming into contact with something that other people have already touched.
- No two people in the world share a palm vein pattern - even those of identical twins will differ.
- Even if you have registered your profile at very early age, the image will still be valid as veins are established before birth.

General Advantages:

- Very Economical
- Highest factor of Security
- One time registry and usage throughout life
- More advantageous than other Biometric techniques

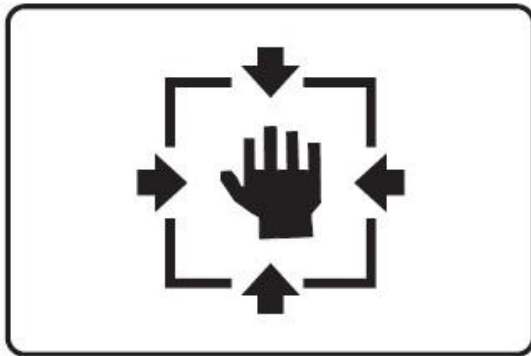
Applications:

- Hospitals: It is a healthcare institution where hygiene is utmost important. In such a place, patients/visitors can easily get infected by germs.
Benefits: Hygienic (As it is contactless), Improves security for vital areas like ICU, Protects expensive medical instruments.
- R&D Center: It is a place for developing new products using the latest technology with a talented Human workforce.
Benefits: Increases security of valuable assets, data and employee in multifold, Minimizes forgery, Round the clock security.

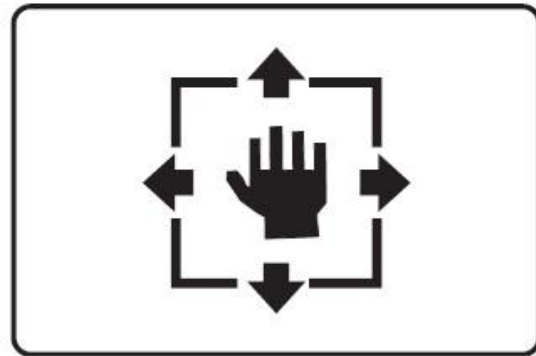
Enrollment Guidelines for PVR:

- First and Foremost thing is to check whether hand is positioned correctly or not (see the guidelines below)
- The hand should not move until the palm template is captured. The captured template will not be accurate, if the hand is moving.

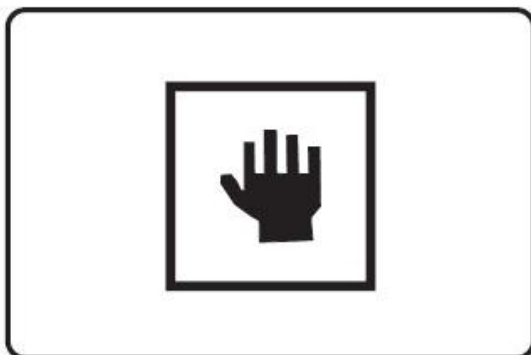
- Follow the graphic guidance on the screen for correct positioning of the palm. Move the palm in the direction of the arrows around the frame. See illustration below:



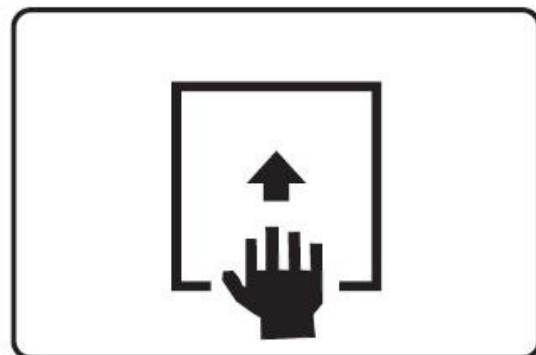
Move Palm towards Sensor



Move Palm away from Sensor



Palm is placed correctly



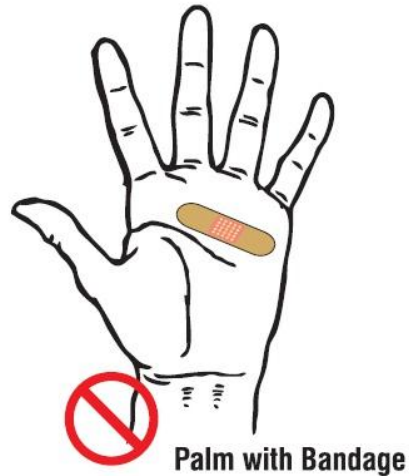
Move Palm up

- It takes about two seconds to capture the palm, when placed correctly.
- The palm will be scanned twice. Follow the instruction on the device screen.
- Wait for confirmation of enrollment. One can enroll two palms per user.

The quality of the enrolled palm will affect the authentication accuracy. If the enrolled palm is of poor quality, it will result in frequent false rejection during the authentication process. Therefore, while capturing palm for enrollment, you must take extra care in placing the hand.

Caution:

Do not attempt to enroll palm under the following conditions:

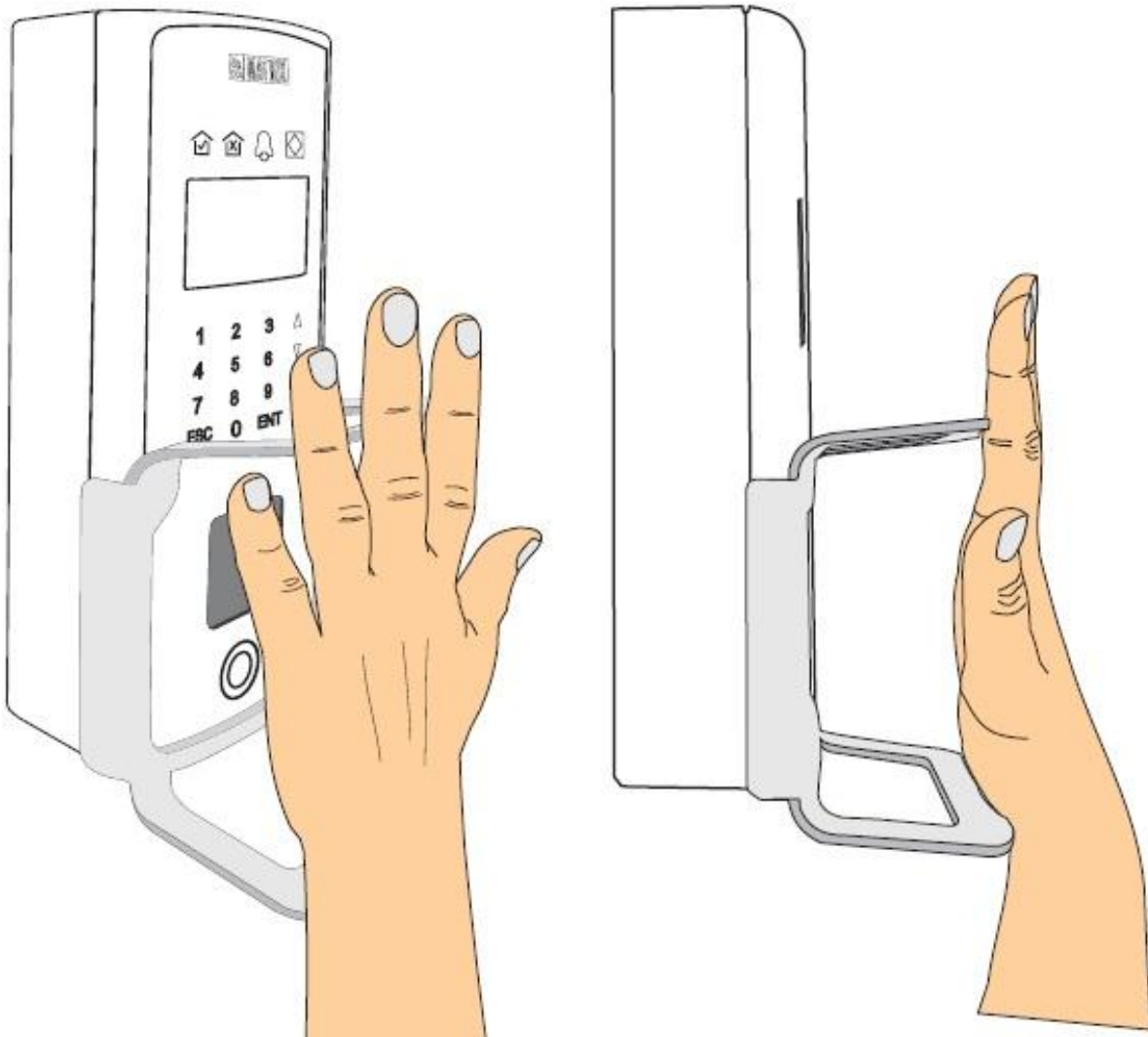


The sensor will not be able to capture the palm vein accurately. The captured palm vein will be of low quality and may prevent the palm from being enrolled at all.

✓ **Correct hand placement:**

- Place the wrist on the wrist guide. The wristband should touch the wrist guide.
- Place the index finger, the middle finger, the ring finger on the finger guide. The middle finger must fit in the groove at the center of the Finger guide.

- Co-ordinate the thumb and the little finger to the same height as the index finger, the middle finger and the ring finger.
- The palm must be parallel with the sensor.
- Spread the fingers and the thumb naturally, opening them slightly.
- Keep your hand steady. Do not move hand until the palm is captured/authenticated.

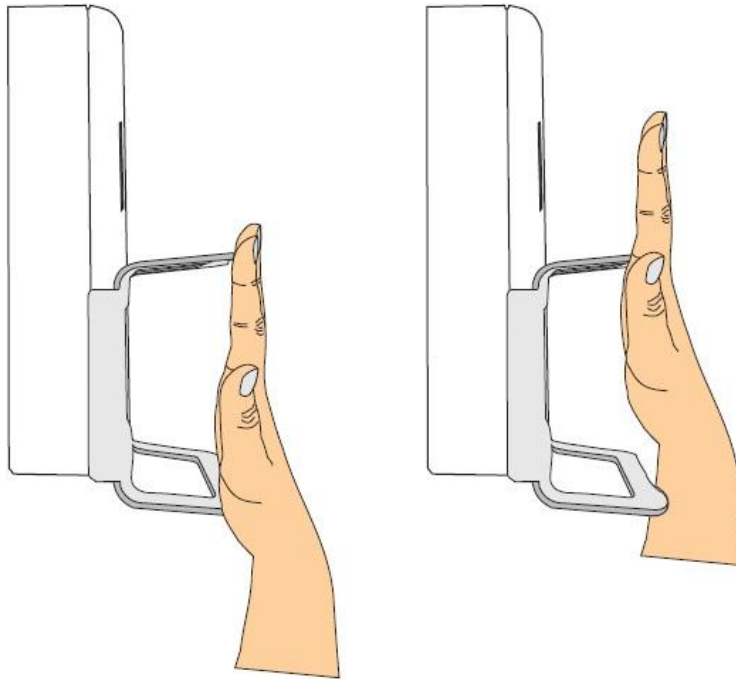


✓ Useful Tip:

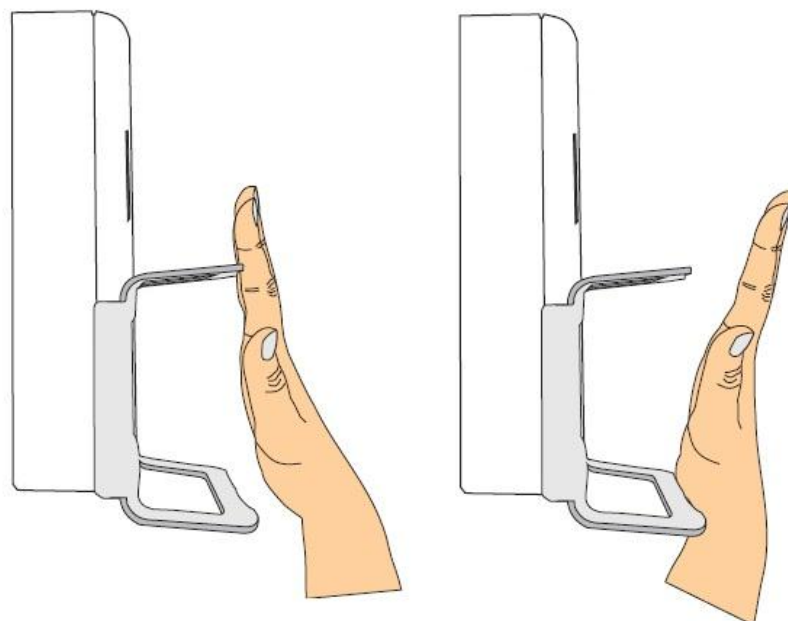
In case the hand is too small and fingertips do not reach the finger guide, move the hand up, to place the arm on the wrist guide and finger tips on the finger guide.

✘ Incorrect hand placement:

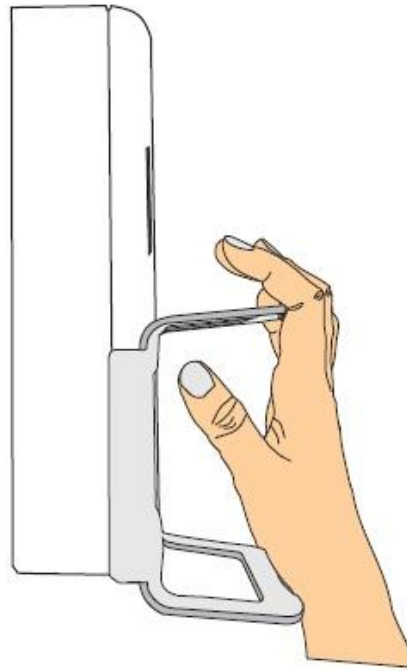
1. Wrist position is incorrect



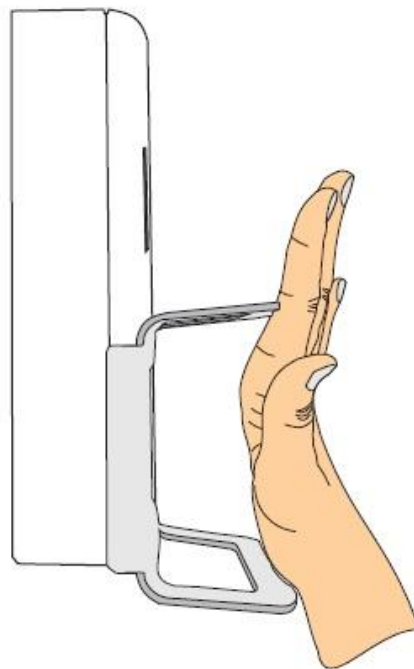
2. Palm, not placed parallel to the Sensor



3. Fingers are not stretched or bowed



4. The palm bows below both the wrist guide and the finger guide.

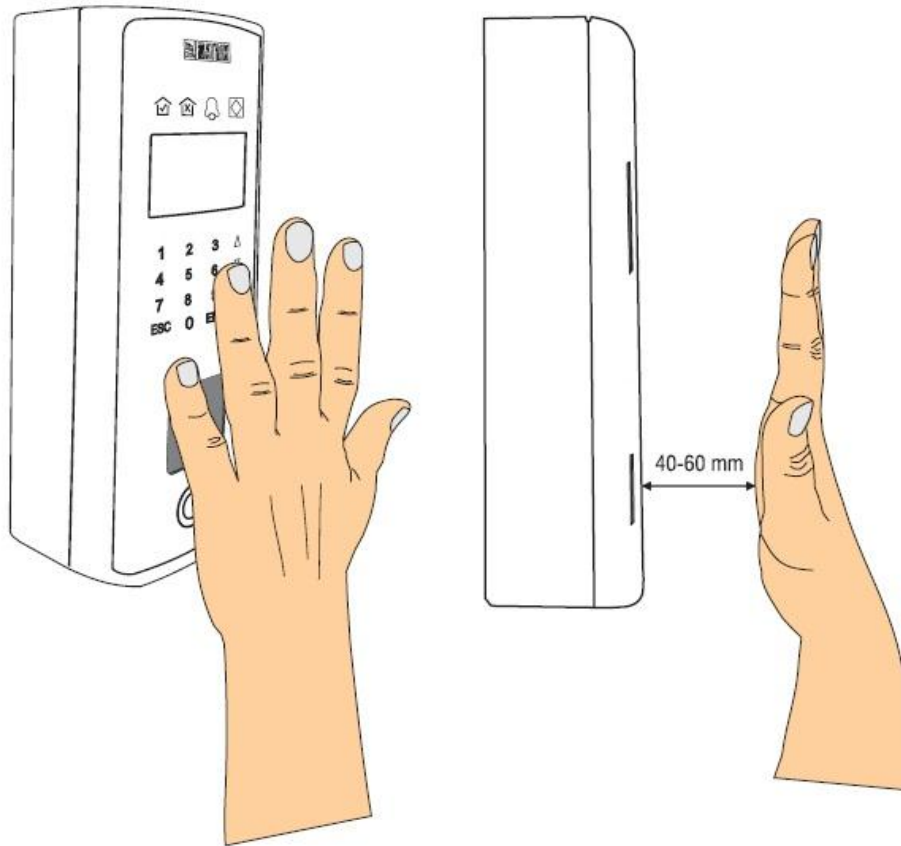


5. Fingers and the thumb are not spread.



How to place the palm without using the Hand Guide for enrollment and for regular usage (authentication for access):

- However, where it is not possible to use the Hand Guide or where it is not being used for a reason, follow the instruction for the correct way to place the palm:
 - Place the palm from 40 to 60mm from the sensor
 - Position the palm and fingers in the same way as you did when using the Hand Guide.
 - If you intend to discontinue the use of the Hand Guide, you are recommended to first practice the positioning of the palm and fingers using the Hand Guide. Once you have learned the correct positioning, you may remove the Hand Guide and practice capture of the palm.



Caution:

The following cases could result in false rejection:

- The condition of the palm has changed since the enrollment of the palm.
- The position of the hand is changed when compared to the enrolled palm

Points to check if a problem occurs in enrollment or authentication:

➤ The Sensor surface has some dust or a stain:
Wipe the surface of sensor unit with a dry, soft cloth.

➤ The environment is too bright:
Keep away from direct sunlight and halogen, the incandescent lamp.



- The authentication failure rate rises on cold mornings particularly: Some users who are predisposed to having cold hands may experience authentication failures on cold mornings (or under similar conditions). Such users should try again after warming their hands for a while.

- Users with small Palm:
Shift your wrist forward slightly.

Thanks & Regards,

Technical Support Team – Security Product
Matrix ComSec, Vadodara, India
E-mail: support@MatrixComsec.com

Disclaimer: The information contained in this e-mail and/or attachments to it may contain confidential or privileged information. Unauthorized use, disclosure or copying is strictly prohibited and may constitute unlawful act and can possibly attract legal action, civil and/or criminal. The contents of this message need not necessarily reflect or endorse the views of Matrix Telecom Pvt. Ltd on any subject matter. Any action taken or omitted to be taken based on this message is entirely at your risk. Neither the originator of this message nor Matrix Telecom Pvt. Ltd takes any responsibility or liability towards the same. If you are not the intended recipient, please notify us immediately and permanently delete the message.