

# World's smallest, slimmest and lightest contact-free vein sensor

April 12 2013

---



Figure 1: World's smallest, thinnest and lightest sensor.

Fujitsu today announced a practical version of the world's smallest, slimmest and lightest contact-free vein authentication sensor.

There are a multitude of vein authentication devices in the market, including those for the finger or back of the hand, but the newly developed sensor is unique for its compact form factor, being 5.2 mm thinner and 56% lighter than conventional sensors. At approximately 4.0 g, the size has been reduced to a 25.0 mm width, a 25.0 mm depth, and a height of 6.0 mm. This makes it easier to incorporate into a broader range of [electronic devices](#), including the thinnest of today's [notebook PCs](#) and tablets. This, in turn, helps to expand the range of potential

applications for palm vein authentication.

With the inclusion of a feature that continuously captures palm vein images, instantly pick out the best image for authentication, and automatically verify, users can easily perform authentication by simply placing their palm lightly over the sensor.

To enable biometric authentication to be utilized in a wider range of locations and circumstances, Fujitsu has sought both robust security and superior user-friendliness for its palm vein authentication technology. At the same time, it also aims to develop smaller, thinner sensors that can be incorporated into a variety of electronic devices.



Figure 2: Comparison of new (left) and conventional (right) sensors.

Fujitsu has worked to develop and commercialize thin, miniature sensors capable of being integrated into the design of notebook PCs. However, in order to make the technology readily applicable to an even broader range of applications, there has been significant demand for even thinner and smaller sensors that maintain the same high standards of security and

usability.

With an eye toward incorporating this sensor into a variety of electronic devices, Fujitsu has developed the world's smallest, slimmest and lightest vein authentication sensor among a multitude of vein authentication devices, including those for the finger or back of the hand. Moreover, to facilitate integration with older versions of PalmSecure and to help users migrate to the new technology, Fujitsu has ensured compatibility with older generations while preserving the same usability, including continuous image capture and automatic verification functionality. The key features of the new sensor are as follows:

- **World's smallest, slimmest and lightest sensor.** To enable an even smaller and slimmer form factor, Fujitsu newly designed lighting and optical systems as components inside the sensor used for image capture. In fully leveraging its advantages as a palm [vein authentication](#) sensor that is contact-free and employs an image-reflective method for authentication, the new sensor is 25.0 mm wide, 25.0 mm deep, and 6.0 mm tall, and weighs 4.0 g or 56% less than conventional sensors. As a result, the new sensor is the world's smallest, thinnest and lightest of its kind, thereby greatly increasing the range of devices into which it can be incorporated.
- **Same convenient operations through continuous image capture and automatic verification.** The new sensor is able to continuously capture [palm vein](#) images, instantly pick out the best image for authentication, and automatically verify. This allows users to perform authentication by simply placing their palm lightly over the sensor for high accuracy and convenience.
- **Can be used in combination with previous PalmSecure technology.** For customers who currently use older PalmSecure technology (notebook PC sensors, built-in keyboard sensors for

desktop PCs, attachable PalmSecure-SL sensors), [Fujitsu](#) has ensured that the new technology is compatible with older registration/authentication data formats and employs the same familiar operation methods, such as the way users hold their hand over the sensor. This makes it easy to use the new sensor in combination with existing [sensors](#) while also helping users migrate to the new technology.

Provided by Fujitsu

Citation: World's smallest, slimmest and lightest contact-free vein sensor (2013, April 12)  
retrieved 30 March 2023 from <https://phys.org/news/2013-04-world-smallest-slimmest-lightest-contact-free.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.