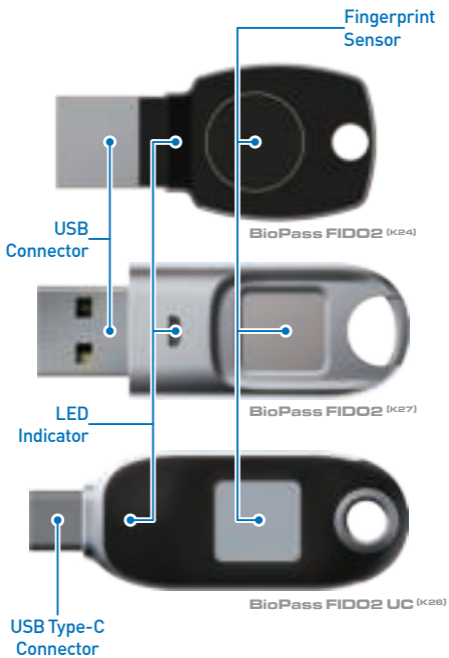# BioPass FIDO2

Security Key

User Manual

V1.1

Overview

FEITIAN BioPass security key FIDO2 is built on FIDO2.0 Specification which promoted by FIDO alliance to replace traditional password using biometric or add a second factor to reduce the complexity of traditional password scheme.

FEITIAN BioPass FIDO2 is recommend by Microsoft as the security key for windows hello. For now, we can support the Azure enterprise deployment to provide security and usability. Since FIDO2.0 is submitted to W3C for standardization, most platforms will support FIDO2.0 authentication.

The embedded high-performance FPC fingerprint sensor will ensure fluent user experience with low FRR and FAR. Once enrolled, fingerprint information will only be processed inside the key and protected by security chip embedded, which significantly reduces the risk of fingerprint leaking.

Diagram

Fingerprint
Sensor

USB
Connector

BioPass FIDO2 (K24)

LED
Indicator

BioPass FIDO2 (K27)

USB Type-C
Connector

BioPass FIDO2 UC (K26)

LED Indicators

BioPass security key has a red and a green LED. The red one indicates fail. The green LED means success. The green LED blinks at different frequencies to signal a request for a user presence or user verification. The behavior of green LED is controlled by the options of command sent from client. For example, if client sends a command with uv=true, the green LED will blink rapidly.

▬▬	Green LED ON	Fingerprint Verification success / user present / Power up
▬▬	Red Led ON	Fingerprint Verification fail / user absent
● ●	Green LED blinks slowly	Need to touch
●●●	Green LED blinks rapidly	Need to verify fingerprint

Windows 10 Security Key Manager

Users can now set up a security key straight from System Settings Pannel on computers running on Windows 10 Insider Preview Build 18298 (19H1) or above. In sign-in settings/Security key, users are able to manage fingerprint, PIN or reset a security key.:
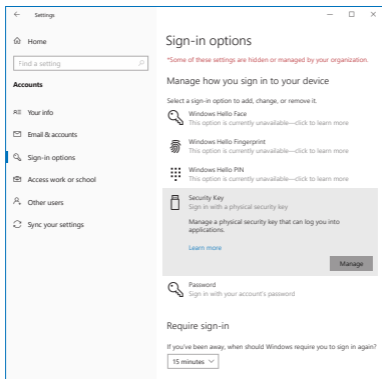
Warning:
For security concern, the key will be blocked if user fail to verify fingerprint 15 times (3 times per retry × 5 retry counts) in a row. User can only unlock via reset device (All stored data will be lost).

FEITIAN BiPass FIDO2 Manager[2]

Users can manage fingerprint, PIN or reset a security key by using FEITIAN's BioPass FIDO2 manager on computers running on Windows 10 lower than Build 18298 (19H1).

For the first time using FEITIAN BioPass FIDO2 Security Key, users are required to initialize and enroll the first fingerprint via BioPass FIDO2 Manager App. The app can be downloaded from Microsoft Store or the following link: https://www.microsoft.com/store/productId/9P2ZJPWK3PXW
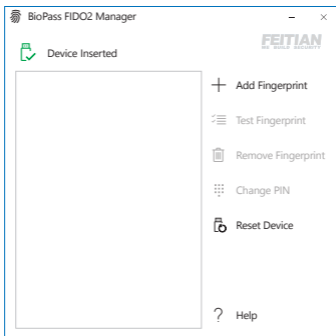
|	BioPass FIDO2 Manager
	Feitian Technologies Co., Ltd.
	Free
	Get the app ›

Warning:
For security concern, the key will be blocked if user fail to verify fingerprint 15 times (3 times per retry × 5 retry counts) in a row. User can only unlock via reset device (All stored data will be lost).

Enroll Fingerprint

❶ Plug in your BioPass FIDO2 Security Key and launch BioPass FIDO2 Manager App, the following window should appear:
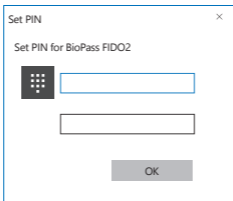
BioPass FIDO2 Manager	— ✕
☑️ Device Inserted	FEITIAN

+ Add Fingerprint

≡ Test Fingerprint

🗑 Remove Fingerprint

⠿ Change PIN

🔒 Reset Device

? Help

❷ Click ┤+ Add Fingerprint├ . If the Security Key is being used for the first time or just been reseted, a window will pop up to let you choose wether to use fingerprint only or both PIN and fingerprint to verify your operations:
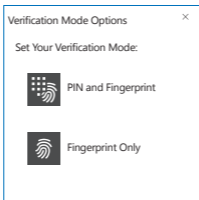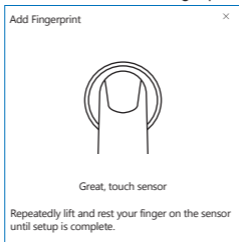
Verification Mode Options ✕

Set Your Verification Mode:

▦ PIN and Fingerprint

🔏 Fingerprint Only

If you choose to use PIN and fingerprint, you will be informed to set a new PIN. PIN value can contain numbers, letters and special symbols.

Set PIN	×

Set PIN for BioPass FIDO2

OK

❸ Follow the instructions to add fingerprint.

Add Fingerprint	×

Great, touch sensor

Repeatedly lift and rest your finger on the sensor until setup is complete.

❹ After been successfully enrolled, the fingerprint will be listed in main window. Now you can test your fingerprint, remove your fingerprint and change PIN (if set) through the BioPass FIDO2 Manager App and enjoy your secure authentication experience.

BioPass FIDO2 Manager	— ×

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Device Inserted

Fingerprint 1	▭	+ Add Fingerprint
		✓≡ Test Fingerprint
		🗑 Remove Fingerprint
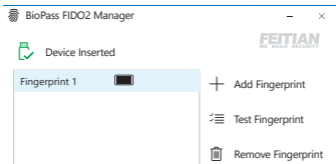
Test Fingerprint

❶ Select the fingerprint you want to test and click
 `≔ Test Fingerprint` to test if this fingerprint is verified.
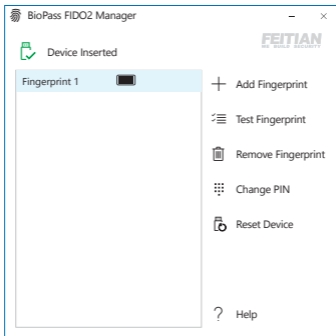
❷ Follow the instructions to test the fingerprint.

NOTE   **This testing function will trigger the device block mechanism if user fail to verify fingerprint 15 times (3 times per retry × 5 retry counts) in a row. User can only unlock via reset device (All stored data will be lost).**

Remove fingerprint

❶ Select the fingerprint you want to remove and click
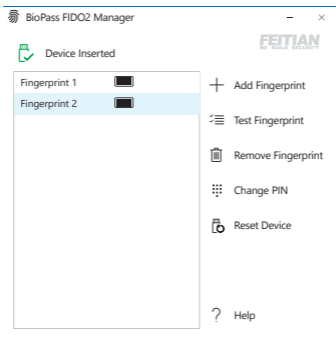🗑 Remove Fingerprint . ("Fingerprint 2" as shown in
example)
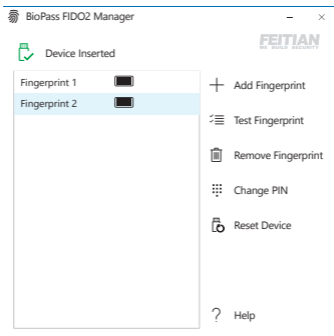
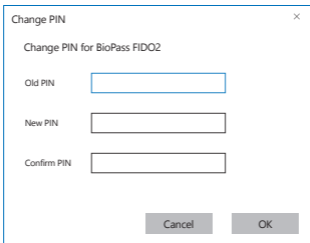If there is a PIN, you need to choose a verification
option.
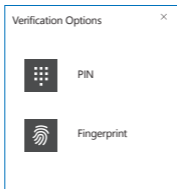
❷ After verification, the fingerprint will be removed.
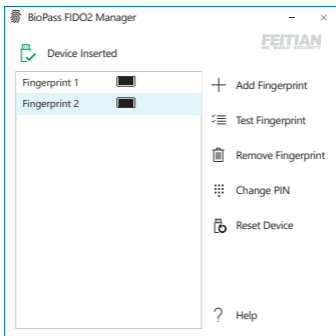
Change PIN

❶ Click ⊞ Change PIN .

❷ Fill in all the text boxes then click "OK" to change PIN.

Reset Device

Click ⟦🔒 Reset Device⟧ .

NOTE **Once reseted, all data including your credentials stored inside the Security Key will be deleted .**

Specification
Security Key

Standard	FIDO2
Security Algorithm	ECDSA, SHA256, AES, HMAC, ECDH
Interface	USB Type-A / USB Type-C
Communication Protocol	CTAPHID
Working Voltage	5.0V
Working Current	34mA ^{Standby} 44mA ^{Peak}
Power	0.17W ^{Standby} 0.22W ^{Peak}
Working Temperature	-10 ~ 50 °C (14 ~ 122 °F)
Storage Temperature	-20 ~ 70 °C (-4 ~ 158 °F)
Fingerprint Sensor	FPC Fingerprint Sensor
Indicator	Green LED, Red LED
Casing Material	Zinc Alloy and Plastic (PC+ABS)
Size	42.3 × 20.8 × 4.5 mm [K24] 51 × 18 × 6.5 mm [K27] 50.9 × 18.5 × 7 mm [K26]

Specification
Fingerprint Module

Resolution	160 × 180 pixel
Definition	508 DPI
Sensor Service Life	Over 200,000 times
Storage	50 fingerprints
Autonomic Learning	Yes
False Accept Rate	<0.001%
False Reject Rate	<1%
Recognition Time	<0.6 sec
Acquisition Time	<180 ms

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