

# UniMate USB User Manual

From SecuTech Wiki

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## UniMate Manual

Version 2.1

Version	Date
1.0	2015.7
2.0	2016.7
2.1	2018.2

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#### CE Attestation of Conformity



UniMate is in conformity with the protection requirements of CE Directives 89/336/EEC Amending Directive 92/31/EEC. UniMate satisfies the limits and verifying methods: EN55022/CISPR 22 Class B, EN55024: 1998.

#### FCC Standard



This device is in conformance with Part 15 of the FCC Rules and Regulation for Information Technology Equipment.

Operation of this product is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



The equipment of UniMate is USBbased.

#### Conformity to ISO 9001:2000



The Quality System of SecuTech Solution Inc., including its implementation, meets the requirements of the standard ISO 9001:2000

#### ROHS



All UniMate products are environmentally friendly with ROHS certificates.

## Overview

The UniMate USB, hereinafter referred to as UniMate, is a mobile authenticator and information security PKI product based on CCID technology (except UniMate Drive). It functions as a secure container for digital credentials. An advanced processor and secure memory are built into the device to provide security for exchanging, storing and handling of electronic information.

UniMate has achieved an effective rights management and provides a highly-secure file system. The built-in processor allows for fast and efficient information processing.

UniMate supports PKCS#11, CSP and Value Added APIs (CD-ROM and Partition). The abundant samples provided in the SDK help to ease integration.

UniMate also supports iOS, Android and a multitude of other devices through either a USB port using the CCID protocol or a 3.5mm TRRS audio jack.

## UniMate Features

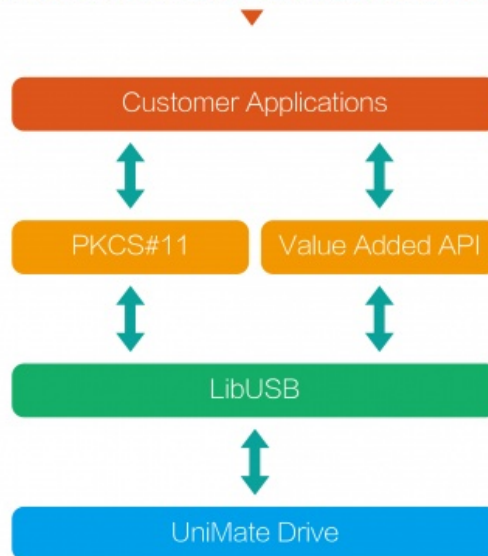
Universal features of UniMate

- Globally unique hardware ID.
- Customizable software ID.
- Smart card based.
- On-board encryption.
- Two levels of PIN management mechanism.
- A secure file system.
- Up to 64KB of memory.
- Stylish and cute case.
- Lead free.

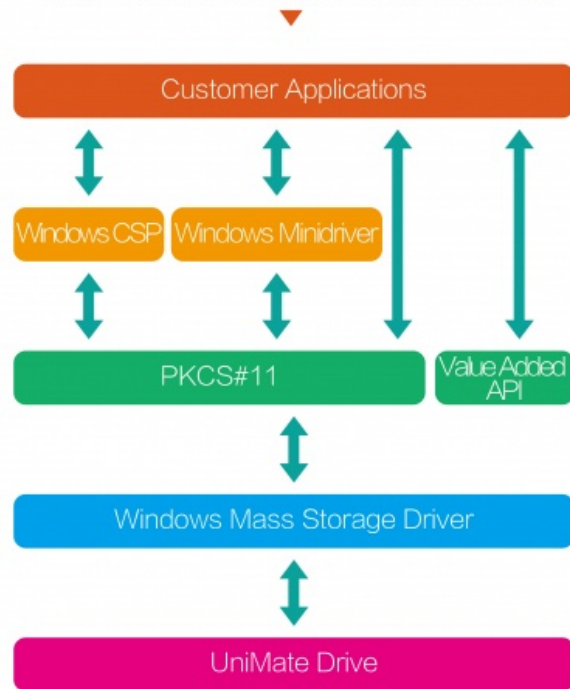
### UniMate Drive

The UniMate Drive is a mobile authenticator and information security PKI product which can store key certificates. UniMate Drive includes two storage types: flash memory and CD-ROM. You can set up the storage size using the Partition tool and the Value Added library. ISO files can be loaded into the CD-ROM partition. You can also format the flash memory and copy files into it, and so on. The total capacity of the UniMate Drive is between 2 to 32 GB, you can partition it as you wish. UniMate Drive supports PKCS#11, CSP and Value Added APIs (CD-ROM and Partition).

### UniMate Drive Architecture (Linux/Mac OS X)



## UniMate Drive Architecture (Windows)



## UniMate Flex

UniMate Flex is an interactive hybrid mobile authentication token designed particularly for use in banking. The two-factor authentication device makes use of a high-performance smart card, an LED display and confirmation buttons to verify the secondary form of authentication. Users can visually confirm transaction information on-screen and press the confirmation button to approve only authorized transactions.

UniMate Flex features PKI based digital certificate and private key storage, as well as on-board encryption, with the ability to generate and store RSA secret key pairs within the key.



## UniMate USB

UniMate USB is a FIPS 140-2 algorithm certified smart card USB authentication token which utilizes smart card technology for strong authentication. Smart card technology allows for highly robust authentication and verification solutions.

## Organizational Use

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#### Enhanced Business

With secure access in place, organizations can enable business process and transactions through network connectivity and online services anytime, anywhere, with confidence.

#### Security

UniMate USB provides robust protection of sensitive business data from unauthorized access.

#### Cost Effective

UniMate USB reduces password administration costs and losses from data breaches, and provides multiple flexible solutions on one platform.



#### Personal Use

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#### Identity Protection

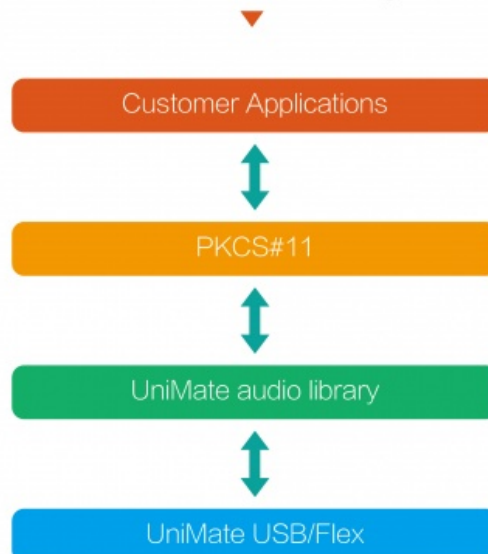
UniMate USB provides individuals with a secure digital identity and hence protected from theft and abuse.

#### Portability and Convenience

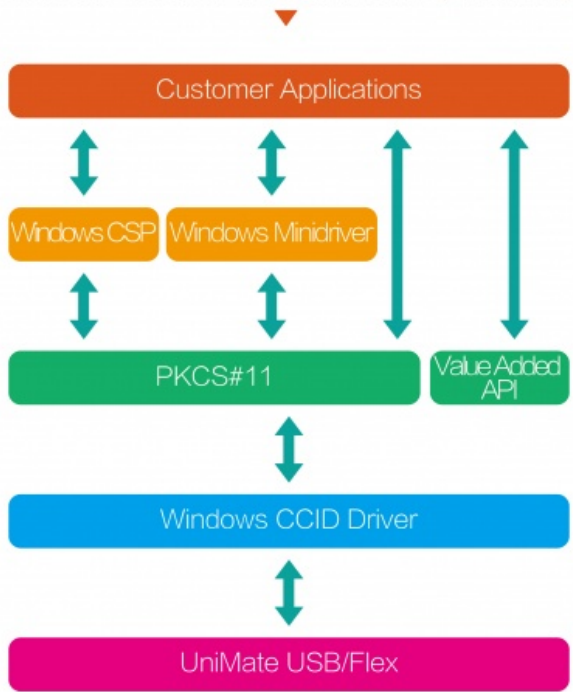
UniMate USB enables users to access their credentials securely wherever they go, whenever they want.

Error creating thumbnail: File missing

#### UniMate USB/FLEX Architecture (iOS/Android)



UniMate USB/FLEX Architecture (Windows)



# Security

Security is the most important feature of the UniMate system. It involves an identification and verification method, including a file access permission control mechanism inside the UniMate, a confidential access system. This security attribute is changed based on the current state of the device, when the card is reset or after the UniMate has finished some commands.

## PIN

The following table describes different key types and use.

PIN Type	Use
User PIN	Directory level authentication. Control different users' read and write permissions. Generate key pairs. Certificate management. Sign and so on.
Admin PIN	Ensures the security during the card initialization To reset User PIN/unlock a user.

User PIN: a personal identification number which is firstly hashed and then stored in the device.

Admin PIN: a console identification number.

## Factory default settings

The default User PIN is 11111111 and the default Admin PIN is 00000000.

## SDK

Components	Description
CSP (MS-CAPI)	Declaration of standardized identifiers and interface of CSP CSP libraries Redists/PKI package.exe Samples for CSP CSP Manual.pdf
Documents	Manual.pdf (UniMate manual)
PKCS#11	Declaration of the standardized identifiers and interface of PKCS PKCS libraries Samples for PKCS PKCS#11.pdf
Utilities	Utilities Installation (Console setup.exe, Monitor setup.exe) Utilities Manual
Value Added API	Declaration of the standardized identifiers and interface of Value Added API Value Added API libraries Samples for Value Added API API Manual.pdf
Quick Start.pdf	Product overview Software introduction Utilities introduction Factory default settings
ReadMe.txt	Changelog



# Applying Digital Certificates

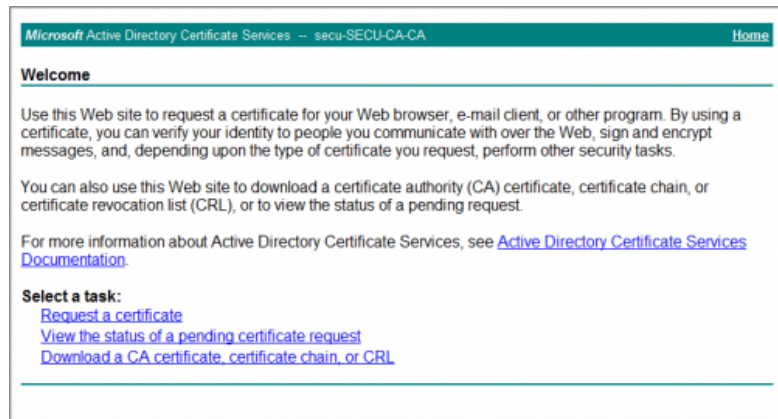
UniMate provides a perfect container for digital certificates, supporting X.509 digital certificates. The UniMate PKI package is a middleware that provides digital certificate usage.

A digital certificate and authenticated access is needed to use the UniMate, as without it, any operation on the UniMate is forbidden. In this part, we will introduce how to apply digital certificates. We will take VeriSign certificates and Microsoft Certificates as examples.

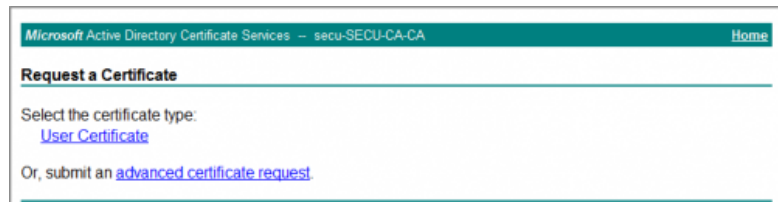
## Applying Microsoft Certificates



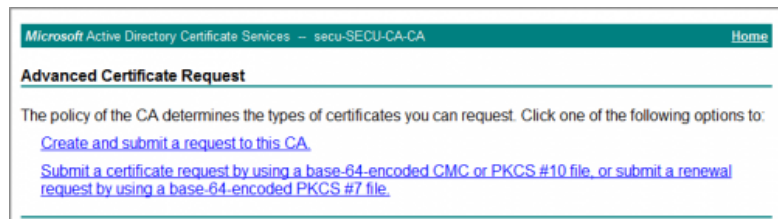
Insert a UniMate into the USB port first, and start IE to open the Microsoft certificate application page. This is the home page of the certificate application site. Firstly, you should click "Request a certificate".



And then, select "advanced certificate request".



On the page of Advanced Certificate Request, select "Create and submit a request to this CA".



For a certificate template, select "Smartcard User" in the list; for CSP, select "UniMateDRIVE CSP v2.0".

Microsoft Active Directory Certificate Services -- secu-SECU-CA-CA Home

### Advanced Certificate Request

Certificate Template:  
Smartcard User

Key Options:

☒ Create new key set ☐ Use existing key set

CSP: UniMate DRIVE CSP v2.0  
You may have selected a CSP that does not support the key type defined in the template. Please modify the key type in the template or select either different CSP or certificate template.

Key Usage:

Key Size: 1024 Min: 1024 Max: 2048 (common key sizes: 1024 2048)

☒ Automatic key container name ☐ User specified key container name

☐ Mark keys as exportable

☐ Enable strong private key protection

Additional Options:

Then, a window will appear to ask you to type in your UniMate's PIN. Click OK. The system will generate a certificate automatically.

User PIN: [masked]


OK Cancel

Click "Install this certificate" for installation.

Microsoft Certificate Services -- pscST

### Certificate Issued

The certificate you requested was issued to you.

 [Install this certificate](#)

After installation, the system will prompt that the certificate has been successfully installed.

Microsoft Certificate Services -- pscST

### Certificate Installed

Your new certificate has been successfully installed.

## Using Digital Certificates

SecuTech provides a series of solutions for the use of digital certificates, in the aspects of IE, Outlook, PDF, Office, and so on.

For detailed instructions about this, please download the related integration guides from <https://www.esecutech.com>.

# Specifications

## UniMate Drive

Key Features	
Driverless Operation 2GB, 4GB, 8GB, 16GB and 32GB	
Selective Mass Storage	Normal Partition Virtual CD-ROM
Dimensions	52.8x17x7 mm
Weight	7.2g
Min. Operating Voltage	5V
Current Consumption	<= 50 mA
Operating Temperature	0°C to 70°C
Storage Temperature	-10°C to 85°C
Humidity Rate	0-70% without condensation
Casing	Tamper-Resistant Metal
Memory Data Retention	At least 10 years
Memory Cell Rewrites	At least 100,000 times
PKI	PKCS#11 MS-CAPI
Onboard Encryption Algorithms	1024- and 2048-bit RSA 128-, 192- and 256-bit AES 64-bit DES and 192-bit TDES
Onboard Hashing	MD5, SHA-1, SHA-224, SHA-256, SHA-384, SHA-512
Operating System Compatibility	Linux Windows 98 SE, 2000, ME, XP, 2003, Vista, 7, 8, and 10 Windows Server 2000, 2008 and 2012

UniMate Flex

Hardware	
Dimensions	65x36x11.4 mm
Weight	23g
Audio Interface	3.5mm TRRS
USB Interface	USB Type A
Display	LCD
Hardware ID	64-bit Globally Unique
Internal Memory	> 16KB
Mobile Device Software	Audio Authentication Interface
Casing	Tamper-Resistant Metal
Middleware	PKCS#11 MS-CAPI Audio Authentication API X.509 Digital Certificate
Performance	
Min. Operating Voltage	5V
Current Consumption	<= 50 mA
Operation Temperature	0°C to 70°C
Storage Temperature	-10°C to 85°C
Humidity Rate	0-70% without condensation
Memory Data Retention	At least 10 years
Memory Cell Rewriters	At least 100,000 times
Supported Platforms	Mobile OS: iOS, Android, Symbian, Windows Phone PC: Windows, Linus, Mac OS X

## UniMate USB

Key Features	
PKI token with CCID interface Embedded Smart Card Onboard Encryption Three-level Permission System Secure File System Auto-lock Mechanism MS-CAPI, PKCS#11 and X.509 v3 Standard Compliant Globally Unique Hardware ID (32-bit) User-Defined Token ID Lead-Free Robust Case	
Hardware	
Dimensions	52.8x17x7 mm
Weight	6.4g/2.4g
Interface	USB
Performance	
Min. Operating Voltage	5V
Current Consumption	<= 50 mA
Operation Temperature	0°C to 70°C
Storage Temperature	-10°C to 85°C
Humidity Rate	0-70% without condensation
PKI	PKCS#11 MS-CAPI
Onboard Encryption Algorithms	1024- and 2048-bit RSA DSTU4145-series 128-, 192- and 256-bit AES 64-bit DES and 192-bit TDES GOST28147
Onboard Hashing	MD5, SHA-1, SHA-224, SHA-256, SHA-384, SHA-512
Supported Platforms	Linux Windows 2000, XP, 2003, Vista, 7, 8, 8.1, and 10 Windows Server 2008 and Server 2012
Software Developers	UniMate USB API libraries in Windows and Linux UniMate USB Console for management of UniMate USB devices UniMate USB PKI middleware for PKCS# 11 and MS-CAPI applications UniMate USB IE ActiveX Control, Firefox Plugin
Software - Users	UniMate USB Monitor for registration and management of user digital certificates

# Frequently Asked Questions

## What is UniMate?

UniMate is SecuTech's mobile authentication product family focusing on secure transaction authentication and platform interchangeability by employing two-factor authentication.

## How does UniMate work?

UniMate authentication utilizes PKI technology, where certificates are securely stored within the UniMate device and are inaccessible without the appropriate permissions to interact with the device.

The TRRS audio port found on most mobile devices is used for secure communication during use of the device, in addition to providing a micro USB interface for use and configuration on a desktop platform.

## What is PKI?

Public Key Infrastructure (PKI) is a set of hardware, software, people, policies, and procedures needed to create, manage, distribute, use, store, and revoke digital certificates.

## What algorithms are supported?

UniMate supports 2048-bit RSA, 1024-bit RSA, 128-bit AES, 192-bit AES, 256-bit AES, 64-bit DES, and 192-bit TDES. More algorithms will be added and current info is subjected to change from time to time.

## What is the middleware?

The middleware contains PKCS#11, MS-CAPI, and Audio Authentication APIs and X.509 Digital Certificates.


## What is the default PIN?

The default Admin PIN is eight zeros, or "00000000", the default User PIN is eight ones, or "11111111", without quotation marks.


## Where can I receive further assistance?

If you have any questions, please feel free to contact us at: <http://www.esecutech.com/support> or [support@esecutech.com](mailto:support@esecutech.com) (mailto:support@esecutech.com)


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SecuTech Solution Inc. is a company specializing in data protection and strong authentication, providing total customer satisfaction in security systems & services for banks, financial institutions & other industries. Having extensive and in-depth experience within the information security market, SecuTech has drawn upon this experience to utilize today's cutting-edge technologies that are effective against increasingly sophisticated cyber attacks. Enabling enterprises, financial institutions, and government to safely adopt the economic benefits of mobile and cloud computing.

<http://www.esecutech.com>  
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- This page was last modified on 10 August 2018, at 02:16.