

CmReady – License Mobility with Industrial Memory Cards

Industrial customers from around the world now have faster and easier access to software license management and protection. Swissbit Data Protection (DP) memory cards have been integrated with Wibu-Systems' CodeMeter technology. Offered in different form factors, the resulting CmReady® solution combines physical binding for software-based license containers with secure key storage in encrypted license files. Users can now enjoy the benefits of software protection, IP protection, and licensing with all the comfort of a mobile SD or microSD card.

The DP cards from Swissbit already feature highest performance and enhanced security capabilities across their product portfolio. Not only do they include built-in data protection with AES 256-bit encryption, but they can also be partitioned into different logical areas, each with a configurable data protection policy that can be flexibly controlled (role-based access control). Combined with

CodeMeter, Swissbit's DP hardware provides the user experience of a mass storage device with protection and licensing capabilities. Best of all, with the secure DP hardware, the level of security of CmReady exceeds that of a software-only IP protection solution and users can appreciate all the mobility of a traditional dongle.

What is CodeMeter?

For two decades, CodeMeter has enabled software publishers and intelligent device manufacturers to protect their digital assets against piracy and reverse engineering, monetize software, firmware, and confidential data with versatile licensing models, and provide a secure means of authentication for people and machines alike. The confidential digital data is stored in hardware (CmDongles), software (CmActLicenses), or cloud (CmCloudContainers) containers.

A CmReady card offers a new alternative, po-

sitioned in terms of security and price point between CmDongles and CmActLicenses. All CmDongles come with an embedded smart card chip on which cryptographic keys and firmware are stored. A CmActLicense consists of three major components:

- The encrypted and signed license itself. This data can be stored in any public area.
- A unique and secure fingerprint configured in a specific binding file to prevent counterfeiting.
- A secure generation counter that wards off license manipulation attacks like counter or timer resets.

In the case of CmReady, the plug&play binding is combining the hardware unique ID (UID) of the card with protected, monotonically increasing counters to prevent replay-attacks against the license container. This raises the level of security compared to a mere software solution, where fingerprint and generation counter are bound to the host computer.

	CmActLicense	CmReady Card	CmDongle
Time / Feature / Usage-based Licensing	✓ / ✓ / ✓	✓ / ✓ / ✓	✓ / ✓ / ✓
IP Protection	✓	✓	✓
Virtual Clock	✓	✓	✓
Mass Storage		✓	✓
Mobile Usage		✓	✓
Easy Offline Replacement of a Broken Device/Computer		✓	✓
Hardware Clock			✓
Strong Authentication			✓
Key and Counter Storage in the Smart Card Chip			✓
Form Factors		Memory card	USB stick, memory card or ASIC

CmReady memory cards are compatible with both CodeMeter Runtime and CodeMeter Embedded – the essential components for running protected applications on desktops and embedded systems.

Benefits of CmReady

Compared to a device-bound CmActLicense, CmReady offers several benefits:

1. The license is portable with the CmReady memory card it is bound to.
2. **Plug and Play:** No binding implementation effort for using CmActLicense on a CmReady memory card.
3. Easy activation: Activate and renew licenses on a desktop computer and use them on an embedded device.
4. With CmReady cards, CodeMeter can be used with a huge variety of mass storage devices with multiple interfaces, form factors, memory capacities, and types.
5. Should a target device like a PLC or an IPC break, the software and license can be easily transferred to a replacement device via the CmReady card.

Furthermore, trustworthy internal functions of CmReady cards prevent copying and replaying of licenses: internal counters cannot be manipulated by re-importing old license update files.

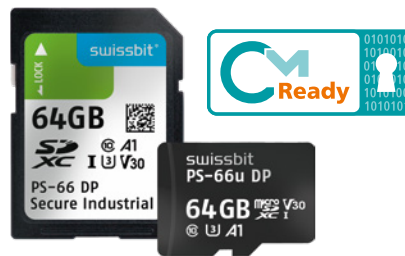
By their own nature, mass storage devices can also store data unprotected. The long lifecycles of industrial systems of up to 15 years need highly reliable security solutions. The DP card line from Swissbit offers such trustworthiness for green and brownfield environments.

The DP cards come with a variety of security options to safeguard sensitive data. The encrypted area can store confidential info, i.e. GDPR

related records. The PIN protection feature and a built-in hardware retry counter makes it nearly impossible for unauthorized users to gain access to your data in the event that the card is lost or stolen. Additionally, the integrity of recorded data can be protected by a WORM (write once, read many) memory partition.

Technical Specifications

Swissbit's CmReady Cards



PS-66 DP (SD Card)

Data transfer	Class 10, UHS-I U3, A1, V30
FLASH technology	pSLC
Density	4 GB – 64 GB

PS-66u DP (microSD Card)

Data transfer	Class 10, UHS-I U3, A1, V30
FLASH technology	pSLC
Density	16 GB – 64 GB

Security Features

Hardware

- AES 256-bit encryption, fast crypto-wipe option
- Implicit and replay-safe secure authenticity and integrity check
- User PIN and administrator login
- Hidden Storage / OTP (One Time Programmable) memory

Memory

- CD-ROM function protects read-only data such as boot media, software installers, or any data that must not be overwritten.
- Private partitions encrypt and protect any type of data. After secure PIN login, this type of partition is unlocked and available either for read-only or unrestricted read-write access, depending on the user configuration.
- The NVRAM memory can store data hidden from standard OS access and only accessible via an authenticated API, making it ideal for audit trails.

Supported operating systems

- Windows and Linux

Supported platforms

- Intel and ARM

Secure License File

- CodeMeter-based signed and encrypted license file for software publishers to independently encrypt and decrypt data using symmetric and asymmetric algorithms. Up to four license containers can be created on each DP card, which would allow for manufacturers, integrators, and end users to use the same card, but be entitled only to the software associated with their respective license.

WIBU SYSTEMS About WIBU-SYSTEMS AG

Wibu-Systems is an innovative technology leader in the global market for the protection and monetization of software and data. The company's mission is to provide the highest level of protection, licensing, and security for digital assets and intellectual property in an increasingly connected world. Its solutions are used worldwide by software publishers and smart device manufacturers who distribute their applications for PCs, mobile devices, embedded systems, controllers, and microcontrollers.

Founded in 1989, the company is headquartered in Germany and has offices in China, Japan, the United States, and across Europe.



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swissbit® About Swissbit AG

Swissbit is the leading European manufacturer of storage, security, and embedded IoT solutions for demanding applications. Swissbit combines its unique competences in storage and embedded IoT technology with its advanced packaging know-how. This expertise allows their customers to reliably store and protect data in industrial, NetCom, automotive, medical, and fiscal applications as well as across the IoT.

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