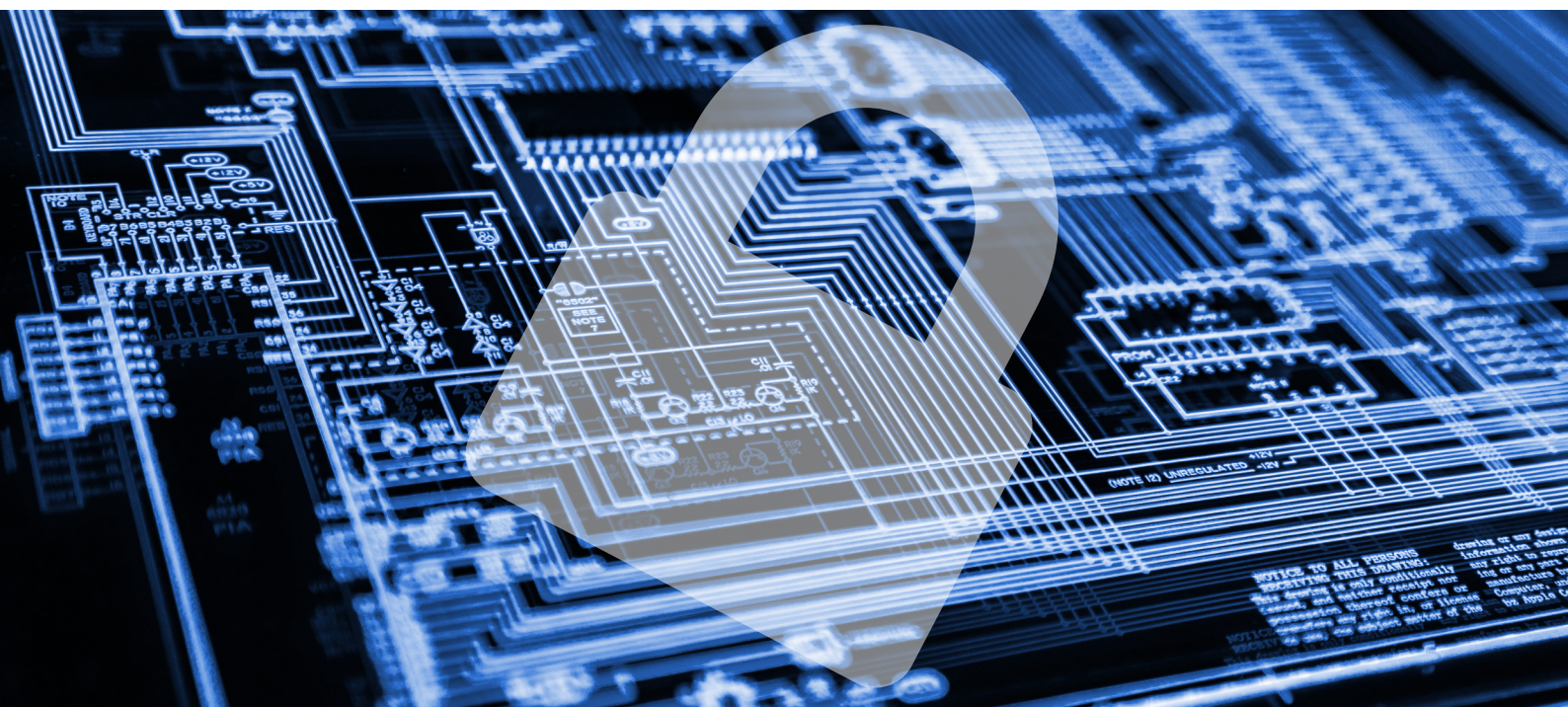


se.SAM™ U200 Industrial Crypto-Module



- ▶ Suitable and tested for **industry, IT and office** operation
- ▶ **Long-term** availability
- ▶ Extreme temperature ranges
-40°C to +90°C
- ▶ Driverless - "**Plug & Play**"
OS-independent
- ▶ **No libraries** or special software
necessary
- ▶ **Isolated storage areas** for
protecting cryptographic keys
and data
- ▶ Cost-efficient integration by
short training periods



sematicon se.SAM™ U200

The **se.SAM™ U200** Crypto-Module has been especially designed to meet the requirements of device and plant construction in industry, electronic engineering and other related areas. Special attention was paid to stability, robustness and particular easy handling.

Easy to integrate - driverless - "Plug & Play"

The fast and effortless use of the standardised USB-interface enables the module's integration into nearly every system - requiring neither device drivers nor software for operation. The device can be utilised directly in the application or in the development environment.

Securely encrypted

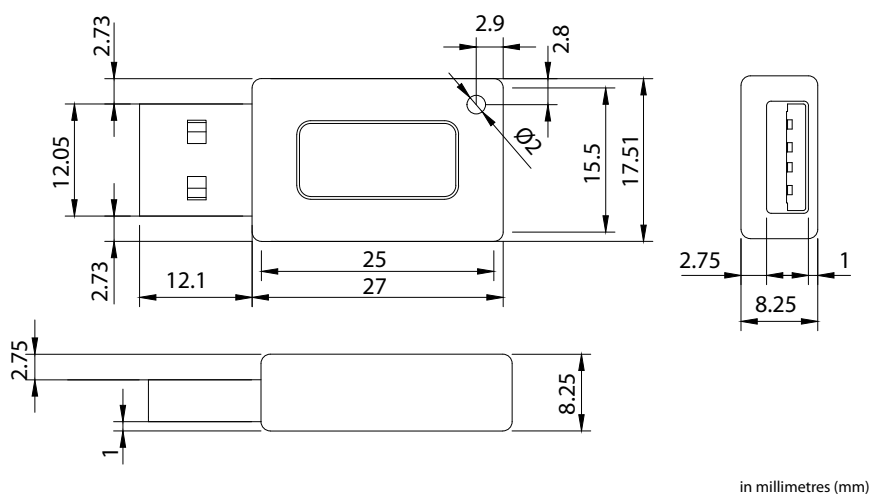
By means of state-of-the-art technology, **se.SAM™** provides extensive protection of digital secrets against unauthorised copies. In addition to a world-wide unique serial number, a variety of cryptographic functions is combined in just one tool - easy to handle and to understand. No matter what the motivation behind your project is: to protect your intellectual property, to guarantee the authenticity of your data or to protect the measurement values against unauthorised access? With our **se.SAM™ U200** Crypto-Module you are excellently prepared!

Securely resilient

A wide temperature range, an extended radio interference suppression as well as water tightness enable the module's application in all climatic environments and control cabinets, too. The module is fully encapsulated with a special sealing compound, without air inclusion, resisting mechanical influences and hardware manipulation. During the mechanical final sealing process, great emphasis is laid on high rigidity combined with sufficient elasticity. Therefore, the module is suitable for both stationary installation and for mobile use by the service technician. Access to maintenance areas is digitally secured; even qualified service staff can be identified without a doubt.

Securely qualitative

Due to in-house production complying with our high quality standards in development and manufacturing, the module's availability is ensured in the long run. We help our customers save money, as spare parts can be delivered on a long-term basis.



in millimetres (mm)

Technical specifications

Cryptography

- ▶ Key storage: 10 symmetric keys and 10 asymmetric key pairs with certificate
- ▶ Symmetric algorithms: AES CBC, AES, CTR, AES ECB each with 128 and 256 bit, SHA1-HMAC, SHA256-HMAC, SHA384-HMAC, SHA512-HMAC, CMAC-128
- ▶ Asymmetric algorithms: RSA 512 to 4096, ECC-NIST-P/secp192r1 to 521r1, ECC-Brainpool 160 to 512, ECC Koblitz/secp160k1 to 256k1, ECDSA, ECDH
- ▶ HASH digest: SHA1, SHA-2-224 bis 512
- ▶ Key derivation function: HKDF
- ▶ Additional functions: Secure Hardware Counter, "Multi Source True Random Number Generator", Key-ACLs, Secure Key Exchange, firmware update, which can be disabled, cryptographic self-test, Secure Key Import, Key Usage Counter

Certifications

- ▶ Common Criteria EAL6+ (hardware and operating system of the crypto-processor)
- ▶ Compliant to EU-directive 2014/32/EU and the WELMEC Software Guide for Measuring Instruments (V7.2, 2015)

Connection

- ▶ USB 1.0, USB 2.0 (full speed, low speed), USB-A-connector

Appliance features

- ▶ Size (LxWxH): 39,1 x 17,51 x 8,25 mm
- ▶ Weight: 10g
- ▶ Temperature range: -40°C to +90°C
- ▶ Humidity rating: 0% - 100%
- ▶ Water resistance certification: IP X8 (DIN EN 60529)
- ▶ Casing: full encapsulation (plastic) without air inclusion
- ▶ Memory data retention: over 15 years
- ▶ Immunity (ESD): 4 kV contacted discharge (Performance Criteria A), 8kV air discharge (Performance Criteria A), EN55024:2010, EN61000-6-2:2005
- ▶ Immunity (EMI): 10 V/m from 80 MHz to 1GHz (Performance Criteria A), 3 V/m from 1GHz to 2,7GHz (Performance Criteria A), EN55024:2010, EN61000-6-2:2005
- ▶ Emission (EMR): EN55032:2012
- ▶ Voltage: 5 V-DC (USB-supply)
- ▶ Power supply: up to 25 mA (under load)
- ▶ EU-directives (CE marking): 2012/19/EU (WEEE), 2011/65/EU and 2015(863/EU /RoHS), 2014/30/EU (EMC)



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