

# SmartCard-HSM 4K Data Sheet



<b>Order No</b>	510030000 SmartCard-HSM 4K USB-Token (3.1-P5) 510030100 SmartCard-HSM 4K Mini-SIM (3.1-P5) 510030200 SmartCard-HSM 4K Dual-IF (3.1-P5)
<b>Purpose</b>	The SmartCard-HSM is a light-weight hardware security module for secure key generation, storage and use. It has been designed for PKI and cryptographic systems with low to moderate load. The unique build in support for card verifiable certificates as defined in BSI TR-03110 (Extended Access Control) makes a SmartCard-HSM the perfect choice for storing key material in a distributed Public Key Infrastructure. A trusted channel and public key attestation allow remote key generation and certificate issuance. Advanced key management functions provide for key backup and device clustering in key domains.
<b>Authentication</b>	User-PIN / Transport-PIN Public Key Authentication with CV-Certificates Chip Authentication V2.0 based on BSI TR-03110 with Secure Messaging (AES, TDES) Peer authentication in key domains
<b>Key Types</b>	RSA 1024, 1536, 2048, 3072 and 4096 bit ECC 192, 224, 256, 320, 384, 512 and 521 bit on GF(p) AES 128, 192 and 256 bit
<b>Algorithms</b>	Generate key (RSA, ECC, AES) RSA Sign (Raw, PKCS#1 V1.5, PSS, +SHA-1/256/384/512) ECDSA Sign (Raw, SHA-1, SHA-256, SHA-384 and SHA-512) Key Agreement (RSA OAEP (<=3072), ECDH Raw and ECDH Authenticated) AES Key Derivation with Export (CBC, CMAC, NIST SP 800-56C) Wrap / Unwrap Key under AES-256 Key Encryption Key
<b>Random Number</b>	Class DRG.3 as defined in AIS 20
<b>Memory Size</b>	60K EEPROM RSA 4096 key typically 4000 byte ECC 521 key typically 2500 byte AES 256 key typically 250 byte All key sizes plus memory space for meta-data (e.g. certificates)
<b>Performance</b>	RSA 1024: 90 ms                      ECDSA/ 256: 80 ms RSA 1536: 150 ms                    ECDH 256: 90ms RSA 2048: 250 ms                    ECDSA 512: 190 ms RSA 3074: 1900 ms                   ECDH 512: 290 ms RSA 4096: 4100 ms RSAGEN 2048: 20 sec                ECGEN 256: 6 sec RSAGEN 4096: 120 sec               ECGEN 512: 8 sec
<b>Data Retention Endurance</b>	25 years 500.000 write cycles
<b>Platform Certification</b>	Common Criteria EAL 5+ (CC-18-98209) No composite applet certification performed