



Primus HSM E-Series

Enterprise level Hardware Security Module at an unbeatable performance/price ratio

The Securosys Primus HSM E-Series provides an optimal solution for moderate-scale hardware security needs, balancing high performance with cost efficiency. Designed, developed, and manufactured in Switzerland, the E-Series delivers advanced cryptographic functionality without compromising usability.

Built as a network appliance, it eliminates the complexities and limitations of PCIe card-based solutions, reducing additional hardware dependencies and points of failure. With flexible, scalable performance levels and in-field upgradeability, the E-Series is ideal for securing financial transactions, managing cryptographic keys, and protecting blockchain systems and cloud access. Simple setup, tamper protection, and seamless integration make the E-Series a reliable choice for diverse security applications.

Unbeatable Price/ Performance ratio

The Primus E-Series HSM delivers the functionality of full network appliances at a price comparable to PCIe card HSMs, but without their limitations or drawbacks.

Seamless Integration and Multi-Tenancy

E-Series HSMs offer integration via different, fully documented API's (PKCS#11, CNG/KSP, Java, REST) and offer multi-tenant configurations for up to 50 partitions. Primus HSMs integrate effortlessly into any network environment, ensuring secure access for diverse applications in parallel.

Robust Tamper and Transport Protection

Ensure data integrity during transport, storage, and operation with advanced tamper protection that exceeds FIPS and Common Criteria standards. Active tamper sensors protect even when the HSM is unpowered, triggering alerts on any manipulation attempt.

Designed, developed, and manufactured in Switzerland.

Scalability on Demand

Easily upgradable from E20 to E60 and E150 with a simple license update, Primus HSMs provide scalability for evolving performance needs.

Remote Management

Decanus enables seamless, highly secure, and efficient remote management of your HSM and partitions.

Comprehensive Cryptographic Support

Primus HSMs support a wide range of cryptographic algorithms, and is upgradeable to post quantum computer-resistant algorithms, ensuring robust security for diverse encryption needs.

Rapid Deployment and Low Maintenance

With a user-friendly setup wizard, the Primus E-Series HSM offers quick setup, easy configuration and operation, reducing setup time and lowering operational and maintenance costs.

Security Features

Security Architecture

- / Multilevel security architecture
- / Internal hardware supervision for error-free operations

Encryption/Authentication (extract)

- / 128/192/256-Bit AES with GCM-, CTR-, ECB-, CBC-, MAC-mode
- / Camellia, 3DES (legacy), ChaCha20-Poly1305, ECIES
- / RSA 1024-8192, DSA 1024-8192
- / ECDSA 224-521, GF(P) arbitrary curves (NIST, Brainpool,...)
- / ED25519, Curve25519
- / Diffie-Hellman 1024-4096, ECDH
- / SHA-2/SHA-3 (224-512), SHA-1, RIPEMD-160, Keccak
- / HMAC, CMAC, GMAC, Poly1305
- / Upgradable to quantum computer-resistant (PQC) algorithms

Key Generation

- / Two hardware true random number generators (TRNG)
- / NIST SP800-90 compatible random number generator

Key Management

- / Key capacity: up to 6 GB
- E150 up to 50 partitions @ 120 MB capacity
- E60/E20 up to 10 partitions @ 120 MB capacity

Operation

- / Number of client connections not restricted
- / Unlimited number of backups

Anti-Tamper Mechanisms

- / Several sensors to detect unauthorized access
- / Active destruction of key material and sensitive data on tamper
- / Transport and multi-year storage tamper protection by digital seal

Attestation and Audit Features

- / Cryptographic evidence of audit relevant parameters (keys, configuration, hardware, states, logs, time-stamping)

Identity-based Authentication

- / Multiple security officers (m out of n)
- / Identification based on smart card and PIN

Networking Features

Software Integration

- / JCE/JCA provider
- / PKCS#11 provider, OpenSSLv3
- / Microsoft CNG/KSP
- / REST (TSB Module)

Networking

- / IPv4/IPv6
- / Interface bonding (LACP or active/backup)
- / Active clustering of multiple units for load-balancing and fail-over
- / Monitoring and log streaming (SNMPv2, syslog/TLS)

We strive to continuously improve our offerings and therefore reserve the right to change specifications without notice. Designed and manufactured in Switzerland.

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Device Management

- / Local configuration (GUI, console)
- / Remote administration (Decanus Terminal)
- / Local and remote firmware update
- / Network attached storage data transfer (WebDAV option)
- / Secure log and audit
- / Enhanced diagnostic functions

Technical Data

Performance (transactions per second)

Model	RSA 4096	ECC 256	ECC 521	AES 256
E150	200	1'500	300	600
E60	60	700	120	600
E20	20	350	60	200

Power

- / Power supply: 100 ... 240 V AC, 50 ... 60 Hz
- E150 with two redundant hot pluggable power supplies
- / Power dissipation: 30 W (typ), 50 W (max)
- / Backup lithium battery: Lithium Thionyl Chloride 0.65g Li, IEC 60086-4, UL 1642, 3.6V

Interfaces

- / 4 Ethernet RJ-45-ports with 1 Gbit/s (rear)
- / 1 RS-232 management port (rear)
- / 1 USB management port (rear)

Controls

- / Console interface
- / 4 LEDs for system and interface status (multicolor)
- / Optional Decanus Terminal for remote administration

Environmental Test Specifications

- / EMV/EMC: EN 55022, EN 55024, FCC Part 15 Class B
- / Safety: IEC 62368-1

Specifications

- / Temperature ranges (IEC 60068-2-1 Ad, IEC 60068-2-2 Bd):
 - storage -25 ... +70 °C;
 - operation 0 ... +40 °C, recommended +1 ... +30 °C
- / Humidity (IEC 60068-2-78 Cab): 40 °C, 93% RH, non-condensing
- / MTBF (RIAC-HDBU-217Plus) at t_{amb}=25 °C: 80 000 h
- / Dimensions (w×h×d) 417 x 44 x 365 mm (1U 19" EIA standard rack)
- / Weight 5,8 kg

Certifications

- / FIPS140-2 Level 3
- / CC EN 419221-5 eIDAS protection profile
- / CE, FCC, UL



Front



Rear (E20, E60)

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