

payShield 9000

The hardware security module
that secures the world's payments

payShield 9000

- Delivers comprehensive, certified security specially designed for cards and mobile secure elements
- Provides off-the-shelf support for all major payment applications
- Maximizes business continuity with high resilience features
- Reduces the cost of compliance with a choice of software options tailored for issuers, processors and acquirers
- Offers a range of scalable, high performance models



Technical Specifications

Designed specifically for payment applications, payShield 9000 from Thales is a proven hardware security module (HSM) that performs such tasks as PIN protection and validation, transaction processing, mobile and payment card issuance, and key management. The solution delivers high assurance protection for automated teller machine (ATM) and point of sale (POS) credit and debit card transactions.

Key management standards

- Key management compliant with ASC X9.24 Parts 1, 2 and 3
- ASC X9 TR-31 Key Block support
- ASC X9 TR-34 Asymmetric Key Management

Cryptographic algorithms

- DES and Triple-DES key lengths 112 & 168 bit
- AES key lengths 128 bit, 192 bit, 256 bit
- RSA (up to 4096 bits)
- FIPS 198-1, MD5, SHA-1, SHA-2

Performance options

- Range of performance options up to 1500 tps
- Multi-threading to optimize performance

Host connectivity

- Asynchronous (v.24, RS-232)
- TCP/IP & UDP (1Gbps) – dual ports
- FICON

Certifications / validations

- Cryptographic module certified to FIPS: 140-2 Level 3 (key erasure on tamper), 6, 81, 180-3, 186-3, 198, NIST SP800-20, SP800-90(A)
- PCI HSM certified versions available
- APCA, GBIC, MEPS

Financial services standards

- ISO: 9564, 10118, 11568, 13491, 16609
- ANSI: X3.92, X9.8, X9.9, X9.17, X9.19, X9.24, X9.31, X9.52, X9.97
- ASC X9 TR-31, X9 TG-3/TR-39
- APACS 40 & 70
- AS2805 Pt 14

Card payments support

- American Express/Mastercard/VISA PIN and Card Verification functions
- EMV 3.X and 4.X transactions and messaging

- ATM Remote Key Loading
- Mastercard OBKM key management
- Integration with all major payment authorization and switching applications

Management facilities

- Secure Host Communications option for TLS authenticated sessions on Ethernet host port
- payShield Manager for secure local and remote management
- CipherTrust for secure remote monitoring
- Key Management Device (KMD) option to form keys from components
- Console interface for 'dumb' terminals
- SNMP including traps
- Utilization statistics, health check diagnostics and error logs

Security features

- Multiple master keys options
- Two-factor Authentication (2FA) of security officers using smart cards
- Dual control authorization – keys or cards
- Tamper-resistance exceeding requirements of PCI HSM and FIPS 140-2 Level 3
- Detection of cover removal in addition to alarm triggers for motion, voltage and temperature
- Device 'hardening' – ability to disable functions not required by the host application
- Audit trails

Physical characteristics

- Form factor : 2U 19" rack mount
- Dimensions: 85 x 478 x 417mm (3.35 x 18.82 x 16.42")
- Weight: 7.5kg (16.5lb) with dual PSU
- Electrical Supply: 100 to 240V AC Universal input, 47 to 63 Hz.
- Dual power supply option on all models
- Power Consumption: 100W (maximum)
- Operating Temperature: 0 deg C to 40 deg
- Humidity: 10% to 90% (non-condensing)

About Thales

The people you rely on to protect your privacy rely on Thales to protect their data. When it comes to data security, organizations are faced with an increasing amount of decisive moments. Whether the moment is building an encryption strategy, moving to the cloud, or meeting compliance mandates, you can rely on Thales to secure your digital transformation.

Decisive technology for decisive moments.

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