

## 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



«Thales e-Security»

## PAYSHIELD 9000

The hardware security module that secures the world's payments



# PAYSHIELD 9000

## Technical Specifications

Designed specifically for payment applications, payShield 9000 from Thales e-Security 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)

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