Product Brief

Thales CN7105 Network Encryptor

Engineered for Extreme Environments: Ruggedized Encryption for In-Vehicle and Harsh Deployments

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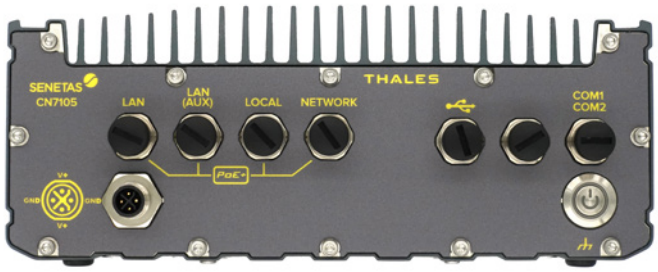
The Thales CN7105 Network Encryptor (CN7105) delivers high-assurance, field-ready encryption in the harshest environments. Built on rugged IP67-rated hardware and tested to MIL-STD-810G shock and vibration standards, the CN7105 ensures reliable and secure protection for operational data in tactical, industrial, and mobile deployments. With passive cooling, wide temperature resilience, and PoE+ support, it provides trusted, always-on security where failure is not an option.



Certified Security and Crypto-Agility

The CN7105 delivers **FIPS 140-3 Level 1 certified encryption**, supporting AES-128/256 keys, RSA/ECC authentication, and authenticated GCM/CTR modes. It is **quantum-ready**, with support for NIST post-quantum cryptography (PQC) algorithms and hybrid cryptography to ensure resilience during the transition to PQC. Through the Thales Cryptographic SDK (CSDK), the CN7105 enables the use of **sovereign or custom algorithms**, offering flexibility for national and mission-specific requirements.

In-Field Network Performance

With up to **1 Gbps line-rate encryption**, the CN7105 secures critical in-field data such as sensor telemetry, command-and-control communications, and operational traffic. T**ransport Independent Mode (TIM)** provides tunnel-free, low-overhead encryption at Layers 2, 3, or 4, ensuring secure connectivity across Ethernet, MPLS, satellite, cellular, and Internet links without impacting performance.

Rugged Scalability and Flexibility

The CN7105 is engineered for **extreme field environments**, featuring a sealed **IP67-rated stainless steel/aluminum chassis** and **M12 connectors** for shock- and vibration-resistant cabling. It supports up to **four PoE+ ports** (25.5W each, 100W total budget) to power connected field devices, alongside USB, COM, and wide-range DC input (8–48V). Designed to MIL-STD-810G shock and vibration standards, the CN7105 is optimized for in-vehicle, defense, and rugged industrial deployments where uninterrupted operation is essential. It is fully interoperable with all Thales High Speed Encryptors for seamless integration into existing networks.

Why CN7105 Encryptors?

- FIPS 140-3 certified, quantum-ready encryption
- Rugged IP67 waterproof and dustproof chassis
- Tested to MIL-STD-810G shock & vibration standards
- Tamper-evident, fanless enclosure with passive cooling
- Operates from –40 °C to +70 °C (–40 °F to +158 °F)
- Automated, zero-touch key management
- Rugged optimization for the harshest tactical, industrial, and mobile deployments
- Fully interoperable with the Thales High Speed Encryptor portfolio

Advanced Encryption and Key Management

The CN7105 employs **X.509 certificates with RSA/ECDH exchanges** in Ethernet encryption modes. In Transport Independent Mode (TIM) it uses **NIST-validated key generation ensuring robust, quantum-safe data protection with perfect forward secrecy**.It also integrates with external Key Servers, including Thales CipherTrust Data Security Platform and employs **automated certificate-based key management**, with support for hybrid certificates combining classical and PQC algorithms.

LINE & VLAN modes allow encryption across any Ethernet service for unicast, multicast, and broadcast traffic, with unique encryption keys to ensure cryptographic isolation per VLAN.

Simplified, Centralized Management

The CN7105 offers **intuitive centralized management**, delivering set-and-forget simplicity with full protocol and network transparency. Features include secure logging, event monitoring, SNMPv3, Syslog, NTP, USB firmware updates, and secure console access. Designed for ease of use, it enables streamlined deployment and lifecycle management across distributed fleets of encryptors.

CN7105 At-a-Glance

Performance	Up to 1 Gbps encrypted throughput
Crypto	AES-128/256, RSA/ECC, PQC hybrid, sovereign/custom ciphers via CSDK
Interfaces	4 × Gigabit Ethernet via M12 X-coded connectors with PoE+ (25.5W per port, 100W total), 2 × USB 2.0 (M12 A-coded), 2 × COM (RS-232, M12 A-coded), Serial console with SSH
Management	CM7, SMC, Syslog, SNMPv3, NTP
Environmental	–40 °C to +85 °C (–40 °F to +185 °F), MIL-STD-810G shock & vibration, fanless
Form Factor	Rugged IP67 waterproof and dustproof enclosure, compact 220 × 310 × 90.5 mm (8.66 × 12.20 × 3.56 in), 5.8 kg (13 lbs)
Power	160W (20V/8A); 8–48V DC wide-range (M12 S-coded); optional CN7000-PA-160-OW PSU
Certifications	FIPS 140-3 Level 1; MIL-STD-810G shock & vibration; CE/FCC; EN 50155

Specifications

Performance

- Throughput: 1 Gbps full-duplex line-rate encryption

Cryptographic Security

- AES-128/256 encryption, GCM/CTR modes
- RSA/ECC with X.509 certificates
- FIPS 140-3 Level 1 certified crypto module
- NIST PQC algorithms
- Sovereign/custom ciphers via CSDK

Interfaces

- 4 × Gigabit Ethernet via M12 X-coded connectors with PoE+
- 2 × USB 2.0 (M12 A-coded)
- 2 × COM (M12 A-coded)
- Serial console with SSH access
- Management LAN and auxiliary ports

Environmental

- Operating: –40 °C to +70 °C (–40 °F to +158 °F)
- Humidity: 10% – 90% non-condensing
- Tested to MIL-STD-810G shock & vibration standards
- Fanless, solid-state housing
- IP67 waterproof and dustproof
- Rugged for field use

Physical

- Dimensions: 220 × 310 × 90.5 mm (8.66 × 12.20 × 3.56 in)
- Weight: 5.8 kg (13 lbs)
- Rugged, tamper-evident stainless steel/aluminum housing

Power

- Input: 20V/8A (160W)
- Wide-range DC input: 8–48V (M12 S-coded)
- Optional CN7000-PA-160-OW PSU

Management

- Centralized management - CM7 and SMC support
- SNMPv3, Syslog, NTP, secure event and audit logging
- USB firmware upgrades
- Secure serial console access

SWaP

- Optimized for size, weight, and power in extreme environments

Regulatory Safety and Compliance

- CE (Conformité Européenne)
- FCC Part 15 (USA)
- ICES-003 (Canada)
- EN 50155 (railway compliance)
- EMC (EN 55032/55024)
- IEC/EN 62368-1 (safety of information technology equipment)
- RoHS, WEEE, and REACH environmental compliance

About Thales Trusted Cyber Technologies

Thales Trusted Cyber Technologies, a business area of Thales Defense & Security, Inc., is a trusted, U.S. provider of cybersecurity solutions dedicated to U.S. Government. We protect the government's most vital data from the core to the cloud to the edge with a unified approach to data protection. Our solutions reduce the risks associated with the most critical attack vectors and address the government's most stringent encryption, key management, and access control requirements.

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