Product Brief

Thales CN7107 Network Encryptor

Engineered for In-Vehicle Extremes: Rugged Encryption in Motion

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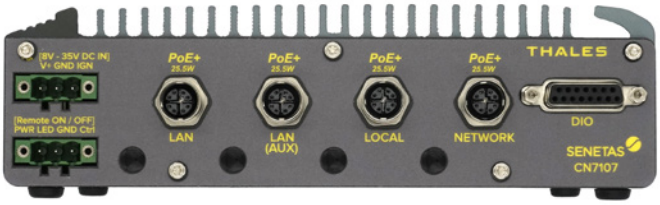
The Thales CN7107 Network Encryptor (CN7107) extends the Thales High Speed Encryptor (HSE) portfolio into mobile, tactical, and in-vehicle deployments. Purpose-built on rugged hardware, the CN7107 delivers FIPS 140-3 certified, quantum-resistant, crypto-agile encryption at up to 1 Gbps. With MIL-STD-810G compliance, extended temperature resilience, and a SWaP optimized design, it ensures trusted security for mission-critical operations in demanding environments such as military and emergency vehicles, mobile command centers, and rugged industrial platforms.



Certified Security and Crypto-Agility

The CN7107 provides **FIPS 140-3 Level 1 certified encryption** with AES-128/256 keys, RSA/ECC authentication, and authenticated GCM/CTR modes. It is **quantum-ready**, supporting NIST PQC standards and hybrid cryptography, and enables sovereign or custom algorithms through the Cryptographic SDK (CSDK).

In-Field Network Performance

With up to 1 Gbps encrypted throughput, the CN7107 secures real-time data in motion. Its **Transport Independent Mode (TIM)** delivers tunnel-free, low-overhead encryption at Layers 2, 3, and 4 across Ethernet, MPLS, satellite, cellular, and Internet transport.

In-Motion Scalability and Flexibility

The CN7107 is **built for mobile and vehicular use cases**, with rugged M12 X-coded Ethernet connectors supporting PoE+ for field devices such as IP cameras and sensors. Each port can deliver up to 25.5W, with a total budget of 100W. Compact and fanless, with a tamper-evident enclosure, it is optimized for size, weight, and power (SWaP) in constrained environments.

It supports point-to-point, hub-and-spoke, and full mesh topologies, and is fully interoperable with all Thales High Speed Encryptors for seamless integration.

Why CN7107 Encryptors?

- FIPS 140-3 certified, quantum-ready encryption
- Rugged, fanless hardware, MIL-STD-810G shock and vibration compliant
- Tamper-evident enclosure for enhanced physical security
- Optimized for tactical and in-vehicle deployments
- Operates from –40 °C to +70 °C (–40 °F to +158 °F)
- Automated, zero-touch key management
- Fully interoperable with the Thales High Speed Encryptor portfolio

Advanced Encryption and Key Management

The CN7107 employs **X.509 certificates with RSA/ECDH exchanges** and supports hybrid certificates using post-quantum algorithms. In 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.

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.

User-Friendly Management

With intuitive, **centralized management**, the CN7107 offers set-and-forget simplicity with full protocol and network transparency.

The CN7107 supports Syslog, NTP, SNMPv3, alarm and event logging, and secure management channels. Firmware upgrades are enabled through USB, and local configuration is available via serial console with SSH.

CN7107 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 budget), 1 × USB 3.1 Gen1 port with screw-lock, 2 × USB 2.0 ports with screw-lock, Serial console with SSH
Power	20V/8A input (160W); 5.5 mm locking jack; optional CN7000-PA-120-OW PSU or direct in-vehicle DC integration
Form Factor	Rugged, fanless, tamper-evident, 205 × 155 × 58 mm (8.07 × 6.10 × 2.28 in), 1.9 kg (4.18 lbs)
Management	CM7, SMC, Syslog, SNMPv3, NTP
Environmental	–40 °C to +70 °C; 10–90% humidity (non-condensing); MIL-STD-810G shock & vibration
Certifications	FIPS 140-3 Level 1; MIL-STD-810G

Specifications

Performance

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

Cryptographic Security

- AES-128/256 encryption, GCM/CTR modes
- X.509 RSA/ECC certificates
- FIPS 140-3 Level 1 certified crypto module
- Quantum-ready (supports NIST PQC standards)
- Custom ciphers with Cryptographic SDK (CSDK)

Interfaces

- 4 × Gigabit Ethernet via M12 X-coded connectors with PoE+
  - IEEE 802.3at, up to 25.5W per port, 100W total power budget
- 1 × USB 3.1 Gen1 port with screw-lock
- 2 × USB 2.0 ports with screw-lock
- Serial console with SSH access
- Management LAN and auxiliary management ports

Environmental

- Operating: –40 °C to +70 °C (–40 °F to +158 °F)
- Humidity: 10% – 90% non-condensing
- MIL-STD-810G shock & vibration
- Fanless, solid-state housing

Physical

- Dimensions: 205 × 155 × 58 mm (8.07 × 6.10 × 2.28 in)
- Weight: 1.9 kg (4.18 lbs)
- Rugged, tamper-evident enclosure for enhanced physical security

Power

- Input: 20V/8A (160W)
- Connector: 5.5 mm locking power jack
- Optional CN7000-PA-120-OW power supply or direct in-vehicle DC integration

Management

- Centralized management via CM7 and Thales Security Management Center (SMC)
- SNMPv3, Syslog, NTP, audit/event logging
- Alarm and event notifications
- USB firmware upgrades

SWaP

- Optimized for size, weight, and power in in-vehicle and mobile deployments

Regulatory Safety and Compliance

- CE (Conformité Européenne)
- FCC Part 15 (USA)
- ICES-003 (Canada)
- EMC (emission and immunity)
- 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.

Contact us – For office location and contact information, please visit thalestct/contact-us