



Cifrante

CM111IP-C

COMMERCIAL IP CRYPTO



Product description

CM111IP-C is a commercial IP crypto device for medium rate IP data communications according to the operational and technical needs of the professional consumer market. It fully protects and provides secure communications links for diverse Businesses, Service Providers, and Institutions.

The Commercial IP Crypto implements security requirements of confidentiality, authentication and integrity guaranteed through a proprietary security protocol that uses state-of-the-art encryption algorithms. CM111IP-C introduces Quantum Resistant cryptography algorithms which are resilient to the attacks from soon-to-be-introduced quantum computers (post-quantum cryptography).

The use of top-design hardware and firmware solutions turns into a considerable reduction in the size of the encryptor, compared to the current architectures used for the creation of the cryptographic modules, while keeping high-grade throughput performances, consistent for business applications. The device is designed to be installed in pre-existing network architectures that include cyber security devices between its crypto side and the physical transport network. It integrates with external routers, firewalls, external IDS for the realization of advanced networking features.

Key features

Versatile and flexible to meet multiple applications in a heterogeneous distributed environment, suitable for securely connecting remote sites/facilities of business organisations

Implementation of Quantum Resistant algorithms

Support of new functionalities by incremental updates

Small form factor unit and medium throughput

Complemented by Crypto Management Application (CMAP) which performs key generation functions, using the entropy provided by internal TRNG, and CSPs, preparing the Tokens/CIKs for the network's ECUs.

Dedicated off-line applications for key generation, network and crypto configuration generation, initialization, and management

Complemented by Key and Network Management System (KNMS), able to control secure networks of any size

Design and development of CM111IP-C crypto is the result of the collaboration and fully under control of Leonardo and Next Italian companies. Manufacturing is performed at Leonardo plants

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Technical description

GENERAL

- Commercial IP encryptor
- IPv4 and dual stack IPv4 /IPv6 (future)
- Fully SW programmable and upgradable
- 400 Mbps secured (aggregated) throughput
- Small form factor unit
- Suitable for fixed and deployable applications

NETWORKING FEATURES

- IPv4 and IPv4 /IPv6 Dual-Stack (future)
- Secure Virtual Private Networks
- Support for "hot-failover" and "load balancing" features (future)
- Network Layer
- Encapsulated at level 3 on red side
- Encapsulated at level 4 on black side

SECURITY SERVICES

- Encryption capabilities Encrypt at Level 3 on red side
Encapsulate at Level 4 on black side

INTERFACES

- Cypher-Text (CT) Ethernet 10/100/1000 bps (RJ45)
- Plain, Text (PT) Ethernet 10/100/1000 bps (RJ45)
- Initialization/Comm. ports USB 3.1 (2)
- Management port RS232 (out of band Management)

SECURITY PROTECTIONS

- Anti tampering functions Tamper Evidence via security seals
Full security data erasing upon
tampering attempt, even without
power feeding
- Crypto Ignition Key (CIK) USB device enabling encryptor
capabilities
- Manual Rekeying
- Lithium Battery 3.6V, AA size or by KNMS

MANAGEMENT

- Local control Status display (LED)
Dedicated application
(through Serial Management port)
Role-based Access Control
- Auto diagnostics Power-on self-test, On-line BIT

POWER SUPPLY

- Supply Voltage 12 Vdc nominal (external
100-240 Vac power supply)
- Power consumption < 60 W

SIZE AND WEIGHT

- Case Size 75 x 220 x 180 mm (H x W x D)
- Weight <1.8 Kg
- Color Matt Black (FS 37038 i.a.w. FED-STD-595 (A))

ENVIRONMENTAL

- Operating Temperature 0 °C to +30 °C
- Storage Temperature -20 °C to +70 °C
- Relative humidity 5% to 95%
- Vibration 0.5 g (5-500 Hz random)

EMI/EMC

- Designed to operate in heavily co-located electronic systems

CE MARKING

- Conformant to the relevant EU directives

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