LEONARDO ELECTRONICS

CM111IP-C

COMMERCIAL IP CRYPTO

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 realisation 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
- 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 (future)
- 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

in collaboration with:
NEXT
INGEGNERIA DEI SISTEMI

LEONARDO

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)

SECURITY SERVICES

• Proprietary security protocol	Traffic Flow Confidentiality (TFC) Perfect Forward Secrecy (PFS) Quantum Resistant asymmetric security primitives (for authentication and PFS)
• Traffic Algorithm	AES256 based LEDAcrypt Cat 5 customized (Quantum Resistant Algorithm)
• Encryption capabilities	Encrypt at Level 3 on red side Encapsulate at Level 4 on black side
• Data confidentiality & integrity	
• Authentication	
• Anti-Replay Attack	
• Event Logging	Relevant and Security events encrypted logs

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

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

- Confomant to the relevant EU directives

For more information:
infomarketing@leonardocompany.com

Electronics Division
Via Tiburtina, Km 12.400, 00131 Rome-Italy
T +39 06 41501, F +39 06 4131133

EL00027 04-24

leonardo.com

LEONARDO