

CM2100IP

High-Grade Network Encryptor



The CM2100IP is an In-line multimission IPv4/IPv6 High Capacity Encryption solution for protecting traffic over tactical fixed and deployable communications networks up to maximum security classification levels. Designed to meet a wide variety of operational scenarios, the unit allows the implementation of security domains in National (ITA), NATO, UE and Coalition operations to manage high-classified information.

The CM2100IPs securely interconnect dispersed single end systems or Local Area Networks (LANs) establishing Secure Virtual Private Networks via IP-Suite protocols in Tunneling mode. Thanks to a Programmable Software architecture, the unit can be reconfigured with no need of hardware upgrade. Up to four different security operational contexts can be loaded at a time and then selected depending on operational needs.

The CM2100IP implements software programmable routing functions over plain-text (PT) and cipher-text (CT) interfaces, running a suite of routing protocols and IP management processes like OSPF, RIP, BGP and a TCP accelerator; the software can be easily upgraded, thus allowing seamless secure systems evolutions. A Crypto Ignition Key (CIK) is included to make CM2100IP operational. When no CIK device is connected, the CM2100IP becomes a CCI unclassified device.

The CM2100IP is characterized by high crypto performances: depending on the adopted cryptographic suite and protocol, it is intended to range from 100 Mbps up to 2.5 Gbps.

KEY FEATURES

- High-Grade Crypto Device approved up to NATO Cosmic Top Secret (CTS)
- "NATO NINE" Ready according to STANAG 4787
- Field Proven
- IPv4/IPv6 Dual-Stack Secure Virtual Private Networks
- Gigabit crypto performances
- Embedded Routing Capabilities
- TCP Accelerator
- In field reconfigurable and reprogrammable
- Centralized Key and Network Management via KNMS2100IP Security Management Center

TECHNICAL DESCRIPTION

GENERAL

- High grade dual stack IPv4/IPv6 encryptor for NATO markets
- Suitable for fixed, deployable and ground mobile applications
- Up to 2,5 Gbps secured throughput
- Fully SW programmable and upgradable
- Full-Mil Design

CERTIFICATIONS

- NATO Approved up to Cosmic Top Secret (CTS)
- National (IT) Approved up to SECRET
- Tempest compliant SDIP-27/1 Level A

INTERFACES

- Cipher-Text(CT) and Plain-Text(PT) interfaces:
 - Ethernet 100/1000 bps Base-TX
 - Ethernet Multimode fiber optic 1000 bps Base-SX
 - Ethernet Multimode fiber optic 10 Gbps
- Standard DS-101, DS-102 and EKMS 308 Key Fill port; CIK port

NETWORKING FEATURES

- Dual stack IPv4/IPv6
- Multicast (IGMP,MLDv2)
- IP Quality of Service (IP QoS)
- Virtual Router Redundancy Protocol (VRRP)
- OSPF, RIP and BGP (PT/CT sides)
- Generic Routing Encapsulation (GRE)
- RoHC
- TCP Accelerator
- IP Natting on traffic incoming from PT interface
- Access Lists
- DHCP Server on PT side

COMSEC CHARACTERISTICS

- NATO, National, UE, Coalition and proprietary cryptographic suites
- Four Programmable Operational Security Contexts
- From 100 Mbps up to 2,5 Gbps crypto aggregate throughput
- NINE STANAG 4787 ready
- Key loading via Fill Gun, Tape Reader, Data Transfer Device i.a.w. DS101, DS102, EKMS 308 Rev.F
- Remote keying via CT interfaces through centralized KNMS Management System
- Key Zeroization in emergency
- Anti-Tampering mechanism
- Key preservation in case of power outage
- CIK included: declassified to CCI as CIK is removed

SECURITY SERVICES

- Data confidentiality & integrity
- Authentication
- Anti-Replay Attack
- IPSEC (RFC 2401)
- ESP-Encapsulating Security Payload (RFC 2406)
- in tunneling mode

MANAGEMENT

- Local control via display/keypad on the front panel and via Local Craft Terminal
- Remote control over PT and CT ports (via KNMS system)
- Embedded BITE, Local Events Log

POWER SUPPLY

- DC: 48 VDC nominal; AC: 115/230 VAC nominal with dedicated AC/DC converter (fixed/deployable)
- DC: 18-60 VDC (tactical mobile)
- Power consumption:
 - 100W max (fixed/deployable);
 - 80 W max (ground mobile)

SIZE AND WEIGHT

- Size (WxHxD):
 - 380 x 90 x 470 mm (fixed/deployable)
 - 280 x 90 x 470 mm (ground mobile)
- Weight:
 - 17 Kg (fixed/deployable)
 - 11 Kg (ground mobile)

ENVIRONMENTAL

- According to MIL-STD-810F
- Operating Temperature:
 - -32°C ÷ 40°C (fixed/deployable);
 - -32°C ÷ 55°C (ground mobile)
- Storage Temperature: -33°C ÷ 71°C
- Relative humidity:
 - 20% to 80% (fixed/deployable);
 - 93% ÷ 5% @ 30°C (ground mobile)

EMI/EMC

- According to MIL-STD-461E
- SDIP-27/1 Level A compliant.

For more information:

infomarketing@leonardo.com

Leonardo Electronics

Via Tiburtina, Km 12.400, 00131 Rome-Italy

T +39 06 41501, F +39 06 4131133

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