

# HIGH-GRADE CM2100IP NETWORK ENCRYPTOR

ELECTRONICS DIVISION



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.

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