selenia communications
A Finmeccanica Company

CM109IP
IP CRYPTO DEVICE

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DESCRIPTION

CM109IP is an IP encryption device that enables the creation of a "Virtual Private Network". A VPN is a network that features secure nodes by which those communications, using an insecure IP public network, take place. CM109IP is based upon the IP protocols, and it generates a VPN according to IETF IPSEC specifications fitted to use military algorithms. CM109IP uses a completely new multiprocessor architecture, appointed to increase performance and avoid security problems. The encryption procedure also includes the protected LAN addresses.

Encryption is performed at the 3rd IP layer (IP-layer) and thus all communications are carried out on higher protocols (TCP/IP, UDP etc) and the relevant services (Mail, Telnet, FTP, etc.) are made secure.

A different key is used for each LAN with a different address.

Key uploading is made up by a mobile electronic transfer device (punched tape reader or fill gun). Keys and access lists can be centrally managed (through the management system KNMS109IP) by the IP network and by protected connections.

MAIN FEATURES

- Communication protocols are implemented via software to allow easy upgrade of new functionalities (IP v.6)
- Selectable AUI or 100 base TX interface either on the red or on the black side
- Encryption algorithm on a removable dedicated module that allows it to be easily changed (with other standard or customisable algorithms)
- Modular interfaces structure with a general CPU sub-unit that supports the development of different interface formats (ex. WAN).

Applications

- Secure connections between IP/Ethernet
- LAN on insecure public networks.

Security services

- Data confidentiality (encryption/decryption)
- Authentication
- Data integrity
- Traffic flux confidentiality (IP address encryption).

Algorithms

- NATO approved
- Nationally approved
- Customisable.

Keys storage

- Key protection from possible main power failure
- Protection time: up to six months.

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Security protocols

- IPSEC: IPSEC (RFC 2401) Architecture
- AH: Authentication Header (RFC 2402)
- ESP: Encapsulating Security Payload (RFC 2406) in tunnelling mode.

Remote control channel

- Via IP encrypted network.

Accesses control

- Anti tampering function
- Emergency deletion by a mechanical switch (also in case of turning off or main power failure).

Logging

- Configuration operation system for the events
- System and security alarms.

User interfaces

- Front panel (0screen, keypad).

Communication protocols

- IP, ARP, ICMP
- TCP, UDP.

Other features

- Built in Test Equipment (BITE)
- Access list
- Multicasting
- QoS (Quality of Services).

Implementation functionalities

- VRRP (Virtual Router Redundancy Protocol)
- OSPF (Open Shortest Path First)
- GRE (Generic Routing Encapsulation)
- IP V.6.

Network interfaces

- Red side and black side:
  - 10 Mbit/s AUI interface (IEEE 802.3);
  - 100BaseTX (UTP).

EMI/EMC

- MIL-STD-461
- MIL-STD-462.

TEMPEST

- AMSG-720B.

Environmental conditions

- Operating temperature:
  from -10°C to +45°C
- Storage temperature:
  from -40°C to +70°C
- Relative humidity:
  90% @ +45°C.

Physical features

- Dimensions: 92H x 448L x 395D mm
- Weight: 13 kg.

Power supply

- Input voltage:
  115/220 Vac ± 15% 45-63 Hz, 21-60 Vdc
- Power: 60W max.

Ancillary devices: FG101

FG101 is a mobile device used to store a maximum of 8 keys in compliance with the EUROCOM D/1 Crypto Supplement, or a maximum of 4 encrypted keys.

It is endowed with a battery that allows storage of the keys for up to one year.

- Line interface according to the EUROCOM D/1 Crypto Supplement
- Internal supply battery type: BA1372/U 6.75V-BA5372/U 6V.

Physical data

- Dimensions: 75 x 150 x 45 mm (H x L x D)
- Weight: 0.6 kg.

TR101

TR101 is a portable punched tape reader used to transfer the keys on tape in compliance with the EUROCOM D/1 Crypto Supplement.

It is endowed with an internal battery that has a duration of one year.

- Line interface in compliance with the EUROCOM D/1 Crypto Supplement
- Internal supply battery type: BA1372/U 6.75V-BA5372/U 6V.

Physical data

- Dimensions: 60 x 150 x 45 mm (H x L x D)
- Weight: 0.7 kg.

Selenia Communications S.p.A.
Secure Communications BU
Via G.A. Guattani, 1 - 00161 Roma
Tel. +39 06 44000 1 - Fax +39 06 44000 446

www.seleniacomms.com
www.securbusiness.com

CERTIFICAZIONE CSQ

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CODE S-42/V1/03

Selenia Communications S.p.A.
Viale dell'Industria, 4 – 00040 Pomezia RM
Tel. +39 06 910911 – Fax +39 06 9109339
e-mail: info@seleniacomms.com

Via Pieragostini, 80 - 16151 Genova
Tel. +39 010 6144000 - Fax +39 010 6093 3333

Selenia Communications Ltd
Marconi House, New Street, Chelmsford, Essex CM 1 1 PL - UK
Tel. +44 1245 353221 - Fax +44 1245 287125

Selenia Communications GmbH
Gartenstrasse 106 - 71522 Backnang - Germany
Postfach (P.O.Box) 1980 - 71509 Backnang - Germany
Tel. +49 (0)7191 378-0; Fax +49 (0)7191 378-500
e-mail: info.germany@seleniacomms.com

Selenia Communications Romania Srl
8, Dr. Louis Pasteur - 76206 Bucharest - Romania
Tel. +40 (0) 1 4109530 - Fax +40 (0) 1 4109550

Selenia Kominikasyon A.s.
Konya Yolu Km. 25 - 06830 Golbasi (Ankara) - Turkey
Tel. +90 (0) 312 4845181 - Fax +90 (0) 312 4844332

Selenia Communications Do Brasil
Brasilia (BR) - SHIS Q126 Conj 5 Casa 4 Bairro:
Lago sul Brasilia DF CEP 71670-050 Brasil
Tel. +55 (0) 61 3673530 - Fax +55 (0) 61 3674412