LEONARDO ELECTRONICS

CM109-M

Telegraph Link & Data Encryptor

The CM109-M is a programmable high-grade encryptor belonging to the family of Telegraph Link Encryptor for protecting data communications according to the operational and technical requirements of the NATO Crypto Modernization and Transformation Program.

The CM109-M is designed to be the modernized version of the legacy CM109 telegraphic equipment by adopting the same form factor designed for CM107E-M Voice & Data encryptor but retaining the same connectors and pin out of the CM109 Dati product, thus smoothly replacing the previous generation of the telegraphic crypto devices. It extends the CM109 family by addressing the same target market for land and naval applications.

The CM109-M unit is compliant with the Link Encryptor Family Cryptographic Interoperability Specification (LEFCIS) interoperability standard, released by UK to NATO Allies. The adoption of the new interoperability protocol along with new generation cryptographic algorithms provides the adequate level of confidentiality for the classified information at SEGRETO Nazionale and NATO SECRET level.

The unit is suitable for use in stationary and mobile communications systems as well as on board ships, wherein it holds potential to represent a leap forward to the modernization of the crypto modes.

CM109 family is also firmly market-acknowledged for land and naval Domestic and NATO applications.
The unit relies on a powerful computing architecture enabling an easy incremental update for preserving Customers' investments.

KEY FEATURES

- Compliant with NATO Crypto Modernization Program
- Ruggedized for land and naval-specific applications
- Interoperable via LEFCIS Standard Communications Mode (Full Duplex, Full Duplex Independent, Simplex and Broadcast)
- EKMS 308F Data Transfer Device Keyfill compliant
- DTE/DCE synchronous/asynchronous mode (red side) and synchronous mode (black side)
- National and NATO approved algorithms up to SECRET
- Equipped with CIK device to quickly declassify the equipment to CCI
- Emergency keys erasing switch
- Local control interface via keypad and display
- OTAR (Over The Air Rekey) and OTAT (Over The Air Transfer)
- Internal diagnostics/self-testing
- Environmental/EMC/TEMPEST in compliance with military standards

LEONARDO

TECHNICAL SPECIFICATION

GENERAL

- Multi-domain programmable encryptor
- Crypto Modernization Program compliant
- Compliant with NATO LEFCIS standard and interoperable with equipment supporting NATO LEFCIS (including KIV-7M and KIV-19M)
- Plug & Play replacement of the former in-field CM109 family units (by means of an adaptation plate)

MODES

• Operational Modes	REDUNDANT
	NO REDUNDANT
	HF (High Frequency)
• Communication Modes	FULL DUPLEX
	FULL DUPLEX INDIPENDENT
	SIMPLEX
	BROADCAST

DATA RATE

• Sync Data	50 bps to 256 Kbps, 288 Kbps
	50 bps to 10Mbps (ext. clock)
• Async Data	50 bps to 288 Kbps

CERTIFICATIONS

- Designed for COMSEC Type Approval up to NATO Secret
- Designed for TEMPEST Certification according to SDIP 27 Level A

INTERFACES

• Data Connectors	DTE/DCE Digital Data EIA-422 balanced
	DTE/DCE Digital Data EIA-423 unbalanced

- One DS-101 Keyfill port; CIK port

COMSEC

- Compliant with any EKMS 308F DTD Keyfill
- DS-101 for key-fill with >100 keys per crypto context
- Crypto Ignition Key (CIK): CM109-M is declassified to CCI when CIK is removed
- Manual and Over-The-Air Rekeying (OTAR) and Over-The-Air-Transfer (OTAT)

MANAGEMENT

• Local control	Four buttons keypad/display on the front panel
• Auto-diagnostics	Power-on self-test, On-line BIT

POWER SUPPLY

• Supply Voltage	28VDC nominal
• Power consumption	25W

SIZE AND WEIGHT

• Size	120.5 x 126.8 x 120mm (H x W x D)
• Weight	<3,5 Kg
• Color	Matt Black (FS 37038) i.a.w. FED-STD-595 (A)

ENVIRONMENTAL

- In compliance with MIL-STD-810G

• Operating temperature	-40 °C to +55 °C
• Storage Temperature	-46 °C to +71 °C

EMI/EMC

- According to MIL-STD-461E

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