



DATACRYPTOR™ 2000

Link Encryptors

Secure Communications

The Datacryptor™ 2000 link models are designed to protect data transmitted over leased lines. The Datacryptor™ 2000 will authenticate remote devices and encrypt and decrypt transmitted data.

Depending on the model, you can transmit encrypted data at speeds up to 512 Kbps, 2.048 Mbps or 8 Mbps. Data is encrypted using Triple DES, the new Rijndael Advanced Encryption Standard (AES), government algorithms such as EMBATTLE, or customized cryptography.

Each logical link handled by a Datacryptor™ 2000 is in one of three security states: secure, bypass, or standby. In standby, the Datacryptor™ 2000 does not transmit user data. In bypass it transmits user data in the clear. In secure mode, it encrypts and decrypts. The Datacryptor™ 2000 link encryption models encrypt all communications sent to the network and decrypt all communications arriving from the network; they are transparent to data protocols.

In framed T1/E1 applications, each sub-channel is a separate logical connection with its own security state.

Highly scalable the Datacryptor™ 2000 has been designed to support a wide variety of network applications.



Technical Specifications

Maximum Data Transfer Rate	DC2K-LX: up to 512 Kbps, full duplex, synchronous. DC2K-LH: up to 2 Mbps. DC2K-LT: up to 1.544 Mbps (T1). DC2K-LE: up to 2.048 Mbps (E1). DC2K-LV: up to 8 Mbps.
Encryption Algorithms	Triple DES as standard algorithm (ANSI X9.52, 168-bit key). Rijndael (AES 128, 192, 256-bit) Other commercial or government approved algorithms available. (EMBATTLE): or Custom algorithms.
Key Management	Signed Diffie-Hellman Key Agreement Protocol with 1,024-bit modulus (1,536-bit available). DSA Signature Algorithm with 1,024-bit key and 160-bit signature (FIPS 186). SHA-1 Hash Algorithm (FIPS 180). X.509 Certificates. Hardware random number generation.
Device Management	Management using PPP protocol (9-pin D serial port) or IP protocol (10 base T RJ45 Ethernet port).
Physical Interfaces	RS-232 (V.24), RS530 V.35, X.21 (V.11) to 512 Kbps. Unframed or framed operation to 2.048 Mbps: G703/4 (E1 and T1 balanced). Unframed operation to 8 Mbps: V.35 or V.11 (X.21). Externally clocked T1-ESF or T1-D4 Framing; B8ZS line coding; FDL performance messages. (ESF); E1-HDB3 encoding.
Cables	T1/E1 cable (length 3m): RJ-45/RJ-48C connectors on both ends. Smart cables (length 1m): 26-way, high-density D connectors terminating in - RS-232 (25-pin male and female D-type) - V.35 (34-pin male and female MRAC connector) - X.21, V.11 etc. (15-pin male and female D-type)
Synchronisation	Automatic, continuous.
Physical Security	Tamper evident case. Tamper detection envelope surrounds cryptographic module. Protection against voltage, chemical and penetration attacks. User selectable protection against compromise by theft.
Security Certification	FIPS 140-1 Level 3. Security sub-system certified FIPS 140-1 level 4. FIPS 140-2 Level 3/4 and Common Criteria EAL 4 and 5 in progress.
Power	+/-12V and +5V, less than 7W auto-sensing 110-240V AC/50-60 Hz external power supply included.
Temperature	Operating 5°C to 40°C (40°F to 100°F) Storage -10°C to 60°C (15°F to 140°F)
Relative Humidity	10% to 90% at 25°C (77°F) non-condensing, falling to 50% maximum at 40°C (100°F).
Barometric Pressure	780 to 1100 mBar.
Physical Specifications	Height 3.5 cm (1.4") Depth 23.0 cm (9.0") Width 22.0 cm (8.7") Weight 1.8 Kg (4.0 lbs.)

THALES

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