



Frame Relay Encryption HC-7110

Frame Relay (FR) is a proven network technology for the transmission of data packets, especially over WAN. The main advantage of FR lies in the efficient use of the whole available bandwidth – thus it is often used in satellite communications (VSAT). In terms of security FR is also most efficient: through encryption of your FR data packets (on Layer 4) you can automatically protect all the transported data of applications on the higher layers. Crypto AG can now offer you a FR solution with the family of the Frame Relay Encryption HC-7110 units.

Frame Relay Encryption HC-7110 encrypts based on the DLCI data (Data Link Connection Identifier) in the header of the data packets, thereby only encrypting the user data of the packets, in order to send them to the destination in the network according to the header data. Controlled by the link management protocol (LMI), the unit automatically establishes the encrypted channel(s) with a key agreement and recognises the packets to be encrypted/decrypted in the data flow until the channel is disconnected. Thanks to this property, you can mix ciphered and plain traffic if this has been stipulated in your Security Policy. The unit can establish over 1000 individual secure channels – each of them encrypted with a separate session key. The encryption performance can support a data rate up to 2 Mbps in multicast or unicast mode.

Your security manager can manage keys and operate parameters comfortably (in-band or out-of-band management) with the Security Management Centre SMC-1100 Frame Relay, via Smartcard or manually via keyboard. The automatic change of session keys occurs without interruption or loss of data at least once within 24 hours,

or as soon as the predefined payload data volume is reached.

HC-7110 works with the unified security architecture from Crypto AG with your customer-specific, secret algorithm base – the symmetrical encryption take place in a tamper-proof hardware module.

Key features

- Encryption of all services and applications transported over FR – especially suitable also for satellite FR-links
- Data Link Connection Identifier (DLCI) based encryption
- Up to 1024 DLCIs can be related to an individual communication key each
- Mixed operation with encrypted and unencrypted DLCIs
- Multicast and unicast connection support
- DLCI discovery (LMI) for automatic connection establishing
- Customer-specific algorithm and tamper-proof Hardware Encryption Module
- Automatic communication key change without loss of data

General data

Housing

- 19" rack mounting – 1 unit high

Keyboard

- Rubber keypad with 3 x 5 buttons

Display

- 2 lines x 20 characters LCD with back-light

Interfaces

- Line Interfaces (DCE/DTE):
 - Multimode, selectable by parameters
 - ITU-T V.35, X.21, V.24, RS-499, EIA-530
 - Data rate: up to 2 Mbps
- Control Interfaces:
 - Serial RS232
 - Ethernet 10 Base-T / RJ 45

Management

- Centralized management (SMC-1100)
- Out of band management via Ethernet
- In-band management via FR
- Local management
- SNMPv1
- Standard MIB II
- Crypto AG's Private Enterprise MIB

Operation

- Data Link Connection Identifier (DLCI) based encryption
- Each DLCI has its individual Communication key (CK)
- Mixed encrypted and plain DLCI's (plain list up to 200 DLCI's)
- Automatic synchronous key (CK) change without loss of data

- DLCI discovery for automatic connection setup [LMI 1.0, Rev.1 (Group of Four), ANSI T1.617 Annex D (1991), ANSI T1.617 AnnexAD (1994), ITU Q.933 Annex A]
- Multicast connection support
- PVC support
- A special real time mode supports QoS (for SkyWAN® systems of ND SatCom)

Compliance

- FRF.1, FRF.3
- ITU-T: I.122, Q.922

EMC

- EN 55022 / EN 50082-1

Safety

- EN 60950

Power supply

- AC input 230 Vac nominal (85 to 264 Vac / 47 to 63 Hz)
- Maximum power consumption 20 W

Dimensions

- 443 x 44 x 206 mm W/D/H

Weight

- 3.4 kg

Quality system

- ISO 9001:2000

Conformity

- CE (European conformity)

Cryptographic data

Algorithm

- HCA-480 proprietary, customer-specific cipher algorithm

- Customer managed profiling of algorithm: variety > 10⁵⁰⁶
- Sophisticated mutual key agreement scheme based on HCA-480 for generation of channel-specific communication Keys (CK)
- Built-in physical true random generator

Keys

- Customer-defined Master Communication Keys (MCK, for CK generation) stored in tamper-proof security module
- Master Communication Keys and Communication Keys with variety > 10³⁸

Key management

- Manual key input via keyboard and display
- Copy or distribution of key and installation data by smart card
- Online by Security Management Centre SMC-1100 Frame Relay (or also by SNMC-7000)

Access protection

- Tamper-proof security module
- Password protection

Environmental data

Reliability

- MTBF 100,000 hrs

Environment

- Operating temperature: 0 °C...+50 °C
- Storage temperature: -25 °C...+70 °C
- Humidity: 5 %...93 %, non-condensing

Accessories

- Security Management Centre SMC-1100 Frame Relay

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