ADVANCED TECHNOLOGIES INSTITUTE

IBD90

POINT-TO-MULTIPOINT ENCRYPTION DEVICE WITH LAYER 2 CLEAR - LAYER 3 CIPHER INTERFACES WITH ELECTRICAL AND OPTICAL PORTS

IBD90 is a cryptographic device designed to encrypt point-to-multipoint Data Link layer communication in 1 Gbps Ethernet networks. The data is protected by the MAD-256-GCM symmetric encryption algorithm.

Description

The device must be connected between two network areas, “CLEAR”, considered safe, which contains sensitive data, and “CIPHER”, considered unsafe. Data that passes through the “CIPHER” area will be encrypted and transmitted through cryptographic tunnels. IBD90 can manage up to 128 cryptographic tunnels and can be used to transfer data only to other “CLEAR” network areas protected by compatible devices.

The communication interfaces of the device enable 10/100/1000BASE-T full duplex communication using electrical interfaces and 1000BASE-X full duplex communication using SFP optical interfaces. Data transmission and reception are compliant with the IEEE 803.3i, IEEE 803.3u, IEEE 803.3z and IEEE 802.3ab standards.

The KEY port is used for device initialization and cryptographic key loading. These operations are indicated on the management port *(as response packets to the request status packets)* and on the STATUS display.

The device features protection mechanisms against physical tampering and extreme temperature exposure.

Technical specifications

Power Supply	230 VAC
Communication interfaces	10/100/1000BASE-T, 1000BASE-X
Throughput *(depending on the frame length)*	990 Mbps
Maximum frame length	9014 bytes
Processing latency time	< 1 ms
Number of cryptographic tunnels	128
Routing table size	1000 MAC addresses
Management interface	10/100/1000BASE-T
Cipher algorithm	MAD-256-GCM
Power consumption	~5 W
Casing dimensions *(W x D x H)*	385x190x45 mm
Weight	2600 g

Environmental conditions

Operating temperature	0°C ... + 50°C
Maximum relative humidity	80%

ADVANCED TECHNOLOGIES INSTITUTE
10 Dinu Vintilă Street, 021102, Bucharest, Romania
Phone +4.021.610.70.95, Fax +4.021.210.04.54, e-mail: cooperare.ita@dcti.ro