![ITA Advanced Technologies Institute logo]

IBD90V1

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

IBD90V1 *(IBD90 TEMPEST)* 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. The equipment offers TEMPEST protection compliant with SDIP-27 Level A standard.

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. IBD90V1 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 1000BASE-X full duplex communication using SFP optical interfaces. Data transmission and reception are compliant with the IEEE 802.3z standard.

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 LED.

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

Technical specifications

Power Supply	230 VAC
Communication interfaces	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	1000BASE-X
Cipher algorithm	MAD-256-GCM
TEMPEST protection	SDIP-27 Level A
Power consumption	~5 W
Casing dimensions *(W x D x H)*	436x308x45 mm
Weight	4500 g

Environmental conditions

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