InfoDiode hardware solutions

Modern requirements to ensure information security of state information systems, financial industry organizations, Critical Infrastructure (CI) and Industrial Control Systems (ICS) in energy, oil and gas, transport, housing and utilities and other industries lead to the choice of fundamentally new technical and organizational protection measures.

As a solution, unidirectional data transmission technologies are used, providing the possibility of data transmission from a closed circuit to an external network. At the same time, data security in the protected segment is guaranteed, as there are no risks of data transmission in the opposite direction. AMT-Group offers its clients a line of hardware **InfoDiode** products based on the principles of one-way data transmission. Hardware **InfoDiode** products are available in various form factors: **InfoDiode RACK single**, **InfoDiode RACK double** for 19" rack and **InfoDiode MINI** for DIN rail mounting or desktop installation.

General information

Hardware InfoDiode is designed for unidirectional data transmission between network segments of different levels of criticality in Ethernet networks.

The use of InfoDiode guarantees protection against external interference to the integrity and availability of information and ensures the highest level of isolation of information systems. At the same time, opportunities for information exchange and business processes functioning are preserved. Security is provided at the hardware level, excluding any possibility of implementing attack information at the software level.

The main applications of InfoDiode are:

- Secure data transfer from critical systems for further analysis by specialized infosec and monitoring systems;
- Upload event logs for subsequent correlation and processing in SOC and Government systems;
- Secure transmission of sensor readings, video flow from surveillance cameras to the Situation Center, located in the segment with excellent security;
- Secure audio broadcasting, video content, transmission of messages and alert signals;
- Secure transmission of telemetry data from industrial installations for efficient operation of «digital twins».

Hardware InfoDiode is ready for operation immediately after power on and does not need to configure.

InfoDiode RACK single

- Built-in redundant AC PSUs
- 1RU; small depth, possibility to mount two devices on both sides of a cabinet

InfoDiode RACK double

- Two independent hardware InfoDiode modules with-in one rack
- Can be used for a back-up connection (1+1)
- Built-in redundant AC PSUs for each module
- Mounting: 1RU; small depth, possibility to mount two devices on both sides of a cabinet

InfoDiode MINI

- Mounting options: table mounting; DIN rail; mounting plate
- Power supply: 10-36 VDC
- Two power inputs providing 1+1 redundancy
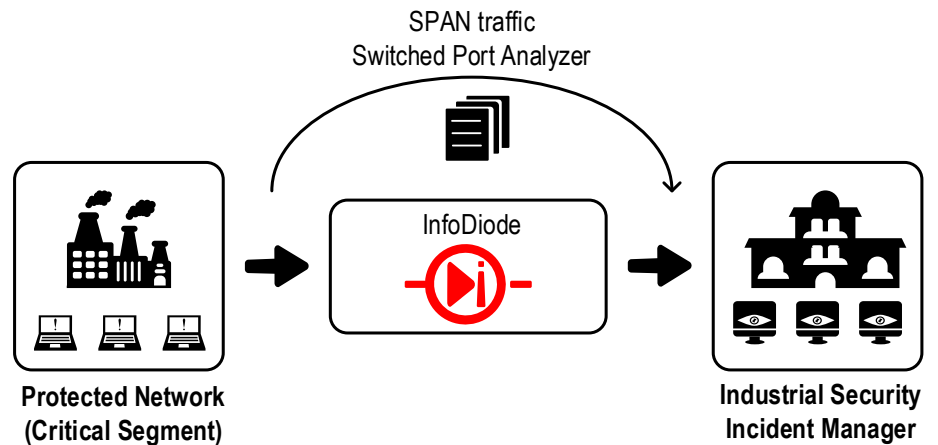- Power adapter 12 V, 1.25 A for table mounting
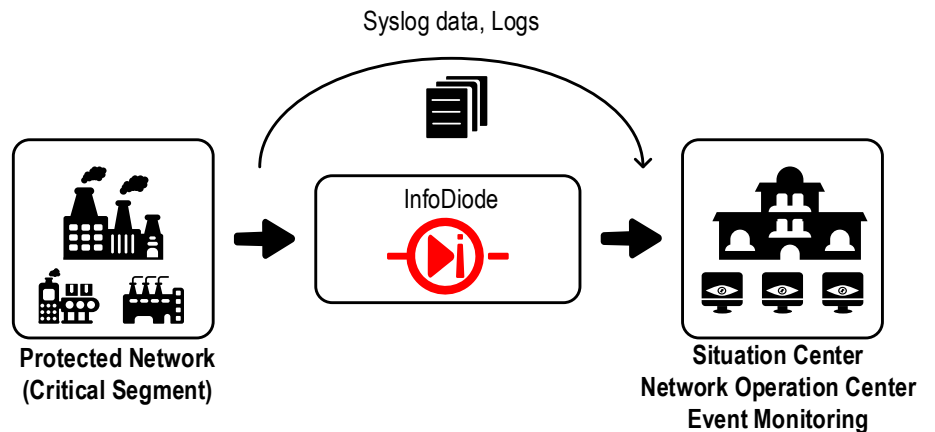
Application Scenarios

Scenario 1. Transfer copy of technological traffic using Switched Port Analyzer (SPAN)

The copy of technological traffic is transmitted to the external software and hardware complex of deep traffic analysis, which provides the search for traces of information security violations in networks of ICS, helps at an early stage to identify cyberattacks, malicious software activity, unauthorized actions of personnel (including malicious).

SPAN traffic
Switched Port Analyzer

InfoDiode

**Protected Network
(Critical Segment)**

**Industrial Security
Incident Manager**

Scenario 2. Transfer technology network events using Syslog

Logging events within the technological segment in a centralized event monitoring system allows to significantly reduce the probability of occurrence of accidents and consolidate all data in a single situation center.

Syslog data, Logs

InfoDiode

**Protected Network
(Critical Segment)**

**Situation Center
Network Operation Center
Event Monitoring**

Scenario 3. Transfer video and audio traffic from a closed segment using UDP

Often there is a need to carry out remote video monitoring, receiving signals from the alarm system inside the closed technological segment. The use of InfoDiode ensures the production of video and audio streams, including broadcast ones, while ensuring the isolation of the closed segment.

UDP unicast

InfoDiode

**Protected Network
(Critical Segment)**

Situation Center
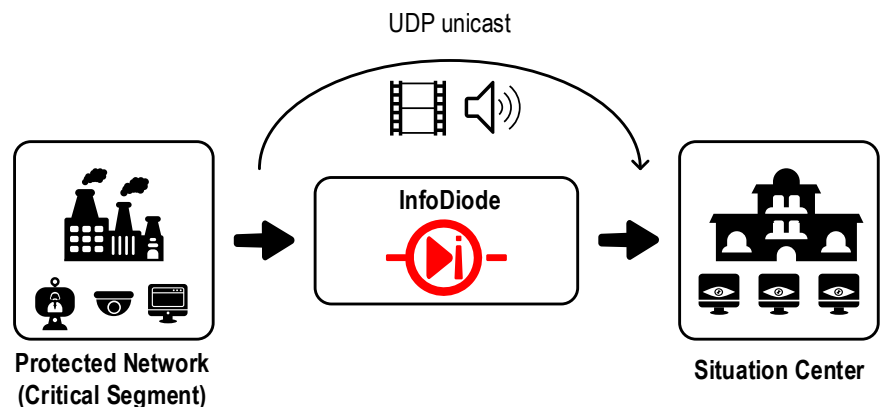
To organize data transfer at the application level (FTP, CIFS, SMTP, IPSEC and a number of UDP services), you should use InfoDiode PRO with implemented protocol proxies on external servers.

InfoDiode hardware technical specifications

Description	InfoDiode RACK single	InfoDiode RACK double	InfoDiode MINI (Desktop, DIN module)
Form factor	1RU	1RU	Table mounting; DIN rail; mounting plate
Data transfer rate	1 Gbps	1 Gbps, 2 Gbps for 2 modules	100/1000 Mbps
Ethernet standard	1000Base-SX, 1000Base-TX	1000Base-SX, 1000Base-TX	100/1000Base-TX
Interfaces	LC, RJ45	LC, RJ45	RJ45
Environmental parameters			
Temperature	Working from +0 to +40 C, Storage from -40 to +70 C	Working from +0 to +40 C, Storage from -40 to +70 C	Working from +0 to +40 C, Storage from -40 to +70 C
Humidity	Working from 5 to 90% Storage from 5 to 95% without condensation	Working from 5 to 90% Storage from 5 to 95% without condensation	Working from 5 to 90% Storage from 5 to 95% without condensation
Power supply			
AC/DC	Redundant, 4 inputs, 198-253 VAC, 47-63 Hz, Max 30 W, IEC320 IEC	Redundant, 4 inputs, 198-253 VAC, 47-63 Hz, Max 30 W, IEC320 IEC	Redundant, 2 inputs, 10-36 VDC, Max 10 W / Power adapter 12 V, 1,25 A
Certificates	EAC	EAC	EAC
Dimensions			
Chassis size (WxHxD, mm)	440 x 44,5 x 250	440 x 44,5 x 250	120 x 50/40 x 145,5

Ordering information

P/N	Description
AMTID-HW-BK	InfoDiode RACK single, 1RU (1Gbps, 1000Base-SX, LC-LC)
AMTID-HW-BKT	InfoDiode RACK single, 1RU (1Gbps, 1000Base-T, RJ45)
AMTID-HW-HA-BK	InfoDiode RACK double, 1RU (1Gbps, 1000Base-SX, LC-LC)
AMTID-HW-HA-BKT	InfoDiode RACK double, 1RU (1Gbps, 1000Base-T, RJ45)
AMTID-HW-MINI	InfoDiode MINI, table mounting; DIN rail; mounting plate(100/1000 Mbps, 100/1000Base-TX, RJ45)