



InfoDiode: solutions for unidirectional data transmission



Data transmission devices of «data diode» class are used for physical separation of networks in conditions of preservation of one-way channel of information transmission. In such a signal and data organization, the vulnerabilities that typically accompany the construction of a firewall architecture and security software are eliminated.

The physical separation of the network segments is based on the principle of «galvanic isolation», which completely eliminates the possibility of sending any signal through the «data diode» inside the protected or isolated segment. The main difference of such a solution from a simple «air gap», that is, complete insulation of segments, is that in the case of installation of «data diode» the possibility of transmission of signals and data in only one direction is kept. This allows the protected segment to effectively and efficiently «share» data with external consumers without the threat of untrusted networks. Representatives of this class of devices are products **InfoDiode**.

InfoDiode solutions provide guaranteed segmentation of networks at the physical level. **InfoDiode's** built-in physical security mechanisms are no less effective over time.

InfoDiode solutions are the basis for building a comprehensive security and safety system for Critical Infrastructure (CI) facilities. They provide hardware protection to networks of financial organizations, industrial facilities, power facilities, power structures and transport management systems.



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www.infodiode.net

InfoDiode hardware solutions

InfoDiode hardware solution is a basic solution that guarantees hardware-level protection and effectively resolves the task of transferring UDP, Syslog, SPAN traffic outside the protected object. It allows to efficiently organize third party SOC and NOC centers, monitoring and surveillance centers.

InfoDiode MINI



Basic hardware solution for DIN rail/table mounting. Provides protection at hardware level. Solves the task of transferring UDP, Syslog, SPAN traffic to users outside the trusted segment, isolating that segment. It has a power reservation.

InfoDiode RACK single

Basic hardware solution for rack mounting. Provides protection at hardware level. Solves the task of transferring UDP, Syslog, SPAN traffic to users outside the trusted segment, isolating that segment. It has a power reservation.



InfoDiode RACK double



Basic hardware solution for rack mounting (2in1). Provides protection at hardware level. Solves the task of transferring UDP, Syslog, SPAN traffic to users outside the trusted segment, isolating that segment. It has a power reservation.



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InfoDiode hardware and software solutions

InfoDiode PRO and **InfoDiode SMART** designed to transfer meaningful file streams, distributions, replicas of VM and databases, email, backups, industrial protocols, and replicas of SCADA systems from trusted segment out. Enable full data copies outside the protected network perimeter.

InfoDiode PRO base

Basic hardware and software solution. Provides protection at hardware level. Solves the problems of transferring database backups, replicas of virtual machines, video and other traffic outside the trusted segment to the target users, isolating this segment.



InfoDiode PRO cluster



Cluster hardware and software solution. Provides protection at hardware level. Solves the problems of transferring database backups, replicas of virtual machines, video and other traffic outside the trusted segment to the target users, isolating this segment. Provides increased failover of data transmission by clustering the main components.

InfoDiode SMART

New hardware and software solution for industrial protocol transfer. Ensures the integration of SCADA systems and the safe operation of the Situation Centers located outside the CI perimeter in a secure environment.

InfoDiode SMART can transfer several types of traffic at once (files, industrial protocols, video). It has API for the implementation of non-type protocols.



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Comparison table InfoDiode products

Characteristics	Product			
	InfoDiode PRO	InfoDiode SMART	InfoDiode MINI	InfoDiode RACK
Unidirectional traffic with no physical possibility of transmission in the opposite direction	Yes	Yes	Yes	Yes
Main purpose	Intensive file transfer	Transmission of industrial protocols and SCADA data	Transmission of UDP and SPAN traffic, DIN rail mounting	Transmission of UDP and SPAN traffic, rack mounting
Industrial protocols and monitoring protocols				
OPC UA	No	Yes*	No	No
OPC DA				
Modbus TCP				
Omron FINS				
S7				
Mitsubishi SLMP				
IEC 61850 MMS				
IEC 60870-5-104				
DLMS				
MQTT		Yes		
SNMP	End of 2022			
File transfer				
FTP(S)	Yes	Yes**	No	No
SMTP(S)				
SFTP				
SMB\CIFS				
SFTP				
Traffic over UDP and streaming traffic				
Syslog	Yes	Yes	Yes	Yes
netcat				
SPAN traffic, illegible streaming	No	No		
UDP unicast	Yes	Yes	No	No
UDP multicast				
UDP broadcast	No			
Desktop streaming	Yes		Yes	Yes

* - with the use of an additional Software solutions from MasterSCADA (MasterOPC). To transfer OPC DA – Master OPC is installed on servers/VMS source and receiver

** - using an additional Software connectors AMT-GROUP



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Comparison table InfoDiode products

Characteristics	Product			
	InfoDiode PRO	InfoDiode SMART	InfoDiode MINI	InfoDiode RACK
Physical ports and bandwidth				
Port IN — 10/100/1000 Mbit/s, RJ-45	1000	1000	100/1000	1000
Port OUT — 10/100/1000 Mbit/s, RJ-45				
Port IN – 10/100/1000 Mbit/s, SX/LX (LC-LC)	No	No	No	
Port OUT – 10/100/1000 Mbit/s, SX/LX (LC-LC)				
Device configuration, reliability and monitoring				
Software configuration tools	Web Console Cli Configuration file	Specialized Software «Configurator» Configuration file	No	No
Fault-tolerant solution	Yes	No	No	No
Power redundancy		Yes	Yes	Yes
Control of the integrity of transmitted data			No	No
Security events and integration with SIEM				
Monitoring via SNMP				



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InfoDiode hardware technical specifications

Characteristics	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
Data transmission standard	1000Base-SX, 1000Base-TX	1000Base-SX, 1000Base-TX	100/1000Base-TX
Connection ports	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
Passive cooling	Yes	Yes	Yes
Design	Industrial, no moving parts	Industrial, no moving parts	Industrial, no moving parts
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)



InfoDiode PRO technical specifications

Characteristics	Specifications
Transmission rate	Up to 900 Mbps
Fault-tolerant solution	Yes
Supported protocols	FTP/FTPS, CIFS, SMTP, SFTP, StartTls, IPSec, UDP
Industrial applications	SNMP, Syslog, NTP, Active Directory
Interfaces	4 x 1000Base-T
Switching interfaces within the InfoDiode PRO between the hardware component and servers	1000Base-SX
Mounting	
InfoDiode PRO base	3 rack units
InfoDiode PRO cluster	6 rack units
Power supply	100 – 240 V (AC)
Operating conditions	10 – 35 C, humidity 5 – 95 %

Ordering information

P/N	Description	Detailed description
InfoDiode PRO base		
AMTID-IDK-1000-SCFM	InfoDiode PRO base, including InfoDiode PRO software	2 proxy servers, InfoDiode RACK single (AMTID-HW-BK), 3RU form factor, InfoDiode PRO software
InfoDiode PRO cluster		
AMTID-IDK-2000-SCFMHA	InfoDiode PRO cluster, including InfoDiode PRO software	4 proxy servers, 2 ACC InfoDiode RACK double (AMTID-HW-HA-BK), 6RU form factor, InfoDiode PRO software



InfoDiode SMART technical specifications

Characteristics	Specifications
Transmission rate	Up to 1 Gbps
Supported protocols	OPC UA, Modbus, MQTT, FTP/FTPS, SFTP, CIFS, UDP
Industrial applications	WinCC, KepServerEX, MasterScada
Interfaces	2 x 1000Base-T
Form factor InfoDiode SMART	1 rack unit
Mounting system	(1RU) Rack mounting, tabletop
Power supply	Redundant, 4 inputs, 198-253 VAC, 47-63 Hz, Max 60 W, IEC320 IEC
Operating conditions	0 – 40 C, humidity 5 – 95 %
Chassis size (WxHxD, mm)	483 x 44,5 x 250
Unit weight (kg)	4,2
Certificates	EAC
Design	Industrial, no moving parts
Passive cooling	Yes

Ordering information

P/N	Description	Detailed description
InfoDiode SMART		
AMTID-SMRT-BK-1000	InfoDiode SMART - Base KIT, 1Gbps, including InfoDiode SMART software	InfoDiode SMART, 1RU (1Gbps, 1000Base-T, RJ45), InfoDiode SMART software, support UDP, MQTT
Connectors for InfoDiode SMART		
AMTID-SMRT-CN-MB	External software for InfoDiode SMART - connector for ModBus	Software (connector) for virtual machines and/or servers - support ModBus industrial protocol
AMTID-SMRT-CN-OPCUA	External software for InfoDiode SMART - connector for OPC-UA	Software (connector) for virtual machines and/or servers - support OPC UA industrial protocol (* up to 10 000 tags)
AMTID-SMRT-CN-FT	External software for InfoDiode SMART - connector for TP/FTPS, CIFS, SFTP	Software (connector) for virtual machines and/or servers - support FTP/FTPS, CIFS, SFTP



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