



SecuriCDS[®] Data Diode DD1000A

Unidirectional protection for Ethernet layer 2



High assurance

The SecuriCDS DD1000A meets the highest demands on both security and assurance. With the optical diode hardware, separation between the two interfaces is guaranteed. Special attention has been given to eliminate the risk of covert channels in the reverse direction, resulting in functions like optional dual PSUs, one for each side of the data diode, and RFI/EMI-reducing internal enclosures to minimise compromising emanations.

Approvals

SecuriCDS DD1000A is approved in Sweden for data transfer between networks of different security levels up to and including the level of HEMLIG/TOP SECRET.

Advantages

- Optical high assurance separation
- Physical upstream separation
- Enables digitalisation without compromising security
- Fulfilment of internal and regulatory requirements
- National approvals
- No configuration needed

SecuriCDS DD1000A is a data diode with optical unidirectional data flow to ensure physical separation in one direction. DD1000A offers high performance in a small stand-alone package mountable in a single 1U 19" rack system.

Unidirectional data flow

The SecuriCDS DD1000A takes data protection to a higher level, offering a powerful solution for efficient, risk-free and assured single direction data transfer between security domains. Advenica's DD1000A provides confidentiality for classified networks and systems and integrity for Industrial Control Systems (ICS). Typical use cases include:

- Data transfer from ICS/SCADA networks to IT networks
- File transfer for data storage replication or software updates
- Secure log collection to administrative or audit network
- IoT data transfer from sensor networks to classified networks

Ethernet layer 2

The SecuriCDS DD1000A works on Ethernet Layer 2. All network data on the upstream network will be automatically transferred to the downstream network regardless of overlaying network protocol. The data diode postulates unidirectional network protocols, e.g. UDP, to function correctly in a system.

Full Gigabit Ethernet wire speed

The SecuriCDS DD1000A offers full Gigabit data throughput in a small package. DD1000A can be used as a tabletop device or mounted as a half-width 19" rack system device. Two SecuriCDS DD1000A devices can be mounted next to each other in a 19" rack still with a height of 1U.

Hardware only security

Separation of networks often relies on the configuration of a security device, e.g. firewall rules. Human mistakes will affect the security and the assurance of an implementation is very hard to guarantee. The SecuriCDS DD1000A is designed in hardware only and has no software installed. It uses optical separation internally to guarantee the unidirectional security function. There is no configuration to be made and therefore the device cannot be misconfigured, the unidirectional security function is always assured.

DD1000A Technical data

Gigabit Ethernet data diode with Swedish national approval (component assurance level N3).

Protocols supported

Unidirectional protocols, e.g. UDP, RTP, Syslog

Performance

Network interfaces

Gbit Ethernet

Data throughput

Gbit wire speed

Ports

Network data (Upstream + Downstream)

2x Gbit Ethernet (RJ45)

Supported standards

Network data ports

IEEE 802.3ab, 1000Base-T, Auto MDI/MDIX

Compliance, test standards

CE, EN55024:2010 (A1:2015). EN61000-6-3:2007 (A1:2011)

Swedish national approval – Component assurance level N3

Dimensions and Weight

Device Size

216x43.4x167 mm (WxHxD)

Device Weight

2,2 kg

Physical security

Tamper evident casing

Inner enclosure to reduce compromising emanations

Environmental characteristics

Storage

-20 - +60°C, 5% - 95% RH non-condensing IEC 60721-3-1 (1K3/1B1/1C2/1S2/1M2)

Transport

-20 - +60°C, 5% - 95% RH non-condensing IEC 60721-3-2 (2K2/2B1/2C1/2S1/2M2)

Stationary use

0 - +50°C, 20% - 90% RH non-condensing IEC 60721-3-3 (3K3/3Z1/3B1/3C1/3S1/3M2)

Electrical characteristics

Input voltage

1x or 2x 12VDC (Separate power inlets for upstream and downstream interfaces, power bridge cable included)

Power consumption

5W

External power supply (included)

1x 90-260VAC / 12VDC (Power supply rating 15W)

Depending on your requirements, one or two power supplies may be used to power DD1000A.



Advenica provides expertise and world-class high assurance cybersecurity solutions for critical data in motion up to Top Secret classification. We enable countries, authorities and companies to raise information security and digitalise responsibly. Founded in 1993, we are EU approved to the highest level of security. Our unique products are designed, developed and manufactured in Sweden.

Read more at advenica.com

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