Data Diode DD1G

Gigabit one-way data flow

The second generation Advenica Data Diode DD1G provides physically enforced one-way data flow for Ethernet Layer 2. A hardware only, robust cybersecurity solution for protecting the most valuable digital information.

Key features

- Guaranteed one-way data flow based on optical fiber.
- Pure hardware device, no risk of misconfiguration.
- Combine with Advenica Data Diode Engine for versatile and scalable data diode solutions.
- Flexible installation with three-way mounting options (standalone, rack mounted, DIN-rail).

Technical brief

- 1Gbps interfaces.
- Ethernet Layer 2.
- Native support for unidirectional protocols.
- PoE-enabled power supply (Power over Ethernet).
- Tamper-evident casing.

The core of robust cybersecurity solutions

Engineered for enforced unidirectional data flow, data diode solutions serve as an impenetrable barrier against cyber threats. Ensuring that data can transfer securely between intended networks without the risk of external attacks or unauthorised access.

The DD1G is an Ethernet-based data diode with Gigabit performance. At the centre, a purpose-built optical fibre connection secures the separation of the two connected networks.

The Advenica DD1G series are pure hardware data diodes with no configuration options. As a result, the risk of having an unintentional faulty configuration or outdated software exposing vunerabilites is fully mitigated.

Data diodes for Ethernet Layer 2

The DD1G series 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 requires unidirectional network protocols, such as UDP, to function correctly in a system. If an application requires any other protocol support, the interfacing systems must act as proxy services and convert these protocols into a unidirectional flow.

Extended functionality with proxy services

For use cases requiring bidirectional communication, the DD1G series can be combined with the Advenica Data Diode Engine, a standalone proxy software solution that manages data transfer through Ethernet-based diodes.

The Data Diode Engine is optimised for efficient and secure data transfer and supports a range of application specific software services for use cases such as file transfer or sensor data export.

Technical data

Data Diode DD1G generation 2

Applications and protocols supported

- Log export (e.g. Syslog over UDP)
- AIS (Automatic Identification System) over UDP
- Media streaming (RTP)
- CCTV monitoring

Performance

Network interfaces
Gbit Ethernet

Ports

Network data (Upstream + Downstream)
2x Gbit Ethernet (RJ45)

Physical characteristics

Mounting
- Standalone
- Rack-mounted (1U in 19'')
- DIN-rail

Security
Tamper evident casing

Device Size
100x32x138 (WxHxD)

Device Weight
0.5 kg

Electrical characteristics

Input voltage
1x or 2x 24VDC (Redundant power inlets)

Power consumption
6W

Power supply options
- 1x 100-240VAC / 24VDC (Power supply rating 18W), included
- 1x or 2x 24VDC 6W (Terminal screw plint), included
- Power over Ethernet (PoE)

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)

Supported standards

Compliance
CE

Network data ports
IEEE 802.3ab,1000Base-T

ISO 9001 CERTIFIED
ISO 14001 CERTIFIED

advenica