Fox Ruggedized DataDiode 10G

Technical Data Sheet

The Fox Ruggedized DataDiode Hardware is the device that will enforce a one-way network connection. With it, you are guaranteed that state and company secrets remain secure and that critical systems cannot be manipulated. The Fox DataDiode is the only one-way solution worldwide that has received widespread independent confirmation of its security claims and is classified with the highest level of Common Criteria Evaluation: EAL7+. Moreover, the Fox DataDiode is the only device able to guarantee the unidirectional flow of data at a physical level: it does not have software, firmware or FPGAs. Hence, it cannot be exploited or misconfigured.

For a more secure society

Physical

Dimensions (WxDxH in mm) of 19" rack mountable unit

Casing	428 x 142 x 44
Front panel	482 x 3 x 44
Outer	482 x 142 x44
Casing material	Coated steel / Anodized aluminum
Weight	2,05 kg
Redundant power inlets	Dual IEC320 C13 connector (rear)
Data connection up LED-Indicator	Front / rear
Power available LED-Indicator	Front / rear
Inbound data input connector	Duplex LC (rear)
Outbound data connector	Simplex LC (rear)

Power

Redundant	Yes
Power input	110-230V AC, 50 – 60 Hz
Power consumption	3.2 Watt

Network

Type	Multimode optical fiber, 850nm VCSEL
Supported cable length (max.)	550 meters*
Inbound network connection	Duplex LC connector, receiver and transmitter
Outbound network connection	Simplex LC connector, transmitter only
Recommended cable type	OM3 / OM4
Protocol	10BASE-SR (IEEE 802.3ae)

*) Typically, the Fox DataDiode hardware is installed together with and connected to Proxy servers in the
same rack. These proxy servers can be equipped with the network connection of choice.

Environment

Operating temperature range	-20 °C to +60 °C
Storage temperature range	-25 °C to +70 °C
Relative humidity	20% to 85% (non-condensing)
Shock resistance	MIL-STD 810G:2014 Fig 516.6-10 40g, 11ms, Operational
Vibration Resistance	Random vibration 10-500Hz
	MIL-STD 810F:2000 Fig 514.5C-1 1.04g RMS Operational
EMC Emission	EN 55032 (2015), class B
EMC Immunity	EN 55035 (2016)
Mean Time Between Failure (MTBF)*	161, 161 hrs at 25 °C

*) Actual MTTF may be higher depending on applied power redundancy.

Fox DataDiode properties relevant to NATO
- Certified in the 'Green Scheme' up to and including NATO SECRET (provisional)
- A Basic Ordering Agreement (BOA) is in place between NATO and FOX-IT with reference NC3A/BOA/12766. Consult https://boa.ncia.nato.int/boa/12766/12766.htm

Security

The Fox DataDiode is the single most trusted high assurance IT security solution worldwide, as shown with the diversity of security certifications listed below

Common Criteria* (Government Edition only)	EAL7+ (under review)
NATO (Government Edition only)	Up to and including NATO SECRET, Green Scheme (provisional)
Other security certifications	The list is not exhaustive, as not all security certifications are cleared for public confirmation.
Tamper Evidence sealing	BSI level 2 of BSI TL-03415, SicoTra® Security Seal
TEMTEST compliance	NATO SDIP-27/A. The Fox DataDiode has been designed to have virtually no compromising emanations. By using fiber optics, galvanic separation is achieved, and no radio magnetic signals are transmitted with the information flowing through the Fox DataDiode.
TEMPEST certification	On request, per unit

*) Under the Common Criteria Recognition Arrangement (CCRA), the Common Criteria (CC) certifications are valid internationally. Consult the CC portal for details: www.commoncriteriaportal.org. The Security Targets (STS), Certification reports and certificates are available for download on the FOX-IT website.

Other Certifications

CE safety & environmental certification	IEC 62368-1:2014
	IEC 60950-1:2005 + A1:2009 + A2:2013
	National differences: CA, JP, US
	ROHS 2 Directive 2011/65/EU

Export Control and Customs

The Fox DataDiode is designed and produced by FOX-IT in the Netherlands. A certificate of origin (COO) is available upon request. The Fox DataDiode is categorized under Export Control Classification Number (ECCN) 5A003 of the list of dual-use goods and technologies of the Wassenaar Arrangement (WA-LIST) 5A003b.
FOX-IT holds the necessary export licenses to be able to internationally provide the Fox DataDiode to a very wide range of customers. Contact FOX-IT in case you have export control questions specific to your circumstances.

Key features of the Fox Ruggedized DataDiode
- Redundant power supply
- Industry standard fiber optic LC connectors
- Connectors on the rear
- Rugged coated steel and anodized aluminium casing
- Extended temperature and humidity range
- TEMPEST level-A compliant by default
- Suitable for transport
- Shock and vibration resistant: Truck, Rail, Air (non operational) ASTM D 4728

The complete Fox DataDiode setup

The recommended set-up includes a Fox Ruggedized DataDiode hardware unit and a proxy server on each side of the unit in order to convert bi-directional protocols into a one-way protocol (on the upstream side) and vice versa (on the downstream side).

FOX-IT offers flexibility with the set-up of the proxy servers and the converting software.

- Customers that want to use their own server hardware and server OS including running services or daemons on that same hardware, are required to run FOX-IT supplied software, the Fox DataDiode Core; Intel x64 running Linux or Microsoft Windows OS. The Fox DataDiode core provides basic but powerful stackable features like support for TCP, UDP and file and directory transfer.
- Customers that want a hassle-free turn key solution, FOX-IT provides the Fox DataDiode Appliance software, pre-installed software which supports seamless integration into office environments and built-in support for many common file transfer protocols like SMB/CIFS, FTP/FTPS/FTPES, SFTP/SCP, and can be configured using a user friendly web interface.
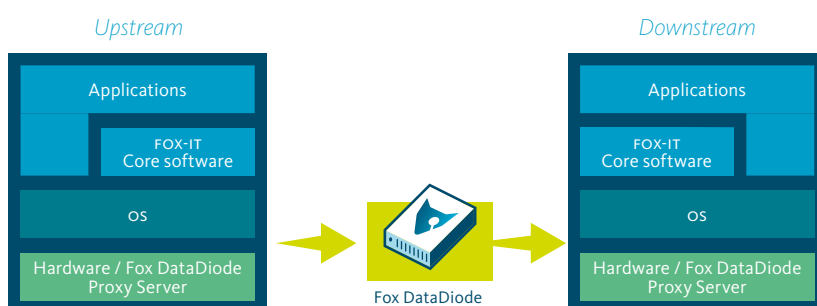
FOX-IT has a number of extra software solutions available that will enhance the value of the Fox DataDiode. These solutions operate at the application level. They include, but are not limited to the *Fox DataDiode PI Replicator*, the *Fox DataDiode Modbus Replicator* and the *Fox DataDiode OPC Replicator* (UA and Classic).

Next steps

A wealth of information is available about the different applications and scenarios for the Fox DataDiode. We have prepared special non-technical product documentation that addresses the needs and requirements of various verticals, spanning both industry and government. Read *Protecting Critical Assets and Production environments* if your goal is to protect your business assets. Consult *Fox DataDiode for protecting secrets* if you have to protect your classified and confidential data.

The DataDiode is delivered through a global network of partners who are knowledgeable in handling confidential information. For more information, including partner details, visit **www.foxdatadiode.com**.

FOX-IT

FOX-IT prevents, solves and mitigates the most serious threats caused by cyber attacks, data leaks, or fraud with innovative solutions for governments, defense agencies, law enforcement, critical infrastructure and banking and commercial enterprise clients worldwide. FOX-IT combines smart ideas with advanced technology to create solutions that contribute to a more secure society. We develop products and custom solutions for our clients to guarantee the safety of sensitive and critical government systems, to protect industrial networks, to defend online banking systems, and to secure confidential data.

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