



Data Diode DDSFX-10G

SFP+ modules for secure 10G transfer

The Data Diode DDSFX-10G is a hardware-based data diode with 10-gigabit optics. Compliance with the industry-standard SFP+ specification ensures support for a wide range of trusted network equipment. With separate transmitter and receiver, data can be securely transmitted over distances up to 10km.



Main benefits

- One-way data flow guaranteed in hardware
- 10 gigabit optical fiber interfaces
- Secure data transfer across long distances
- Compliant with MSA standards for seamless intergration into existing IT environments
- Enables use of certified or environmentally compliant host systems

Smallest in size, highest in performance

The DDSFX-10G is Advenica's most compact data diode solution, yet unmatched in throughput performance. The flexible architecture allows source and destination networks to be located up to 10 km apart, optimal for distributed environments.

One-way data flow with absolute isolation in return

The data diode DDSFX-10G ensures reliable one-way data transmission with physical separation preventing any return path.

Ideal for export of data from vital production environments while maintaining the protective airgap in the reverse direction. Or import of digital information to a classified network, preserving the integrity of the receiving system.

SFP – a widely adopted de facto industry standard

Unlike other models, this data diode is built to meet the SFP+ form factor specification, ensuring plug-and-play compatibility with standard networking equipment.

Ready for the toughest challenges

With 10Gbps line speed the DDSFX-10G has the capacity to support even the most demanding applications. Replication of large databases, transfer of high-resolution images, IT system updates and other data-intensive workloads.

For use cases requiring bidirectional communication, the DDSFX-10G can be combined with the Advenica Data Diode Engine, a standalone proxy software solution for data diodes.

Technical specification

Model characteristics

Device type	Data diode SFP+ modules for 10G Ethernet, TX (transmitter) and RX (receiver)
Installation	Plug-in module for SFP+ port
SFP standards compliance	SFP MSA SFF-8074i, SFF-8431, SFF-8472, SFF-8079
Performance	10Gbps data rate
Compatibility	Verified compatibility with several NICs and switches with support for 10G SFP+ ports.

Mechanical, electrical and environmental specifications

Dimensions	56.5 mm (D) x 13.7 mm (W) x 12 mm (H)
Weight	22.7 g
Casing material	Milled brass
Cooling	Passive (fanless)
Input voltage	Single +3.3 VDC (typ)
Power consumption	1216 mW (typ), 1410 mW (max)
Operating case temperature	-40°C to +85°C, 5-95% RH non-condensing
Storage and transport temperature	-40°C to +85°C, 5-95% RH non-condensing

Optical characteristics

Data interface	Optical fiber, singlemode
Connector	Single LC
SONET/SDH/IEEE	OC192/10G
Wavelength	1310 nm
Transmitter power	-8.2 dBm (min), +0.5 dBm (max)
Receiver sensitivity	-14.4 dBm
TX Jitter (JT _{Xp-p})	200 ps
Max distance at max data rate	10 km

Regulatory compliance

CE	Compliance with applicable directives for EU
ESD, electrical pins	MIL-STD-883 Method 3015
ESD, duplex LC receptacle	IEC 61000-4-2
EMI	FCC Subpart 15B Class B, EN55022 Class B (CISPR 22B), VCCI Class B
Immunity	IEC 61000-4-3
Laser Eye Safety	FDA 21CFR 1040.10 and 1040.11 EN60950, EN/IEC 60825-1,2
Environmental	REACH, RoHS, WEEE