Data Diode DD500E

Physically enforced one-way data flow for industrial installations

Data Diode DD500E is a small form factor IP-capable data diode optimised for industrial installations. Optical technology enables secure export of data from vital networks, enabling automation of data collection while preserving the protective characteristics of air-gap.

Main benefits

- Physically separated source and destination networks
- Compact form factor with DIN rail mouting
- Low touch installation process
- Native support for UDP and MQTT
- Power over Ethernet (PoE)
- Certifications for industrial and railway infrastructure environments

Bridging the air-gap

Extract sensor or other operational data from field devices to any local or cloud platform without compromising the integrity or availability of the source network.

The Advenica Data Diode DD500E enables use cases such as data analysis for predictive maintenance, live monitoring of sensor data, statistics data collection or machine-to-machine communication within a production environment.

Industrial & railway-ready

DD500E is designed for demanding industrial environments, with a robust design and DIN rail mounting.

Railway-compliant variant DD500E-R is tailored for trackside applications, designed for installation in trackside equipment cabinets.

Guaranteed one-way data flow

Unidirectional data flow is enforced by an optical one-way barrier, thereby enabling guaranteed physical separation of source and destination networks.

Low-touch deployment

DD500E is ideal for secure UDP or MQTT data transfer applications, offering rapid deployment with minimal configuration effort.

IP connectivity capabilities enables a smooth integration in existing network environments which is unique for a small form factor data diode.

Significant effort has been directed toward ensuring a low-touch installation process and management of the device.

Technical specification

Model characteristics	Data Diode DD500E, DD500E-R
Device type	Data diode for industrial or railway trackside installations
Installation	DIN rail mount
Administration	Command driven application for uploading configurations and device administration
Performance	100 Mbps network interfaces
Supported protocols	UDP, MQTT

Mechanical specifications	Data Diode DD500E, DD500E-R
Dimensions	58 mm (D) x 50 mm (W) x 75 mm (H)
Weight	175 g
Casing material	Metal
Cooling	Passive (fanless)

Interfaces and connectors	Data Diode DD500E, DD500E-R
Input voltage	+24 VDC (External power supply, PSU included) or IEEE 802.3af (PoE)
Power supply unit (PSU)	Mean Well HDR-15-24 (included)
Power consumption	2.5 W or PoE class 2
Network data ports	100BASE-TX (RJ45 connectors), IEEE 802.3af (PoE)
Administration ports	Proprietary (configuration cables included)
Physical security	Tamper evident casing

Regulatory compliance	Data Diode DD500E, DD500E-R
CE, UKCA	Compliance with applicable directives for EU and UK
Safety	IEC/EN/UL 62368-1, IEC/EN 62368-3
FCC classification	FCC Subpart 15B/ICES003
Vibration & Shock	IEC 60068-2-6, IEC 60068-2-64, IEC 60068-2-27
Ingress protection	IP40 (EN 60529)
Environmental	REACH, RoHS, WEEE

Model specific	Data Diode DD500E	Data Diode DD500E-R
Operating temperature	PoE: -20°C to +65°C, 5-95% RH non-condensing PSU: -20°C to +50°C, 5-95% RH non-condensing	-40°C to +70°C, 5-95% RH non-condensing
Storage and transport	-40°C to +85°C, 5-95% RH non-condensing	-40°C to +85°C, 5-95% RH non-condensing
Additional certifications	-	EN50121-4, EN50125-3

advenica

Swedish cybersecurity at your service

Advenica provides cybersecurity solutions within encryption and network segmentation with the highest level of EU-and national approvals. We were founded in 1993 and are based in Malmö, Sweden, where most of our products are designed, developed, and manufactured. Advenica specialises in the sectors of defence, authorities, infrastructure, and industry. With decades of experience working with Sweden's national security, Advenica is known for delivering cybersecurity with exceptional service.

Read more at advenica.com

ISO 9001 CERTIFIED
ISO 14001 CERTIFIED