DATA SHEET

OWL Cyber Defense

OWL ADVANTAGE

THE GOLD STANDARD IN DATA DIODE TECHNOLOGY

Miniaturized Data Diode

THE FUTURE OF DATA DIODES

Our miniaturized data diode technology has already made its way into a few products and a number of prototypes and as an engineering company we are always interested in new ideas and ways to use the technology. Please review some of the ideas below that we are currently pursuing, and if you have an idea for a use case that's not listed here, we'd love to hear about it!

MEDICAL & HEALTHCARE DEVICES

Embedded data diode technology could secure devices like pacemakers, CT scanners, heart rate monitors and more from external threats, and still allow monitoring data to be safely transmitted out for medical and maintenance purposes.

AUTOMATED & CONNECTED AUTOMOBILES

Miniaturized data diode technology can be embedded to allow performance data to be shared and analyzed, and create an absolute barrier between outside connections and the automobile control systems.

LAPTOP OR PERSONAL COMPUTER

Smaller data diode devices could be used to secure sensitive digital documents in a personal hard drive or "air-gap" a computer from a local network in an office, preventing access while retaining the ability to transmit data.

Miniaturized Data Diode Technology

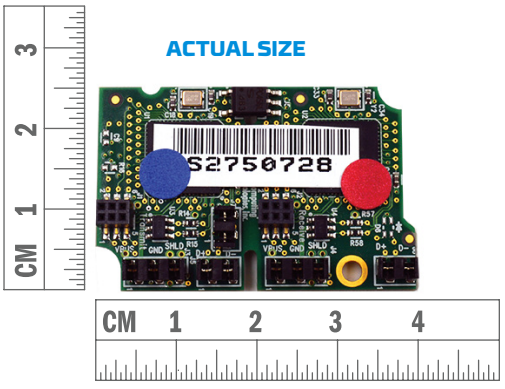
The Internet of Things (IoT) is enabled by the connectivity of millions, and eventually billions, of devices and systems to allow information to be shared and used across them, as well as aggregated and analyzed by end-users. These devices could be industrial and manufacturing sensors or actuators, medical and healthcare equipment, smart meters, automobile control systems, robotic systems, smart printers and the list continues. However, as is typical in the IT space, the creation of new connections to these devices is far outpacing their security.

To meet this growing cybersecurity need, Owl has developed and patented a series of miniature data diodes – the world's smallest ever built – capable of being embedded or collocated within connected devices to enforce one-way-only communication. This new patent (US9305189) again demonstrates Owl's leading edge advancements in cybersecurity technology.

- **World's smallest complete data diodes, as small as a US quarter**
- **Capable of being embedded in small connected devices**
- **Protects IoT devices without disrupting data transmission and collection**

The Owl Solution

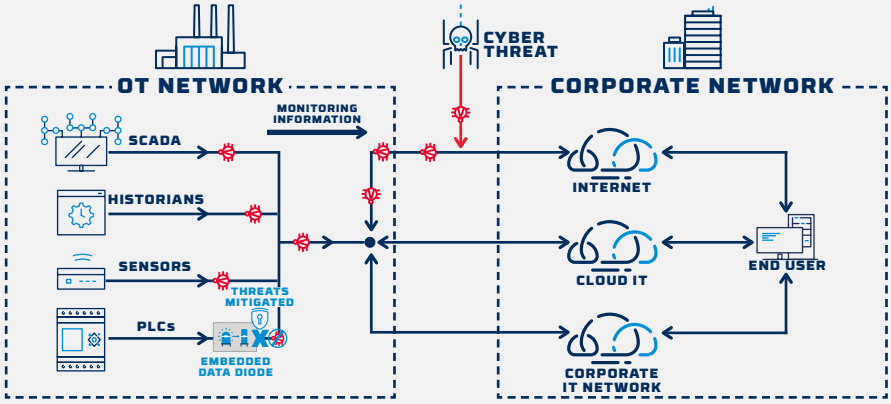
Owl's patented miniature solution includes the core data diode technology plus embedded servers to manage connectivity to each network segment, all in something the size of a quarter. It provides OEM system and device designers with hardware-enforced cybersecurity technology to segment and protect small devices from external cyber threats while allowing the communication of important data between the device and an outside data collection point.



USE CASE

EMBEDDED DATA DIODE IN PLC

As the IoT continues to expand, protecting connected smart SCADA, sensors, historians and PLCs from attack becomes crucial. These devices need to regularly transmit operating information but are potentially exposed to the endless external threats of the internet or other attack vectors. Data diodes ensure that monitoring data can be transferred out from these devices and used in external networks or the cloud without the threat of cyberattack. Owl's new miniature data diode solutions can be embedded within a device, providing cybersecurity at the device level; not needing to rely on the broader network for protection.



One-Way in a Two-Way World

IIoT devices are connected via many different protocols such as hardwire Ethernet, wireless Ethernet, USB, Bluetooth, serial and many other connection types. To accommodate the "handshakes" and confirmations required in two-way protocols, data diodes employ proxies on each side of the one-way connection. These proxies are run on CPUs flanking the dual diode hardware, all of which fits on a device in the space of a quarter.

Data diodes are used to separate or segment connected devices and networks from the outside world and yet still allows them to share information. Network segmentation with one-way data diode communications is a proven, recommended (and in some industries, required) method to reduce network attack surfaces, create a defendable environment, and implement secure remote monitoring.

Until now, network segments were typically defined as larger entities like power plants, data centers, substations, or large databases. Now as small as a quarter, this new technology will enable "micro-segments," for smaller devices such as a single digital controller on a turbine, the control systems in a crane at construction site, a car going down the highway, or even an implanted medical device, such as a pacemaker.

OWL Cyber Defense

Owl Cyber Defense Solutions, LLC leads the world in data diode and cross domain network cybersecurity. With a constant focus on customers in the military, government, critical infrastructure, and commercial communities, Owl develops market-first, one-way data transfer products to meet a variety of operational needs, from entry level to enterprise.

For more information on Owl, or to schedule a demo, visit www.owlcyberdefense.com

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