Technolution
Prime

PrimeDiode 5001/5010

Compact data diode for NLD TOP Secret

Redefining **solutions**

Versatile, secure, and compact

The PrimeDiode 5001/5010 is an assessed, highly reliable data diode that can be used to create effective domain separation.
The underlying philosophy is reflected in its compact casing, its high bandwidth, and its flexible options for software proxies. This data diode can be used in environments with classification levels up to and including Stg. GEHEIM (NLD SECRET) and NATO COSMIC (TOP) SECRET.

Physical domain separation
The PrimeDiode 5001/5010 guarantees secure one-way traffic across data connections between two domains. Data traffic in one direction is made physically impossible through hardware-based domain separation. Data traffic in the other direction remains possible, at speeds of 1G (PrimeDiode 5001) or 10G (Prime Diode 5010). The PrimeDiode 5001/5010 has an idle pattern generator that simplifies link-up with network devices.

This makes the PrimeDiode 5001/5010 suitable for two important purposes:

- **Confidentiality**
  The de PrimeDiode 5001/5010 prevents data leaking out of a confidential domain.

- **Integrity**
  The de PrimeDiode 5001/5010 ensures that the integrity of a domain cannot be compromised, because it stops attackers from sending their own network traffic into the domain.

Flexibility through micro proxies
A data diode can be extended with proxy software that runs on separate hardware. A proxy can consist of various functionalities, for example a “data car wash” for data being imported into a confidential domain. This converts the incoming network protocol into a unidirectional data flow (proxy handlers) and scans it, for instance, for viruses (data handlers).

The advantages of the PrimeDiode 5001/5010:

- Can be used for all classification levels up to and including Stg. ZEER GEHEIM (NLD SECRET), NATO (TOP) SECRET
- Compact
- Cost-effective
- High speed
- Low latency (less than 1 microsecond)
- Assessed by the National Communications Security Agency
- Vibration and shock proof

Roadmap: In due course, the following functionalities will be added to the PrimeDiode 5001/5010

- Applicable with virtualized proxies thanks to TCP micro proxies
- Can be used with precise time synchronization (< 10 us) through NTP or PTP
- Automatic switching between 1G and 10G

The PrimeDiode 5001/5010 will offer the unique possibility of integrating simple protocols in the diode in advance as so-called micro proxies (see roadmap). A **TCP micro proxy** for instance guarantees that other devices will have a reliable connection with the PrimeDiode 5001/5010. This means you can run proxy software in a virtualized environment, without requiring separate proxy hardware – thus saving a lot of space. An **NTP micro proxy** ensures exact time synchronization between the two network domains.

These and other micro proxies are available upon request and can be tailored to your specific requirements.

Compact shape factor

Thanks to its modest casing, you can place up to 12 PrimeDiodes 5001/5010 in a single 2U rack. This means the PrimeDiode 5001/5010 is particularly suitable for environments with many domain separations and limited space. Using TCP micro proxies and virtualized software proxies makes it possible to optimize the use of space. .

Technical specifications

	PrimeDiode 5001/5010	
Security		
Classification	UNCLASSIFIED up to and including Stg. ZEER GEHEIM (NLD TOP SECRET), NATO COSMIC (TOP) Secret	
Hardware security	'Tamper evident'	
Tempest	SDIP-27/1 Level A	
Functionality		
Bandwidth	PrimeDiode 5001 PrimeDiode 5010	1 Gbps 10 Gbps
MTU size	Unlimited	
Latency	< 1 µs	
Connections		
Types of connections	PrimeDiode 5001 PrimeDiode 5010 (duplex LC fibers)	Optisch 1G 10G Ethernet
Ethernet standards	PrimeDiode 5001 PrimeDiode 5010 (multi-mode fiber)	1000BASE-SX 10GBASE-SR[1]
Hardware		
Regulatory compliance	CE, REACH, RoHS	
Power	~10W (PrimeDiode 5010)	
Measurements	262 x 85 x 33 mm	
Storage temperature	-20°C - 85°C	
Vibration resistance	IEC 60068-2-6:2008, IEC 60068-2-27:2008	
PrimeFlex rack		
Capacity	12 x PrimeDiode 5001/5010	
Power	200W (afhankelijk van modules ingezet)	
Cooling	Active	
Power input	100Vac/240Vac 50-60Hz (redundant)	
Measurements	Rackmount 19 inch (48,26 cm); 2U, diepte 400 mm	

Specifications may be subject to change. Please contact us to discuss your application.
[1] Single-mode 10GBASE-LR/LRM/ER upon request.

Technolution B.V.
Burgemeester Jamessingel 1
2803 WV Gouda
Nederland

+31 (0)182 59 40 00
prime@technolution.com
Technolution Prime

technolution.com/prime

11.2024