*Cross Domain Security Solutions*

## Cybersecurity

# ST Engineering Data Diode


## Protecting the Security, Integrity and Availability of Critical Assets

Industry 4.0 and the growth of the Internet Of Things has been the driving force towards the convergence of computer networks and increased connectivity. However, when integrating these networks, a lot of cyber risks are aggregated. A solution that can maintain the "air-gap" among these networks while regulating legitimate data to flow is required to address these challenges.

ST Engineering Data Diode is a unidirectional communication and data transfer gateway that enables organisations to transfer data securely across physically separated networks without the risks of any data leakage. The high performance solution comes in a compact design that integrates seamlessly with users' operational environments. The security design prevents data leakage and eliminates cyber threats by enforcing the one-way data transfer at both the physical and protocol layers. It complements ST Engineering's suite of cybersecurity solutions to enhance the security and resilience of Information Technology and Industrial Control System/ Supervisory Control and Data Acquisition infrastructures against cyber attacks.

## Key Features

**Information Assurance by Design**

- Ensures no data leakage. Separate power supply to mitigate against side-channel attacks.
- Certified under Common Criteria (CC EAL4+) and NITES by CSA.

**High Throughput and Robust Performance**

- Files lost detection capability.
- Configurable for High Availability.

**Ease of System Integration and Customisation**

- Supports an array of IT, IoT and ICS/SCADA networking protocols for system integration and interoperability.

**Compact Design**

- Allows all functionalities to be encapsulated within a compact footprint.

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## Specifications

| Operational Feature | Specifications | |
|---|---|---|
| **Support for variety of network and data replication protocols** | TCP, UDP, SYSLOG, SNMP Traps, HTTP, HTTP(S), Probe Mode<br>Folders Mirroring (SMB, SAMBA), SFTP, FTP, SMTP<br>OPC UA, Kafka, PI System, MODBUS (RS232/TCP), IEC 104, MQTT, RTSP | |
| **Operational & Management** | Built-in Data Diode operational health monitoring<br>Can send SYSLOG, Email(SMTP), files, PI Point & SNMP trap for alerts<br>NTP Synchronisation over Data Diode<br>Self-Service configuration Portal | |
| **Security Certification** | CC EAL 4+ certified by CSA Singapore | |
| **Model** | **3283 (1U)** | **3284 (2U)** |
| **Dimensions and Weight** | | |
| Height | 4.40cm | 4.36cm |
| Width | 43.84cm | 44.20cm |
| Depth | 60.00cm | 29.83cm |
| Weight | 12.9kg | 4.1kg<br>(per server) |
| **Power** | | |
| Type/Watts | Two x 650 W (One PSU per node) | Up to two x 300 W |
| Input | AC 110 to 240 V @ 50/60 Hz | AC 110 to 240 V @ 50/60 Hz |
| **Memory & Hard Disk** | 8 GB RAM (Up to 64 GB)<br>500 GB (expandable) | 8 GB RAM (Up to 32 GB)<br>500 GB (expandable) |
| **Network Interfaces** | | |
| Production Port (Data) | 1 x 1 GbE (RJ-45) and<br>1 x 10 GbE (SFP+) | 1 x 1 GbE (expendable to<br>7 x 1 GbE (RJ-45) ports) |
| Management Port | 1 x 1 GbE (RJ-45) (per node) | 1 x 1 GbE (RJ-45) |
| **Unidirectional Media Transfer Rate** | 10 Gbps | 1 Gbps |
| **File Transfer Performance (Throughput)** | End-to-end files transfer<br>1. File size more than 1 MB: more than 500 Mbps<br>2. File size less than 10 KB: more than 200 files/sec<br>3. No more than 1 file lost for every 5,000,000 files transferred | |
| **Environment** | | |
| Operating | Temperature: 0 to 40˚C<br>Humidity: 5% to 90% RH | Temperature: 0 to 45˚C<br>Humidity: 20% to 90% RH |
| Storage | Temperature: -20 to 70˚C<br>Humidity: 5% to 95% RH | Temperature: -20 to 70˚C<br>Humidity: 5% to 90% RH |
| **Export Control & Customs** | Harmonised System (HS) code - 8517.62.61 | |

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