Tofino™ Modbus TCP Enforcer LSM

Content Inspection for Modbus

Modbus Master

Modbus Slave

Tofino™ Modbus TCP Enforcer
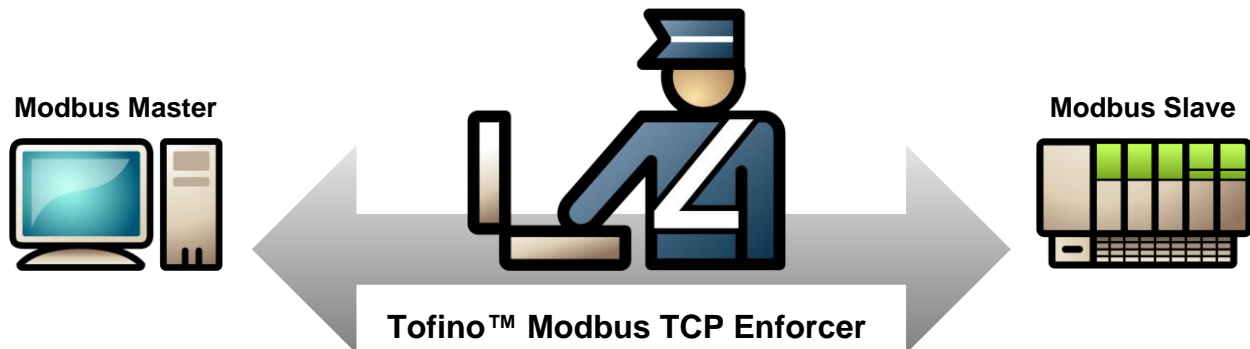
Advanced cyber threat and safety protection for your Modbus devices

Did you know that any device with a network connection to a Modbus controller can potentially change any of the controller's I/O points or register values? Many controllers can even be reset, disabled, or loaded with new logic or firmware.

The Tofino Modbus TCP Enforcer Loadable Security Module (LSM) is a content inspector for Modbus communications, checking every Modbus command and response against a list of 'allowed' commands defined by your control engineers. Any command that is not on the 'allowed' list, or any attempt to access a register or coil that is outside the allowed range, is blocked and reported.

The Tofino Modbus TCP Enforcer LSM makes sure that the only Modbus commands your control devices receive are approved commands from approved computers. Accidents involving remote programming are prevented and corrupted messages are blocked, making your control system safer and more reliable.

Saves you money through:

- Simplifying compliance to safety and security standards
- Reduced down time and production losses
- Lower maintenance costs
- Improved system reliability and stability

Unique capabilities:

- First-ever application of deep packet inspection technology for industrial protocols
- Control specialist defines list of allowed Modbus commands, registers, and coils
- Automatically blocks and reports any traffic that does not match the rules
- Protocol 'Sanity Check' blocks any traffic not conforming to the Modbus standard
- Supports multiple master and slave devices
- Simple configuration using the Tofino Configurator's graphical user interface
- Certified Modbus compliant by Modbus-IDA

Typical applications:

- Oil & gas custody transfer
- Safety instrumentation systems
- Managing PLC programming stations
- Display-only HMI panels
- Partner access to telemetry data

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Supports multiple connections	Multiple master and slave Modbus devices are supported with a unique set of inspection rules and options for each master/slave connection
Default filter policy	Deny by default: any Modbus function code, or register or coil address, that is not on the 'allowed' list is automatically blocked and reported
Modbus function codes	Supports functions 1-8, 11-17, 20-24, 40, 42, 43, 48, 66, 67, 91, 100, 125, 126
User-settable options	The following options may be set on a per-connection basis: • Permitted Modbus function codes • Permitted register or coil address range • Permitted Modbus Unit IDs • Sanity check enable/disable • State tracking enable/disable • TCP Reset on blocked traffic (when utilizing TCP transport protocol) • Modbus exception reply on blocked traffic
Transport protocols	Both Modbus/TCP and Modbus/UDP supported
Configuration method	Simple configuration using the Tofino Configurator
Throughput	1000 packets per second with full content inspection
Operating modes	All standard Tofino modes supported: • *Test*: all traffic allowed; alerts generated as per user rules • *Operational*: traffic filtered and alerts generated as per user rules
Security alerts	Reports security alerts to a syslog server and to non-volatile memory on a Tofino Security Appliance
Certifications	Certified Modbus compliant by Modbus-IDA
System requirements	• Tofino Security Appliance • Tofino Firewall/Event Logger LSM • Tofino Configurator
Ordering information	Part number: **942 016-112** Name: **Tofino™ Modbus TCP Enforcer LSM** Additional information: http://www.tofinosecurity.com/sales/tofino-hirschmann

Tofino™ Modbus TCP Enforcer LSM is a component of the Tofino Security Solution:

Tofino Security Appliance

Hardware platform that creates Plug-n-Protect™ zones of security on control and SCADA networks

Loadable Security Modules

Firmware modules that customize the security features of each Tofino SA:
- **Firewall:** Monitors and secures industrial network traffic
- **Modbus, OPC, and EtherNet/IP Enforcers:** Ensure compliance, manage connections, and restrict ICS/SCADA commands
- **NetConnect:** Provides secure remote configuration over any IP-based network
- **Event Logger:** Reliably logs security events and alarms

Tofino Configurator

Software that provides coordinated security management of all Tofino Security Appliances from one workstation or server

Your authorized Tofino supplier:

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