

Tofino™ Xenon Security Appliance

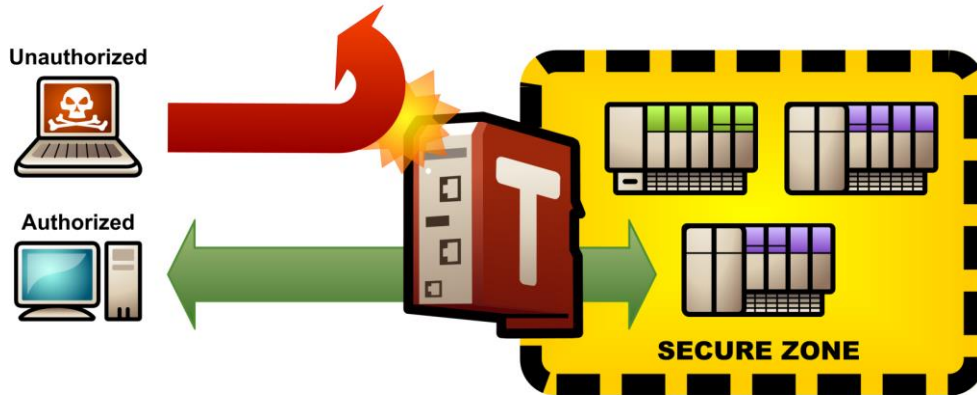
Creates Plug-n-Protect zones of security

Data Sheet

DS-TSA-XENON

Version 6.0

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Tofino SA

Protect your control system against network problems and cyber threats

The electrical, environmental, and operational requirements of SCADA and process control systems can make traditional IT-focused security solutions unsuitable for industrial networks. As a result, many critical systems operate with little protection against accidental or malicious cyber events. Entire plants have been shut down by an infected USB key or a misconfigured network device.

The Tofino Xenon Security Appliance (Tofino SA) is ideal for control professionals because it is a Plug-n-Protect™ product, designed to be installed in a live network with no pre-configuration, no network changes, and no plant downtime. It provides a simple and cost-effective way to create zones of security – tailored protection for groups of PLCs, DCS, RTUs, IEDs, and HMIs – as recommended by ISA/IEC-62443 Standards.

Tofino is designed with the environments, staff skills, and needs of industry in mind. It protects better and is easier to install than IT firewalls and other security products.

Saves you money through:

- Improved system reliability and stability
- Reduced down time and production losses
- Lower maintenance costs
- Simplified regulatory and security standards compliance

Unique capabilities:

- Plug-n-Protect installation requires no pre-configuration, no network changes, and no disruption to the control system
- Simple configuration over the network using the free Tofino Configurator software
- Unique 'Test' mode allows firewall testing with no risk to your operation
- Loadable Service Modules (LSMs) pre-installed at factory or purchased separately
- Compatible with all DCS, PLC, SCADA, networking, and software products
- Rugged hardware design for years of reliable service

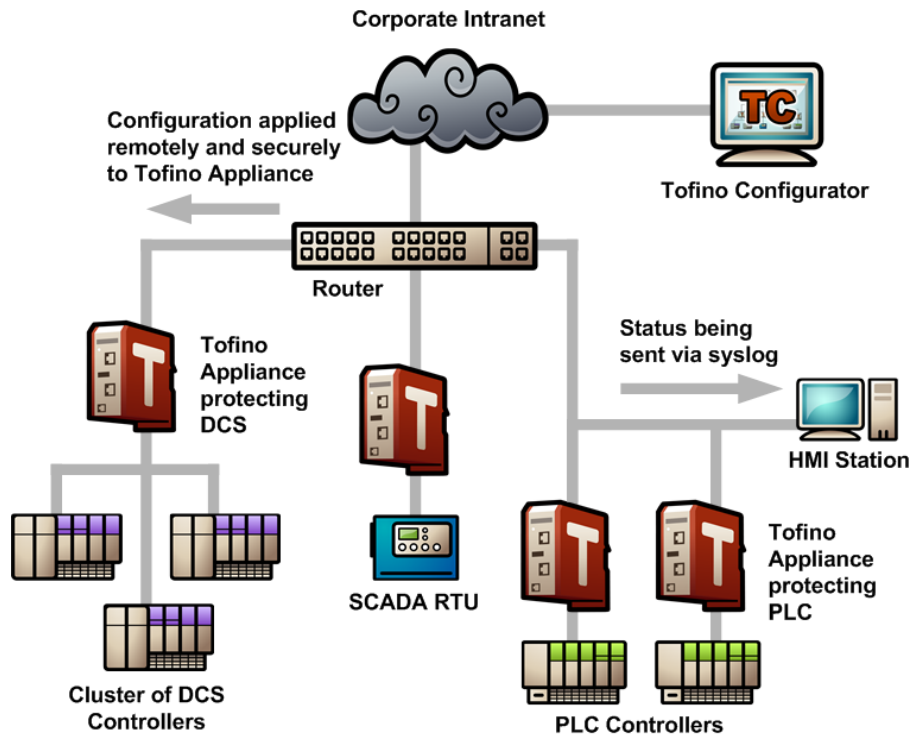
Typical applications:

- Secure networks with security zones as per NERC, ANSI/ISA, and IEC standards
- Protect connections to partner networks and wireless networks
- Improve SCADA and process control network reliability and performance

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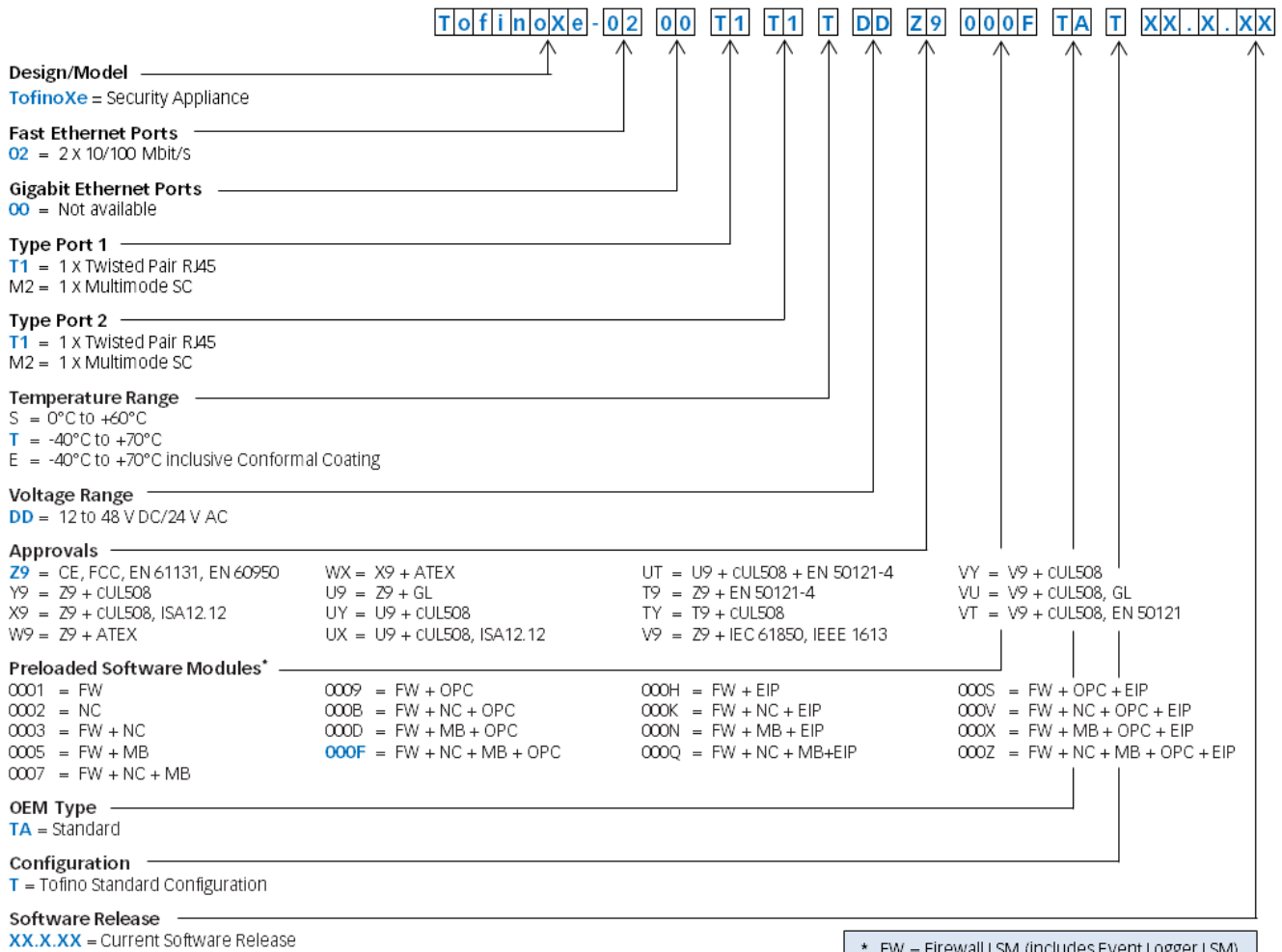
2010 World Customer Value
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TOFINO®



<p>Protect vulnerable controllers</p>	<p>The PLCs, DCS, IEDs, and RTUs in control networks are optimized for real-time I/O performance, not for robust networking connections. Even normal network traffic, like broadcast and multicast messages, can overload some devices and cause them to crash.</p> <p>Tofino makes it easy for the control technician to define rules that specify which network devices are allowed to communicate and what protocols they may use. Any network traffic that does not fit the rules is automatically blocked by the Tofino SA and reported as a security alert.</p>
<p>Improve network segmentation</p>	<p>Many control systems have evolved from simple, stand-alone systems to complex interconnected networks. These networks are typically unprotected with no isolation between different sub-systems, so if a problem occurs in one area, it can quickly spread throughout the network.</p> <p>The Tofino SA is the ideal solution for segmenting a control network into security zones. It is installed into an existing system with no changes to the network, forming 'conduits' of communications between the zones. The control engineer defines rules that specify which network devices are allowed to communicate and what protocols they may use. Deep packet inspection options allow detailed filters to enforce security policy, such as only allowing read commands to be sent to a PLC.</p>
<p>Guard against accidental and malicious intrusion</p>	<p>Even if your control network doesn't connect to the Internet, you're still at risk. Studies show that the vast majority of cyber security incidents originate from a variety of secondary points of entry into the network, including the enterprise network, maintenance connections, third-party networks (such as partner companies and contractors), and even transient sources, such as laptops and USB keys.</p> <p>A security risk assessment, combined with Tofino's Zone Level Security strategy, identifies potential threat sources and entry points and then isolates those points. If an attack does originate from a secondary entry point, the potential damage is easily contained within the zone in which the attack originated.</p>
<p>Installation</p>	<p>Plug-n-Protect installation to an operating control network with no pre-configuration, no network changes, no disruption to network traffic, and no downtime</p>

Configuration method	<ul style="list-style-type: none"> ▪ <i>Network</i>: Tofino Configurator uses secure communications to configure the Tofino Xenon security appliances ▪ <i>Manual</i>: encrypted configuration files may be saved on a USB storage device and loaded into the Tofino Xenon security appliance via a secure USB port
Operating modes	<ul style="list-style-type: none"> ▪ <i>Test</i>: all traffic allowed; alerts generated as per user rules ▪ <i>Operational</i>: traffic filtered and alerts generated as per user rules
Mode changes	Operating mode is controlled remotely from the free Tofino Configurator software
Firewall	<ul style="list-style-type: none"> ▪ Stateful layer 2, 3, and 4 filtering ▪ Deep Packet Inspection (DPI) for SCADA and ICS protocols depending on Loadable Security Modules (LSMs) purchased
Audit log	Audit capabilities for tracking configuration changes
Security alerts	Simultaneous event logging to a remote syslog server and local nonvolatile memory for later download via network or USB storage device
Diagnostics	Download to the Tofino Configurator via the network or save locally to a USB storage device
Status indicators and controls	<ul style="list-style-type: none"> ▪ Status indicators: 'Power', 'Fault', 'Mode', 'Save/Load', 'Reset' ▪ Traffic indicators: link status, speed, and activity for each Ethernet port ▪ Pushbutton loads configuration from encrypted files or saves diagnostics to USB storage device
System requirements	<ul style="list-style-type: none"> ▪ Tofino Configurator ▪ Loadable Security Modules (LSM) to implement the desired security features
Interfaces	2 x 100BASE-TX, 1 x 100BASE-FX, 1 x 100BASE-TX, or 2 x 100BASE-FX (dependent on device variant)
Power	<ul style="list-style-type: none"> ▪ 12 to 48 V DC, 24 V AC redundant power supply ▪ 5-7 Watts (dependent on device variant) ▪ Dual redundant power inputs; 24-12AWG screw cage terminals
Environmental	<ul style="list-style-type: none"> ▪ Operating temperature: 0°C to +60°C or -40°C to +70°C (dependent on device variant) ▪ Storage/transport temperature: -40°C to +85°C ▪ Relative humidity: 10% - 95% (non-condensing)
Certifications	<ul style="list-style-type: none"> ▪ <i>Declaration of Conformity</i>: CE, FCC, EN 61131, C-TICK, EN 60950 ▪ <i>Safety of Industrial Control Equipment</i>: cUL508 (dependent on device variant) ▪ <i>Hazardous Locations</i>: ISA-12.12.-01 Class 1 Div. 2 – Haz. Loc, ATEX-95 Category 3G (Zone 2) (dependent on device variant) ▪ <i>Railway (norm)</i>: EN 50121-4 (dependent on device variant) ▪ <i>Substation</i>: IEC 61850-3, IEEE 1613 (dependent on device variant)
Mechanical	<ul style="list-style-type: none"> ▪ Protection Class: IP20 ▪ Mounting: 35mm DIN rail ▪ Dimensions (mm): 60W x 145H x 125D ▪ Weight: 660g
Reliability	<ul style="list-style-type: none"> ▪ 5 year standard warranty on all hardware ▪ MTBF: 64.2 to 74.5 years (dependent on device variant)



* FW = Firewall LSM (includes Event Logger LSM)
NC = NetConnect LSM
MB = Modbus TCP Enforcer LSM
OPC = OPC Enforcer LSM
EIP = EtherNet/IP Enforcer LSM

The Tofino™ Xenon Security Appliance 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 Tofino:

- **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



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