TOFINO SECURITY

A **BELDEN** BRAND

PB 1095TE

Tofino™ Xenon Security Appliance

The Tofino Xenon industrial security appliance provides comprehensive network protection. It is a versatile, extremely ruggedized device that ensures maximum data protection for production systems.

Designed to withstand the harshest industrial conditions, the Tofino Xenon security appliance is ideal for industries, such as oil and gas, power and transportation.

This firewall complies with global standards and is easy to integrate into existing networks. Its unique "test mode" reduces installation risks, such as network interruptions or configuration errors.

Loadable Security Modules (LSMs) allow the Tofino Xenon to be highly customized to meet the security needs of different protocols, industries, and environments.

A new product to serve your needs.
Be certain.

- Safe and cost–effective protection of automation networks
- Plug–n–Protect™ installation requires no pre-configuration, no network changes, and no disruption to the control system
- Rugged hardware design for years of reliable service

The Tofino Xenon security appliance is the latest addition to the Tofino family of security devices purpose built to meet the needs of industry. This device, which ensures maximum data security for production networks, is a combination of the proven Tofino software with state-of-the-art hardware.

Thanks to its reduced power consumption, it also offers significantly lower operating costs. In addition, the extended operating temperature range of the Tofino Xenon means that it can often be used without supplementary air conditioning equipment.

A further plus is its support for redundant power supplies operating at any voltage from 12 to 48 V DC (or even 24 V AC).

Applications

The robust design of the Tofino Xenon enables it to withstand the harshest environmental conditions and it can be used wherever maximum data security is called for. This makes it the ideal industrial security appliance for mechanical and plant engineering and industrial automation.

Other areas for its versatile use include the transportation sector, with applications ranging from road and rail transport right through to shipping. Indeed, the Tofino Xenon has been certified by Germanischer Lloyd for this very purpose. Since this security appliance is also approved for substations (IEC 61850-3) and for explosive environments (ATEX and ISA 12.12.01 HazLoc), it can also be used in the oil and gas sector as well as in power transmission and distribution systems and renewable energy applications such as wind farms.

Your Benefits

The Tofino Xenon security appliance is the ideal solution for segmenting a control network into security zones. It can be installed into an existing control 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 (DPI) options allow detailed filters to enforce security policy such as only allowing read commands to be sent to a PLC.

Tofino's flexible architecture allows you to create security zones - Zone Level Security - throughout your control network to protect critical system components. Tofino helps you meet and exceed NERC CIP requirements and ISA/IEC-62443 Standards. And best of all, it helps you avoid expensive down time and achieve optimal performance in your plant.

Tofino Xenon Security Appliance

The free Tofino Configurator software makes it easy for the control technician to define rules that specify exactly which devices are allowed to communicate, what protocols they may use, and what actions those protocols perform. Any network traffic that does not fit the rules is automatically blocked by the Tofino Xenon and reported as a security alert.

The standard Tofino Xenon includes a stateful firewall with layer 2, 3 and 4 filtering. Adding Enforcer LSMs provides stateful DPI to manage traffic based on high level message content, such as the commands/services being used or the registers/objects being accessed. There are multiple Enforcers available – each one providing inspection for a different protocol. The LSMs can be pre-loaded onto the Tofino Xenon at the factory, or purchased and installed at a later date as your needs change.

Other features of this security appliance include extensive management facilities and diagnostic tools, a robust metal housing for DIN rail mounting, and a redundant power supply for both DC and AC.

The Tofino Xenon allows for operating temperature ranges from 0°C to +60°C or from -40°C to +70°C. In addition, there are variants for twisted-pair cables or multimode fibers, as well as with a variety of certifications and approvals including ATEX, IEC 61850-3 and EN 50121-4.

Benefits at a Glance

- All-around protection of automation networks with an optimal price-performance ratio
- Stateful firewall with layer 2, 3 and 4 filtering for all Ethernet-based protocols
- Additional application layer filtering for SCADA and ICS protocols using flexible LSMs
- Prevention of Denial of Service (DoS) attacks with rate limit controls
- Simple configuration over the network or with ACA21-USB using the Tofino Configurator software
- Test mode for verifying firewall rules without risk to your operation
- LSMs pre-installed at factory or purchased separately
- Simultaneous event logging to remote syslog servers and local nonvolatile memory
- Audit capabilities for tracking configuration changes
- Safe installation in live networks without shutdown
- Tested for use with all major control system products
- Optional extended operating temperature range from -40°C to +70°C
  (standard is 0°C to +60°C)
- Variants for twisted-pair cables (RJ45) and multimode fibers (SC)
- Robust metal housing for DIN rail mounting
- Meets principal standards and approvals:
  – Energy sector: IEC 61850-3, IEEE 1613
  – Hazardous areas: ATEX, ISA-12.12.01 Class 1 Div. 2
  – Transport sector: EN 50121-4
  – Shipping: Germanischer Lloyd
- Perfectly tailored for use with all Ethernet products from Hirschmann™, GarrettCom™ and Belden®

Thanks to its conformance with numerous approvals, the Tofino Xenon offers maximum flexibility in its protection of industrial plants, oil rigs, substations and transportation systems.

Technical Information

Product Description			
Type	TofinoXE-0200T1T1	TofinoXE-0200T1M2 | TofinoXE-0200M2T1	TofinoXE-0200M2M2
Description	Industrial Security Firewall		
Port Type and Quantity	2 x 100BASE-TX	1 x 100BASE-FX | 1 x 100BASE-TX	2 x 100BASE-FX

Additional Interfaces	
USB Interface	1 x USB socket to connect auto-configuration adapter ACA21-USB
Digital Input	1 x plug-in terminal block, 2-pin
Digital Output (Signaling Contact)	1 x max. 60 V DC or max. 30 V AC, SELV, max. 1A

Network Size			
Multimode Fiber (MM) 50/125 µm	–	0 to 5000 m, 8 dB Link Budget at 1300 nm, A = 1 dB/km, 3 dB Reserve, B = 800 MHz x km	
Multimode Fiber (MM) 62,5/125 µm	–	0 to 4000 m, 11 dB Link Budget at 1300 nm, A = 1 dB/km, 3 dB Reserve, B = 500 MHz x km	
Twisted Pair (TP)	0 to 100 m	–	

Power Requirements			
Operating Voltage	12 to 48 V DC, 24 V AC redundant power supply		
Power Consumption	5 W	6 W	7 W
Power Supply/Signaling Contact	1 x plug-in terminal block, 6-pin		

Software	
Management	Tofino Configurator software
Diagnostics	LEDs (power, mode, fault, save/load, reset , link status), signal contact, syslog, configuration verify
Configuration	**Network**: Tofino Configurator uses secure communications to configure the Tofino Xenon security appliance **Manual**: Encrypted configuration files may be saved on an ACA21-USB device and loaded into the Tofino Xenon security appliance
Operating Modes	**Test**: All traffic is allowed and alerts are generated as per user rules **Operational**: Traffic is filtered and alerts are generated as per user rules
Firewall	Stateful layer 2, 3 and 4 filtering with optional deep packet inspection for ICS protocols (depending on purchased LSMs)
System Requirements	Windows XP, Windows 7 (32- and 64-bit), or Windows Server 2003, 2008, or 2008 SR2
Event Logging	Captured by a syslog server or locally into nonvolatile memory for later download via network or ACA21-USB

Ambient Conditions	
Operating Temperature	0°C to +60°C, or -40°C to +70°C (IEC 60068-2-2 Dry Heat Test +85°C 16 hours), dependent on device variant
Storage/Transport Temperature	-40ºC to +85ºC
Relative Humidity (non-condensing)	10% to 95%
Conformal Coating	Yes (dependent on device variant)

Mechanical Construction	
Dimensions (W x H x D)	60 x 145 x 125 mm
Weight	660 g
Protection Class	IP20
Mounting	DIN Rail 35 mm

Approvals	
Declaration of Conformity	CE, FCC, EN 61131, C-TICK, EN 60950
Safety of Industrial Control Equipment	cUL508 (pending, dependent on device variant)
Hazardous Locations	ISA-12.12.-01 Class 1 Div. 2 – Haz. Loc, ATEX-95 Category 3G (Zone 2), (pending, dependent on device variant)
Germanischer Lloyd	Pending, dependent on device variant
Railway (norm)	EN 50121-4 (dependent on device variant)
Substation	IEC 61850-3, IEEE 1613 (dependent on device variant)

Reliability			
MTBF	74.5 years	69 years	64.2 years
Warranty	5 years (standard)		

Tofino Xenon Security Appliance Configurations

`TofinoXe-02 00 T1 T1 T DD Z9 000F TA T XX.X.XX`

Design/Model
TofinoXe = Security Appliance

Fast Ethernet Ports
02 = 2 x 10/100 Mbit/s

Gigabit Ethernet Ports
00 = Not available

Type Port 1
T1 = 1 x Twisted Pair RJ45
M2 = 1 x Multimode SC

Type Port 2
T1 = 1 x Twisted Pair RJ45
M2 = 1 x Multimode SC

Temperature Range
S = 0°C to +60°C
T = -40°C to +70°C
E = -40°C to +70°C inclusive Conformal Coating

Voltage Range
DD = 12 to 48 V DC/12 V AC

Approvals

Z9	= CE, FCC, EN 61131, EN 60950	UX	= U9 + cUL508, ISA12.12
Y9	= Z9 + cUL508	UT	= U9 + cUL508 + EN 50121-4
X9	= Z9 + cUL508, ISA12.12	T9	= Z9 + EN 50121-4
W9	= Z9 + ATEX	TY	= T9 + cUL508
WX	= X9 + ATEX	V9	= Z9 + IEC 61850, IEEE 1613
U9	= Z9 + GL	VY	= V9 + cUL508
UY	= U9 + cUL508	VU	= V9 + cUL508, GL
		VT	= V9 + cUL508, EN 50121

Preloaded Software Modules

0001	= FW (Event Logger LSM included)	000H	= FW + EIP
0002	= NC	000K	= FW + NC + EIP)
0003	= FW + NC	000N	= FW + MB + EIP)
0005	= FW + MB	000Q	= FW + NC + MB + EIP
0007	= FW + NC + MB	000S	= FW + OPC + EIP
0009	= FW + OPC	000V	= FW + NC + OPC + EIP
000B	= FW + NC + OPC	000X	= FW + MB + OPC + EIP
000D	= FW + MB + OPC	000Z	= FW + NC + MB + OPC + EIP
000F	= FW + NC + MB + OPC		

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

OEM Type
TA = Standard

Configuration
T = Tofino Standard Configuration

Software Release
XX.X.XX = Current Software Release

NOTE: The part number categories (**OEM Type, Configuration** and **Software Release**) are optional.