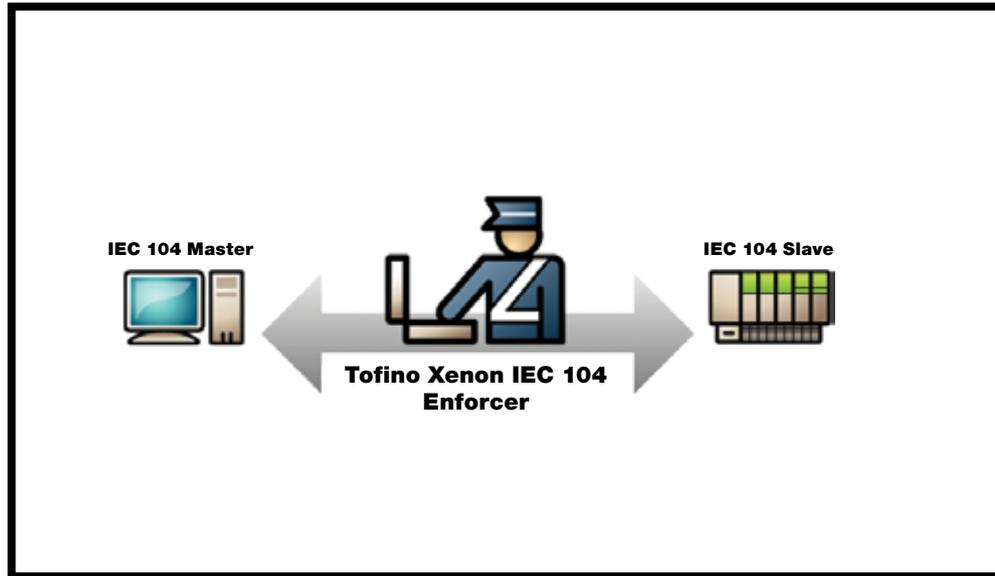


PB00059

**Tofino Xenon IEC 104 Enforcer Loadable Security Module (LSM)**

A plug-in Deep Packet Inspection (DPI) module that provides real-time validity checking and content inspection for IEC 60870-5-104 traffic.



**The Tofino Xenon IEC 104 Enforcer LSM makes sure that the only IEC 104 commands your control devices receive are approved commands from approved computers.**

**Advanced Cyber Threat and Vulnerability Protection for IEC 104 Protocol Communications**

IEC 60870 part 5 is one of the IEC 60870 set of standards which define systems used for Supervisory Control and Data Acquisition (SCADA) in electrical engineering and power system automation applications. IEC 60870-5-104 (IEC 104) Transmission Protocol is the companion standard that suits the complete network access. IEC 60870-5-104 is a de facto industry standard protocol for implementing parts of SCADA communications. The protocol enables the Master Station to request data from Substations using pre-defined commands and Substations to respond by transmitting the requested data.

As IEC 60870-5-104 was not designed with security mechanisms in mind. The protocol itself lacks any form of authentication or encryption. With increased Internet connectivity by industrial control systems, the protocol can be susceptible to conventional TCP/IP-based attacks that could compromise or negatively affect operations.

Tofino Xenon IEC 104 Enforcer LSM enables DPI capabilities for IEC 104 traffic. The installation engineer specifies master station (client) / substation (server) device pairs between which IEC 104 traffic will be allowed to flow. Tofino Configurator (TC) provides users with the capability of specifying various IEC 104 application layer parameter options and formatting. Only correctly formatted IEC 104 packets will be allowed.

**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**

- Unique Deep Packet Inspection (DPI) technology for industrial protocols
- Control specialist defines list of allowed IEC 104 message type and function codes
- Automatically blocks and reports any traffic that does not match the rules
- Protocol 'Sanity Check' blocks any traffic not conforming to the IEC 104 standard
- Supports multiple master and slave devices
- Simple configuration using the Tofino Configurator's graphical user interface

**Applications**

- SCADA network protection
- Prevent Man-in-the-Middle attacks
- Mission-critical Control Systems
- Electric utility transmission and transmission substation security
- Cybersecurity solution for PLCs, RTUs, IEDs, DCS, and others

**Be certain.  
Belden.**

## Tofino IEC 104 Enforcer LSM

### Features and Specifications

Type	Description
<b>Supports multiple connections</b>	Multiple master and slave IEC 104 devices are supported with a unique set of inspection rules and options for each master/slave connection
<b>Default filter policy</b>	Deny by default: any IEC 104 function code that is not on the 'allowed' list is automatically blocked and reported
<b>User-settable options</b>	The following options may be set on a per-connection basis: <ul style="list-style-type: none"> <li>• Permitted common address and I/O address size</li> <li>• Permitted originator address and common address</li> <li>• Permitted IEC 104 Unit IDs</li> <li>• Sanity check enable/disable</li> <li>• TCP Reset on blocked traffic (when utilizing TCP transport protocol)</li> <li>• Cause of Transmission Size (COT)</li> </ul>
<b>Configuration method</b>	Simple configuration using the Tofino Configurator
<b>Throughput</b>	2000 packets per second with full content inspection
<b>Operating modes</b>	All standard Tofino modes supported: <ul style="list-style-type: none"> <li>• Test: all traffic allowed; alerts generated as per user rules</li> <li>• Operational: traffic filtered and alerts generated as per user rules</li> </ul>
<b>Security alerts</b>	Reports security alerts to a syslog server and to non-volatile memory on a Tofino Security Appliance
<b>System requirements</b>	<ul style="list-style-type: none"> <li>• Tofino Xenon Industrial Security Appliance</li> <li>• Tofino Firewall/Event Logger LSM</li> <li>• Tofino Configurator</li> </ul>
<b>Ordering information</b>	Part number: <b>LSM: 942-140-007</b> Name: <b>Tofino Xenon IEC 104 Enforcer LSM</b> For additional information, visit <a href="http://www.belden.com/products/industrialnetworking/security/tofino-xenon.cfm">www.belden.com/products/industrialnetworking/security/tofino-xenon.cfm</a>

## Tofino Xenon IEC 104 Enforcer LSM is a component of the Tofino Security Solution

### Tofino Xenon Industrial 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, EtherNet/IP, DNP3 and IEC 104 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 (3.0 and higher)

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

