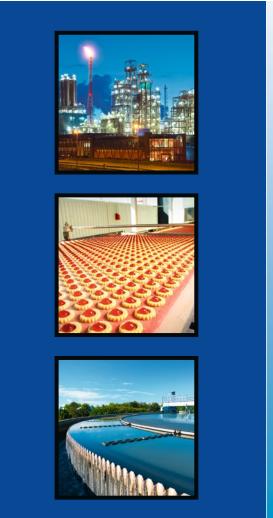# BELDEN
SENDING ALL THE RIGHT SIGNALS

Industrial Network Security Systems

Be certain.
Belden.

Firewall solutions uniquely designed and certified to protect your assets in hardened industrial conditions.

HIRSCHMANN
A **BELDEN** BRAND

TOFINO SECURITY
A **BELDEN** BRAND

Be certain. Belden.

Belden's Industrial Network Security Systems are Designed to Protect Your Assets.

Firewalls represent
an indispensable tool
for network security.

No business or industry is safe from attack. Whether intentional or accidental, threats can come at the hands of internal personnel or external hackers. Either way, an unprotected network puts your enterprise at risk.

While industrial-grade switches and routers provide many security features, you need industrial firewalls to control communication between devices and secure communication across the entire network.

You can depend on us to keep your critical infrastructure secured by Industrial Network Systems from Belden.

EAGLE One Industrial Firewall/VPN System

The Gold Standard for Industrial Firewalls

Key Benefits

Layer 2 and Layer 3 stateful inspection firewall. Helps you segment your network for powerful defense-in-depth protection.

Redundant backbone network connections for production cells. Easily connect to the backbone via Network Address Translation (NAT) and Router Redundancy and engage the innovative Firewall Learning Mode (FLM) for smooth start-up based on recognized network traffic patterns.

Safe and cost-effective protection of automation networks.

- Supports static IPv4 routing and Fast Ethernet (10/100 Mbits/s) ports, either fiber or copper
- Operates transparently to redundancy methods (RSTP and Hirschmann Redundant Ring Coupling in Layer 2 mode)
- Offers both router redundancy with stateful packet inspection and NAT failover in Layer 3 mode
- Supports multiple transmission and encryption standards, including PPPoE, PPP for modem dial-up, IKEv1/v2, IPsec and NAT
- Integrates easily into remote service concepts, enabling you to control VPN connections via digital input

User-friendly configuration and diagnostic options. Graphical User Interface works with other Hirschmann tools such as Industrial HiVision, HiView and HiDiscovery, making the EAGLE One the most desirable configuration and diagnostic industrial security appliance the market has to offer.

Built to withstand harsh industrial environments. Certified by Germanischer Lloyd for offshore and renewable energy use and compliant with IEC 61850-3 for substations and ATEX and ISA 12.12.01 HazLoc for potentially explosive operations.

Target Applications

- Electrical substations
- Power transmission and distribution
- Renewable energy – offshore platforms, wind farms
- Transportation – road, rail, shipping
- Mechanical and plant engineering
- Oil & gas operations

Tofino Xenon Security Appliance

Advanced Firewall Designed Especially for Industrial Control Network Protection

Key Benefits

Layer 2 security appliance, not just a firewall. Prevents problems inside a network from proliferating and spreading around the network and acts as a bridge so engineers don't have to make major IP address and network changes as with other router security devices.

Advanced filtering and firewalling with a technology called Deep Packet Inspection (DPI). Identifies and distinguishes different data types to determine what will be allowed to pass; available for the most common protocols, including EtherNet/IP, Modbus, OPC.

Designed for minimal disruption. Two things accomplish this:

- Arrives in a passive mode. Undetectable to the network until your controls engineer configures it; can be added to a running network without shutdown
- Offers a Test Mode. Enables your engineer to test firewall rules without actually affecting the network

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EAGLE20/30 Multiport Industrial Firewall System

Advanced Security Features and Built-in HiSecOS Software Eliminate
the Need for Multiple Routers

Key Benefits

Multiple ports offer high flexibility and cost saving. Comes with up to 8 ports, including
2 x Gigabit, 4 x Fast Ethernet and 2 x SHDSL, to allow you to use a single device for multiple
purposes like firewalling with Fast Ethernet ports, filtering with Gigabit ports and WAN
communication using SHDSL ports.

Ruggedized design for every Industrial application. Fanless design and extended
temperature range approved for almost all industrial environments so you can put this
Layer 3 firewall anywhere near the control systems.

External Interfaces for fault finding and recovery. Additional interfaces like USB, SD Card,
V.24, Digital I/O, etc. allow faster fault finding and make it possible to revert to normal state by
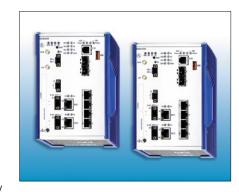using backward files and logs saved on the device through external interfaces.

Defense in Depth at Layer 3 by combining Filtering and Deep Packet Inspection. Uses
Stateful Packet Inspection (SPI) and ACLs to protect your network from any unauthenticated
source; uses Deep Packet Inspection to analyze each packet and allow only authenticated pack-
ets to pass through the network.

NAT (Network Address Translation). EAGLE20/30 is used with NAT to define duplicate
address range for similar production cells.

Target Applications

- Automotive
- Machine building
- Process automation
- Transportation
- Water/wastewater
- Food and beverage
- General manufacturing
- Oil and gas operations
- Energy
- Custom interface environments
  – LAN, SHDSL, cellular LTE (4G)/3G

Firewall Features at a Glance

Type	EAGLE One	Tofino Xenon	EAGLE20/30
Physical			
Number of 100Mb/s Ports	2	2	4
Number of 1Gb/s Ports	–	–	2
Serial Port	✔	✔	✔
Redundant Power Supply	✔	✔	✔
Relay Contact	✔	✔	✔
Digital Input	✔	–	✔
ACA20 (USB)	✔	✔	✔
ACA30 (SD)	–	–	✔
Voltage	9.6 to 60 V DC, 18 to 30 V AC	9.6 to 60 V DC, 18 to 30 V AC	18 to 60 V DC, 48 to 320 V DC, 88 to 265 V AC
Operating Temperature	0 °C to +60 °C, -40 °C to +70 °C	0 °C to +60 °C, -40 °C to +70 °C	0 °C to +60 °C, -40 °C to +70 °C
Dimensions (W x H x D)	60 x 145 x 125 mm	60 x 145 x 125 mm	98 x 164 x 120 mm
Weight	660 g	600 g	1500 g
Protection Class	IP20	IP20	IP30
Certifications			
cUL508	✔	✔	✔
Germanischer Lloyd	✔	✔	✔
EN 60950	✔	✔	✔
EN 61850-3	✔	✔	✔
IEEE 1613	✔	✔	✔
ISA-12.12.01 Class 1 Div 2	✔	✔	✔
NEMA TS 2	–	–	✔
EN 50121-4	✔	✔	✔
Firewall			
Stateful Packet Inspection Firewall	✔	✔	✔
Layer 3 Firewall	✔	–	✔
Layer 2 Firewall	✔	✔	✔ (ACLs only)
Firewall Rules Using IP and MAC Addresses in the Same Rule	–	✔	–
User Firewall Accounts	✔	–	–
Access Control Lists	–	–	✔
Configurable Default Policy (Accept/Drop/Reject)	–	–	✔
Denial of Service Prevention	✔	✔	✔
Rate Limiting	✔	✔	✔
Firewall Learning Mode	✔	✔	✔
Deep Packet Inspection	–	✔	✔
Preconfigured Rules for Industrial Protocols	–	✔	–
Preconfigured Rules for Industrial Devices	–	✔	–
Asset-based Firewall Configuration	–	✔	–
Time			
NTP Client/Server	✔	–	✔
SNTP Client/Server	✔	–	–
NAT			
1:1 NAT	✔	–	✔
Port Forwarding	✔	–	✔
IP Masquerading	✔	–	✔
Double NAT	–	–	✔
Security			
User Management	✔	–	✔
Password Policy	–	–	✔
Limited Login Attempts	–	–	✔
SNMP v1/2/3, HTTPS, SSH	✔	–	✔
HTTPS Certificate Import via Web Interface	–	–	✔

Type	EAGLE One	Tofino Xenon	EAGLE20/30
Security *(continued)*			
RADIUS Authentication	✔	–	✔
Encrypted Configuration File	–	–	✔
Persistent Log Files	✔	✔	✔
Login Banner	✔	–	✔
Editable CLI Prompt	–	–	✔
IP Access Restriction SSH/HTTPS/SNMP	✔	–	✔
Operation without IP Address	–	–	–
Switch			
VLANs	–	–	✔
Static MAC Addresses	–	–	✔
Configurable Aging Timer	–	–	✔
Prioritization	–	–	✔
802.1D/p Mapping	–	–	✔
Router			
Static Routing	✔	–	✔
Port Based Routing	✔	–	✔
VLAN Based Routing	✔	–	✔
Secondary IP Interface Addresses/Multinetting	✔	–	✔
VRRP	–	–	✔
OSPF	–	–	✔
PPPoE	✔	–	–
VPN			
IPSec VPNs	✔	–	✔
OpenVPN	–	–	–
Redundancy			
Layer 2 Redundancy	✔	✔	–
Router Redundancy	✔	–	–
Logging			
Event Log	✔	✔	✔
Syslog	✔	✔	✔
Audit Trail	–	–	✔
Management			
Industrial HiVision	✔	–	✔
Central Management Platform	–	✔	–
Multiple Device Simultaneous Configuration	✔	–	✔
SNMP Traps	✔	–	✔
LLDP	✔	–	✔
Port Statistics	✔	–	✔
Port Configuration Check	✔	–	✔
Configuable Device Status Levels	✔	–	✔
Self Tests	✔	–	✔
Device Status Alarm	✔	–	✔
HiDiscovery	✔	–	✔
Management VLAN	✔	–	✔
Undo Modification of Changes	✔	–	✔
Multiple Stored Configuration Files	✔	–	✔
Automatic Software Updates	–	–	✔
Port Auto Power Down	–	–	✔
Store Two Versions of Firmware	✔	–	✔
Servers			
DHCP Server	✔	–	–
DHCP Relay Agent	✔	–	–
DNS Server	✔	–	✔
DynDNS	✔	–	–

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