

# EAGLE40

## Next-Generation Industrial Firewalls

PRODUCT BULLETIN 



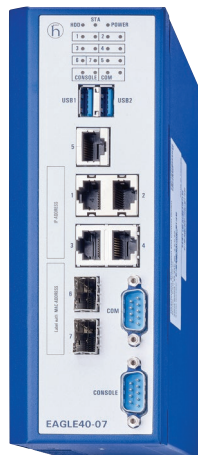
The multiport EAGLE40 next-generation firewalls offer a comprehensive cybersecurity solution to maximize uptime in today's stringent automated environments.

- **Ensure heightened performance capabilities** with more port options, each at one gigabit per second (Gbit/s) bandwidth.
- **Protect against physical and virtual threats** with ruggedized housing and Stateful and Deep Packet Inspection (SPI/DPI) modules.
- **Gain unrivaled system configurability** for all skill levels with a comprehensive graphical user interface and multi-layer encryption capabilities.

EAGLE40-03



EAGLE40-07



### Key Features

- Ethernet ports
  - EAGLE40-03: 3x GbE ports, up to 1 Gbps throughput
  - EAGLE40-07: 7x GbE ports, up to 5 Gbps throughput
- HiSecOS with SPI and DPI capabilities
- Firewall Learning Mode for rule configuration
- IPSec VPN for secure data encryption
- Dynamic-routing support with OSPF and router redundancy VRRP
- Graphical HTML 5 web user interface
- Operating temperature range of -40°C to +70°C
- Convection-cooled metal housing
- EAGLE40-03: Meets process automation standards: ISA-12.12.-01 Class 1 Div. 2 - Haz. Loc, ATEX-95 Category 3G (Zone 2)
- EAGLE40-07: Meets Energy standards: Substation IEC 61850-3 and IEEE 1613
- Assists with cybersecurity regulations: NERC CIP, IEC 62443, NIST
- Flexible management and monitoring: Industrial HiVision, Tripwire Enterprise, Tripwire Log Center
- Hardware for further DPI modules, advanced intrusion and anomaly detection capabilities

Hirschmann's ruggedized EAGLE40 product line defies industrial firewall expectations. Featuring Stateful and Deep Packet Inspection combined with next-generation multiport configurability for maximum cybersecurity performance.

## Your Benefits

Hirschmann's multiport EAGLE40 next-generation firewalls deliver a comprehensive cybersecurity solution to ensure maximum protection for production among today's stringent industrial and process automation systems.

Evolving alongside data transfer demands, the EAGLE40 devices include more port options with increased bandwidth and encryption capabilities. Supporting both OSPF dynamic routing and VRRP router redundancy, the device is an economically-sound approach to maximize uptime, regardless of network throughput.

These industrial firewalls incorporate the Hirschmann Security Operating System (HiSecOS) and DPI modules to offer a customizable, around-the-clock solution that meets an infrastructure's unique cybersecurity demands.

### Applications

Cybersecurity is a top priority in today's digital world. The Hirschmann EAGLE40 firewalls were specifically designed to meet the critical demands of industrial and process automation environments. These devices include software optimized for DPI applications to meet a variety of industrial protocols. EAGLE40-07 comes with advanced intrusion detection and protection capabilities. Software will be updated continuously and support for additional protocols will be added in the future. This makes the versatile and highly configurable firewall especially ideal across OT teams with various experience levels and skillsets.

With a convection-cooled metal housing and an extensive operating temperature range, EAGLE40 devices support the movement towards IT/OT convergence by providing a comprehensive multi-deployment solution without compromising network uptime. Thus, the EAGLE40 product family is optimally suited to implement a zones and conduits concept according to ISA/IEC 62443, enabling a defense-in-depth network architecture.

### Markets

Built to withstand harsh industrial environments, the EAGLE40 next-generation firewalls are backed by robust industry approvals and infrastructure compliance standards appropriately suited for the oil and gas, power transmission and distribution, as well as water and wastewater industries.

The extensive bandwidth and data encryption support also make the EAGLE40 devices an ideal firewall solution within machine building and general manufacturing settings, as well as for use across security networks.

The Hirschmann multiport EAGLE40 next-generation firewalls expedite intrusion detection using DPI and SPI for hardened cybersecurity under the stringent conditions of today's industrial environments.

EAGLE40-03



EAGLE40-07



## Technical Information

### Product Description

Type	EAGLE40-033T1	EAGLE40-031O6	EAGLE4-07206
Description	Next-Generation Firewall with Stateful/Deep Packet Inspection and IPSec VPN		
Port Type and Quantity	2 x GbE RJ45 LAN + 1 x GbE RJ45 WAN	2 x GbE RJ45 LAN + 1 x GbE SFP WAN	5 x GbE RJ45 ports + 2 x GbE SFP ports
Port Speeds	10/100/1000 Mbps RJ45 1000 Mbps SFP		10/100/10000 Mbps RJ45 1000 Mbps SFP

### More Interfaces

USB Interface	1 x USB 3.0 ports	2 x USB 3.0 ports
Digital Input*	1 x plug-in terminal block, 2-pin	-
Digital Output	1 x max. 60 V DC or max. 30 V AC, SELV, max. 1A	-
Serial Interface	V.24 console interface	2x DB9 serial interfaces for RS232 protocols

### Hardware

CPU	Intel Atom E3825 @ 1.33GHz	Intel Atom E3950 @ 1.6GHz
Encryption	TPM 2.0 (Hardware based anti-counterfeit, anti-tamper chip)	
Memory	DDR3L 2GB	DDR3L 8GB
Bypass	2 x GbE Copper (2 x 1) with Gen3 Bypass	2 x GbE Copper(2x1) with Gen3 Bypass
Storage	NAND Flash 4GB	64GB SSD storage
Software	HiSecOS	

### Power Requirements

Operating Voltage	2 x 24/36/48 V DC (18 to 60 V DC)	
Power Consumption	max. 15 W	max. 25 W
Power Supply	1 x plug-in terminal block, 6-pin	

### Ambient Conditions

Operating Temperature	-40°C to +70°C (cold start at -20°C)	
Storage/Transport Temperature	-40°C to +85°C	
Relative Humidity (non-condensing)	10% to 95%	5% to 95%
Protective Paint on PCB	Yes (conformal coating optional, available upon request)	

### Mechanical Construction

Dimensions (W x H x D)	177 x 125.8 x 70 mm	160 x 186 x 65 mm
Mounting	DIN Rail 35 mm	
Enclosure	Rugged high-strength sheet metal	
Weight	1960 g	1560 g
Protection Class	IP40	

### Approvals

Basis Standard	CE, FCC, EN 61131	CE, FCC
Safety of Information Technology Equipment	UL 62368-1	
Hazardous Locations	ISA-12.12.-01 Class 1 Div. 2 - Haz. Loc, ATEX-95 Category 3G (Zone 2)	
Substation	EN 61850-3, IEEE 1613	IEC 61850-3, IEEE 1613

**Reliability**

<b>MTBF</b>	> 25 years at 55°C (MIL-HDBK-217)	According to Telcordia SR-332 Issue 4 387,288 hours GB at 25°C
<b>Warranty</b>	5 years (standard)	

**Software**

<b>Software Version</b>	HiSecOS 3.4	
<b>Security</b>	Firewall rules (incoming/outgoing, management), DoS prevention, IPSec VPN, Audit trail, Role based Access Control, IEEE1686 compliant configuration possible, Deep Packet Inspection (DPI) - OPC, DNP and Modbus, Firewall Learning Mode (FLM), IPS - Intrusion Prevention via appropriate configuration of ACLs / Packet filtering rules, Multiple interfaces per security zone, Min 16 VPN simultaneous users.	
<b>Routing</b>	Port based routing, static routing, multinetting, IP masquerading, 1-to-1 NAT, port forwarding, Static and Dynamic ARP entries, OSPFV2, ARP table capacity of minimum 1,000 MAC addresses	
<b>Multipoint VPN</b>	IPSec, IKE v1/v2, 3DES, AES (-128, -192, -256), Pre-Shared Key (PSK), X.509v3 Certificates, MD5, SHA-1, NAT-T, Hub-and-Spoke	
<b>Management</b>	SNMPv3, SSH2/SFTP, HTTPS, Serial CLI, SNMPv1/2, local and central User Management (RADIUS), HiDiscovery, Industrial HiVision, HiView	
<b>Diagnose</b>	LEDs (Power, Link Status, Data, Status), Signal Contact (24 V DC/1 A), Log File, Syslog, Configuration check RMON (Statistic), Trap for changes and configuration saves	
<b>Configuration</b>	Command Line Interface (CLI), Web Interface, Auto Configuration Adapter (ACA22), HiDiscovery, Industrial HiVision, HiView	
<b>Protocols</b>	HTTPS, SSH, SNMP V1/V2/V3, LLDP	
<b>Redundancy Functions</b>	VRRP (Virtual Router Redundancy Protocol), Tracking Framework for VRRP	
<b>Other Services</b>	NTP Client and Server, DHCP L3 Relay, Anti-malware via appropriate configuration of Stateful / Deep Packet Inspection rules	
<b>Performance</b>	Throughput: More than 1.4Gbps	Throughput: Up to 5 Gbit/s

\* Later release as a free to download update.

**NOTE:** These are the prominent technical specifications. For complete technical specifications visit: [www.belden.com](http://www.belden.com)

# EAGLE40 Configurations

EAGLE40-03 3T1 T CC Z9 HS RA NF XX.XX.XX-NT

	Eagle 40-03	Eagle 40-07
<b>Design/Model</b>		
EAGLE40 = Security Router and Firewall	x	x
<b>Gigabit Ethernet Ports</b>		
03 = 3 x 1000 Mbit/s	x	
07 = 7x 1000 Mbit/s		x
<b>Type Uplink Ports</b>		
3T1 = 3x Twisted pair RJ45	x	
1O6 = 1x SFP, 2x Twisted pair RJ45	x	
2O6 = 2x SFP, 5x Twisted pair RJ45		x
<b>Temperature Range</b>		
S = 0°C to +60°C	x	x
T = -40°C to +70°C	x	x
E = -40°C to +70°C inclusive Conformal Coating	x	x
<b>Voltage Range</b>		
CC = 2 x 24-48 V DC	x	x
<b>Approvals</b>		
Z = CE, FCC, EN 61131, (EN 62368)	x	
A = CE, FCC, (EN 62368)		x
Y = "Z" + UL62368	x	
B = "A" + UL62368		x
X = "Z" + UL62368 + ISA 12.12 + ATEX	x	
C = "A" + IEC61850-3, IEC61850-4		x
T = "Z" + EN 50121-4	x	
<b>Approvals</b>		
9 = No additional Approval	x	x
Y = + UL62368	x	x
<b>OEM Type</b>		
HS = Hirschmann Standard	x	x
<b>Configuration</b>		
R = Router Mode	x	x
S = Stealth Mode (Tofino)		
T = Transparent Mode	x	x
<b>Intrusion Detection System (IDS)</b>		
A = Sensor	x	x
B = Server		
<b>Security Modules</b>		
NF = No additional modules, firewall only	x	x
IN = Industrial Automation Protection Suite (Ethernet/IP + Modbus + OPC Enforcer)	x	x
SU = Substation Protection Suite (IEC104 + DNP3 + GOOSE + Modbus Enforcer)		
UN = Unified Protection Suite (All Enforcers)		
<b>Software Version</b>		
XX.X.XX = Current Software Release	x	x
03.5.00 = Software Release 3.5	x	x



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