EAGLE One Security Router from Hirschmann™

The EAGLE One industrial security router is a new milestone for data security in automation. With a unique range of services, it can provide all-round protection for your networks – an essential prerequisite for smooth production processes.

- Safe and cost-effective protection of automation networks
- Redundant backbone network connections for production cells
- User-friendly configuration and diagnostic options, such as the simple text-based configuration file for customized pre-configuration

EAGLE One is a powerful new member of the EAGLE family, which has become the epitome of industry-standard firewall systems in recent years. This industrial security router, which ensures maximum data security for production networks, is a combination of the familiar proven EAGLE20 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 EAGLE One means that it can often be used without additional air-conditioning equipment. A further plus is its approval for use in potentially explosive environments. This means that even more industrial sectors, including oil and gas, can now benefit from EAGLE’s proven security technology.

Applications

The robust design of the EAGLE One 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 router for mechanical and plant engineering and industrial automation, for example. Other potential areas for its versatile possible uses include the transportation sector, with applications ranging from road and rail transport right through to shipping. Indeed, the EAGLE One has been certified by Germanischer Lloyd for this very purpose. Since this security router is also approved for substations (IEC 61850-3) and for potentially 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 such renewable energy applications as offshore platforms and wind farms.

Your Benefits

With the EAGLE One, you can now choose an industrial security router with an optimal price-performance ratio that offers you all-round protection for your data communications. Extensive Layer 2 and Layer 3 redundancy functions ensure that, in the event of a fault, your system can switch over to a hot standby unit. The security router can also reliably safeguard your networks or segment them into separate security zones under the defense-in-depth concept. In addition, it offers you the option of using NAT (network address translation) and Router Redundancy to provide your production cells with redundant backbone connections. The configuration and diagnostic features of the EAGLE One also leave nothing to be desired. In addition to the offline configuration tool and web interface, this is guaranteed by such Hirschmann tools as Industrial HiVision, HiView and HiDiscovery.
Thanks to its conformance with numerous approvals, the industrial security router EAGLE One offers maximum flexibility in its protection of industrial plants, oil rigs, substations and transportation systems.

**Benefits at a Glance**

- All-round protection of automation networks with an optimal price-performance ratio
- Redundant backbone connections for production cells
- Firewall Learning Mode for easy and smooth commissioning
- Router redundancy plus stateful firewall and 1:1 NAT in Layer 3 mode
- Text-based configuration file for automated pre-configuration
- User-friendly configuration and diagnostics via Industrial HiVision, HiView, HiDiscovery, offline configuration tool and web interface
- Transparent Layer 2 mode (e.g. for RSTP and MRP)
- Wide range of transmission and encryption standards (PPPoE, PPP, IKEv1/v2, IPsec, NAT)
- A variety of security mechanisms (stateful packet inspection firewall, VPN)
- Digital input for controlling VPN connections
- Numerous management functions (SNMPv3, SSH2/SFTP, HTTPS, V.24 CLI, SSH1, SNMPv1/2)
- 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
- Identical software to the EAGLE20, with identical housing dimensions
- Perfectly tailored for use with all Ethernet products from Hirschmann™, GarrettCom™ and Belden®
Technical Information

**Product Description**

<table>
<thead>
<tr>
<th>Type</th>
<th>EagleOne-0200T1T1</th>
<th>EagleOne-0200T1M2</th>
<th>EagleOne-0200M2T1</th>
<th>EagleOne-0200M2M2</th>
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<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Industrial Security Router</td>
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<tr>
<td><strong>Port Type and Quantity</strong></td>
<td>2 x FE</td>
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**Additional Interfaces**

| V.24 Interface | 1 x RJ11 socket serial interface for device configuration or modem attachment |
| USB Interface | 1 x USB socket to connect auto-configuration adapter ACA21-USB |
| Digital Input | 1 x plug-in terminal block, 2-pin |
| 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

**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**
  - SNMPv3, SSH2/SFTP, HTTPS, V.24 CLI, SSH1 and SNMPv1/2, HiDiscovery, Industrial HiVision, HiView
- **Diagnostics**
  - LLDP, LEDs (status, VPN, redundancy, link status, data, ACA), signal contact, logfile, syslog, configuration check
- **Firewall**
  - Firewall rules (incoming/outgoing, modem access, management), DoS prevention, MAC filter, user firewall for external activation of FW rules
- **Routing and NAT**
  - Static routing, multinetting, IP masquerading, 1-to-1 NAT, port forwarding
- **VPN**
  - Point to point, point to multipoint, remote enable/disable or via digital input, IPSec, IKEv1/v2, 3DES, AES (-128, -192, -256), Pre-Shared Key, X.509v3 certificates, MDS, SIA-1, NAT-T
- **Redundancy Functions**
  - Use in redundant networks/ring coupling, firewall redundancy (layer 4)
- **Other Services**
  - NTP, SMTP, DHCP Server/Client, DHCP Relay/Option 82, DynDNS, PPP, PPTP, VLAN-Support

**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**
  - -40°C to +85°C
- **Relative Humidity (non-condensing)**
  - 10% to 95%
- **Conformal Coating**
  - yes (dependent on device variant)

**Mechanical Construction**

- **Dimensions (WxHxD)**
  - 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**
  - cUS08 (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)**
**EAGLE One Security Router Configurations**

| Design/Model | **EagleOne** = Security Router |
| 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** = 9.6 to 60 V DC/18 to 30 V AC; 9.6 to 60 V DC/18 to 30 V AC |
| Approvals | **Z9** = CE, FCC, EN 61131, EN 60950 |
| | **Y9** = Z9 + cUL508 |
| | **X9** = Z9 + cUL508, ISA12.12 |
| | **W9** = Z9 + ATEX |
| | **WX** = X9 + ATEX |
| | **U9** = Z9 + GL |
| | **UY** = U9 + cUL508 |
| | **UX** = U9 + cUL508, ISA12.12 |
| | **UT** = U9 + cUL508 + EN 50121-4 |
| | **T9** = Z9 + EN 50121-4 |
| | **TY** = T9 + cUL508 |
| | **V9** = Z9 + IEC 61850, IEEE 1613 |
| | **VY** = V9 + cUL508 |
| | **VU** = V9 + cUL508, GL |
| | **VT** = V9 + cUL508, EN 50121 |
| Software Packages | **0000** = Reserved |
| OEM Type | **HH** = Standard |
| Configuration | **E** = Hirschmann™ Standard Configuration |
| Software Release | **XX.X.XX** = Current Software Release |

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