

IEF-G9010 Series

8 GbE copper + 2 GbE SFP multiport industrial IPS firewall



Features and Benefits

- Compact industrial IPS firewall for network segmentation
- Industrial-grade Intrusion Prevention/Detection System (IPS/IDS)
- Object-based policy enforcement rules for protocol filtering and traffic control
- Easy network setup with Network Address Translation (NAT)
- Full OT network visibility when used with Security Dashboard Console (SDC)
- -40 to 75°C wide operating temperature range (-T models)

Certifications



Introduction

The Moxa IEF-G9010 Series industrial IPS firewall can segment and hide your network and protect mission-critical assets with industrial-grade IPS and granular access control. Meanwhile, the Security Dashboard Console (SDC) software, when used together with the IEF-G9010 Series, offers another layer of protection through centralized critical asset visibility, network analysis, and auto pattern updating.

Centrally Manage Network Security and Enhance OT Visibility

The IEF-G9010 Series sniffs network traffic and gives users full visibility of current assets and connections, which helps administrators and operators understand the real-time conditions of the OT system. When connected to Security Dashboard Console, a security management platform, the administrators or operators can effectively manage and monitor all the intrusion prevention systems from a single space. This provides an easier way to monitor the devices and execute policy, firmware, and pattern updates.

Dynamically Prevent Malicious Cyber Threat Activity Affecting Your System

The IEF-G9010 Series is designed to protect mission-critical assets at the OT network edge. It silently analyzes your network traffic in the background and offers granular behavior monitoring and control of cyber activities. These firewall devices provide both “Monitor” and “Protect” modes to facilitate different OT scenarios. Monitoring mode gives administrators full visibility of cyber threat activities. In the case of an emergency, administrators can easily switch to “Protect” mode to block and contain any malicious operations.

Industrial Protocol Whitelist Control for Mission-critical Assets

Using advanced Deep Packet Inspection (DPI) technology, the IEF-G9010 Series is equipped with industrial protocol awareness to offer granular command of control system traffic to critical controllers.

Virtual Patching and Intelligent Threat Protection

Frequent patching significantly reduces a system’s vulnerability to cyberthreats. However, patching continues to be a major challenge in OT environments because OT applications cannot afford interrupting operations by shutting down systems to apply patches. Virtual patching technology can help complement existing patch management processes by shielding known and unknown vulnerabilities. Virtual patching acts as an agentless emergency security tool that OT administrators and operators can use to address vulnerabilities on affected OT equipment quickly. The IEF-G9010 Series provides advanced protection against threats with up-to-date threat information and guards your systems against undisclosed and zero-day threats.

Flexible License Upgrades

The IEF-G9010 Series supports flexible, on-demand expansion through Moxa’s license platform. As your network grows, you can purchase additional licenses based on your needs. The IEF-G9010 Series supports the following licenses:

- LIC-IEF-NEW-1Y-XN-SR: 1-year, IEF customizable node license (minimum 1 node)
- LIC-IEF-NEW-XN-XM-DMR: IEF customizable node and duration license (minimum 1 node, 1 month)
- LIC-SDC-NEW-1Y-XN-SR: 1-year, SDC customizable node license (minimum 1 node)
- LIC-SDC-NEW-3Y-XN-SR: 3-year, SDC customizable node license (minimum 1 node)
- LIC-SDC-NEW-5Y-XN-SR: 5-year, SDC customizable node license (minimum 1 node)
- LIC-SDC-NEW-XN-XM-DMR: SDC customizable node and duration license (minimum 1 node, 1 month)

Specifications

Input/Output Interface

Buttons	Reset button
Digital Input Channels	+13 to +30 V for state 1 -30 to +3 V for state 0 Max. input current: 8 mA
Alarm Contact Channels	Resistive load: 1 A @ 24 VDC

Ethernet Interface

10/100/1000BaseT(X) Ports (RJ45 connector)	8
1000BaseSFP Slots	2
Standards	IEEE 802.3 for 10BaseT IEEE 802.3ab for 1000BaseT(X) IEEE 802.3u for 100BaseT(X)

LED Interface

LED Indicators	PWR1, PWR2, STATE, MGMT, IPS/IDS, HA, FUNC, USB, 10/100 Mbps copper port, 1000 Mbps copper port, 1000 Mbps SFP port
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NAT

Features	N-to-1, 1-to-1, Port forwarding, NAT loopback
Application Layer Gateway (ALG)	SIP H.323 FTP

Ethernet Software Features

Unicast Routing	Static Route
Management	SSH, Telnet, NTP Client, DHCP Server/Client, DNS
Authentication	Local Account Accessibility

DoS and DDoS Protection

Technology	ICMP Flood, IGMP Flood, UDP Flood, UDP Port Scan, TCP SYN Flood, TCP Port SYN Scan, TCP Port FIN Scan, TCP Port NULL Scan, TCP Port Xmas Scan
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Firewall

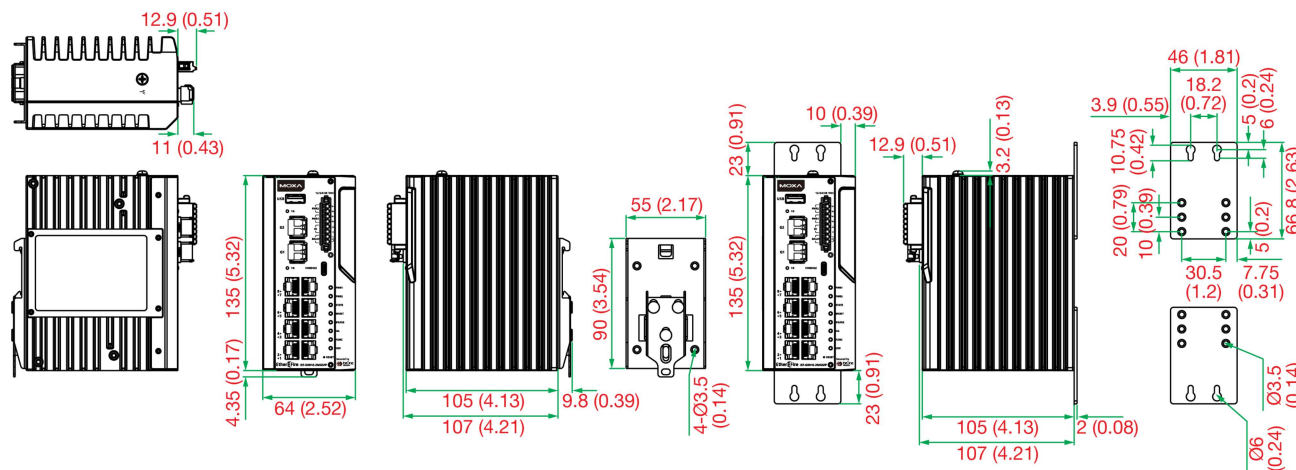
Throughput	Max. 360,000 packets per second (max. 1,000 Mbps)
IPS Throughput	> 450 Mbps when the packet size is greater than 128 bytes
Latency	< 500 microseconds
Concurrent Connections (TCP)	60,000
Deep Packet Inspection	Modbus TCP Modbus UDP EtherNet/IP PROFINET-DCP CIP Omron FINS SLMP Siemens S7 Comm. Siemens S7 Comm. Plus Additional protocols will be supported through future firmware updates.
Policy Enforcement Rules	64 rules
ICS Protocol Filter Profiles	32 profiles

Automatic Pattern Updates via SDC	Pro Models: Supported (1 year of updates included) Pro-H Models: Supported (requires IEF pattern update license)
Manual Pattern Updates	Pro Models: Supported (1 year of updates included) Pro-H Models: Supported (requires IEF pattern update license)
Management	
Supported Interfaces	Web GUI and Security Dashboard Console
Real-Time Firewall / VPN Event Log	
Event Type	Cybersecurity, Policy enforcement, Protocol Filter, Assets detection, System event
Media	Local storage, Syslog server
Serial Interface	
Console Port	USB Type-C
Power Parameters	
Connection	Removable terminal block
Input Current	1.265 A @ 12 VDC, 0.605 A @ 24 VDC, 0.308 A @ 48 VDC
Physical Characteristics	
Housing	Metal
Dimensions	64 x 105 x 135 mm (2.52 x 4.13 x 5.32 in)
Weight	1100 g (2.43 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)
Environmental Limits	
Operating Temperature	Standard Models: -10 to 60°C (14 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Standards and Certifications	
Safety	UL 60950-1 Ed.2, UL 62368-1
EMC	EN 55032/35, EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF
Railway	EN 50121-4
Traffic Control	NEMA TS2
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

MTBF	
Time	1,070,000 hrs
Standards	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x IEF-G9010 Series industrial IPS firewall
Cable	1 x USB-C to DB9 cable
Installation Kit	DIN and USB caps
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	10/100/1000BaseT(x) Ports, RJ45 Connector	1000BaseT(x) Ports, SFP Connector	Automatic Pattern Updates via SDC	Manual Pattern Updates	Operating Temp.
IEF-G9010-2MGSFP-Pro	8	2	Yes, 1 year of updates included	Yes, 1 year of updates included	-10 to 60°C
IEF-G9010-2MGSFP-Pro-T	8	2	Yes, 1 year of updates included	Yes, 1 year of updates included	-40 to 75°C
IEF-G9010-2MGSFP-Pro-H	8	2	Yes, requires IEF pattern update license	Yes, requires IEF pattern update license	-10 to 60°C
IEF-G9010-2MGSFP-Pro-H-T	8	2	Yes, requires IEF pattern update license	Yes, requires IEF pattern update license	-40 to 75°C

Accessories (sold separately)

Storage Kits

ABC-02-USB	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, 0 to 60°C operating temperature
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ABC-02-USB-T

Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, -40 to 75°C operating temperature

Wall-Mounting Kits

WK-46-01

Wall-mounting kit, 2 plates, 8 screws, 46 x 66.8 x 2 mm

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