

EDR-G9004 系列

2 個 Gigabit 銅質 + 2 個 Gigabit 銅質/SFP 組合連接埠工業安全路由器



特色與優點

- 4 埠 Gigabit 一體式防火牆/NAT/VPN/路由器
- 第三代網路旁路 (LAN bypass) 設計，確保系統故障時網路不中斷
- 透過公用網路實現的雙 WAN 備援介面
- 具備入侵防禦/偵測系統 (IPS/IDS) 的次世代工業防火牆
- 透過 MXsecurity 管理軟體視覺化 OT 安全性
- 透過 VPN 實現安全遠端存取通道
- 透過深度封包檢測 (DPI) 技術檢查工業通訊協定資料
- 透過網路位址轉譯 (NAT) 輕鬆設定網路
- -40 至 75°C 操作溫度範圍 (-T 型號)

認證



簡介

EDR-G9004 系列是一組 高整合性工業多埠安全路由器，支援防火牆/NAT/VPN 功能。這些裝置專為關鍵遠端控制或 監控網路中的乙太網路安全應用所設計。這些 安全路由器能夠建立電子安全邊界，為關鍵網路資產 提供防護，包括電力應用中的變電站、給水站的泵送 處理系統、油氣應用中的分散式控制系統以及工廠自動化 中的 PLC/SCADA 系統。此外，EDR-G9004 系列工業次世代防火牆 整合了 IDS/IPS，具備威脅偵測與防範能力，可為關鍵基礎設施提供更完善的防護，抵禦 網路攻擊威脅。

使用進階網路安全功能防禦惡意威脅

EDR-G9004 系列的內嵌防火牆使用政策規則 來控制信任區域之間的網路流量，同時網路位址 轉譯 (NAT) 還能保護內部網路免遭外部主機未經授權 的存取。虛擬私人網路 (VPN) 功能 還能夠在從公用網際網路存取私人網路時，進一步為使用者提供安全通訊通道。為保護您的 OT 資產免受網路攻擊，EDR-G9004 系列支援 深度封包檢測 (DPI) 技術，可針對各種 OT 專用通訊協定檢查網路封包的資料部分。

透過易用介面與快速設定簡化 配置

EDR-G9004 系列的設定精靈為使用者提供 簡易的方法，只需透過三個步驟即可設定 DMZ 連接埠來建立安全網路緩衝區。此外，物件式防火牆管理功能可讓工程師輕鬆 設定及維護 IP 位址與子網路、網路服務、工業應用服務及使用者定義服務的防火牆過濾 規則。

工業級 設計，可確保網路連線不中斷

EDR-G9004 系列堅固耐用的硬體使這些安全路由器成為適用於惡劣 工業環境的理想之選，提供寬溫度型號，可專門在危險條件及 -40 最高到 75°C 的極端溫度之下可靠操作。此外，EDR-G9004 系列支援 WAN、Layer 3 備援機制及 Gen3 LAN 旁路容錯，可確保您的網路 始終保持連線。

虛擬修補智慧型資威脅防護功能

修補在 OT 環境中 仍是一項重大挑戰，因為 OT 應用無法承受 關閉系統來中斷操作以進行修補的代價。虛擬修補技術可屏蔽已知和未知的安全漏洞，進而彌補現有修補管理程序的不足。此外，EDR-G9004 配備智慧 IPS 功能，透過病毒碼 偵測技術，持續防禦網路威脅，以即時識別 並封鎖已知攻擊。

MX-ROS 可解決 不斷增加的網路安全威脅

Moxa 的 MX-ROS 是工業安全路由器與防火牆 的軟體平台。該平台透過簡化的網頁與 CLI 介面，支援強固的安全性與易於操作的安全路由器。MX-ROS 裝置透過每次版本更新，提供豐富的跨產業操作技術 (OT) 網路管理功能，全面 防護您的硬體與軟體資產。

規格

Input/Output Interface

Alarm Contact Channels	Resistive load: 1 A @ 24 VDC
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

Ethernet Interface

10/100/1000BaseT(X) Ports (RJ45 connector)	2 (with Gen3 LAN Bypass)
Combo Ports (10/100/1000BaseT(X) or 1000/2500BaseSFP)	2
DMZ	Supports DMZ port
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT(X) IEEE 802.3z for 1000BaseSX/LX/LHX/ZX IEEE 802.3x for flow control

Ethernet Software Features

Management	Back Pressure Flow Control DDNS DHCP Server/Client Web Console (HTTP/HTTPS) LLDP SNMPv1/v2c/v3 Telnet TFTP HTTPS SSH
Routing Throughput	Max. 350K packets per second / 2 Gbps (based on RFC 2544)
Routing Table	Max. 4K routing rules
Concurrent Connections	Max. 400K (based on RFC 3511)
Connections Per Second	Max. 20K (based on RFC 3511)
Routing Redundancy	VRRP
Security	Secure Boot IPsec L2TP (server) RADIUS TACACS+ Trust access control SCP SFTP NTP authentication Syslog Authentication
Time Management	NTP Server/Client SNTP
Multicast Routing	Static Route
Unicast Routing	OSPF RIPV1/V2 Static Route

LED Interface

LED Indicators	PWR1, PWR2, STATE, BYPASS, WAN/DMZ, VRRP/HA, VPN, USB
----------------	---

DoS and DDoS Protection

Technology	ARP-Flood FIN Scan ICMP Flood TCP Sessions Without SYN NMAP-ID Scan NMAP-Xmas Scan Null Scan SYN/FIN Scan SYN/RST Scan SYN-Flood Xmas Scan
------------	--

Firewall

Filter	DDoS Ethernet protocols ICMP IP address MAC address Ports
Stateful Inspection	Router firewall Transparent (bridge) firewall
Deep Packet Inspection	Modbus TCP Modbus UDP DNP3 IEC 60870-5-104 IEC 61850 MMS EtherNet/IP MELSEC Omron FINS OPC UA Siemens S7 Comm. Siemens S7 Comm. Plus Additional protocols will be supported through future firmware updates.
Intrusion Prevention System	Requires an additional license.
Throughput	Firewall: Max. 350K packets per second / 2 Gbps (based on RFC 2544) IPS: Max. 200K packets per second / 2 Gbps (based on RFC 2544)

IPsec VPN

Authentication	MD5 and SHA (SHA-512) RSA (key size: 1024-bit, 2048-bit) X.509 v3 certificate
Concurrent VPN Tunnels	Max. 250 IPsec VPN tunnels
Encryption	DES 3DES AES-128 AES-192 AES-256 AES-256-GCM
Protocols	IPsec L2TP (server) PPTP (client)
Throughput	Conditions: AES-256, SHA-256 Max. 100K packets per second / 800 Mbps (based on RFC 2544)

NAT

Features	1-to-1 N-to-1 NAT loopback Port forwarding
----------	---

Real-Time Firewall / VPN Event Log

Event Type	Firewall event VPN event
Media	Local storage SNMP Trap Syslog server

Serial Interface

Console Port	RS-232 (TxD, RxD, GND), 3-pin (115200, n, 8, 1)
Connector	USB Type-C

Power Parameters

Connection	Removable terminal block
Input Voltage	12/24/48 VDC, redundant dual inputs (DNV-certified for 24 VDC)
Operating Voltage	9.6 to 60 VDC
Input Current	1.01 A @ 12 VDC 0.51 A @ 24 VDC 0.27 A @ 48 VDC
Reverse Polarity Protection	Supported

Physical Characteristics

Housing	Metal
IP Rating	IP40
Dimensions	45 x 135 x 105 mm (1.77 x 5.31 x 4.13 in)
Weight	800 g (1.76 lb)
Installation	DIN-rail mounting (DNV-certified) Wall mounting (with optional kit)

Environmental Limits

Operating Temperature	Standard Models: -10 to 60°C (14 to 140°F) DNV-certified for -25 to 70°C (-13 to 158°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

Safety	IEC 62368-1 UL 62368-1
EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV

	IEC 61000-4-5 Surge: Power: 2 kV; Signal: 4 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Railway	EN 50121-4
Traffic Control	NEMA TS2
Maritime	DNV IEC 60945
Power Substation	IEEE 1613 IEC 61850-3 Edition 2.0
Hazardous Locations	ATEX Class I Division 2 IECEx
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

MTBF

Time	1,876,185 hrs
Standards	Telcordia (Bellcore), GB

Warranty

Warranty Period	5 years
Details	See www.moxa.com/tw/warranty

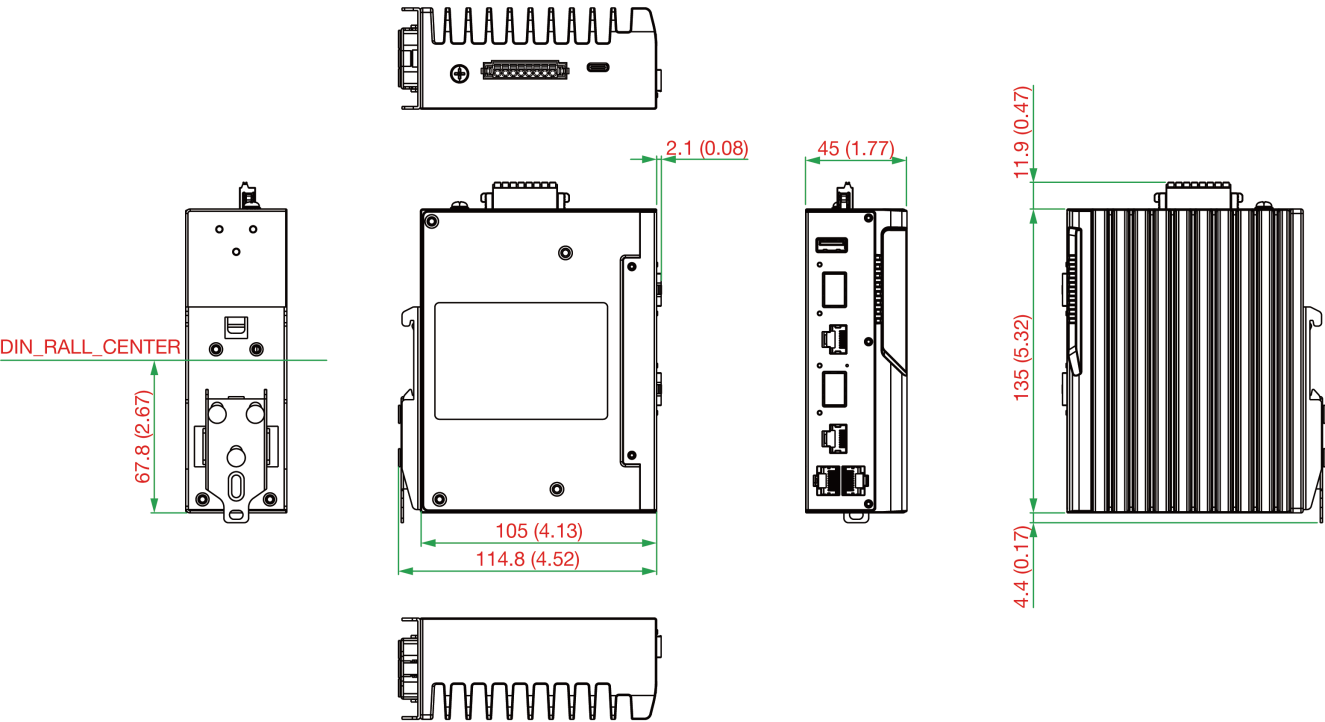
Package Contents

Device	1 x EDR-G9004 Series secure router
Cable	1 x DB9 female to USB Type-C
Documentation	1 x quick installation guide 1 x warranty card
Note	SFP modules need to be purchased separately for use with this product.

尺寸

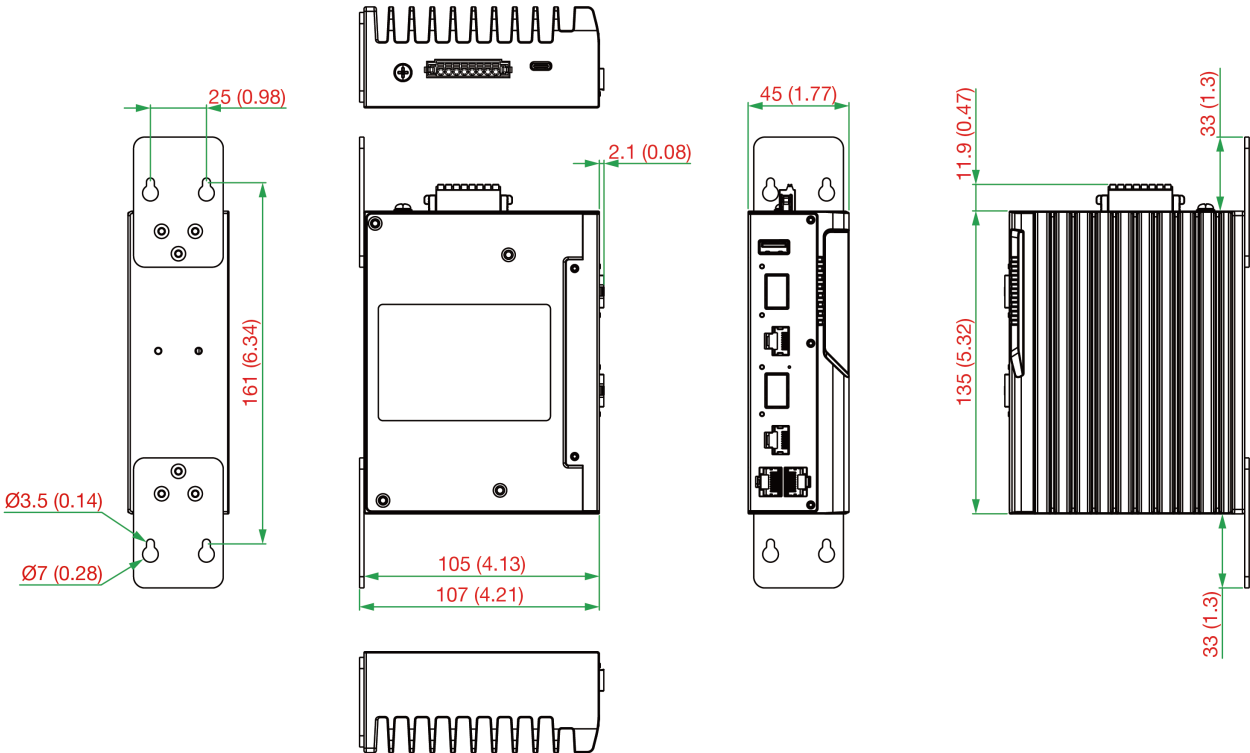
DIN 軌道 安裝

單位：公釐（英吋）



壁掛安裝

單位：公釐（英吋）



Model Name	10/100/ 1000BaseT(X) Ports (RJ45 Connector)	10/100/ 1000BaseT(X) or 1000BaseSFP Combo Ports	Firewall	NAT	VPN	Input Voltage	Conformal Coating	Operating Temp.
EDR-G9004-VPN-2MGTXSFP	2	2	√	√	√	12/24/48 VDC	–	-10 to 60°C
EDR-G9004-VPN-2MGTXSFP-T	2	2	√	√	√	12/24/48 VDC	–	-40 to 75°C
EDR-G9004-VPN-2MGTXSFP-CT	2	2	√	√	√	12/24/48 VDC	√	-10 to 60°C
EDR-G9004-VPN-2MGTXSFP-CT-T	2	2	√	√	√	12/24/48 VDC	√	-40 to 75°C

配件 (選購)

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
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

SFP Modules

SFP-1G10ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G10ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G10BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G10BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G20ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G20ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G20BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G20BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1G40ALC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature
SFP-1G40ALC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature
SFP-1G40BLC	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature
SFP-1G40BLC-T	WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature
SFP-1GEZXLC	SFP module with 1 1000BaseEZ port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1GEZXLC-120	SFP module with 1 1000BaseEZ port with LC connector for 120 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, 0 to 60°C operating temperature
SFP-1GLHLC-T	SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°C operating temperature

SFP-1GLHXL	SFP module with 1 1000BaseLH port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLHXL-T	SFP module with 1 1000BaseLH port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLSXL	SFP module with 1 1000BaseLS port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature
SFP-1GLSXL-T	SFP module with 1 1000BaseLS port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature
SFP-1GLXL	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GLXL-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXL	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, 0 to 60°C operating temperature
SFP-1GSXL-T	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature
SFP-1GZXL	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, 0 to 60°C operating temperature
SFP-1GZXL-T	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-1GTXRJ45-T	SFP module with 1 1000BaseT port with RJ45 connector for 100 m transmission, -40 to 75°C operating temperature
SFP-2.5GSLC-T	SFP module with 1 2.5GBaseFX port with LC connector, single-mode, for 20 km transmission, -40 to 85 °C operating temperature
SFP-2.5GSLC-T	SFP module with 1 2.5GBaseFX port with LC connector, single-mode, for 5 km transmission, -40 to 85 °C operating temperature
SFP-2.5GMLC-T	SFP module with 1 2.5GBaseFX port with LC connector, multi-mode, for 170, 200, 550, 600 m transmission, -40 to 85 °C operating temperature
SFP-2.5GSLHLC-T	SFP module with 1 2.5GBaseFX port with LC connector, single-mode, for 45 km transmission, -40 to 85 °C operating temperature

Wall-Mounting Kits

WK-40-01	Wall-mounting kit, 2 plates, 6 screws, 40 x 58 x 2 mm
----------	---

Software

LIC-MXsecurity-NEW-XN-SR	MXsecurity perpetual node license with customizable node quantity (minimum 1 node)
LIC-IPS-MXsecurity-NEW-1Y-XN-SR	1-year IPS license for MXsecurity with customizable node quantity (minimum 1 node)
LIC-IPS-MXsecurity-NEW-XM-XN-DMR	IPS license for MXsecurity with customizable duration and node quantity (minimum 1 month, minimum 1 node)
LIC-IPS-MXsecurity-RENEW-1Y-XN-SR	1-year IPS renewal license for MXsecurity with customizable node quantity (minimum 1 node)
LIC-IPS-MXsecurity-RENEW-XM-XN-DMR	IPS renewal license for MXsecurity with customizable duration and node quantity (minimum 1 month, minimum 1 node)
LIC-IPS-MXsecurity-ADD-1Q-XN-SR	3-month IPS add-on license for MXsecurity with customizable node quantity (minimum 1 node)
LIC-IPS-MXsecurity-ADD-2Q-XN-SR	6-month IPS add-on license for MXsecurity with customizable node quantity (minimum 1 node)
LIC-IPS-MXsecurity-ADD-3Q-XN-SR	9-month IPS add-on license for MXsecurity with customizable node quantity (minimum 1 node)
LIC-IPS-MXsecurity-ADD-4Q-XN-SR	1-year IPS add-on license for MXsecurity with customizable node quantity (minimum 1 node)
LIC-IPS-MXsecurity-ADD-XM-XN-DMR	IPS add-on license for MXsecurity with customizable duration and node quantity (minimum 1 month, minimum 1 node)
LIC-IPS-DEVICE-NEW-1Y-1N-MR	1-year device-based IPS license
LIC-IPS-DEVICE-RENEW-1Y-1N-MR	1-year device-based IPS renewal license

© Moxa Inc. 版權所有.2025 年 6 月 26 日更新。

未經 Moxa Inc. 明確書面許可，不得以任何方式複製或使用本文件及其任何部分。產品規格如有變更，恕不另行通知。請至本公司官網了解最新的產品資訊。