

# EDS-G4012 系列

12G 連接埠 ( 提供 8 個 802.3bt PoE 連接埠選項 ) 全 Gigabit 網管型乙太網路交換器



## 特色與優點

- 根據 IEC 62443-4-1 開發並符合 IEC 62443-4-2 工業網路安全標準
- 支援 IEEE 802.3bt PoE，各個連接埠的輸出功率高達 90 W
- 透過支援高達 2.5 Gbps 的光纖 SFP 插槽提高頻寬能力
- Turbo Ring 與 Turbo Chain ( 復原時間 <20 毫秒 @ 250 台交換器 )，以及透過 RSTP/STP 協議支援網路備援
- 廣泛的電源輸入選項，可提供彈性部署
- 小巧彈性的外殼設計，適合狹窄的空間
- 支援 MXstudio，輕鬆實現可視化的工業網路管理

## 認證



## 簡介

EDS-G4012 系列配備有 12 個 Gigabit 乙太網路連接埠以及最多 4 個 1 Gbps 或 2.5 Gbps 光纖連接埠，因此非常適合用於將現有網路升級至 Gigabit 速度，或是建立新的全 Gigabit 骨幹。Gigabit 傳輸速度可增加頻寬以提供更高效能，並且透過三合一服務快速地在網路間傳輸大量資料。本系列也提供 8 個 10/100/1000BaseT(X) 802.3af (PoE)、802.3at (PoE+) 和 802.3bt 相容乙太網路連接埠，可選擇連接高頻寬 PoE 裝置。

備援乙太網路技術如 Turbo Ring、Turbo Chain 和 RSTP/STP，將可增加系統的可靠性，並且改善網路骨幹的可用性。EDS-G4012 系列專為應用需求所設計，如視訊與流程監控、ITS 和 DCS 系統等，皆可從可擴充的網路骨幹中獲益。

EDS-EDS-G4012 系列專為應用需求所設計，如視訊與流程監控、ITS 和 DCS 系統等，皆可從可擴充的網路骨幹中獲益。

## 規格

### Ethernet Interface

10/100/1000BaseT(X) Ports (RJ45 connector)	EDS-G4012-4GC-HV/-LV/-T models: 8 Auto MDI/MDI-X connection Auto negotiation speed Full/Half duplex mode
Combo Ports (10/100/1000BaseT(X) or 100/1000BaseSFP)	EDS-G4012-4GC-LV/-HV/-T models: 4
PoE Ports (10/100/1000BaseT(X), RJ45 connector)	EDS-G4012-8P-4QGS-LVA/-LVB/-T models: 8
1000/2500BaseSFP Ports	EDS-G4012-8P-4QGS-LVA/-LVB/-T models: 4
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3ab for 1000BaseT(X) IEEE 802.3z for 1000BaseX IEEE 802.3bz for 2.5GBaseX IEEE 802.3x for flow control IEEE 802.3ad for Port Trunk with LACP IEEE 802.1Q for VLAN Tagging IEEE 802.1D-2004 for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1p for Class of Service IEEE 802.1X for authentication

## Ethernet Software Features

Filter	GMRP, GVRP, GARP, 802.1Q VLAN, IGMP Snooping v1/v2/v3, IGMP Querier
Management	IPv4/IPv6, Flow control, Back Pressure Flow Control, DHCP Server/Client, ARP, RARP, LLDP, Port Mirror, Linkup Delay, SMTP, SNMP Trap, SNMP Inform, SNMPv1/v2c/v3, RMON, TFTP, SFTP, HTTP, HTTPS, Telnet, Syslog, Private MIB
MIB	P-BRIDGE MIB, Q-BRIDGE MIB, IEEE8021-SPANNING-TREE-MIB, IEEE8021-PAE-MIB, IEEE8023-LAG-MIB, LLDP-EXT-DOT1-MIB, LLDP-EXT-DOT3-MIB, SNMPv2-MIB, RMON MIB Groups 1, 2, 3, 9
Redundancy Protocols	STP, RSTP, Turbo Ring v2, Turbo Chain, Ring Coupling, Dual-Homing, Link Aggregation
Security	Broadcast storm protection, Rate Limit, Trust access control, Static Port Lock, MAC Sticky, HTTPS/SSL, SSH, RADIUS, TACACS+, Login and Password Policy
Time Management	SNTP, NTP Server/Client, NTP Authentication
Protocols	IPv4/IPv6, TCP/IP, UDP, ICMP, ARP, RARP, TFTP, DNS, NTP Client, DHCP Server, DHCP Client, 802.1X, QoS, HTTPS, HTTP, Telnet, SMTP, SNMPv1/v2c/v3, RMON, Syslog

## Switch Properties

MAC Table Size	16 K
Jumbo Frame Size	9.216 KB
Max. No. of VLANs	256
VLAN ID Range	VID 1 to 4094
IGMP Groups	512
Priority Queues	4
Packet Buffer Size	1 MB

## LED Interface

LED Indicators	PWR1, PWR2, STATE, FAULT, MSTR/HEAD, CPLR/TAIL, SYNC
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## Serial Interface

Console Port	RS-232 (TxD, RxD, GND), 8-pin RJ45 (115200, n, 8, 1)
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## USB Interface

USB Connector	USB Type A (Reserved)
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## Input/Output Interface

Alarm Contact Channels	1, Relay output with current carrying capacity of 1 A @ 24 VDC
Digital Input Channels	1
Digital Inputs	+13 to +30 V for state 1 -30 to +3 V for state 0 Max. input current: 8 mA
Buttons	Reset button

## DIP Switch Configuration

DIP Switches	Turbo Ring, Master, Coupler, Reserve
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## Power Parameters

Connection	2 removable 4-contact terminal block(s)
Pre-installed Power Module	-LV/-LV-T models: PWR-100-LV

	-HV/-HV-T models: PWR-105-HV-I -LVA/-LVA-T models: PWR-101-LV-BP-I -LVB/-LVB-T models: PWR-103-LV-VB-I
Note	The EDS-G4012 Series supports modular power supplies. The model names and power parameters are determined by the installed power module.  For example: EDS-G4012-4GC-T + PWR-100-LV = EDS-G4012-4GC-LV-T EDS-G4012-4GC-T + PWR-105-HV-I = EDS-G4012-4GC-HV-T  If you install a different power module, refer to the specifications of the corresponding model. For example, if you replace the power module of the EDS-G4012-4GC-LV-T with the PWR-105-HV-I, refer to the specifications of the EDS-G4012-4GC-HV-T.
Input Voltage	-LV/-LV-T models: 12/24/48 VDC, Redundant dual inputs -HV/-HV-T models: 110/220 VDC/VAC, Single input -LVA/-LVA-T models: 48 VDC, Redundant dual inputs -LVB/-LVB-T models: 12/24/48 VDC, Redundant dual inputs
Operating Voltage	-LV/-LV-T models: 9.6 to 60 VDC -HV/-HV-T models: 88 to 300 VDC, 85 to 264 VAC -LVA/-LVA-T models: 44 to 57 VDC (>52 VDC for PoE+ output recommended) -LVB/-LVB-T models: 12 to 57 VDC (>52 VDC for PoE+ output recommended)
Input Current	-LV/-LV-T models: 12-48 VDC, 1.50-0.40 A or 24 VDC, 0.70 A -HV/-HV-T models: 110-220 VAC, 50-60 Hz, 0.30-0.20 A or 110-220 VDC, 0.30-0.20 A -LVA/-LVA-T models: 48 VDC, 5.42 A -LVB/-LVB-T models: 12/48 VDC, 7.46/4.27 A or 24 VDC, 7.26 A
Power Consumption (Max.)	EDS-G4012-4GC-LV(-T) models: 12.68 W EDS-G4012-4GC-HV(-T) models: 15.8 W  EDS-G4012-8P-4QGS-LVA(-T) models: Without PoE: 15.58 W With PoE: Max. 240 W for total PD power consumption @ 48 VDC input  EDS-G4012-8P-4QGS-LVB(-T) models: Without PoE: 17.96 W With PoE: Max. 180 W for total PD power consumption @ 48 VDC input; Max. 150 W for total PD power consumption @ 24 VDC input; Max. 62 W for total PD power consumption @ 12 VDC input
Max. PoE Power Output per Port	90 W
Overload Current Protection	Supported
Reverse Polarity Protection	Supported
<b>Physical Characteristics</b>	
IP Rating	IP40
Dimensions	55 x 140 x 122.5 mm (2.17 x 5.51 x 4.82 in)
Weight	EDS-G4012-4GC(-T) models: 881.5 g (1.94 lb) EDS-G4012-8P-4QGS(-T) models: 972 g (2.14 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)
Housing	Metal
<b>Environmental Limits</b>	
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 (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

## Standards and Certifications

Industrial Cybersecurity	IEC 62443-4-1 IEC 62443-4-2
Safety	UL 61010-2-201, EN 62368-1 (LVD)
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: 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: 4 kV; Signal: 4 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Vibration	IEC 60068-2-6
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Railway	EN 50121-4
Traffic Control	NEMA TS2

## MTBF

Time	EDS-G4012-4GC-HV/HV-T: 456,870 hrs EDS-G4012-4GC-LV/LV-T: 867,981 hrs EDS-G4012-8P-4QGS-LVA/LVA-T: 799,780 hrs EDS-G4012-8P-4QGS-LVB/LVB-T: 759,924 hrs
Standards	Telcordia SR332

## Warranty

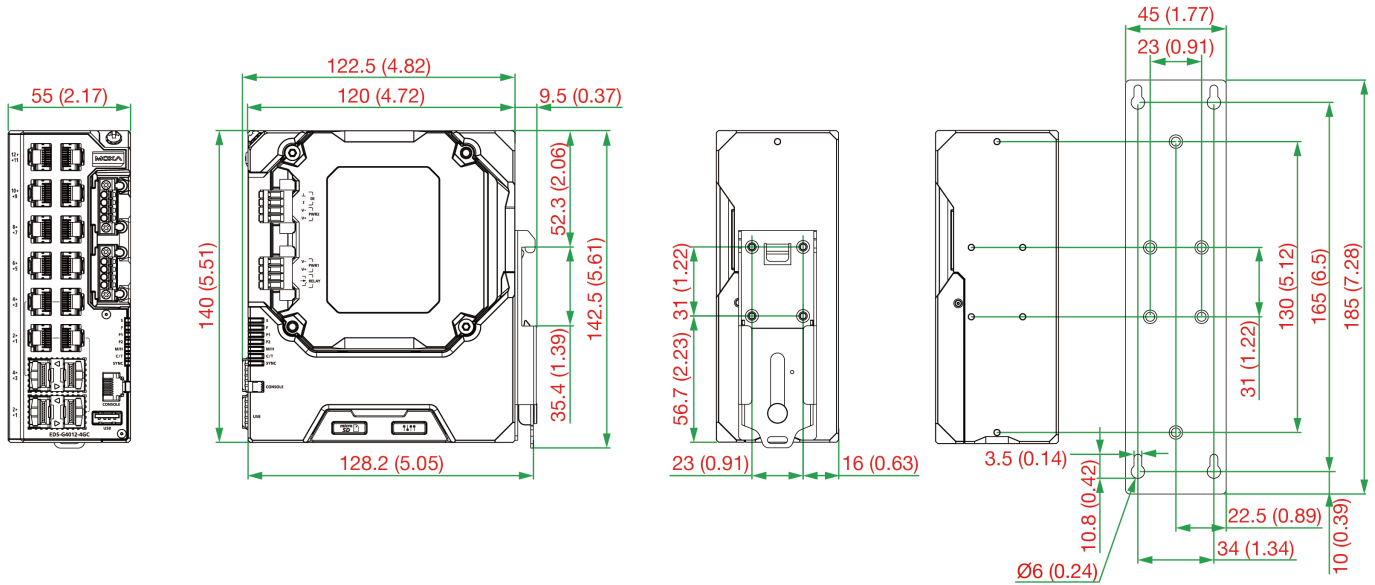
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/tw/warranty">www.moxa.com/tw/warranty</a>

## Package Contents

Device	1 x EDS-G4012 Series switch
Documentation	1 x quick installation guide 1 x product notice, Simplified Chinese 1 x product certificates of quality inspection, Simplified Chinese 1 x warranty card

# 尺寸

單位：公釐 (英寸)



# 訂購資訊

Model Name	10/100/1000BaseT(X) Ports, RJ45 Connector	Combo Ports (10/100/1000BaseT(X) or 100/1000BaseSFP)	PoE 10/100/1000BaseT(X) Ports, RJ45 Connector	100/1000/2500BaseSFP Ports	Operating Voltage	Pre-installed Power Module	Operating Temp.
EDS-G4012-4GC-LV	8	4	-	-	9.6 to 60 VDC	PWR-100-LV	-10 to 60°C
EDS-G4012-4GC-LV-T	8	4	-	-	9.6 to 60 VDC	PWR-100-LV	-40 to 85°C
EDS-G4012-4GC-HV	8	4	-	-	88 to 300 VDC, 85 to 264 VAC	PWR-105-HV-I	-10 to 60°C
EDS-G4012-4GC-HV-T	8	4	-	-	88 to 300 VDC, 85 to 264 VAC	PWR-105-HV-I	-40 to 85°C
EDS-G4012-8P-4QGS-LVA	-	-	8	4	44 to 57 VDC (> 52 VDC for PoE + input recommended)	PWR-101-LV-BP-I	-10 to 60°C
EDS-G4012-8P-4QGS-LVA-T	-	-	8	4	44 to 57 VDC (> 52 VDC for PoE + input recommended)	PWR-101-LV-BP-I	-40 to 85°C
EDS-G4012-8P-4QGS-LVB	-	-	8	4	12 to 57 VDC (> 52 VDC for PoE + input recommended)	PWR-103-LV-VB-I	-10 to 60°C
EDS-G4012-8P-4QGS-LVB-T	-	-	8	4	12 to 57 VDC (> 52 VDC for PoE + input recommended)	PWR-103-LV-VB-I	-40 to 85°C

# 配件 (選購)

## SFP Modules

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-1GLHXLC	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLSXLC	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature
SFP-1GLXLC	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GSXLC	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, 0 to 60°C operating temperature
SFP-1GZXLC	SFP module with 1 1000BaseZX port with LC connector for 80 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-1GLHXLC-T	SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLSXLC-T	SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature
SFP-1GLXLC-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXLC-T	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature
SFP-1GZXLC-T	SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature
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-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-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-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-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-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-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-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-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-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-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-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-1FELLC-T	SFP module with 1 100Base single-mode with LC connector for 80 km transmission, -40 to 85°C operating temperature
SFP-1FEMLC-T	SFP module with 1 100Base multi-mode, LC connector for 2/4 km transmission, -40 to 85°C operating temperature
SFP-1FESLC-T	SFP module with 1 100Base single-mode with LC connector for 40 km 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
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-2.5GLSLC-T	SFP module with 1 2.5GBaseFX port with LC connector, single-mode, for 20 km transmission, -40 to 85 °C operating temperature

### Power Supplies

HDR-60-24	60 W/2.5 A DIN-rail 24 VDC power supply, universal 85 to 264 VAC or 120 to 370 VDC input voltage, -30 to 70°C operating temperature
NDR-120-24	120 W/5.0 A DIN-rail 24 VDC power supply, universal 90 to 264 VAC or 127 to 370 VDC input voltage, -20 to 70°C operating temperature
NDR-120-48	120 W/2.5 A DIN-rail 48 VDC power supply, universal 90 to 264 VAC or 127 to 370 VDC input voltage, -20 to 70°C operating temperature
NDR-240-48	240 W/5.0 A DIN-rail 48 VDC power supply, universal 90 to 264 VAC or 127 to 370 VDC input voltage, -20 to 70°C operating temperature
MDR-40-24	DIN-rail 24 VDC power supply with 40W/1.7A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature
MDR-60-24	DIN-rail 24 VDC power supply with 60W/2.5A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature

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