

EDS-4012 系列

8+4G 連接埠 (提供 8 個 802.3bt PoE 連接埠選項) 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
- Turbo Ring 與 Turbo Chain (對於 250 台交換器斷線復連時間小於 20 毫秒)¹，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-4012 系列是一系列 12 埠網管型快速乙太網路交換器，可選擇 4 個 1 Gbps 光纖上行鏈路連接埠。本系列也提供提供 4 個 10/100BaseT (X) 802.3af (PoE)、802.3at (PoE+) 和 802.3bt 相容乙太網路 PoE 連接埠選項的型號，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-4012 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-4012 系列符合 IEC 62443-4-2 和 IEC 62443-4-1 工業網路安全認證，涵蓋產品安全和安全開發生命週期要求，有助於我們的客戶滿足安全工業網路設計的合規要求。

規格

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	EDS-4012-4GS-LV/-HV/-T models: 8 EDS-4012-4GC-LV/-HV/-T models: 8 Auto negotiation speed Full/Half duplex mode Auto MDI/MDI-X connection
PoE Ports (10/100BaseT(X), RJ45 connector)	EDS-4012-8P-4GS-LVA/-LVB/-T models: 8
100/1000BaseSFP Ports	EDS-4012-4GS-LV/-HV/-T models: 4 EDS-4012-8P-4GS-LVA/-VB/-T models: 4
Combo Ports (10/100/1000BaseT(X) or 100/1000BaseSFP)	EDS-4012-4GC-LV/-HV/-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 802.3x 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

1. 如果連接埠鏈路速度是 1 Gigabit 或更高，復原時間小於 50 毫秒

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-4012 Series supports modular power supplies. The model names and power parameters are determined by the installed power module. For example: EDS-4012-4GS-T + PWR-100-LV = EDS-4012-4GS-LV-T EDS-4012-4GS-T + PWR-105-HV-I = EDS-4012-4GS-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-4012-4GS-LV-T with the PWR-105-HV-I, refer to the specifications of the EDS-4012-4GS-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-4012-4GS-LV/-T models: 10.52 W EDS-4012-4GS-HV/-T models: 12.22 W EDS-4012-4GC-LV/-T models: 10.7 W EDS-4012-4GC-HV/-T models: 13.35 W EDS-4012-8P-4GS-LVA/-T models: Without PoE: 13.34 W With PoE: Max. 240 W for total PD power consumption @ 48 VDC input EDS-4012-8P-4GS-LVB/-T models: Without PoE: 15.32 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. 120 W for -T model) Max. 62 W for total PD consumption @ 12 VDC input
Max. PoE Power Output per Port	90 W
Overload Current Protection	Supported
Reverse Polarity Protection	Supported

Physical Characteristics

IP Rating	IP40
Dimensions	55 x 140 x 120 mm (2.17 x 5.51 x 4.72 in)
Weight	827 g (1.82 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)
Housing	Metal

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 (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-4012-4GC-LV/-T models: 1,036,336 hrs EDS-4012-4GC-HV/-T models: 497,392 hrs EDS-4012-4GS-LV/-T models: 874,838 hrs EDS-4012-4GS-HV/-T models: 456,870 hrs EDS-4012-8P-4GS-LVA/-T models: 799,780 hrs EDS-4012-8P-4GS-LVB/-T models: 759,924 hrs
Standards	Telcordia SR332

Warranty

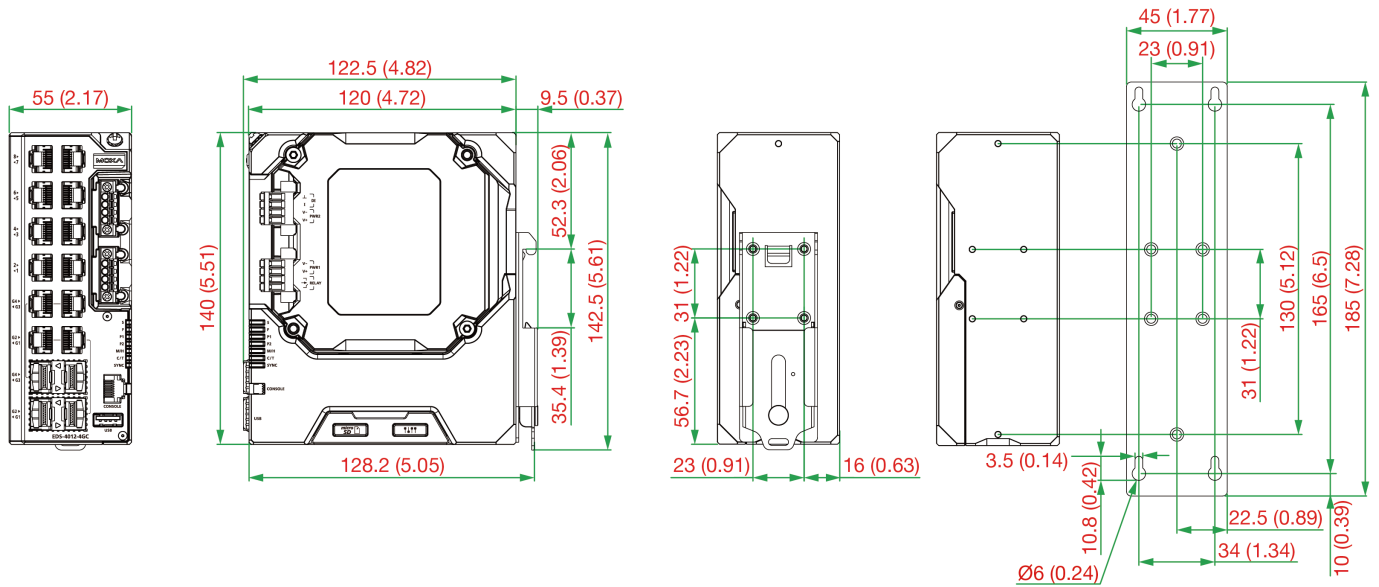
Warranty Period	5 years
Details	See www.moxa.com/tw/warranty

Package Contents

Device	1 x EDS-4012 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	10/100BaseT(X) Ports (RJ45 Connector)	PoE 10/100BaseT(X) Ports (RJ45 Connector)	100/1000BaseSFP Slots	Combo Ports (10/100/1000BaseT(X) or 100/1000BaseSFP)	Operating Voltage	Pre-installed Power Module	Operating Temp.
EDS-4012-4GS-LV	8	-	4	-	9.6 to 60 VDC	PWR-100-LV	-10 to 60°C
EDS-4012-4GS-LV-T	8	-	4	-	9.6 to 60 VDC	PWR-100-LV	-40 to 75°C
EDS-4012-4GS-HV	8	-	4	-	88 to 300 VDC, 85 to 264 VAC	PWR-105-HV-I	-10 to 60°C
EDS-4012-4GS-HV-T	8	-	4	-	88 to 300 VDC, 85 to 264 VAC	PWR-105-HV-I	-40 to 75°C
EDS-4012-4GC-LV	8	-	-	4	9.6 to 60 VDC	PWR-100-LV	-10 to 60°C
EDS-4012-4GC-LV-T	8	-	-	4	9.6 to 60 VDC	PWR-100-LV	-40 to 75°C
EDS-4012-4GC-HV	8	-	-	4	88 to 300 VDC, 85 to 264 VAC	PWR-105-HV-I	-10 to 60°C
EDS-4012-4GC-HV-T	8	-	-	4	88 to 300 VDC, 85 to 264 VAC	PWR-105-HV-I	-40 to 75°C
EDS-4012-8P-4GS-LVA	-	8	4	-	44 to 57 VDC (> 52 VDC for PoE + output recommended)	PWR-101-LV-BP-I	-10 to 60°C
EDS-4012-8P-4GS-LVA-T	-	8	4	-	44 to 57 VDC (> 52 VDC for PoE + output recommended)	PWR-101-LV-BP-I	-40 to 75°C
EDS-4012-8P-4GS-LVB	-	8	4	-	12 to 57 VDC (> 52 VDC for PoE + output recommended)	PWR-103-LV-VB-I	-10 to 60°C
EDS-4012-8P-4GS-LVB-T	-	8	4	-	12 to 57 VDC (> 52 VDC for PoE + output recommended)	PWR-103-LV-VB-I	-40 to 75°C

配件 (選購)

SFP Modules

SFP-1GEZXC	SFP module with 1 1000BaseEZ port with LC connector for 110 km transmission, 0 to 60°C operating temperature
SFP-1GEZXC-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-1GLHXC	SFP module with 1 1000BaseLH port with LC connector for 40 km transmission, 0 to 60°C operating temperature
SFP-1GLSXC	SFP module with 1 1000BaseLS port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature
SFP-1GLXC	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature
SFP-1GSXC	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, 0 to 60°C operating temperature
SFP-1GZXC	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-1GLHXC-T	SFP module with 1 1000BaseLH port with LC connector for 40 km transmission, -40 to 85°C operating temperature
SFP-1GLSXC-T	SFP module with 1 1000BaseLS port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature
SFP-1GLXC-T	SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature
SFP-1GSXC-T	SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature
SFP-1GZXC-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

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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