EDS-405A 系列

5 埠入門級網管型乙太網路交換器



特色與優點

- 支援 Turbo Ring 和 Turbo Chain（復原時間 < 20 毫秒 @ 250 台交換器）、RSTP/STP，實現網路備援
- 支援 IGMP 窺探、QoS、IEEE 802.1Q VLAN 以及以連接埠為基礎的 VLAN
- 透過網頁瀏覽器、CLI、Telnet / 串列主控台、Windows 工具程式和 ABC-01 輕鬆管理網路
- 預設情況下啟用 PROFINET 或 EtherNet/IP（PN 或 EIP 型號）
- 支援 MXstudio，輕鬆實現可視化的工業網路管理

認證

簡介

EDS-405A 系列專為工業應用所設計。這系列的交換器支援多種實用的管理功能，例如：Turbo Ring、Turbo Chain、環形連結器、IGMP 窺探、IEEE 802.1Q VLAN、以連接埠為基礎的 VLAN、QoS、RMON、頻寬管理、連接埠鏡像，以及透過電子郵件或繼電器發出警告。Turbo Ring 可以使用網頁管理介面或是在 EDS-405A 交換器頂端面板的DIP開關進行簡易設定。

附加特色與優點

- DHCP Option 82 以不同原則指派 IP 位址
- 支援用於設備管理與監控的 EtherNet/IP、Modbus TCP 和 PROFINET 通訊協定[1]
- 提供 EtherNet/IP EDS（電子資料表）檔案、自訂 AOI（附加說明）及 FactoryTalk® 可視化面版
- 可提供 PROFINET GSDML 檔案及 SIMATIC STEP 7 設備圖示[2]
- Port mirroring 可用於除錯
- 以連接埠為基礎的 VLAN、IEEE 802.1Q VLAN 以及 GVRP，用來簡化網路規劃
- QoS（IEEE 802.1p 和 TOS/DiffServ）提高可靠性
- RMON 提供主動且有效率的網路監控
- SNMPv1/v2c/v3，適用不同層級的網路管理安全性
- 頻寬管理可預防不穩定的網路狀態出現

規格

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	EDS-405A, 405A-EIP/PN/PTP models: 5 EDS-405A-MM-SC/MM-ST/SS-SC models: 3 All models support: Auto negotiation speed Full/Half duplex mode Auto MDI/MDI-X connection
100BaseFX Ports (multi-mode SC connector)	EDS-405A-MM-SC models: 2
100BaseFX Ports (multi-mode ST connector)	EDS-405A-MM-ST models: 2
100BaseFX Ports (single-mode SC connector)	EDS-405A-SS-SC models: 2

1. 僅限 EDS-405A-PN 系列
2. 僅支援 EDS-405A-PN 系列

Optical Fiber				
		100BaseFX		
		Multi-Mode		Single-Mode
Fiber Cable Type		OM1	50/125 µm	G.652
			800 MHz x km	
Typical Distance		4 km	5 km	40 km
Wavelength	Typical (nm)	1300		1310
	TX Range (nm)	1260 to 1360		1280 to 1340
	RX Range (nm)	1100 to 1600		1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20		0 to -5
	RX Range (dBm)	-3 to -32		-3 to -34
	Link Budget (dB)	12		29
	Dispersion Penalty (dB)	3		1
Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power. Note: Compute the “typical distance” of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).				

Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3x for flow control IEEE 802.1D-2004 for Spanning Tree Protocol IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1w for Rapid Spanning Tree Protocol

Ethernet Software Features

Filter	802.1Q VLAN GMRP GVRP IGMP v1/v2 Port-based VLAN
Industrial Protocols	EtherNet/IP[3], Modbus TCP EDS-405A-PN models: PROFINET IO Device (Slave)
Management	Back Pressure Flow Control BOOTP DHCP Option 66/67/82 DHCP Server/Client Flow control IPv4/IPv6 LLDP Port Mirror RARP RMON SMTP SNMP Inform SNMPv1/v2c/v3 Syslog Telnet TFTP
MIB	Bridge MIB Ethernet-like MIB MIB-II P-BRIDGE MIB RMON MIB Groups 1, 2, 3, 9

3. EDS-405A-EIP 系列：預設使用 EtherNet/IP 通訊協定。

	RSTP MIB
Redundancy Protocols	RSTP STP Turbo Chain Turbo Ring v1/v2
Security	Broadcast storm protection HTTPS/SSL NTP authentication Port Lock SNMPv3 SSH Trust access control
Time Management	All models: NTP Server/Client, SNTP EDS-405A-PTP models: IEEE 1588v2 PTP (hardware-based)

Switch Properties

IGMP Groups	256
MAC Table Size	EDS-405A, EDS-405A-EIP/MM-SC/MM-ST/PN/SS-SC models: 2 K EDS-405A-PTP models: 8 K
Max. No. of VLANs	64
Packet Buffer Size	1 Mbits
Priority Queues	4
VLAN ID Range	VID 1 to 4094

Serial Interface

Console Port	RS-232 (TxD, RxD, GND), 10-pin RJ45 (115200, n, 8, 1)

DIP Switch Configuration

Ethernet Interface	Turbo Ring, Master, Coupler, Reserve

Input/Output Interface

Alarm Contact Channels	Relay output with current carrying capacity of 1 A @ 24 VDC

Power Parameters

Input Voltage	12/24/48 VDC Redundant dual inputs
Operating Voltage	9.6 to 60 VDC
Input Current	EDS-405A, 405A-EIP/PN/MM-SC/MM-ST/SS-SC models: 0.594 A @ 12 VDC 0.286 A @ 24 VDC 0.154 A @ 48 VDC EDS-405A-PTP models: 0.23 A @ 24 VDC
Overload Current Protection	Supported
Reverse Polarity Protection	Supported
Connection	1 removable 6-contact terminal block(s)

Physical Characteristics

Housing	Metal
IP Rating	IP30

Dimensions	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
Weight	EDS-405A-EIP/MM-SC/MM-ST/PN/SS-SC models: 650 g (1.44 lb) EDS-405A-PTP models: 820 g (1.81 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 (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

Safety	All models: UL 508 Non-PTP models: UL 60950-1, EN 62368-1
EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A
EMS	Non-PTP models: IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PTP models: 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: 0.5 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
Hazardous Locations	Non-PTP models: ATEX, Class I Division 2
Railway	Non-PTP models: EN 50121-4
Traffic Control	Non-PTP models: NEMA TS2
Vibration	IEC 60068-2-6
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-31
Maritime	Non-PTP models: DNV, LR

MTBF

Time	EDS-405A, EDS-405A-EIP/PN models: 1,547,941 hrs EDS-405A-MM-SC/MM-ST/SS-SC models: 1,429,327 hrs EDS-405A-PTP models: 1,316,464 hrs
Standards	Telcordia (Bellcore), GB

Warranty

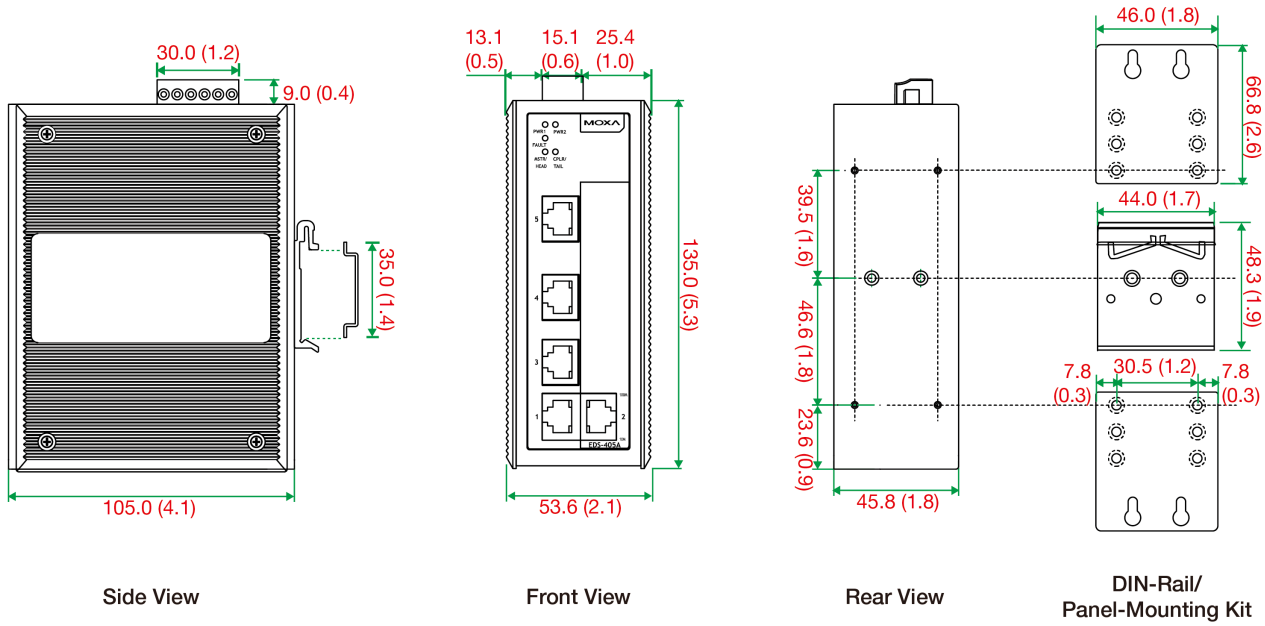
Warranty Period	5 years
Details	See www.moxa.com/tw/warranty

Package Contents

Device	1 x EDS-405A Series switch
Cable	1 x RJ45-to-DB9 console cable
Installation Kit	2 x cap, plastic, for RJ45 port
Documentation	1 x product certificates of quality inspection, Simplified Chinese 1 x product notice, Simplified Chinese 1 x quick installation guide 1 x warranty card

尺寸

單位：公釐（英吋）



Side View | Front View | Rear View | DIN-Rail/ Panel-Mounting Kit

訂購資訊

Model Name	Layer	Total No. of Ports	10/100BaseT(X) Ports RJ45 Connector	100BaseFX Ports Multi-Mode SC Connector	100BaseFX Ports Multi-Mode ST Connector	100BaseFX Ports Single-Mode SC Connector	Operating Temp.
EDS-405A	2	5	5	–	–	–	-10 to 60°C
EDS-405A-T	2	5	5	–	–	–	-40 to 75°C
EDS-405A-MM-ST	2	5	3	–	2	–	-10 to 60°C
EDS-405A-MM-ST-T	2	5	3	–	2	–	-40 to 75°C
EDS-405A-MM-SC	2	5	3	2	–	–	-10 to 60°C
EDS-405A-MM-SC-T	2	5	3	2	–	–	-40 to 75°C
EDS-405A-SS-SC	2	5	3	–	–	2	-10 to 60°C
EDS-405A-SS-SC-T	2	5	3	–	–	2	-40 to 75°C
EDS-405A-EIP	2	5	5	–	–	–	-10 to 60°C
EDS-405A-EIP-T	2	5	5	–	–	–	-40 to 75°C
EDS-405A-PN	2	5	5	–	–	–	-10 to 60°C
EDS-405A-PN-T	2	5	5	–	–	–	-40 to 75°C

Model Name	Layer	Total No. of Ports	10/100BaseT(X) Ports RJ45 Connector	100BaseFX Ports Multi-Mode SC Connector	100BaseFX Ports Multi-Mode ST Connector	100BaseFX Ports Single-Mode SC Connector	Operating Temp.
EDS-405A-PTP	2	5	5	–	–	–	-10 to 60°C
EDS-405A-PTP-T	2	5	5	–	–	–	-40 to 75°C

配件（選購）

Storage Kits

ABC-01	Configuration backup and restoration tool for managed Ethernet switches and AWK Series wireless APs/bridges/clients, 0 to 60°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

Software

LIC-MXviewOne-NEW-XN-SR	MXview One node license with customizable node quantity (minimum 1 node)

Wall-Mounting Kits

WK-46-01	Wall-mounting kit, 2 plates, 8 screws, 46 x 66.8 x 2 mm

Rack-Mounting Kits

RK-4U	19-inch rack-mounting kit

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