

NPort IA5000 系列

適用於工業自動化的 1 與 2 埠串列裝置伺服器



特色與優點

- 通訊端模式：TCP server、TCP client、UDP
- 用於 2 線和 4 線 RS-485 的 ADDC (自動資料流向控制)
- 可輕鬆佈線的串聯乙太網路連接埠 (僅適用於 RJ45 連接器)
- 備援 DC 電源輸入
- 透過繼電器輸出與電子郵件發出警告與警示
- 10/100BaseTX (RJ45) 或 100BaseFX (支援單模或多模，帶有 SC 連接器)
- IP30 防護等級外殼

認證

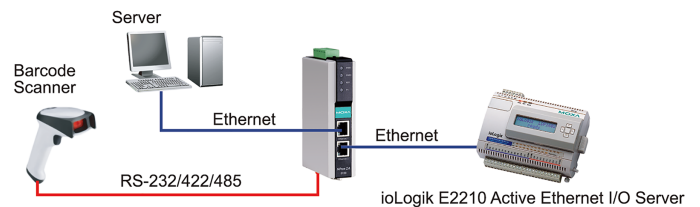


簡介

NPort® IA 裝置伺服器提供輕鬆可靠的串列轉乙太網路連接功能，適用於工業自動化應用。這些裝置伺服器可將任何串列裝置連接至乙太網路，為確保與網路軟體的相容性，它們支援多種連接埠操作模式，包括 TCP 伺服器、TCP 用戶端及 UDP。NPort® IA 裝置伺服器具備堅固可靠的特性，是建立 RS-232/422/485 串列裝置網路存取的理想選擇，這些裝置例如 PLC、感應器、儀錶、馬達、驅動器、條碼讀碼機與操作員顯示器。所有型號均採用符合 DIN 導軌安裝標準的輕巧型堅固外殼設計。

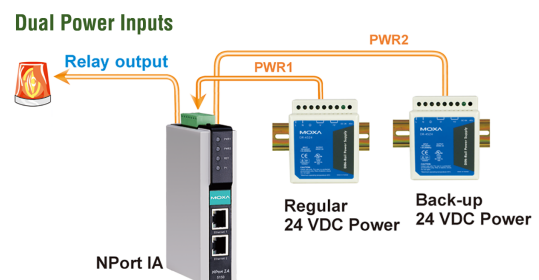
串聯乙太網路連接埠使佈線更輕鬆 (10/100BaseTX 型號)

NPort® IA5150 與 IA5250 裝置伺服器都具有兩個乙太網路連接埠，可做為乙太網路交換器連接埠使用。一個連接埠可直接連接至網路或伺服器，另一個連接埠可連接至另一部 NPort® IA 裝置伺服器或乙太網路裝置。雙乙太網路連接埠無需將每部裝置連接到單獨的乙太網路交換器，即可協助降低佈線成本。



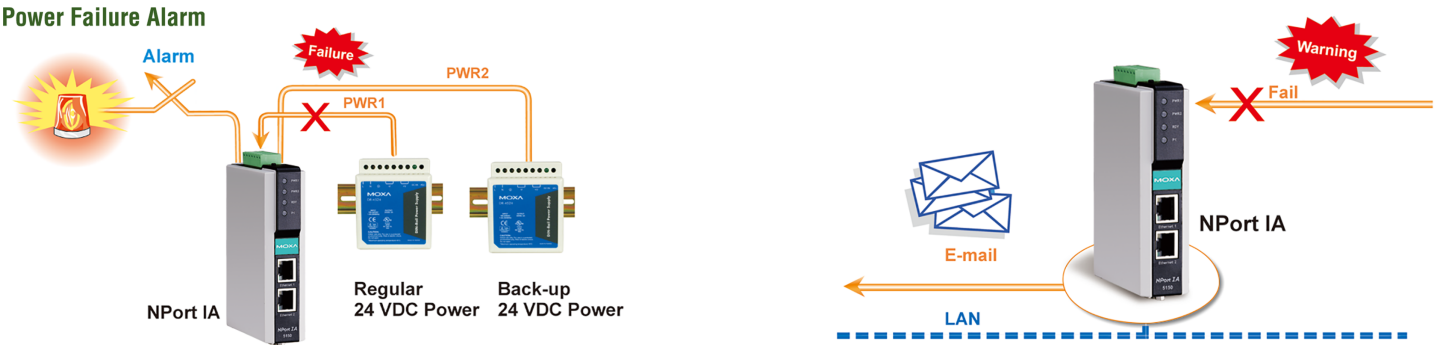
備援電源輸入

NPort® IA5000 裝置伺服器具備雙電源輸入，可同時連接兩組直流電源進行供電。如果一個電源故障，另一個電源便會自動接管。備援電源輸入可協助確保您的裝置伺服器可以不間斷操作。



繼電器輸出警告與電子郵件警示

內建繼電器輸出可在乙太網路連結或電源輸入發生故障，或 DCD 或 DSR 串列訊號變更時向管理員發出問題警示。網頁主控台可指示乙太網路連結或電源輸入故障，或哪個序列訊號已變更。也可在偵測到例外時發出電子郵件警告。這些功能是非常關鍵的工具，能夠協助維護工程師迅速應對緊急狀況。



乙太網路通訊用光纖

NPort® IA5000 系列包含 100BaseFX 光纖型號，其所支援的傳輸距離對多模光纖型號最遠可達 5 km，對單模光纖型號最遠可達 40 km。光纖特別適合工業應用，因其可抗電磁雜訊及干擾。在存在高接地迴路電壓的環境中，光纖能夠提供最佳隔離保護，且由於不會產生火花危險，相較於銅線更安全，且適合用於危險環境。

工業級認證

為確保在工業環境中的安全可靠 運作，NPort® IA5000 裝置伺服器 已取得多項工業認證，包括 IP30 機械 防護等級、UL 508 工業控制設備安全 認證及危險區域防爆安全認證。認證 包括 UL/cUL Class 1 Division 2 Groups A、B、C、D，以及 ATEX Class 1 Zone 2 與 IECEx Zone 2。

規格

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	2 (1 IP, Ethernet cascade)
Magnetic Isolation Protection	1.5 kV (built-in)
100BaseFX Ports (multi-mode SC connector)	NPort IA-5150/5150I-M-SC models: 1 NPort IA-5150-M-ST models: 1
100BaseFX Ports (single-mode SC connector)	NPort IA-5150/5150I-S-SC models: 1

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).

Ethernet Software Features

Configuration Options	Web Console (HTTP) Windows Utility Telnet Console Serial Console
Management	DHCP Client IPv4 SMTP SNMPv1 Telnet ARP BOOTP DNS HTTP TCP/IP UDP ICMP Rtelnet
Windows Real COM Drivers	Windows 11, 10, 8.1, 8, 7, Vista, XP, ME, 98 and 95 Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2, 2008, 2003, 2000 and NT Windows Embedded CE 5.0 and 6.0, Windows XP Embedded
Linux Real TTY Drivers	Kernel versions: 6.x, 5.x, 4.x, 3.x, 2.6.x, and 2.4.x
Fixed TTY Drivers	macOS versions: 14, 13, 12, 11, and 10.1x SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Arm®-based Platform Support	Windows 11 Linux Kernel 6.x, 5.x, and 4.x macOS 14, 13, 12, and 11
Virtual Machine	VMWare ESXi (Windows 11/10) VMware Fusion (Windows on macOS 14, 13, 12, 11, and 10.1x) Parallels Desktop (Windows on macOS 14, 13, 12, 11, and 10.1x)
Android API	Android 3.1.x and later
Time Management	SNTP
MIB	RFC1213, RFC1317

Security Functions

Authentication	Local database (password only)
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Serial Interface

Connector	NPort IA-5150/5150I models: DB9 male for RS-232 and terminal block for RS-422/485 NPort IA-5250/5250I models: DB9 male for RS-232/422/485
No. of Ports	NPort IA-5150/5150I models: 1 NPort IA-5250/5250I models: 2
Serial Standards	RS-232 RS-422 RS-485
Baudrate	Supports standard baudrates (unit=bps): 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230400
Data Bits	5, 6, 7, 8
Parity	None, Even, Odd, Space, Mark
Stop Bits	1, 1.5, 2
Flow Control	RTS/CTS (RS-232 only) DTR/DSR (RS-232 only)

	XON/XOFF
Terminator for RS-485	120 ohms
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
Isolation	I models: 2 kV
RS-485 Data Direction Control	ADDC (automatic data direction control)

Serial Signals

RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND

Power Parameters

Input Voltage	12 to 48 VDC
Input Current	NPort IA-5150/IA-5150-T/IA-5250/IA-5250-T: 435 mA @ 12 VDC NPort IA-5150I/IA-5150I-T/IA-5150-S-SC/IA-5150-S-SC-T/IA-5150I-M-SC/IA-5150I-M-SC-T/IA-5150I-S-SC/IA-5150I-S-SC-T: 555 mA @ 12 VDC NPort IA-5250I/IA-5250I-T/IA-5150-M-SC/IA-5150-M-SC-T/IA-5150-M-ST/IA-5150-M-ST-T: 510 mA @ 12 VDC
No. of Power Inputs	2
Power Connector	Terminal block

Relays

Contact Current Rating	Resistive load: 1 A @ 30 VDC
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Physical Characteristics

Housing	Plastic
IP Rating	IP30
Dimensions	29 x 89.2 x 118.5 mm (0.82 x 3.51 x 4.57 in)
Weight	NPort IA-5150/5150I: 360 g (0.79 lb) NPort IA-5250/5250I: 380 g (0.84 lb)
Installation	DIN-rail mounting

Environmental Limits

Operating Temperature	Standard models: 0 to 60°C (32 to 140°F) Wide Temp. models: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 167°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 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 PFMF IEC 61000-4-11
Safety	IEC 60950-1 EN 60950-1 EN 62368-1 UL 508
Maritime	DNV
Hazardous Locations	ATEX Class I Division 2 IECEx
Freefall	IEC 60068-2-32
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6 IEC 60068-2-64

Declaration

Green Product	RoHS, CRoHS, WEEE
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MTBF

Time	NPort IA-5150/IA-5150I models: 1,349,710 hrs NPort IA-5150-M-SC/M-ST/S-SC models: 1,175,887 hrs NPort IA-5150I-M-SC models: 768,343 hrs NPort IA-5150I-S-SC models: 763,707 hrs NPort IA-5250/IA-5250I models: 1,236,384 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

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

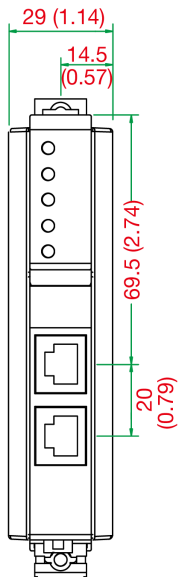
Package Contents

Device	1 x NPort IA-5000 Series device server
Documentation	1 x quick installation guide 1 x warranty card

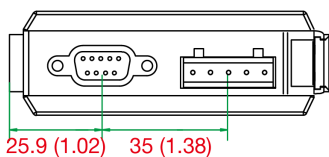
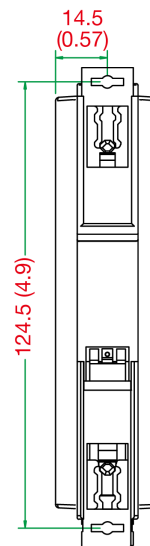
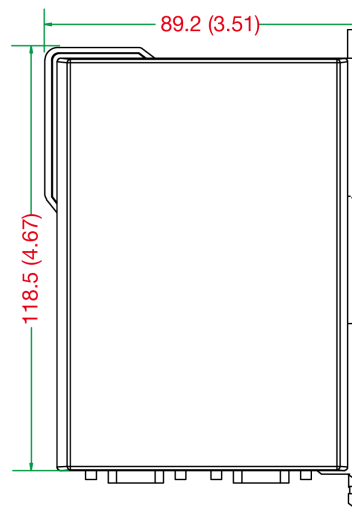
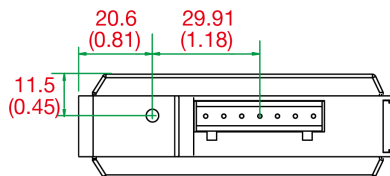
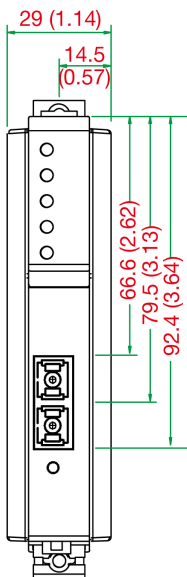
尺寸

單位：公釐（英吋）

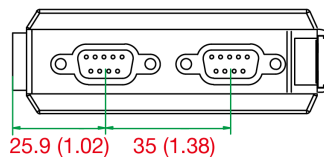
NPort IA-5150
NPort IA-5150I
NPort IA-5250
NPort IA-5250I



NPort IA-5150-M-SC
NPort IA-5150-S-SC
NPort IA-5150I-M-SC
NPort IA-5150I-S-SC
NPort IA-5150-M-ST



NPort IA-5150
NPort IA-5150I
NPort IA-5150-M-SC
NPort IA-5150-S-SC
NPort IA-5150I-S-SC
NPort IA-5150I-M-SC
NPort IA-5150-M-ST



NPort IA-5250
NPort IA-5250I

訂購資訊

Model Name	No. of Ethernet Ports	Ethernet Port Connector	Operating Temp.	No. of Serial Ports	Serial Isolation	Certification: Hazardous Locations
NPort IA-5150	2	RJ45	0 to 55°C	1	–	ATEX, C1D2, IECEx
NPort IA-5150-T	2	RJ45	-40 to 75°C	1	–	ATEX, C1D2, IECEx
NPort IA-5150I	2	RJ45	0 to 55°C	1	2 kV	ATEX, C1D2, IECEx
NPort IA-5150I-T	2	RJ45	-40 to 75°C	1	2 kV	ATEX, C1D2, IECEx
NPort IA-5150-M-SC	1	Multi-Mode SC	0 to 55°C	1	–	ATEX, C1D2, IECEx
NPort IA-5150-M-SC-T	1	Multi-Mode SC	-40 to 75°C	1	–	ATEX, C1D2, IECEx
NPort IA-5150I-M-SC	1	Multi-Mode SC	0 to 55°C	1	2 kV	ATEX, C1D2, IECEx
NPort IA-5150I-M-SC-T	1	Multi-Mode SC	-40 to 75°C	1	2 kV	ATEX, C1D2, IECEx
NPort IA-5150-S-SC	1	Single-mode SC	0 to 55°C	1	–	ATEX, C1D2, IECEx

Model Name	No. of Ethernet Ports	Ethernet Port Connector	Operating Temp.	No. of Serial Ports	Serial Isolation	Certification: Hazardous Locations
NPort IA-5150-S-SC-T	1	Single-mode SC	-40 to 75°C	1	–	ATEX, C1D2, IECEx
NPort IA-5150I-S-SC	1	Single-mode SC	0 to 55°C	1	2 kV	ATEX, C1D2, IECEx
NPort IA-5150I-S-SC-T	1	Single-mode SC	-40 to 75°C	1	2 kV	ATEX, C1D2, IECEx
NPort IA-5150-M-ST	1	Multi-Mode ST	0 to 55°C	1	–	ATEX, C1D2, IECEx
NPort IA-5150-M-ST-T	1	Multi-Mode ST	-40 to 75°C	1	–	ATEX, C1D2, IECEx
NPort IA-5250	2	RJ45	0 to 55°C	2	–	ATEX, C1D2, IECEx
NPort IA-5250-T	2	RJ45	-40 to 75°C	2	–	ATEX, C1D2, IECEx
NPort IA-5250I	2	RJ45	0 to 55°C	2	2 kV	ATEX, C1D2, IECEx
NPort IA-5250I-T	2	RJ45	-40 to 75°C	2	2 kV	ATEX, C1D2, IECEx

配件（選購）

Cables

CBL-F9M9-150	DB9 female to DB9 male serial cable, 1.5 m
CBL-F9M9-20	DB9 female to DB9 male serial cable, 20 cm
CBL-RJ458P-100	8-pin RJ45 CAT5 Ethernet cable, 1 m
CBL-RJ45SF9-150	8-pin RJ45 to DB9 female serial cable with shielding, 1.5m

Connectors

ADP-RJ458P-DB9F	DB9 female to RJ45 connector
Mini DB9F-to-TB	DB9 female to terminal block connector

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