

NPort 5000AI-M12 系列

軌道 1、2 和 4 埠 RS-232/422/485 序列裝置伺服器



特色與優點

- 快速 3 步驟網頁式配置
- 支援 COM 埠群組和 UDP multicast 應用
- 用於 Windows、Linux 及 macOS 的 Real COM/TTY 驅動程式
- 標準 TCP/IP 介面及多樣化 TCP 和 UDP 操作模式
- 符合 EN 50121-4 標準
- 符合所有 EN 50155 規範強制性測試項目¹
- M12 連接器和 IP40 金屬外殼
- 為串列訊號提供 2 kV 隔離

認證



簡介

NPort® 5000AI-M12 序列裝置伺服器 能夠讓序列裝置立即聯網，也可在任何地方 透過網路直接存取序列裝置。此外，NPort 5000AI-M12 也符合 EN 50121-4 及 EN 50155 的所有強制性章節，包括操作 溫度、電源輸入電壓、突波、ESD 及震動 的要求，使其適合操作環境中存在大量震動 的軌道與沿線應用。

3 步驟網頁式配置

NPort 5000AI-M12 的 3 步驟網頁式配置 工具簡單明瞭且方便使用。NPort 5000AI-M12 的 網頁式主控台將會引導使用者透過三個簡單的 配置步驟，便可啟動序列轉乙太網路的應用。透過這種快速 3 步驟網頁式配置，使用者平均 只需 30 秒即可完成 NPort 設定並啟用應用程式，大幅節省時間和人力。

輕鬆排除故障

NPort 5000AI-M12 裝置伺服器支援 SNMP，可用於透過乙太網路監控所有設備。一旦使用者定義的問題狀況發生，設備便可自動發送 trap 訊息給 SNMP 管理者。對於不使用 SNMP 管理員的使用者，它也可以通過 email 發送警報資訊。使用者可以使用 Moxa Windows utility 或 Web 主控台定義警示的觸發條件。舉例而言，您可以配置暖開機、冷開機或更改密碼時觸發報警。

規格

Ethernet Interface	
10/100BaseT(X) Ports (M12 D-coded 4-pin female connector)	1
Ethernet Software Features	
Configuration Options	Web Console (HTTP/HTTPS), Windows Utility, Device Search Utility (DSU), MCC Tool, Telnet Console
Management	ARP, BOOTP, DHCP Client, DNS, HTTP, HTTPS, ICMP, IPv4, LLDP, SMTP, SNMPv1/v2c, TCP/IP, Telnet, UDP
Filter	IGMP v1/v2
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10/11 (x86/x64), Windows 2008 R2/2012/2012 R2/2016/2019 (x64), Windows Server 2022, Windows Embedded CE 5.0/6.0, Windows XP Embedded

1. 此產品適用於符合 EN 50155 標準所定義的所有軌道車輛應用。若需更詳細的說明，請按一下這裡：www.moxa.com/doc/specs/EN_50155_Compliance.pdf

Linux Real TTY Drivers	Kernel versions: 2.4.x, 2.6.x, 3.x, 4.x, and 5.x
Fixed TTY Drivers	SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X, macOS 10.12, macOS 10.13, macOS 10.14, macOS 10.15
Android API	Android 3.1.x and later

Security Functions

Authentication	Local database
Encryption	HTTPS, AES-128, RSA-1024, SHA-1, SHA-256
Security Protocols	SNMPv3 HTTPS (TLS 1.2)

Serial Interface

Connector	DB9 male
No. of Ports	NPort 5150AI-M12 Models: 1 NPort 5250AI-M12 Models: 2 NPort 5450AI-M12 Models: 4
Serial Standards	RS-232, RS-422, RS-485
Baudrate	Supports standard baudrates (unit=bps): 50, 75, 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230.4k, 460.8k, 921.6k
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS (RS-232 only), DTR/DSR (RS-232 only), XON/XOFF
RS-485 Data Direction Control	ADDC (automatic data direction control)
Isolation	2 kV

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 Current	NPort 5150AI-M12 Models: 310 mA @ 12 VDC NPort 5250AI-M12 Models: 360 mA @ 12 VDC NPort 5450AI-M12 Models: 440 mA @ 12 VDC
Input Voltage	12 to 48 VDC
Note	Compliant with EN 50155 on 24/48 VDC
Power Connector	M12 A-coded 5-pin male connector

Reliability

Automatic Reboot Trigger	Built-in WDT
Alert Tools	Built-in buzzer and RTC (real-time clock)

Physical Characteristics

Dimensions	80 x 216.6 x 52.9 mm (3.15 x 8.53 x 2.08 in)
Weight	686 g (1.51 lb)
Protection	NPort 5000AI-M12-CT Models: PCB Conformal Coating

Environmental Limits

Operating Temperature	Standard Models: -25 to 55°C (-13 to 131°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

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: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 0.5 kV; Signal: 2 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m IEC 61000-4-8 PFMF
Railway	EN 50121-4
Safety	UL 60950-1
Vibration	IEC 60068-2-6

Declaration

Green Product	RoHS, CRoHS, WEEE
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MTBF

Time	NPort 5150AI-M12 Models: 789,341 hrs NPort 5250AI-M12 Models: 639,622 hrs NPort 5450AI-M12 Models: 467,777 hrs
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

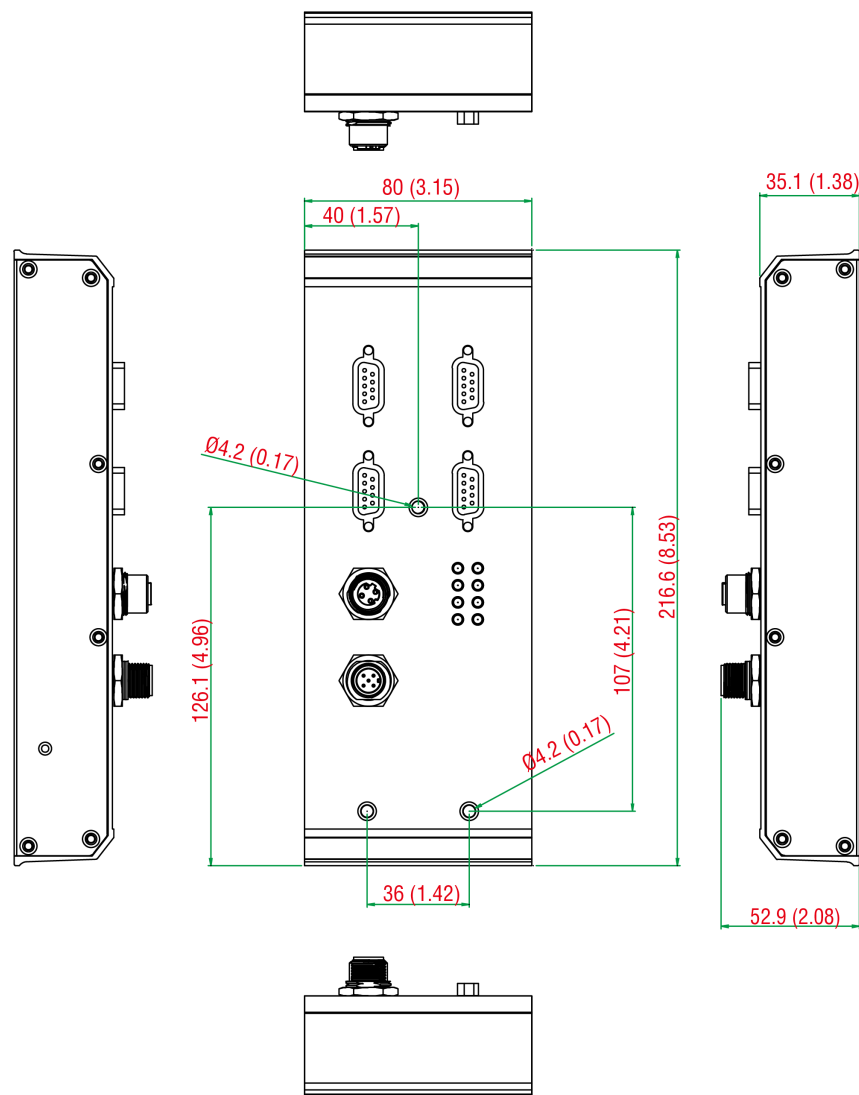
Warranty Period	5 years
Details	See www.moxa.com/tw/warranty

Package Contents

Device	1 x NPort 5000AI-M12 Series device server
Documentation	1 x quick installation guide 1 x warranty card

尺寸

單位：公釐（英吋）



訂購資訊

Model Name	No. of Serial Ports	Power Input Voltage	Operating Temp.	PCB Conformal Coating
NPort 5150AI-M12	1	12-48 VDC	-25 to 55°C	–
NPort 5150AI-M12-CT	1	12-48 VDC	-25 to 55°C	✓
NPort 5150AI-M12-T	1	12-48 VDC	-40 to 75°C	–
NPort 5150AI-M12-CT-T	1	12-48 VDC	-40 to 75°C	✓
NPort 5250AI-M12	2	12-48 VDC	-25 to 55°C	–
NPort 5250AI-M12-CT	2	12-48 VDC	-25 to 55°C	✓
NPort 5250AI-M12-T	2	12-48 VDC	-40 to 75°C	–
NPort 5250AI-M12-CT-T	2	12-48 VDC	-40 to 75°C	✓
NPort 5450AI-M12	4	12-48 VDC	-25 to 55°C	–
NPort 5450AI-M12-CT	4	12-48 VDC	-25 to 55°C	✓
NPort 5450AI-M12-T	4	12-48 VDC	-40 to 75°C	–
NPort 5450AI-M12-CT-T	4	12-48 VDC	-40 to 75°C	✓

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-RJ45SF9-150	8-pin RJ45 to DB9 female serial cable with shielding, 1.5m
CBL-RJ458P-100	8-pin RJ45 CAT5 Ethernet cable, 1 m
CBL-M12(FF5P)/OPEN-100 IP67	A-coded M12-to-5-pin power cable, IP67-rated 5-pin female M12 connector, 1 m

Connectors

Mini DB9F-to-TB	DB9 female to terminal block connector
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