

ioThinx 4530 系列

內建串列埠的進階模組化控制器



特色與優點

- 可選購 -40 至 75°C 寬操作溫度型號
- 支援 TPM v2.0 (選配)
- 免工具輕鬆安裝和拆卸
- Moxa Industrial Linux，具備安全啟動功能
- 支援多達 64 個 I/O 模組
- 內建 Azure/AWS/Alibaba 雲端程式庫
- 內建 OPC UA 伺服器程式庫

認證

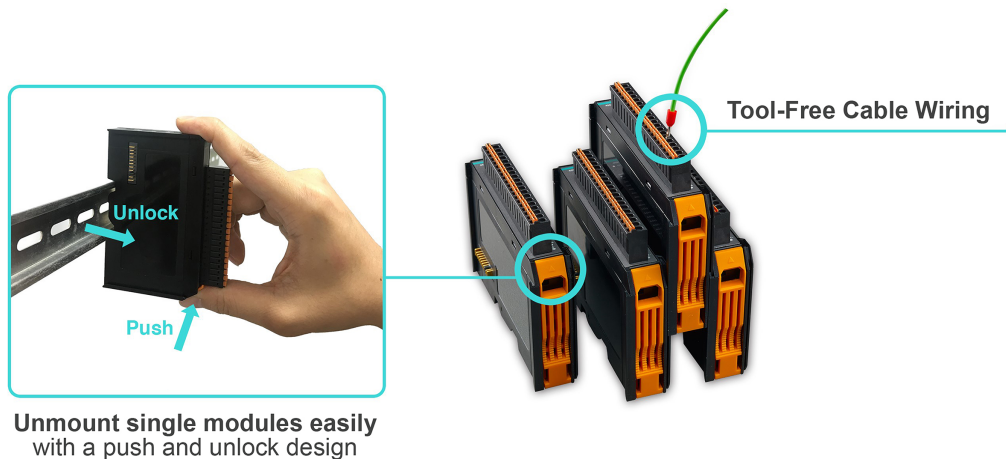


簡介

ioThinx 4530 系列是進階模組化控制器產品，配備獨特的硬體設計，是各種工業資料擷取應用的理想解決方案。ioThinx 4530 系列配備獨特的機械設計，可大量的減少安裝與拆卸所需的時間，達到簡化部屬和維護作業的效果。此外，ioThinx 4530 系列支援 Moxa 工業 Linux 及內建 Azure/AWS/Alibaba Cloud SDK，方便使用者輕鬆地將在現場擷取的資料，儲存到不同的雲端帳戶。

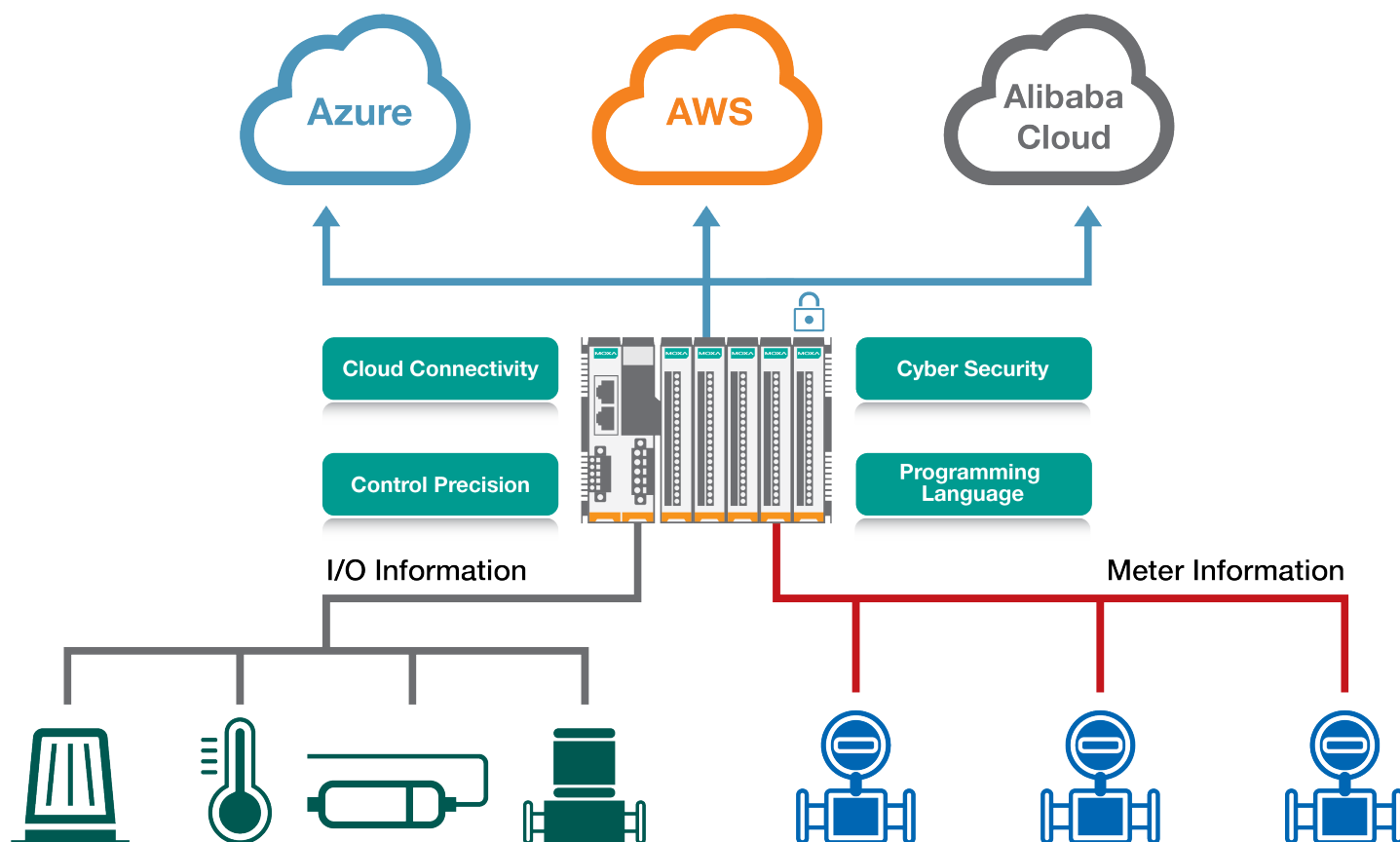
免工具輕鬆安裝和拆卸

ioThinx 4500 系列採用獨特的機構設計，可減少安裝和拆卸所需的時間。事實上，硬體安裝的任何部分都不需要螺絲起子和其他工具，包括將裝置安裝在 DIN 導軌上，以及連接用於通訊和 I/O 訊號擷取的接線。此外，從 DIN 導軌上拆卸 ioThinx 不需要任何工具。您可輕鬆使用門鎖和解鎖片，將模組自 DIN 導軌移除。



提供 Azure/AWS/Alibaba 雲端整合套件

將在現場擷取的資料儲存到雲端，可改善整體設備效率（OEE）或預防性維護，這是 IIoT 或工業 4.0 應用的重要面向。為了協助使用者更輕鬆地連接至雲端，ioThinx 4530 系列提供包含範例程式庫和程控指南的雲端整合套件，可大幅節省工程師開發雲端連接應用軟體所需的時間。



規格

Computer

CPU	NXP i.MX7D 1 GHz
OS	Linux kernel 4.4 (CIP, PREEMPT_RT), Debian 9
Clock	Real-time clock with capacitor backup
DRAM	512 MB DDR3
MRAM	128 kB
Storage Pre-installed	8 GB eMMC (6 GB reserved for the user)
Storage Slot	microSD Slots x 1 (up to 32 GB)
Expansion Slots	Up to 64

Control Logic

Language	C/C++, Python
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Computer Interface

Buttons	Reset button
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Input/Output Interface

Rotary Switch	0 to 9
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Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	Auto negotiation speed
Magnetic Isolation Protection	1.5 kV (built-in)

Serial Interface

Console Port	RS-232 (TxD, RxD, GND), 3-pin (115200, n, 8, 1)
No. of Ports	1 x RS-232/422 or 2 x RS-485-2w
Connector	Spring-type Euroblock terminal
Serial Standards	RS-232/422/485 (software selectable)
Baudrate	300, 600, 1200, 1800, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps
Flow Control	RTS/CTS
Parity	None, Even, Odd
Stop Bits	1, 2
Data Bits	7, 8

Serial Signals

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

System Power Parameters

Power Connector	Spring-type Euroblock terminal
No. of Power Inputs	1
Input Voltage	12 to 48 VDC
Power Consumption	1940 mA @ 12 VDC
Over-Current Protection	3 A @ 25°C
Over-Voltage Protection	55 VDC
Output Current	1 A (max.)

Field Power Parameters

Power Connector	Spring-type Euroblock terminal
No. of Power Inputs	1
Input Voltage	12/24 VDC
Over-Current Protection	5 A @ 25°C
Over-Voltage Protection	33 VDC
Output Current	2 A (max.)

Physical Characteristics

Wiring	Serial cable, 16 to 28 AWG Power cable, 12 to 26 AWG
Strip Length	Serial cable, 9 to 10 mm Power cable, 12 to 13 mm
Housing	Plastic
Dimensions	60.3 x 99 x 75 mm (2.37 x 3.9 x 2.96 in)

Weight	207.7 g (0.457 lb)
Installation	DIN-rail mounting

Standards and Certifications

EMC	EN 55032/24
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1000 MHz: 3 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6

MTBF

Standards	Telcordia SR332
Time	856,064 hrs

Environmental Limits

Operating Temperature	ioThinx 4533-LX: -20 to 60°C (-4 to 140°F) ioThinx 4533-LX-T: -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)
Altitude	Up to 4000 m

Declaration

Green Product	RoHS, CRoHS, WEEE
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Warranty

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

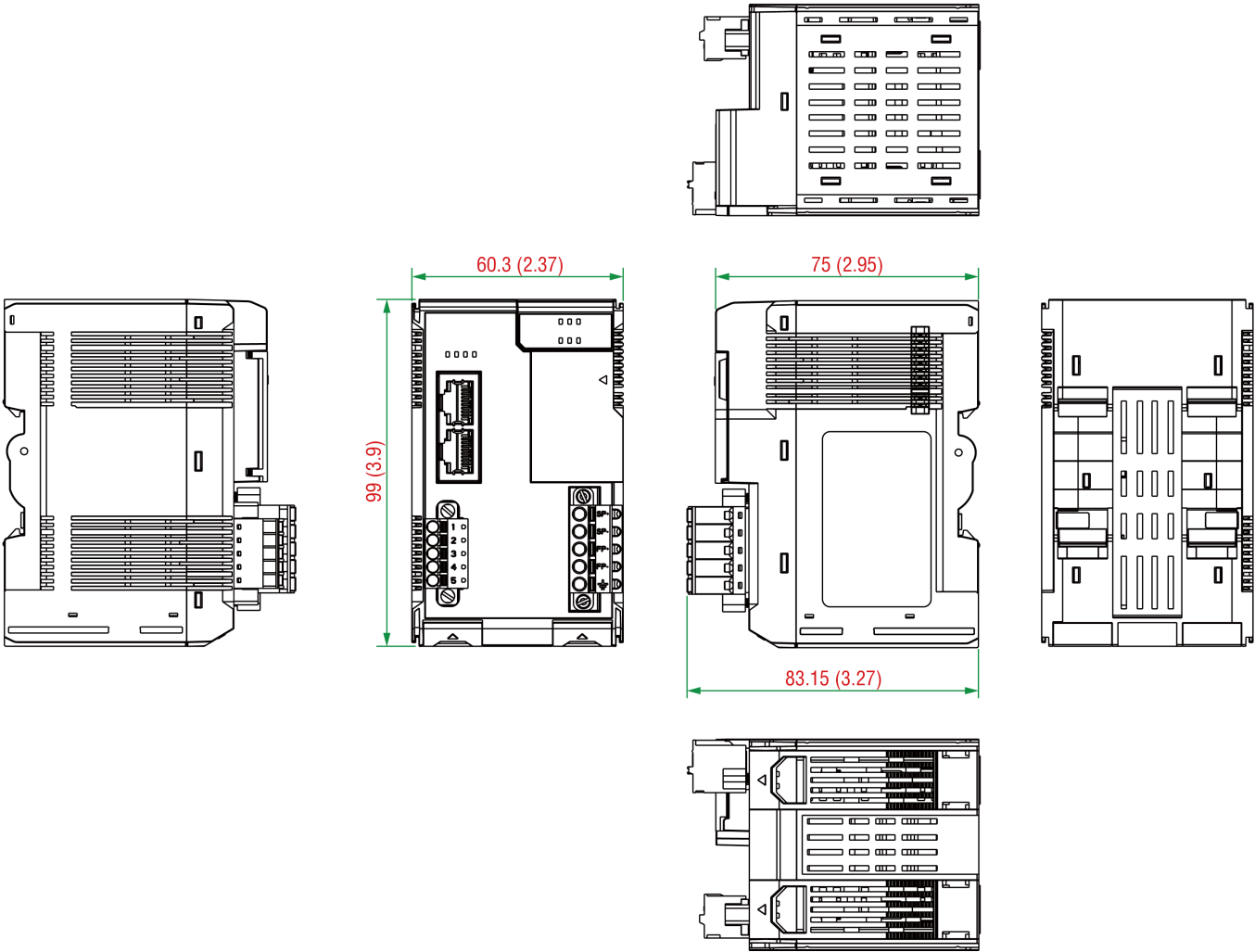
Package Contents

Device	1 x ioThinx 4530 Series Controller
Cable	1 x 4-pin header to DB9 console port
Installation Kit	1 x terminal block, 5-pin, 5.00 mm 1 x terminal block, 5-pin, 3.81 mm
Documentation	1 x warranty card 1 x quick installation guide

尺寸

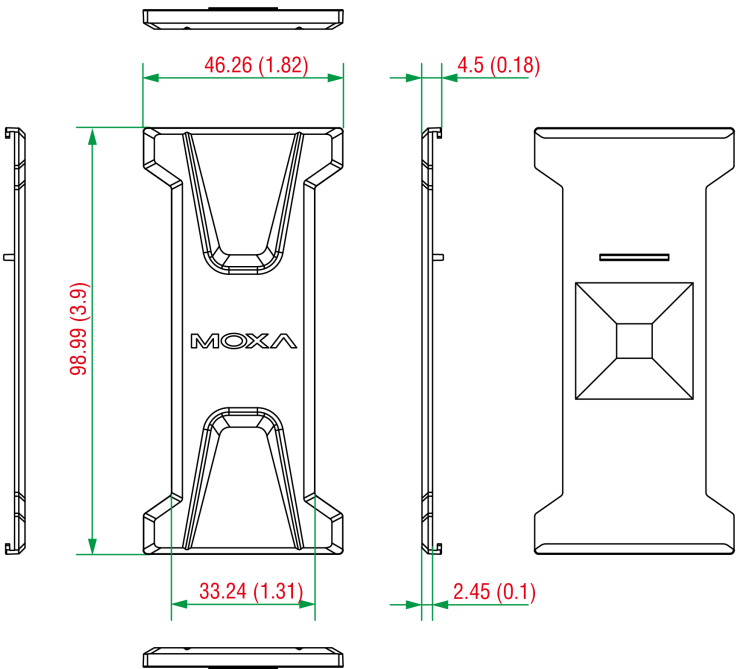
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單位：公釐（英吋）



側蓋

單位：公釐（英吋）



Model Name	Language	Ethernet Interface	Serial Interface	No. of Support I/O Modules	Operating Temp.
ioThinX 4533-LX	C/C++, Python	2 x RJ45	RS-232/RS-422/RS-485	64	-20 to 60°C
ioThinX 4533-LX-T	C/C++, Python	2 x RJ45	RS-232/RS-422/RS-485	64	-40 to 75°C

配件 (選購)

I/O Modules

45MR-1600	Module for the ioThinX 4500 Series, 16 DIIs, 24 VDC, PNP, -20 to 60°C operating temperature
45MR-1600-T	Module for the ioThinX 4500 Series, 16 DIIs, 24 VDC, PNP, -40 to 75°C operating temperature
45MR-1601	Module for the ioThinX 4500 Series, 16 DIIs, 24 VDC, NPN, -20 to 60°C operating temperature
45MR-1601-T	Module for the ioThinX 4500 Series, 16 DIIs, 24 VDC, NPN, -40 to 75°C operating temperature
45MR-2404	Module for the ioThinX 4500 Series, 4 relays, form A, -20 to 60°C operating temperature
45MR-2404-T	Module for the ioThinX 4500 Series, 4 relays, form A, -40 to 75°C operating temperature
45MR-2600	Module for the ioThinX 4500 Series, 16 DOs, 24 VDC, sink, -20 to 60°C operating temperature
45MR-2600-T	Module for the ioThinX 4500 Series, 16 DOs, 24 VDC, sink, -40 to 75°C operating temperature
45MR-2601	Module for the ioThinX 4500 Series, 16 DOs, 24 VDC, source, -20 to 60°C operating temperature
45MR-2601-T	Module for the ioThinX 4500 Series, 16 DOs, 24 VDC, source, -40 to 75°C operating temperature
45MR-2606	Module for the ioThinX 4500 Series, 8 DIIs, 24 VDC, PNP, 8 DOs, 24 VDC, source, -20 to 60°C operating temperature
45MR-2606-T	Module for the ioThinX 4500 Series, 8 DIIs, 24 VDC, PNP, 8 DOs, 24 VDC, source, -40 to 75°C operating temperature
45MR-3800	Module for the ioThinX 4500 Series, 8 AIs, 0 to 20 mA or 4 to 20 mA, -20 to 60°C operating temperature
45MR-3800-T	Module for the ioThinX 4500 Series, 8 AIs, 0 to 20 mA or 4 to 20 mA, -40 to 75°C operating temperature
45MR-3810	Module for the ioThinX 4500 Series, 8 AIs, -10 to 10 V or 0 to 10 V, -20 to 60°C operating temperature
45MR-3810-T	Module for the ioThinX 4500 Series, 8 AIs, -10 to 10 V or 0 to 10 V, -40 to 75°C operating temperature
45MR-4420	Module for the ioThinX 4500 Series, 4 AOs, 0 to 10 V or 0 to 20 mA or 4 to 20 mA, -20 to 60°C operating temperature
45MR-4420-T	Module for the ioThinX 4500 Series, 4 AOs, 0 to 10 V or 0 to 20 mA or 4 to 20 mA, -40 to 75°C operating temperature
45MR-6600	Module for the ioThinX 4500 Series, 6 RTDs, -20 to 60°C operating temperature
45MR-6600-T	Module for the ioThinX 4500 Series, 6 RTDs, -40 to 75°C operating temperature
45MR-6810	Module for the ioThinX 4500 Series, 8 TCs, -20 to 60°C operating temperature
45MR-6810-T	Module for the ioThinX 4500 Series, 8 TCs, -40 to 75°C operating temperature

Power Modules

45MR-7210	Module for the ioThinX 4500 Series, system and field power inputs, -20 to 60°C operating temperature
45MR-7210-T	Module for the ioThinX 4500 Series, system and field power inputs, -40 to 75°C operating temperature
45MR-7820	Module for the ioThinX 4500 Series, potential distributor module, -20 to 60°C operating temperature
45MR-7820-T	Module for the ioThinX 4500 Series, potential distributor module, -40 to 75°C operating temperature

Communication Modules

45ML-5401	Module for the ioThinX 4530 Series, 4 serial ports (RS-232/422/485 3-in-1), -20 to 60°C operating temperature
45ML-5401-T	Module for the ioThinX 4530 Series, 4 serial ports (RS-232/422/485 3-in-1), -40 to 75°C operating temperature

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