

ioLogik R1200 系列

RS-485 遠端 I/O



特色與優點

- 內建訊號中繼器的雙 RS-485 遠端 I/O
- 支援多點共線通訊，方便整合多台 I/O 模組
- 透過 USB 安裝通訊參數及升級韌體
- 透過 RS-485 連接升級韌體
- 提供寬操作溫度型號，適合 -40 至 85°C (-40 至 185°F) 的作業環境

認證



簡介

ioLogik R1200 系列 RS-485 串列遠端 I/O 裝置非常適合用於建立符合成本效益、可靠且易於維護的遠端流程控制 I/O 系統。遠端串列 I/O 產品為製程工程師帶來輕鬆配線的優勢，因為它們只需兩條線即可與控制器及其他 RS-485 裝置進行通訊，同時採用 EIA/TIA RS-485 通訊協定，可在長距離下高速傳輸與接收資料。除了透過軟體或 USB 進行通訊設定，以及採用雙 RS-485 連接埠設計外，Moxa 的遠端 I/O 裝置還能消除資料擷取與自動化系統在安裝與維護過程中所帶來的繁重人力負擔問題。Moxa 還提供多種不同的 I/O 組合方案，具備更高的靈活性，可適用於眾多不同應用場景。

便於輕鬆維護的易用軟體介面

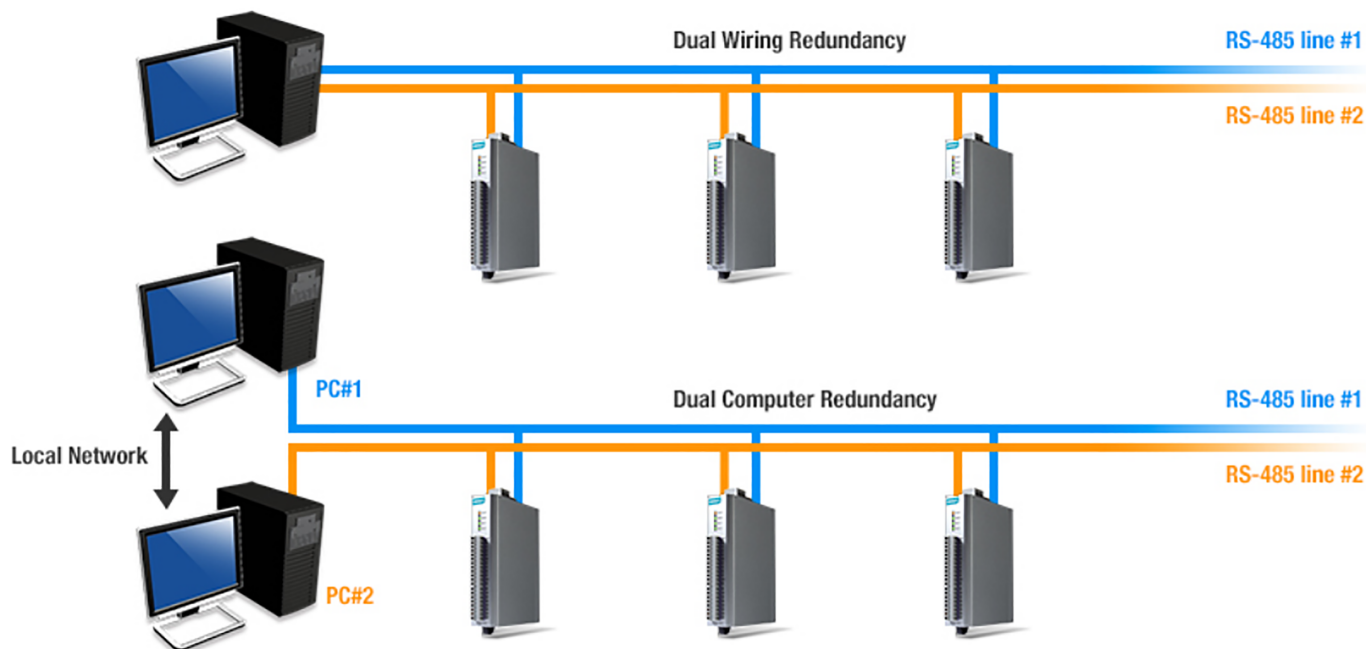
有了 Moxa 的易用 ioSearch 軟體，您可以透過容易使用的圖形使用者介面，快速存取所有 ioLogik R1200 裝置的狀態資訊與設定。此外，ioSearch 還提供一種簡便的方法，可透過 RS-485 網路為所有 ioLogik R1200 裝置更新韌體，因此您甚至可以遠端進行韌體升級。免費易用的 ioSearch 軟體能縮短設定通訊介面所需的維護時間與人力成本。當多部 ioLogik R1200 裝置連接到同一個 RS-485 網路時，您在設定過程中就不再需要逐一調整數百個旋鈕。相較之下，您只需透過圖形使用者介面，即可輕鬆設定並複製每部 ioLogik R1200 的傳輸速率與模式。這項便利的軟體功能可降低維護工程師的工作負擔，與傳統方法相比，更大幅簡化了裝置設定的升級流程。

創新硬體設計降低部署難度，提升維護效率

有了業界第一個使用 USB 設計的 RS-485 串列遠端 I/O，Moxa 為升級與設定 RS-485 遠端 I/O 通訊裝置及韌體提供了創新解決方案。您只需要將設定上傳至 USB 隨身碟，然後將其插到現場裝置上，所有設定及韌體更新都將自動上傳至現場裝置。

適用於備份及備援的節省成本硬體設計

Moxa 的 ioLogik R1200 系列提供雙 RS-485 連接埠，以便於當其中一個 RS-485 埠損壞時，能夠快速切換至另一個 RS-485 連接埠來進行快速測試或維修。RS-485 遠端 I/O 裝置已將低成本技術納入考量，但提供雙 RS-485 連接埠，Moxa 可以幫助您多節省一點成本。有了 ioLogik R1200，您可以利用其雙 RS-485 連接埠來設定配線、提供電腦備援，或透過兩種電腦拓撲來備援您的網路。為實現配線備援，當您的電腦偵測到其中一個 RS-485 連接無回應時，可迅速切換至另一個 RS-485 連接線路，以保證現場感測器與中央電腦之間的通訊持續不中斷。此外，使用者還擁有定義設定的自由。針對電腦備援，ioLogik R1200 為系統操作員提供系統故障時的安全備援能力。



規格

Input/Output Interface

Buttons	Reset button
Analog Input Channels	ioLogik R1240 Series: 8
Analog Output Channels	ioLogik R1241 Series: 4
Configurable DIO Channels (by software)	ioLogik R1212 Series: 8
Digital Input Channels	ioLogik R1210 Series: 16 ioLogik R1212 Series: 8 ioLogik R1214 Series: 6
Isolation	3k VDC or 2k Vrms
Relay Channels	ioLogik R1214 Series: 6

Digital Inputs

Connector	Screw-fastened Euroblock terminal
Counter Frequency	2.5 kHz
Digital Filtering Time Interval	Software configurable
Dry Contact	On: short to GND Off: open
I/O Mode	DI or event counter
Points per COM	ioLogik R1210/R1212 Series: 8 channels ioLogik R1214 Series: 6 channels
Sensor Type	Dry contact Wet contact (NPN or PNP)
Wet Contact (DI to COM)	On: 10 to 30 VDC Off: 0 to 3 VDC

Digital Outputs

Connector	Screw-fastened Euroblock terminal
Current Rating	200 mA per channel
I/O Mode	DO or pulse output
I/O Type	Sink
Pulse Output Frequency	5 kHz
Over-Current Protection	0.65 A per channel @ 25°C
Over-Temperature Shutdown	175°C (typical), 150°C (min.)
Over-Voltage Protection	45 VDC (typical)

Relays

Breakdown Voltage	500 VAC
Connector	Screw-fastened Euroblock terminal
Contact Current Rating	Resistive load: 5 A @ 30 VDC, 250 VAC, 110 VAC
Contact Resistance	100 milli-ohms (max.)
Electrical Endurance	100,000 operations @ 5 A resistive load
Initial Insulation Resistance	1,000 mega-ohms (min.) @ 500 VDC
Mechanical Endurance	5,000,000 operations
Pulse Output Frequency	0.3 Hz at rated load
Type	Form A (N.O.) power relay
Note	Ambient humidity must be non-condensing and remain between 5 and 95%. The relays may malfunction when operating in high condensation environments below 0°C.

Analog Inputs

Accuracy	ioLogik R1240: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ioLogik R1240-T: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ±0.5% FSR @ -40 to 75°C
Built-in Resistor for Current Input	120 ohms
Connector	Screw-fastened Euroblock terminal
I/O Mode	Voltage/Current
I/O Type	Differential
Input Impedance	10 mega-ohms (min.)
Input Range	0 to 10 VDC 0 to 20 mA 4 to 20 mA 4 to 20 mA (with burn-out detection)

Converter Resolution	16 bits
Sampling Rate	All channels: 12 samples/sec Per channel: 1.5 samples/sec Only one channel enabled: 12 samples/sec

Analog Outputs

Accuracy	ioLogik R1241: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ioLogik R1241-T: ±0.1% FSR @ 25°C ±0.3% FSR @ -40 to 75°C
Connector	Screw-fastened Euroblock terminal
Output Range	0 to 10 VDC 0 to 20 mA 4 to 20 mA
Converter Resolution	12-bit
Voltage Output	10 mA (max.)
Load (Current Mode)	Internal power: 400 ohms (max.) 24 V external power: 1000 ohms (max.)

LED Interface

LED Indicators	PWR, RDY, P1, P2
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Serial Interface

Baudrate	1200, 2400, 4800, 9600, 19200, 38400, 57600, 112800, 921600 bps
Connector	Terminal block
No. of Ports	2
Parity	None Even Odd
Pull High/Low Resistor for RS-485	1 kilo-ohm, 150 kilo-ohms
Serial Standards	RS-485
Stop Bits	1, 2
Surge	1 kV
ESD	15 kV
Data Bits	8

Serial Signals

RS-485-2w	Data+, Data-, GND
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Serial Software Features

Industrial Protocols	Modbus RTU Slave
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Power Parameters

Power Connector	Screw-fastened Euroblock terminal
No. of Power Inputs	1

Input Voltage	12 to 48 VDC
Power Consumption	ioLogik R1210 Series: 154 mA @ 24 VDC ioLogik R1212 Series: 187 mA @ 24 VDC ioLogik R1214 Series: 207 mA @ 24 VDC ioLogik R1240 Series: 216 mA @ 24 VDC ioLogik R1241 Series: 343 mA @ 24 VDC

Physical Characteristics

Housing	Plastic
Dimensions	27.8 x 124 x 84 mm (1.09 x 4.88 x 3.31 in)
Weight	200 g (0.44 lb)
Installation	DIN-rail mounting Wall mounting
Wiring	I/O cable, 16 to 26 AWG Power cable, 12 to 24 AWG

Environmental Limits

Operating Temperature	Standard Models: -10 to 75°C (14 to 167°F) Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Altitude	2000 m ¹

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 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV IEC 61000-4-5 Surge: Power: 2 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF
Safety	UL 508
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6

Declaration

Green Product	RoHS, CRoHS, WEEE
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MTBF

Time	1,239,293 hrs
Standards	Telcordia Standard SR-332

Warranty

Warranty Period	ioLogik R1214: 2 years ² ioLogik R1210/R1212/R1240/R1241 Series: 5 years
Details	See www.moxa.com/tw/warranty

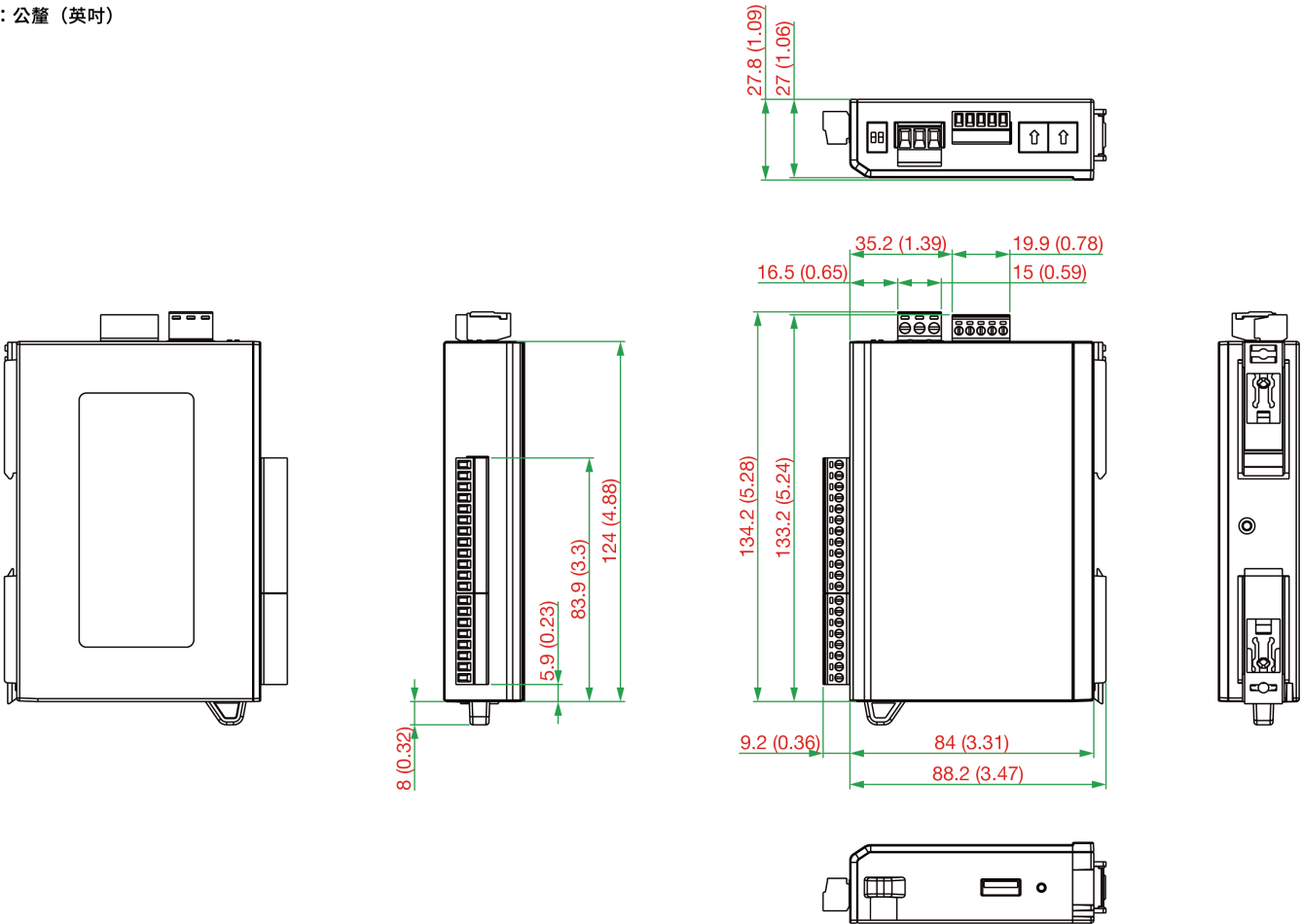
1. 如果您需要產品能在高海拔地區正常運作，請與 Moxa 聯繫。
2. 由於電力繼電器的壽命有限，因此採用此元件的產品均享有 2 年保固。

Package Contents

Device	1 x ioLogik R1200 Series remote I/O
Installation Kit	1 x terminal block, 12-pin, 3.81 mm 1 x terminal block, 3-pin, 5.00 mm 1 x terminal block, 8-pin, 3.81 mm
Documentation	1 x quick installation guide 1 x warranty card

尺寸

單位：公釐（英吋）



訂購資訊

Model Name	Input/Output Interface	Operating Temp.
ioLogik R1210	16 x DI	-10 to 75°C
ioLogik R1210-T	16 x DI	-40 to 85°C
ioLogik R1212	8 x DI, 8 x DIO	-10 to 75°C
ioLogik R1212-T	8 x DI, 8 x DIO	-40 to 85°C
ioLogik R1214	6 x DI, 6 x Relay	-10 to 75°C
ioLogik R1214-T	6 x DI, 6 x Relay	-40 to 85°C
ioLogik R1240	8 x AI	-10 to 75°C
ioLogik R1240-T	8 x AI	-40 to 85°C
ioLogik R1241	4 x AO	-10 to 75°C
ioLogik R1241-T	4 x AO	-40 to 85°C

配件 (選購)

Software

MX-AOPC UA Server	OPC UA Server software for converting fieldbus to the OPC UA standard
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