

# ioLogik R1200 Series Quick Installation Guide

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RS-485 Remote I/O

Edition 4.0, December 2016

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## Package Checklist

- 1 ioLogik R1200 series remote I/O product
- Quick installation guide (printed)

## Specifications

System	
Serial IO	2 x RS-485-2W: Data+, Data-, GND (5-contact terminal block)
Protection	8 KV ESD, 1 KV surge, 3 KV EFT
Protocols	Modbus/RTU
Power Input	24 VDC nominal, 12 to 48 VDC
Wiring	I/O cable max. 14 AWG
Dimensions	27.8 x 124 x 84 mm (1.09 x 4.88 x 3.31 in)
Weight	under 200 g
Operating Temperature	Standard Models: -10 to 75°C (14 to 167°F) Wide Temperature Models: -40 to 85°C (-40 to 185°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Altitude	Up to 2000 m
<b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>	
Standards and Certifications	UL 508, CE, FCC Class A
Warranty Period	5 years (excluding ioLogik R1214*)
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>
<b>*Because of the limited lifetime of power relay, products that use this component are covered by a 2-year warranty.</b>	
Communication Parameters (Initial mode)	
Parity	None, Even, Odd (default = None)
Data Bits	8
Stop Bits	1, 2 (default = 1)
Flow Control	None, XON/XOFF (default = None)
Baudrate	1200 to 921.6 kbps (default = 9600)
Digital Input	
Sensor Type	NPN, PNP, and Dry contact
I/O Mode	DI or Event Counter
Dry Contact	• On: short to GND • Off: open
Wet Contact (DI to COM)	• On: 10 to 30 VDC • Off: 0 to 3 VDC
Isolation	3K VDC or 2K Vrms
Counter/Frequency	2.5 kHz, power off storage
Digital Output	
I/O Mode	DO or Pulse Output
Pulse Wave Width/Frequency	0.1 ms / 5 kHz
Over-voltage Protection	45 VDC
Over-current Protection	2.6 A (4 channels @ 650 mA)

Over-temperature Shutdown	175°C (typical), 150°C (min.)
Current Rating	200 mA per channel
Isolation	3K VDC or 2K Vrms
<b>Relay Output</b>	
Type	Form A (N.O.) relay outputs, 5A
Contact Rating	5 A @ 30 VDC, 5 A @ 250 VAC, 5 A @ 110 VAC
Inductance Load	2 A
Resistance Load	5 A
Breakdown Voltage	500 VAC
Relay On/Off Time	1500 ms (Max.)
Initial Insulation Resistance	1G min. @ 500 VDC
Expected Life	100,000 times (Typical)
Initial Contact Resistance	30 milli-ohms (Max.)
Pulse Output	0.3 Hz at rated load
<b>Analog Input</b>	
Type	Differential input
Resolution	16 bits
I/O Mode	Voltage / Current
Input Range	0 to 10 VDC, 4 to 20 mA
Accuracy	±0.1% FSR @ 25°C ±0.3% FSR @ -10 and 60°C ±0.5% FSR @ -40 and 75°C
Sampling Rate (all channels)	12 samples/sec
Input Impedance	10M ohms (minimum)
Built-in Resistor for Current Input	120 ohms
<b>Analog Output</b>	
Resolution	12 bits
Output Range	0 to 10 VDC, 4 to 20 mA
Voltage Output	10 mA (Max.)
Accuracy	±0.1% FSR @ 25°C ±0.3% FSR @ -40 and 75°C
Load Resistor	• Internal power: 400 ohms • External 24V power: 1000 ohms

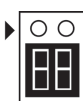
## Installation

### Jumper Settings

The models with DIO or AI channels require configuring the jumpers inside the enclosure. Remove the screw located on the back panel and open the cover to configure the jumpers.



DI Mode



DO Mode



Voltage Mode



Current Mode

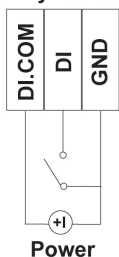
DIO mode configuration is shown to the right (default: DO Mode).

Analog mode configuration is shown to the right (default: Voltage Mode).

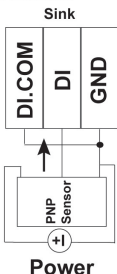
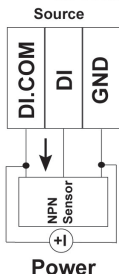
## I/O Wiring

### Digital Input/Output (Sink Type)

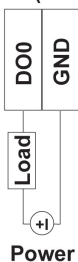
#### DI Dry Contact



#### DI Wet Contact



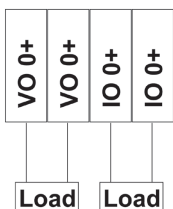
#### DO (Sink)



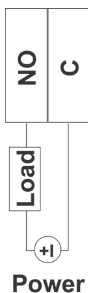
### Analog Input

#### Voltage/ Current

0-10V 4-20 mA



### Relay Output (Form A)



**NOTE** A "load" in a circuit schematic is a component or portion of the circuit that consumes electric power. For the diagrams shown in this document, "load" refers to the devices or systems connected to the remote I/O unit.

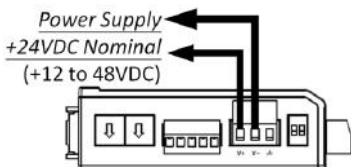
## Mounting

The iLogik R1200 is designed with a vertical form factor, and can be used with both DIN-Rail and wall mounting applications. When mounting on a rail, release the bottom mounting kit, install the iLogik on the rail, and then restore the bottom mounting kit to fix the iLogik to the rail. When using wall mounting, release both the upper and bottom DIN-Rail kits.

## Power and Networking

Connect the +12 to +48 VDC power line to the iLogik R1200's terminal block V+ terminal; connect the ground from the power supply to the V- terminal.

Connect the ground pin (⏏) if earth ground is available.



**NOTE** For safety reasons, the wires attached to the power should be at least 2 mm (12 gauge) in diameter.

## Switch Settings

The R1200 series provides Dual/Rep and Run/Initial switch settings to set up the communication mode.

Dual (Default)	Dual RS-485 mode
Rep	Repeater mode
Run	User define communication parameters
Initial (Default)	Initial RS-485 communication parameters



## LED Indicators

Type	LED Color	LED Action	
PWR	Green	On:	Power On
		Off:	Power Off
RDY	Green/ Red	Green:	System Ready
		Green Blinking:	Located
		Red:	System Boot-up Error
		Red Blinking:	Firmware upgrade / USB upgrade
		Green/Red Blinking:	Safe Mode
		Off:	System NOT Ready
P1	Green/ Amber	Green:	Tx
		Amber:	Rx
		Blinking:	Data Transmitting
		Off:	Disconnected
P2	Green/ Amber	Green:	Tx
		Amber:	Rx
		Blinking:	Data Transmitting
		Off:	Disconnected

## System Configuration

### ioSearch Utility

ioSearch is a search utility that helps users locate an ioLogik R1200 on the local network. The utility can be downloaded from Moxa's website.

### Load Factory Default Settings

There are three ways to restore the ioLogik R1200 to the factory default settings.

1. Hold the RESET button for 5 seconds.
2. Right click the specified ioLogik in the ioSearch utility and select "Reset to Default."

3. Select "Load Factory Default" from the web console.

## Modbus Address Table

Please refer to the user's manual for details of the ioLogik's Modbus address.

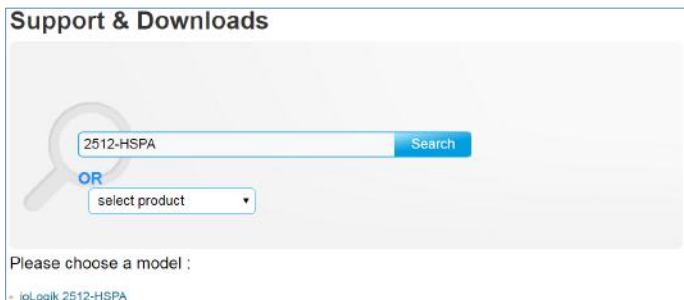
## How to Download the Software

**Step 1:** Click on the following link to open the Support & Downloads search tool:

[http://www.moxa.com/support/support\\_home.aspx?isSearchShow=1](http://www.moxa.com/support/support_home.aspx?isSearchShow=1)

**Step 2:** Type the model name in the search box or select a product from the drop down box and then click **Search**.

### Support & Downloads



The screenshot shows a search interface with a magnifying glass icon on the left. There is a text input field containing "2512-HSPA" and a blue "Search" button to its right. Below the input field, the word "OR" is displayed in blue. Underneath "OR" is a dropdown menu with the text "select product" and a downward arrow. Below the search area, the text "Please choose a model :" is displayed. At the bottom left, there is a small blue link with a plus sign and the text "ioLogik 2512-HSPA".

**Step 3:** Click the **Software Packages** link to download the latest software for the product.

## ioLogik 2512-HSPA

<b>Documentation</b> <ul style="list-style-type: none"><li>• Datasheets</li><li>• Manuals</li></ul>	<b>Software</b> <ul style="list-style-type: none"><li>• Firmware</li><li>• Libraries</li><li>• <b>Software Packages</b></li><li>• Utilities</li></ul>	<b>Other</b> <ul style="list-style-type: none"><li>• Product Page</li></ul>
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