

# ioLogik R2100 Series

RS-485 remote I/O with 8 analog inputs and 2 analog outputs



## Features and Benefits

- 8 analog input channels for millivolts (mV), voltage, and current signal with wire-off detection (at 4 to 20 mA)
- 2-channel analog outputs for voltage, current actuator control
- 16-bit resolution analog inputs, 12-bit resolution analog output
- Simplifies I/O management with MXIO library for Windows or Linux
- Firmware upgradable over RS-485

## Certifications



## Introduction

The ioLogik R2100 Series was designed for system integrators to acquire and control remote analog devices over RS-485 connections. Different types of analog devices can be controlled, including sensors that read pH, conductivity, temperature, humidity, pressure, and flow, as well as actuators and valves. The ioLogik R2100 Series can be used with the standard Modbus protocol, and SCADA software or the MXIO DLL library can be used to access the server.

## Easy Remote Management

Traditionally, it was difficult for users to update firmware over RS-485. Moxa now provides an easy method for updating firmware over an RS-485 network that allows users to perform remote firmware updates, reducing maintenance time and cost.

## Specifications

### Input/Output Interface

Analog Input Channels	8
Analog Output Channels	2
Isolation	3k VDC or 2k Vrms
Buttons	Reset button

### Analog Inputs

Accuracy	$\pm 0.1\%$ FSR @ 25°C $\pm 0.3\%$ FSR @ -10 to 60°C
Built-in Resistor for Current Input	106 ohms
Connector	Screw-fastened Euroblock terminal
I/O Mode	Voltage/Current
Input Impedance	900 kilo-ohms (min.)
Input Range	$\pm 150$ mV $\pm 500$ mV $\pm 5$ V $\pm 10$ VDC 0 to 20 mA 4 to 20 mA

Resolution	16 bits
Sampling Rate	All channels: 6 samples/sec Per channel: 0.75 samples/sec
<b>Analog Outputs</b>	
Accuracy	±0.1% FSR @ 25°C ±0.3% FSR @ -10 and 60°C
Connector	Screw-fastened Euroblock terminal
Load Resistor	250 ohms Note: 24 V of external power required when loading exceeds 1000 ohms
Output Range	0 to 10 VDC 4 to 20 mA
Resolution	12-bit
<b>LED Interface</b>	
LED Indicators	PWR, RDY, Serial
<b>Serial Interface</b>	
Baudrate	9600 bps to 115.2 kbps
Connector	Terminal block
Flow Control	None
No. of Ports	1
Parity	None
Serial Standards	RS-485
ESD	15 kV
Data Bits	8
<b>Serial Signals</b>	
RS-485-2w	Data+, Data-, GND
<b>Serial Software Features</b>	
Industrial Protocols	Modbus RTU Server (slave)
<b>Power Parameters</b>	
Power Connector	Screw-fastened Euroblock terminal
No. of Power Inputs	1
Input Voltage	12 to 48 VDC
Power Consumption	170 mA @ 24 VDC
<b>Hardware Requirements</b>	
Communication Interface	Serial interface
<b>Physical Characteristics</b>	
Housing	Plastic top cover, metal bottom plate
Dimensions	115 x 79 x 45.6 mm (45.3 x 3.11 x 1.80 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	-10 to 60°C (14 to 140°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Altitude	2000 m <sup>1</sup>

#### Standards and Certifications

Freefall	IEC 60068-2-32
Safety	UL 508
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
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: 1 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF

#### Declaration

Green Product	RoHS, CRoHS, WEEE
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#### MTBF

Time	280,923 hrs
Standards	Telcordia (Bellcore), GB

#### Warranty

Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

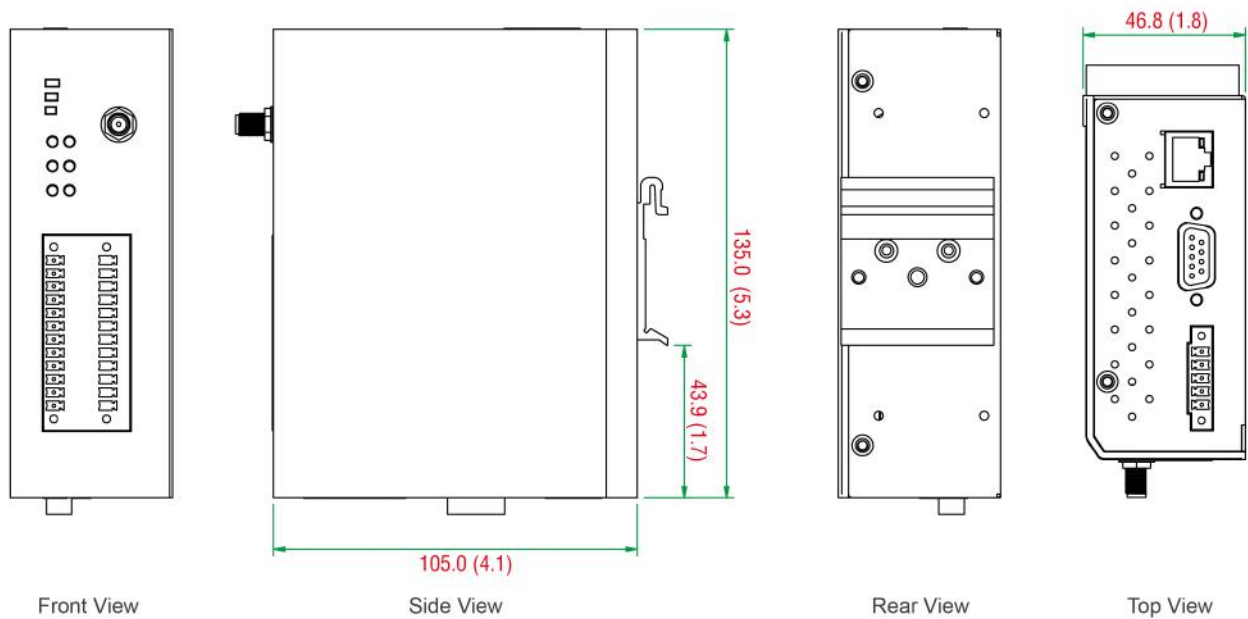
#### Package Contents

Device	1 x ioLogik R2100 Series remote I/O
Installation Kit	1 x terminal block, 3-pin, 3.81 mm

1. Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

## Dimensions

Unit: mm (inch)



## Ordering Information

Model Name	Input/Output Interface	Operating Temp.
ioLogik R2140	8 x AI, 2 x AO	-10 to 60°C

## Accessories (sold separately)

### Software

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

LDP1602	Snap-on module for the ioLogik E2200/R2100 and ioMirror E3000 Series
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