

ioLogik W5300 Series

Cellular micro RTU controllers



- > Easily manage device over dynamic/private IP cellular network
- > Active communication with patented Active OPC Server
- > Automatically complement disconnection period data with DA-Center software
- > Front-end intelligence options:
 - Supports C/C++ programming language
 - Supports patented Click&Go control logic, up to 24 rules
- > Smart alarm management with SMS, e-mail, SNMP Trap, TCP, UDP
- > 3-in-1 RS-232/422/485 serial port for connecting to field serial devices
- > Up to 32 GB SDHC data logging function
- > Simplify I/O management with MXIO library for Windows or Linux



Introduction

ioLogik W5300 series products are hardy, metal encased all-in-one micro RTU controllers that combine a cellular modem, an I/O controller, and a data logger into a compact device that provides complete communication redundancy with built-in GPRS/HSPA. In addition to a variety of mixed I/O combinations, users can choose Moxa's patented Click&Go for effortless and fast installations. The ioLogik W5300 supports standalone data logging in a storage space expandable up to 32 GB, and comes with the innovative, patented Active OPC Server software, based on push technology. Users can expect many significant value-added benefits that include reductions in data transmissions, lower hardware costs, and lower deployment and maintenance costs.

These sleek RTUs provide benefits beyond mere RTU performance, and are ideal solutions for any number of industrial applications, such as:

- Pipeline monitoring for water, oil, and gas
- Pump station monitoring and lift station monitoring
- Environmental monitoring
- Security and surveillance

ioLogik W5300 Series Selection Table

Models		I/O Combinations					Configurable DIOs	Programming
Standard Temperature (-10 to 55°C)	Wide Temperature (-30 to 70°C)	Digital Inputs	Digital Outputs	Analog Inputs	Relay Outputs			
ioLogik W5312	ioLogik W5312-T	8	8	–	–	4	Click&Go	
ioLogik W5340	ioLogik W5340-T	–	–	4	2	8	Click&Go	
ioLogik W5340-HSPA	ioLogik W5340-HSPA-T	–	–	4	2	8	Click&Go	

ioLogik W5312 Specifications

Inputs and Outputs

Digital Inputs: 8 channels
Digital Outputs: 8 channels
Configurable DIOs: 4 channels
Isolation: 3K VDC or 2K Vrms

Digital Input

Sensor Type: Wet Contact (NPN or PNP) and Dry Contact
I/O Mode: DI or Event Counter

Dry Contact:

- On: short to GND
- Off: open

Wet Contact (DI to GND):

- On: 0 to 3 VDC
- Off: 10 to 30 VDC

Common Type: 6 points per COM

Counter Frequency: 900 Hz, power off storage

Digital Filtering Time Interval: Software selectable

Digital Output

Type: Sink
I/O Mode: DO or Pulse Output
Pulse Output Frequency: 1 kHz
Over-voltage Protection: 45 VDC
Over-current Protection: 2.6 A (4 channels @ 650 mA)
Over-temperature Shutdown: 160°C (min.)
Current Rating: 200 mA per channel
DIO Output Leakage Current: 3.6 mA @ 24 VDC

Power Requirements

Power Consumption:
 • Always on: 156 mA @ 24 VDC
 • On demand: 138 mA @ 24 VDC

MTBF (mean time between failure)

Time: 407,406 hrs

Database: Telcordia (Bellcore)

ioLogik W5340 Specifications

Inputs and Outputs

Analog Inputs: 4 channels
Configurable DIOs: 8 channels
Relay Outputs: 2 channels
Isolation: 3K VDC or 2K Vrms

Analog Input

Type: Differential input
Resolution: 16 bits
I/O Mode: Voltage / Current
Input Range: 0 to 10 V, ±10 V, ±5 V, 0 to 20 mA, 4 to 20 mA
Accuracy:

- ±0.1% FSR @ 25°C
- ±0.3% FSR @ -30 and 70°C

Sampling Rate: • All channels: 25 samples/sec

• Per channel: 6.25 samples/sec

• Only one channel enabled: 100 samples/sec

Input Impedance: 200K ohms (min.)

Built-in Resistor for Current Input: 102 ohms

Digital Input

Sensor Type: Wet Contact (NPN or PNP) and Dry Contact
I/O Mode: DI or Event Counter

Dry Contact:

- On: short to GND
- Off: open

Wet Contact (DI to GND):

- On: 0 to 3 VDC
- Off: 10 to 30 VDC

Common Type: 4 points per COM

Counter Frequency: 900 Hz, power off storage

Digital Filtering Time Interval: Software selectable/Programmable

Digital Output

Type: Sink
I/O Mode: DO or Pulse Output
Pulse Output Frequency: 1 kHz
Over-voltage Protection: 45 VDC
Over-current Protection: 2.6 A (4 channels @ 650 mA)
Over-temperature Shutdown: 160°C (min.)
Current Rating: 200 mA per channel
DIO Output Leakage Current: 3.6 mA @ 24 VDC

Relay Output

Type: Form A (N.O.) power relay
Contact Current Rating:
 • Resistive Load: 1 A @ 30 VDC, 250 VAC, 110 VAC
Initial Insulation Resistance: 1000 m ohms (min.) @ 500 VDC
Mechanical endurance: 5,000,000 operations
Electrical endurance: 600,000 operations @ 1 A resistive load
Contact Resistance: 100 m ohms (max.)
Pulse Output: 0.3 Hz at rated load

Power Requirements

Power Consumption:
 ioLogik W5340:
 • Always on: 195 mA @ 24 VDC
 • On demand: 178 mA @ 24 VDC
 ioLogik W5340-HSPA:
 • Always on: 196 mA @ 24 VDC
 • On demand: 189 mA @ 24 VDC

MTBF (mean time between failure)

Time:

ioLogik W5340: 196,561 hrs

ioLogik W5340-HSPA: 280,739 hrs

Database: Telcordia (Bellcore)

Common Specifications

Computer

CPU: ARM9 based CPU, 32-bit/160 MHz

SDRAM/Flash:

- ioLogik W5312: 4 MB
- ioLogik W5340: 2 MB

Storage

Expansion Slot: Up to 32 GB SD™ memory card (SD 2.0 compatible)

Note: For units operating in extreme temperatures, industrial grade, wide-temperature SD cards are required.

Cellular

Network:

ioLogik W5312/W5340: Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz

ioLogik W5340-HSPA: Five band UMTS/HSPA+ 800/850/AWS/1900/2100 MHz

Internet:

HSPA+:

- Up to 5.76 Mbps upload speed.
- Up to 14.4 Mbps download speed.

UMTS:

- Up to 384k bps upload/download speed.

GPRS/EDGE:

- Multi-slot class: Class 12
- Coding schemes: CS1 to CS4
- Terminal device class: Class B

SMS: Point-to-Point Text/PDU mode

SIM Control Voltage: 3 V / 1.8 V

LAN

Ethernet: 1 x 10/100 Mbps, RJ45

Protection: 1.5 kV magnetic isolation

Protocols: Modbus/TCP, TCP/IP, UDP, DHCP, Bootp, SNMP, SNTp

Serial Communication

Interface: 1 x RS-232/422/485, software selectable (9-pin D-Sub male, or 5-contact terminal block)

Baudrate:

300, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps

Power Requirements

Power Input: 24 VDC nominal, 12 to 36 VDC

Physical Characteristics

Dimensions: 46.8 x 135 x 105 mm (1.84 x 5.31 x 4.13 in)

Weight: 495 g

Mounting: DIN-rail (standard), wall (optional)

Environmental Limits

Operating Temperature:

Standard Models: -10 to 55°C (14 to 131°F)

Wide Temp. Models: -30 to 70°C (-22 to 158°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Altitude: Up to 2000 m

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

Standards and Certifications

Safety: UL 508, EN 60950-1, NCC

EMI:

EN 55022; EN 61000-3-2; EN 61000-3-3;

FCC Part 15, Subpart B, Class A

EMS: EN 55024, EN 61000-4-2, EN 61000-4-3,

EN 61000-4-4, EN 61000-4-5, EN 61000-4-6,

EN 61000-4-8, EN 61000-4-11, EN 61000-6-2

Shock: IEC 60068-2-27

Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Green Product: RoHS, CRoHS, WEEE

Note: Please check Moxa's website for the most up-to-date certification status.

Warranty

Warranty Period:

- ioLogik W5312: 5 years

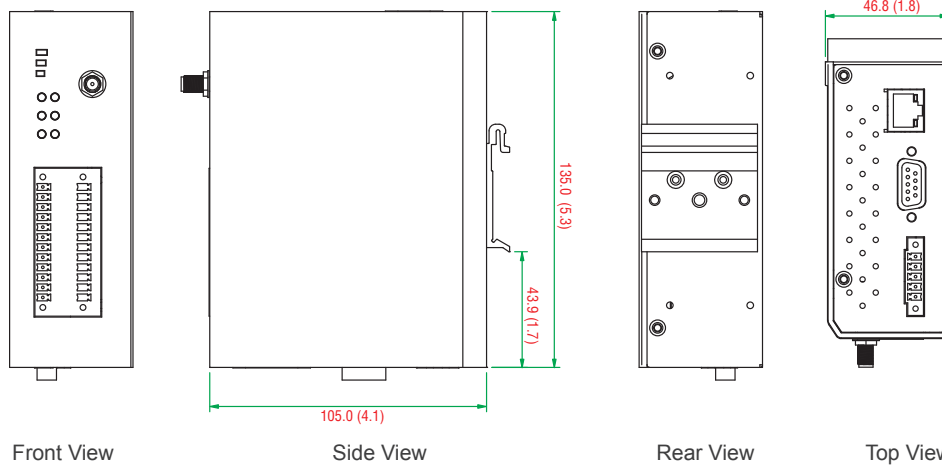
- ioLogik W5340/W5340-HSPA: 2 years*

**Because of the limited lifetime of power relays, products that use that component are covered by a 2-year warranty.*

Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



: Ordering Information

Available Models

ioLogik W5312: GPRS micro RTU controller with 8 DIs, 4 DIOs, 8 DOs, -10 to 55°C operating temperature

ioLogik W5312-T: GPRS micro RTU controller with 8 DIs, 4 DIOs, 8 DOs, -30 to 70°C operating temperature

ioLogik W5340: GPRS micro RTU controller with 4 AIs, 8 DIOs, 2 relays, -10 to 55°C operating temperature

ioLogik W5340-T: GPRS micro RTU controller with 4 AIs, 8 DIOs, 2 relays, -30 to 70°C operating temperature

ioLogik W5340-HSPA: HSPA micro RTU controller with 4 AIs, 8 DIOs, 2 relays, -10 to 55°C operating temperature

ioLogik W5340-HSPA-T: HSPA micro RTU controller with 4 AIs, 8 DIOs, 2 relays, -30 to 70°C operating temperature

Optional Accessories (can be purchased separately)

WK-46: Wall mount kit

Package Checklist

- ioLogik W5300 series device
- Quad-band antenna with GSM/GPRS, omnidirection, 0 dBi, magnetic SMA, 3M (W5312/W5340 only)
- Five-band antenna with GSM/GPRS/UMTS/HSPA/HSPA+, omnidirection, 4 dBi, magnetic SMA, 2.5M (W5340-HSPA only)
- Documentation and software CD