ioLogik W5300 Series

Cellular micro RTU controllers

> Integrated, compact box solution for cellular telemetry applications
> Definable cellular connection strategy to optimize data transmission
> Intuitive menu driven front-end intelligence
> Flexible, Unicode alarm system supporting SMS, email, SNMP Trap, TCP, UDP
> One RS-232/422/485 serial port built in for connecting to field serial devices
> Backup and sustainable data logging function
> Seamless SCADA connectivity by Active OPC technology
> Configure, update firmware, and program over the air via ioAdmin
> MXIO programming library for Windows, WinCE VB/VC.NET, and Linux C APIs

: Introduction

The ioLogik W5300 series cellular micro RTU controllers are rugged, compact solutions for remote monitoring and alarm systems. With the ioLogik W5300 series, you can define a cellular connection strategy, including Always-On and Wake-On-Demand, to optimize data transmission rates for different applications. In addition, the operational cost of cellular communication depends on the data transmission rate. With Moxa's Active technology, you can expect to cut transmission costs in half and offer different cellular connection strategies to achieve better data transmission fees.

This rugged, compact solution is suitable for the following applications.

• Water and wastewater industries
• Broadcast and telecom radio tower monitoring
• Infrastructure management
• Oil & gas, power, and transportation
• Lighting control monitoring

ioLogik W5300 Series Selection Table

Models		I/O Combinations				
Standard Temperature (-10 to 55°C)	Wide Temperature (-30 to 70°C)	Digital Inputs	Digital Outputs	Analog Inputs	Relay Outputs	Configurable DIOs
ioLogik W5312	ioLogik W5312-T	8	8	–	–	4
ioLogik W5340	ioLogik W5340-T	–	–	4	2	8
ioLogik W5340-HSDPA	ioLogik W5340-HSDPA-T (-20 to 70°C)	–	–	4	2	8

⦂ ioLogik W5312 Specifications

Inputs and Outputs
Digital Inputs: 8 channels
Digital Outputs: 8 channels
Configurable DIOs: 4 channels

Digital Input
Sensor Type: Wet Contact (NPN or PNP) and Dry Contact
I/O Mode: DI or Event Counter
Dry Contact:
• Logic 0 (On): short to GND
• Logic 1 (Off): open
Wet Contact:

DI Type / Status	Source	Sink
ON	0 to 3 VDC	10 to 30 VDC
OFF	10 to 30 VDC	0 to 3 VDC

Common Type: 6 points per COM
Isolation: 3K VDC or 2K Vrms
Counter Frequency: 900 Hz, power off storage

Digital Filtering Time Interval: Software selectable
Over-voltage Protection: 36 VDC
Poweroff Counter: Supports poweroff counter storage function

Digital Output
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
Current Rating: 200 mA per channel
Isolation: 3K VDC or 2K Vrms

Power Requirements
Power Consumption: 156 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

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): 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:
• Logic 0 (On): short to GND
• Logic 1 (Off): open
Wet Contact:

DI Type / Status	Source	Sink
ON	0 to 3 VDC	10 to 30 VDC
OFF	10 to 30 VDC	0 to 3 VDC

Common Type: 4 points per COM
Isolation: 3K VDC or 2K Vrms
Counter Frequency: 900 Hz, power off storage
Digital Filtering Time Interval: Software selectable
Over-voltage Protection: 36 VDC
Poweroff Counter: Supports poweroff counter storage function

Digital Output
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
Current Rating: 200 mA per channel
Isolation: 3K VDC or 2K Vrms

Relay Output
Type: Form A (N.O.) relay outputs, 5 A
Contact Rating: 1 A @ 30 VDC, 1 A @ 240 VAC, 1 A @ 110 VAC
Inductance Load: 2 A
Resistance Load: 5 A
Breakdown Voltage: 500 VAC
Relay On/Off Time: 10 ms, 5 ms (max.)
Initial Insulation Resistance: 1G min. @ 500 VDC
Expected Life: 100,000 times (Typical)
Initial Contact Resistance: 30 milli-ohms (max.)
Pulse Output: 20 operation times per minutes at rated load
Isolation: 3K VDC or 2K Vrms

Power Requirements
Power Consumption: (always on)
ioLogik W5340: 195 mA @ 24 VDC
ioLogik W5340-HSDPA: 196 mA @ 24 VDC

MTBF (mean time between failure)
Time:
ioLogik W5340: 196,561 hrs
ioLogik W5340-HSDPA: 280,739 hrs
Database: Telcordia (Bellcore)

: Common Specifications

Cellular
Interface: GSM/GPRS/EDGE/UMTS/HSDPA
Band Options:
• Tri-band UMTS/HSDPA 850/1900/2100 MHz
• Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz
GPRS Multi-Slot Class: Class 10
GPRS Terminal Device Class: Class B
SMS: Point-to-Point Text/PDU
SIM Control Voltage: 3 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: 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

Environmental Limits
Operating Temperature:
Standard Models: -10 to 55°C (14 to 131°F)

Wide Temp. Models:
ioLogik W5312/W5340: -30 to 70°C (-22 to 158°F)
ioLogik W5340-HSDPA: -20 to 70°C (-4 to 158°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Standards and Certifications
Safety: UL 508 (Pending)
EMI: FCC Part 15 Subpart B Class A, EN 55022 Class A
EMS:
IEC 61000-4-2 (ESD) Level 2/3,
IEC 61000-4-3 (RS) Level 2,
IEC 61000-4-4 (EFT) Level 2,
IEC 61000-4-5 (Surge) Level 3,
IEC 61000-4-6 (CS) Level 2,
IEC 61000-4-8 (PM) Level 1,
IEC 61000-4-11 (DIPS),
IEC 61000-6-2 (ESD) Level 2/3,
IEC 61000-6-4 (EFT) Level 2
Mobile Network: PTCRB
Shock: IEC 60068-2-27
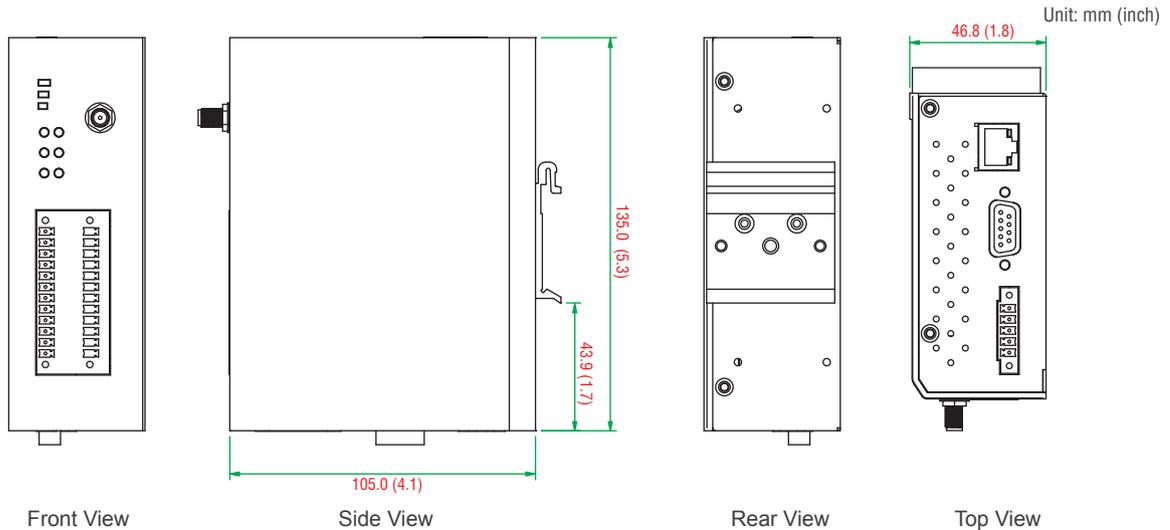**Freefall:** IEC 60068-2-32
Vibration: IEC 60068-2-6
Note: Please check Moxa's website for the most up-to-date certification status.

Warranty
Warranty Period: 2* or 5 years
*Because of the limited lifetime of power relays, products that use this component are covered by a 2-year warranty.

Dimensions
Unit: mm (inch)
46.8 (1.8)
135.0 (5.3)
43.9 (1.7)
105.0 (4.1)
Front View   Side View   Rear View   Top View

: Ordering Information

Available Models
ioLogik W5312: GPRS micro RTU controller with 8 DIs, 4 DIOs, and 8 DOs, -10 to 55°C operating temperature
ioLogik W5340: GPRS micro RTU controller with 4 AIs, 8 DIOs, and 2 relay outputs, -10 to 55°C operating temperature
ioLogik W5340-HSDPA: HSDPA micro controller with 4 AIs, 8 DIOs, and 2 relay outputs
ioLogik W5312-T: GPRS micro RTU controller with 8 DIs, 4 DIOs, and 8 DOs, -30 to 70°C operating temperature
ioLogik W5340-T: GPRS micro RTU controller with 4 AIs, 8 DIOs, and 2 relay outputs, -30 to 70°C operating temperature
ioLogik W5340-HSDPA-T: HSDPA micro controller with 4 AIs, 8 DIOs, and 2 relay outputs, -20 to 70°C operating temperature

Package Checklist
• ioLogik W5312 or W5340 or W5340-HSDPA
• ANT-CQB-AHSM-00-3m (W5312/W5340 only): Quad-band antenna with GSM/GPRS, omnidirection, 0 dBi, magnetic SMA, 3M
• ANT-WCDMA-AHSM-04-2.5m (W5340-HSDPA only): Five-band antenna with GSM/GPRS/UMTS/HSDPA, omnidirection, 4 dBi, magnetic SMA, 2.5M
• Document and software CD