

DATASHEET

RAM® 6000 Industrial Cellular RTUs Secure Remote Monitoring & Control



PRODUCT HIGHLIGHTS

- Supports 4G LTE connectivity with fall back to 3G and 2G
- Real-time access to mission-critical data through built-in Modbus gateway
- Software Development Kit (SDK) for custom application support
- Native support for DNP3 and Modbus protocols
- Integrated security firewall provides intrusion protection
- Simplified deployment and configuration with single web-based GUI
- Support for new and legacy devices with RS232 serial or RJ45 Ethernet

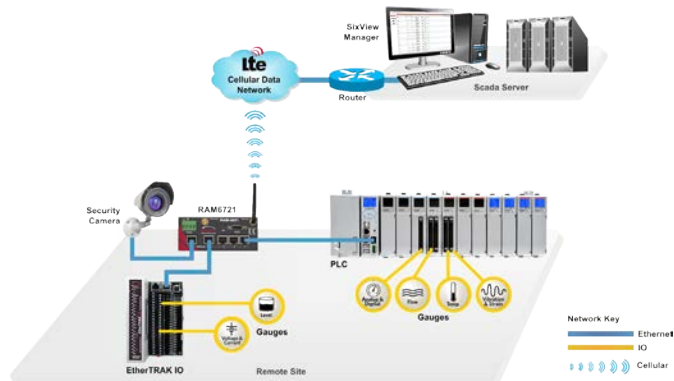
APPLICATIONS

- Utilities
 - Oil & Gas
 - Water/Wastewater
- Power & Energy
 - Smart Grid
 - Solar
 - Pole-Top

Sixnet RAM® 6000 industrial cellular RTUs with 4G LTE provide a flexible platform to remotely connect, monitor and control assets across industries including utilities, oil, gas, and water/wastewater. By seamlessly connecting to existing Modbus or DNP3 enabled RTUs, PLCs and other remote equipment, our industrial cellular RTUs provide instant access to data from pumps, valves, reclosers, transformer capacitor banks and meters. The I/O concentrator feature enables users to locally collect sensor data to optimize bandwidth.

Using a single web-based user interface, our cellular RTUs simplify I/O, network and security configurations to integrate complex hardware settings. This easy-to-manage configuration reduces the cost and complexity of deploying and administering multiple devices at remote locations. Furthermore, an integrated configurable stateful firewall provides intrusion protection and encrypted data access while a built-in Software Development Kit (SDK) enables users to develop custom applications. Working in conjunction with SixView Manager remote monitoring and control software, RAM RTUs provide low-cost, real-time access to outlying sites.

APPLICATION SCENARIO: REMOTE DATA COLLECTION



FEATURES & BENEFITS

Remote Monitoring & Control

- **Delivers instant access to SCADA data**
- **Provides a flexible, programmable platform**
 - Support for Modbus and DNP3 (Serial and IP) protocols
 - Simple integration for complex configurations
 - ID routing to existing Modbus hardware
 - Offers ability to develop custom applications
 - Provides intrusion protection and secure data access

Rugged, Compact Design

- **Deploys easily in space-constrained areas**
- **Requires less cabling and power supplies**
 - Operating temperature: -40° to +85°C
 - DIN rail mounted
 - Power over Ethernet (PoE) option

Ubiquitous Cellular Connectivity

- **Connects remote Modbus devices**
- **Lowens operational and equipment costs**
 - 2G/2.5G cellular
 - 3G/4G LTE cellular

Built-In Security & Routing

- **Supports security requirements**
- **Provides reliable access to I/O data**
 - Modbus data access via IPsec/SSL
 - Stateful firewall and packet filtering

Lower Cost of Ownership

- **Reduces infrastructure complexity**
- **Eliminates visits to remote sites**
 - Connect multiple devices to one WAN link
 - Remote TCP/IP based capabilities
 - RS232 serial connection or RJ45 Ethernet connections
 - Serial-to-IP conversion

RAM 6000 Industrial Cellular RTUs

Secure Remote Monitoring & Control

SPECIFICATIONS

Wireless Interface

- AT&T LTE with fall back to HSPA+ and EDGE
- Bell Mobility LTE with fall back to HSPA+
- Verizon LTE with fall back to EVDO
- Dual-band CDMA2000 EVDO Rev. A (backward compatible with 1xRTT)
- GSM HSPA (backward compatible with EDGE)
- EDGE/GPRS

Programmable Platform

- Software Development Kit (SDK)
- C/C++/Perl

Protocol Gateway

- I/O controller
- Modbus RTU/TCP/ASCII/RTU
- DNP3 - slave

Tunneling

- IPsec and SSL

IP

- NAT, port forwarding, dynamic DNS, DHCP
- Stateful inspection firewall, IP transparency

Ethernet Interface (10/100 auto-sensing)

- 1x RJ45
- 5x RJ45 (port 5 - WAN/LAN capability)

Serial Interface

- 1x RS-232 Serial DB9 115200bps

USB Interface

- 1x USB 2.0 mini

Mechanical

- RAM-6x0X dimensions: steel
120 x 96 x 32 mm (4.7" x 3.77" x 1.25")
- RAM-6x0X weight: 453g (1 lb)
- RAM-6x21 dimensions: steel
120 x 96 x 51 mm (4.7" x 3.77" x 2.0")
- RAM-6x21 weight: 500g (1.1 lbs)

Power Input

- 8-30 Vdc (12 Vdc nominal)

Environmental

- Operating temperature: -40° to +85°C
- Shock: IEC60068-2-27
- Vibration: IEC60068-2-6
- Humidity: 5 to 95% non-condensing

Certification

- CE, EMC: FCC, part 15 and Industry Canada, ICES-003
- Hazardous locations: Class I, Div. 2, Groups A, B, C, D, ISA 12.12.01
- Electrical safety: UL508/CSA22.2/14 (CUL)
- Carrier specific approvals

Inputs & Outputs

- 1x digital output
- 1x digital/analog input

Warranty

- 3 years on design and manufacturing defects

All specifications are subject to change. Contact Sixnet to learn more.

ORDER GUIDE

PART NUMBER	DESCRIPTION
RAM-6401	Cellular RTU, Modbus/DNP3 gateway with full router capability, 1 Ethernet port, 1 serial port, EDGE/GPRS
RAM-6401EB	Cellular RTU, Modbus/DNP3 gateway with full router capability, 1 Ethernet port, 1 serial port, PoE, EDGE/GPRS
RAM-6421	Cellular RTU, Modbus/DNP3 gateway with full router capability and WAN/LAN failover, 5 Ethernet ports, 1 serial port, EDGE/GPRS
RAM-660x	Cellular RTU, Modbus/DNP3 gateway with full router capability, 1 Ethernet port, 1 serial port, CDMA/EVDO Rev. A
RAM-6601EB	Cellular RTU, Modbus/DNP3 gateway with full router capability, 1 Ethernet port, 1 serial port, PoE, CDMA/EVDO Rev. A
RAM-6621	Cellular RTU, Modbus/DNP3 gateway with full router capability and WAN/LAN failover, 5 Ethernet ports, 1 serial port, CDMA/EVDO Rev. A
RAM-670x	Cellular RTU, Modbus/DNP3 gateway with full router capability, 1 Ethernet port, 1 serial port, 4G LTE/3G/2G
RAM-6701EB	Cellular RTU, Modbus/DNP3 gateway with full router capability, 1 Ethernet port, 1 serial port, PoE, 4G LTE/3G/2G
RAM-6721	Cellular RTU, Modbus/DNP3 gateway with full router capability and WAN/LAN failover, 5 Ethernet ports, 1 serial port, 4G LTE/3G/2G
RAM-680x	Cellular RTU, Modbus/DNP3 gateway with full router capability, 1 Ethernet port, 1 serial port, HSPA/EDGE/GPRS
RAM-6801EB	Cellular RTU, Modbus/DNP3 gateway with full router capability, 1 Ethernet port, 1 serial port, PoE, HSPA/EDGE/GPRS
RAM-6821	Cellular RTU, Modbus/DNP3 gateway with full router capability and WAN/LAN failover, 5 Ethernet ports, 1 serial port, HSPA/EDGE/GPRS

SIXVIEW MANAGER

Powerful Remote Device Management

With SixView Manager's enterprise-class device management features, users have access to:

Remote Administration

- Mass configuration changes and updates
- Remote executable (i.e., reboot)



Remote Monitoring & Reporting of Key Metrics

- Uptime
- Utilization
- Signal strength (RSSI)
- Firmware version, ESN, MDN, IMEI
- IP Address

About Red Lion

As the global experts in communication, monitoring and control for industrial automation, Red Lion has been delivering innovative solutions to customers for forty years. Our award-winning technology enables companies worldwide to gain real-time data visibility that drives productivity. Product brands include Red Lion, Sixnet and N-Tron. With headquarters in York, Pennsylvania, the company has offices across the Americas, Asia-Pacific and Europe. Red Lion is a Spectris company.

For more information, visit www.redlion.net/sixnet, call +1 (518) 877-5173 or email info@redlion.net



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CONNECT. MONITOR. CONTROL.