Sixnet

DATASHEET

RAM™ 6000 Cellular RTU
Secure Remote Monitoring & Control

Sixnet RAM™ 6000 cellular RTUs provide a flexible, secure platform to remotely monitor and control assets across industries that include oil & gas, power & energy and water/wastewater. RAM 6000 uses a built-in Modbus gateway to seamlessly interface with existing RTUs and PLCs, thereby providing real-time access to data from pumps, valves, reclosers, transformer capacitor banks and meters. An I/O concentrator enables users to locally collect sensor data to optimize bandwidth by reducing polling cycles.

With a single web-based user interface, RAM 6000 simplifies I/O, network and security configuration to reduce the cost and complexity of deploying, managing and configuring multiple devices at remote locations. Furthermore, an integrated security firewall provides intrusion protection and secure data access while an on-board Software Development Kit (SDK) enables users to optimize custom applications. Working in conjunction with SixView Manager remote monitoring and control software, RAM 6000 provides low-cost, real-time access to remote sites.
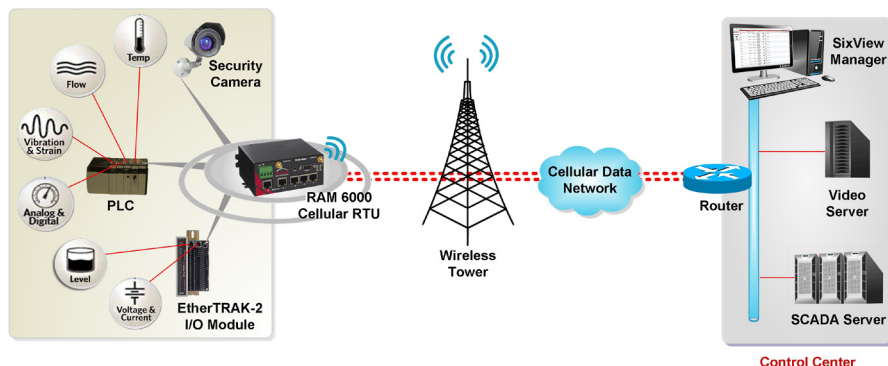
PRODUCT HIGHLIGHTS

- Real-time access to mission-critical data through built-in Modbus gateway
- Software Development Kit (SDK) for custom application support
- Secure point-to-multipoint Modbus polling saves time and resources
- Integrated security firewall provides intrusion protection
- Simplified deployment and configuration with single web-based GUI
- Support for new and legacy devices with RS-232 serial or RJ45 Ethernet
- Rugged, reliable design supports the toughest applications

APPLICATIONS

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

FLEXIBLE. RELIABLE. SECURE.

FEATURES & BENEFITS

Remote Monitoring & Control
- **Delivers real-time access to SCADA data**
- **Provides a flexible, programmable platform**
  - Modbus I/O concentrator stores PLC data locally
  - Native Modbus support, peer-to-peer transfers and message forwarding
  - Software Development Kit (SDK)
  - Point-to-multipoint site polling

Total Cost of Ownership Advantages
- **Reduces infrastructure complexity**
- **Eliminates visits to remote sites**
  - Connect multiple devices to one WAN link
  - Remote TCP/IP based capabilities
  - RS-232 serial connection or RJ45 Ethernet connections
  - Serial-to-IP conversion

Ubiquitous Cellular Connectivity
- **Connects remote Modbus devices**
- **Lowers operational and equipment costs**
  - 2G/2.5G cellular
  - 3G 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

Rugged, Compact Design
- **Deploys easily in cramped locations**
- **Requires less cabling and power supplies**
  - -40 to 85°C operating temperature
  - DIN-rail mounting
  - Power over Ethernet (PoE) options

RAM 6000 Cellular RTU
Secure Remote Monitoring & Control

SPECIFICATIONS

Modbus Gateway
- I/O concentrator
- Modbus message forwarding
- Native Modbus support
- Peer-to-peer Modbus transfers

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

Tunneling
- VPN: IPSec and SSL

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

Wireless Interface
- Dual-band CDMA2000 EVDO Rev. A (backward compatible with 1xRTT)
- HSPA (backward compatible with GSM/GPRS/EDGE)
- EDGE (backward compatible with GSM/GPRS)

Ethernet Interface
- 1x RJ45 or 5x RJ45 Ethernet 10/100 auto-sensing

Serial Interface
- 1x RS-232 Serial DB9 115200bps

USB Interface
- 1x USB 2.0 mini

Mechanical
- RAM-660x dimensions: steel 120 x 96 x 32 mm (4.7" x 3.77" x 1.25")
- RAM-660x weight: 453g (1 lb)
- RAM-6621 dimensions: steel 120 x 96 x 51 mm (4.7" x 3.77" x 2.0")
- RAM-6621 weight: 500g (1.1 lbs)

Power Input
- 8-30 Vdc (12Vdc nominal)

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

Certification
- EMC: FCC, part 15 and Industry Canada, ICES-003
- Hazardous locations: Class I, Div. 2, Groups A, B, C, D, UL1604
- Electrical safety: UL508/CSA22.2/14 (CUL)
- Carrier specific approvals

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 gateway with full router capability, 1 Ethernet port, ,1 serial port, EDGE/GPRS
RAM-6421	Cellular RTU, Modbus gateway with full router capability, 5 Ethernet ports, 1 serial port, EDGE/GPRS
RAM-660x	Cellular RTU, Modbus gateway with full router capability, 1 Ethernet port, 1 serial port, CDMA/EVDO Rev. A
RAM-6621	Cellular RTU, Modbus gateway with full router capability, 5 Ethernet ports, 1 serial port, CDMA/EVDO Rev. A
RAM-680x	Cellular RTU, Modbus gateway with full router capability, 1 Ethernet port, 1 serial port, HSPA/EDGE/GPRS
RAM-6821	Cellular RTU, Modbus gateway with full router capability, 5 Ethernet port, 1 serial port, HSPA/EDGE/GPRS

SIXVIEW MANAGER
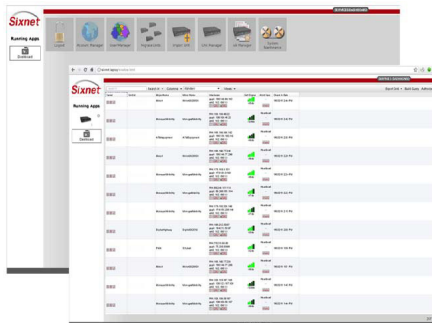*Powerful Remote Monitoring & Control Software*

With SixView Manager's enterprise-class network management features enable users to access:

Remote Monitoring & Reporting of Key Metrics
- Uptime
- Utilization
- Signal strength (RSSI)
- Firmware version, ESN, MDN, IMEI
- IP Address

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

FLEXIBLE. RELIABLE. SECURE.