RFVOLT2000A
WIRELESS VOLTAGE DATA LOGGER

VALUTEMP PTE LTD
WARMS YOUR HEART

VALUTEMP

Features

- Battery Life Indicator
- Digital Display
- Direct USB Interface
- AC Power connection via USB
- Configurable Alarms
- Ability to manually reset statistics
- 5 year battery life at 15 Minute Reading Rate
- 160mV Model Measures Differential Voltage

Benefits

- Digital Display Provides Instant Access to Current Readings and Statistics
- Minimal Long-Term Maintenance
- Readings displayed in users selected measurement unit
- Time and Money Saving with Battery Life Management
- Continuous monitoring
- E-mail, text message and audible alerts provides assurance and quality control

Applications

- Battery Usage Studies
- Solar Cell Monitoring
- Cathodic Protection Monitoring
- Applications that require an external sensor:
  - Pressure Monitoring
  - CO2 Monitoring
- 160mV Model Measures Radio or Electromagnetic Frequency Interference

The RFVolt2000A is a wireless data logger designed to measure and record DC voltage signals. The data logger can connect directly to DC voltage sources which makes it ideal for battery usage studies, solar energy monitoring and other DC voltage monitoring applications. The RFVolt2000A can also be interfaced with a wide range of voltage output sensors, including pressure sensors and CO_2 sensors, as well as transmitters and other transducers. The RFVolt2000A is available in a 2.5V, 15V, 30V or 160mV measurement range.

The RFVolt2000A features an LCD screen which provides instant access to the current reading, minimum, maximum and average statistics. Through the software, the device can be programmed with engineering units, which convert the voltage signals into a different unit of measure such as PSI, % or PPM. The engineering unit is available for display on the LCD screen as well as in the software. The statistics can be reset through the keypad of the device, allowing customers to keep track of statistics over certain time periods. This feature does not erase the data recorded, but only resets the statistics count.

The RFVolt2000A can be used as a standalone data logger, or used with the RFC1000 wireless transceiver, to transmit data back to a central PC. The RFVolt2000A transmits up to 500 ft line of sight to the RFC1000 transceiver. Multiple RFC1000's can be used as repeaters and transmit up to 1000 ft line of sight to other RFC1000's. This allows the data to be sent over a greater distance.

The RFVolt2000A-160mV model is a wireless, differential voltage data logger. The device is equipped with a three position terminal block to allow for a positive, negative and ground connection. This allows the measurement of the voltage difference between two signals tied to the same ground.
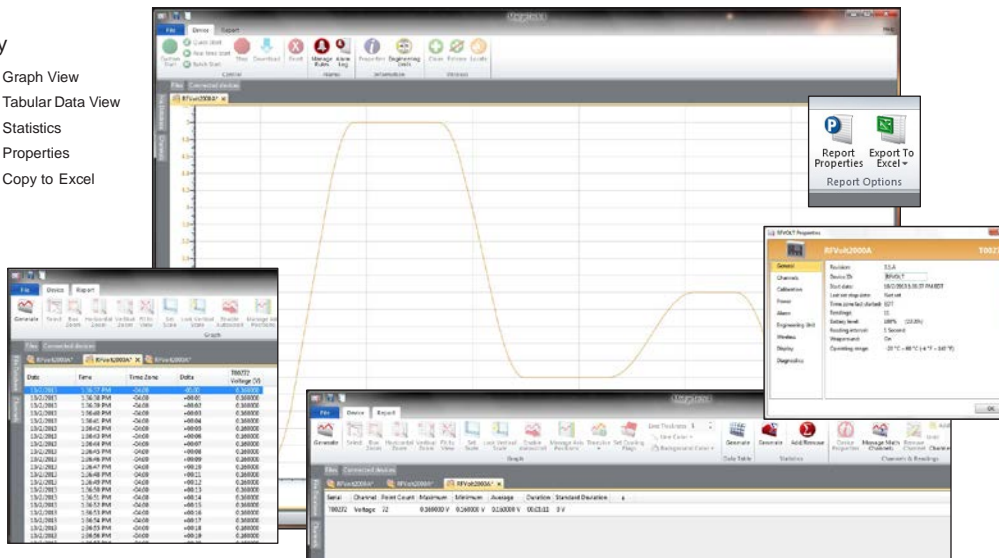
The RFVolt2000A can be used as a single, wireless data logging system, or can be expanded to a large scale system, which can include hundreds of data loggers measuring different parameters such as temperature, humidity and more (*additional MadgeTech wireless data loggers and transceivers may be required*). The RFVolt2000A utilizes the latest MadgeTech 4 Software. Data can be viewed in graphical or tabular formats and summary and statistics views are available for further analysis. The software features export to Excel®, data annotation, digital calibration and more.

MADGETECH DATA LOGGER SOFTWARE

Key

Graph View
Tabular Data View
Statistics
Properties
Copy to Excel

Software Features:

- Multiple graph overlay
- Statistics
- Digital calibration
- Zoom in/ zoom out
- Lethality equations (F0, PU)
- Mean Kinetic Temperature
- Full time zone support
- Data annotation
- Min./Max./Average lines
- Data table view
- Automatic report generation
- Summary view

RFVolt2000A SPECIFICATIONS*

General

Reading Rate:	1 reading every second up to 1 reading every 24 hours
Memory:	32,256 readings
LED Functionality:	• Green LED blinks every 5 seconds to indicate unit is logging • Blue LED blinks every 15 seconds to indicate unit is in wireless mode • Red LED blinks every 1 second to indicate alarm condition
Memory Wrap Around:	Yes
Start Modes:	Immediate Start & Delayed Start
Alarm:	User configurable audible, on-screen, email and text (SMS) alarms. Alarm Delay: A cumulative alarm delay may be set in which the device will activate the alarm (via LED) only when the device has recorded a user specified time duration of data.
Audible Alarm Functionality:	1 Beep per second for reading alarm above/below threshold
Battery Type:	Ultralife 9V Lithium included; user replaceable
Battery Life:	Approximates 5 years typical for 15 minute reading rate
Time Accuracy:	± 1 minute/month
Computer Interface:	USB to mini USB, 250,000 baud for standalone operation or RFC1000/RFC1000-CE/RFC1000-IP69K required for wireless operation
Software:	XP SP3/Vista/Windows 7/Windows 8 (MadgeTech 4 only)
Operating Environment:	-20 °C to +60 °C (-4 °F to +140 °F) 0 %RH to 95 %RH non-condensing
Dimensions:	3.5 in x 3.17 in x 0.95 in (88.9 mm x 80.5 mm x 24.1 mm) - Data logger only
Weight	4.1 oz (0.2563 lbs)
Enclosure Material:	ABS Plastic
Approvals:	US (FCC), CA (IC), CE, South Korea (KCC), China (CMIIT), Japan (LCIE)

Measurement

Measurement Range:	-3 VDC to +3 VDC for 2.5 V -8 VDC to +24 VDC for 15 V -8 VDC to +32 VDC for 30 V -160 mVDC to +160 mVDC for 160 mV
Measurement Resolution:	2.5 VDC (0.1 mVDC) 15 VDC (0.5 mVDC) 30 VDC (1.0 mVDC) 160 mVDC (5 µV)
Response Time:	150 mS at sensor

Wireless

RF Frequency:	2.45 GHz IEEE 802.15.4 ultra-low power wireless transceiver with fully bi-directional communication
Band:	ISM band 2.405-2.475 GHz Operation (channels 11 through 25) @ 250 kbps data rate
Transceiver Sensitivity (RFC1000):	-95 dBm typical
Transmission Distance (to data loggers)	• RFC1000, RFC1000-CE & RFC1000-IP69K 2,000 ft max. outdoors - line of sight unobstructed 500 ft max. indoors - typical urban environment
Transmission Distance (to other RFC1000's)	• RFC1000 4,000 ft max. outdoors - line of sight unobstructed 1,000 ft max. indoors - typical urban environment • RFC1000-CE 2,500 ft max. outdoors - line of sight unobstructed 700 ft max. indoors - typical urban environment • RFC1000-IP69K 4,000 ft max. outdoors - line of sight unobstructed 1,000 ft max. indoors - typical urban environment

BATTERY WARNING: May leak, flame or explode if disassembled, shorted, charged, connected together, mixed with used or other batteries, exposed to fire or high temperature. Discard used battery promptly. Keep out of reach of children.

ORDERING INFORMATION

MODEL	DESCRIPTION
RFVolt2000A	Wireless Voltage Data Logger (2.5 V, 15 V, 30 V, 160 mV).
RFC1000	Wireless RF transceiver/repeater. USB to mini USB adapter & power supply included.
RFC1000-CE	Wireless RF transceiver/repeater, CE approved for Europe. USB to mini USB adapter & power supply included.
RFC1000-IP69K	Wireless RF transceiver/repeater, splash proof with an IP69K rating. USB to mini USB adapter included.
*NIST	NIST Calibration Certificate.
U9VL-J	Replacement battery for RFVolt2000A.

*To order the product with the NIST certificate add -CERT to the end of the part number.

Countries approved for use, purchase and distribution of the RFVolt2000A:

Australia, Austria, Belgium, Bulgaria, Canada, Chile, China, Columbia, Croatia, Cyprus, Czech Republic, Denmark, Ecuador, Estonia, Finland, France, Germany, Greece, Honduras, Hungary, Iceland, Ireland, Israel, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malaysia, Malta, Mexico, New Zealand, Norway, Peru, Poland, Portugal, Romania, Saudi Arabia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Thailand, The Netherlands, Turkey, United Kingdom, United States, Venezuela, Vietnam