RFCURRENT2000A
WIRELESS CURRENT DATA LOGGER

MADGETECH
WE BUILD DATA LOGGERS

Features

- Wireless Data Transmission
- Battery Life Indicator
- Digital Display
- Direct USB Interface
- AC Power connection via USB
- Configurable Alarms
- Ability to manually reset statistics
- 4 year battery life at 15 Minute Reading Rate

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
- Energy Monitoring Studies
- Photovoltaic Research (PV)
- Process Control Instrument Recording
- Data Logging from sensors with current outputs (sensor not included):
    - Pressure Monitoring
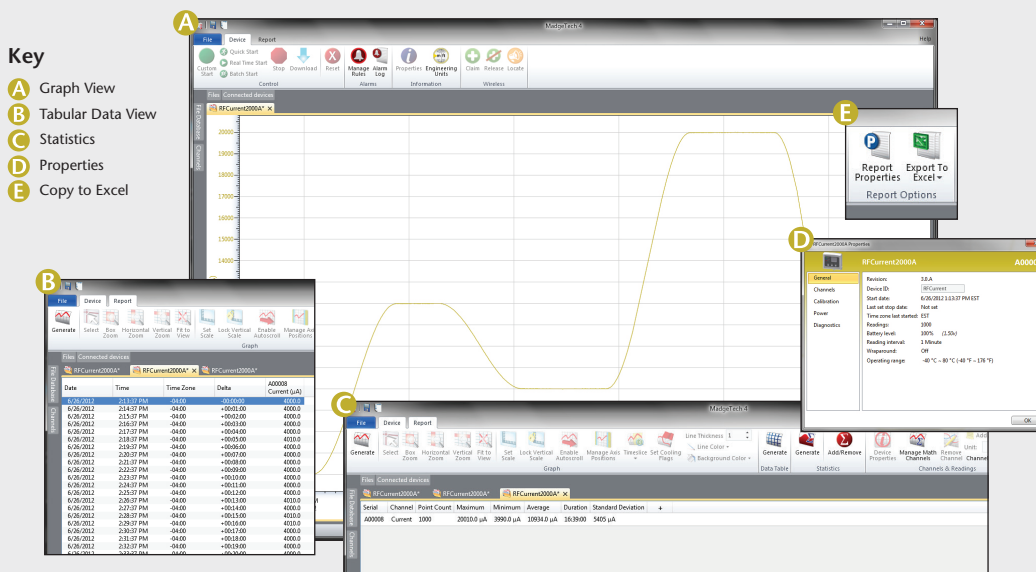   - Flow Rate
    - pH Transmitters

The RFCurrent2000A is a wireless data logger with a digital display, designed to measure and record DC current signals. This data logger can connect directly to low-level DC current sources which makes it ideal for battery usage studies, energy monitoring studies and other DC current monitoring applications. The RFCurrent2000A can also be interfaced with a wide range of current output sensors such as flow meters, pH transmitters and more. Through the software, the device can be programmed with engineering units, which convert the current readings into a different unit of measure such as flow rate. The engineering unit is available for display on the LCD screen as well as in the software. The RFCurrent2000A is available in 20mA, 160mA or a 3A measurement range.

The RFCurrent2000A features an LCD screen which provides instant access to the current reading, minimum, maximum and average statistics. 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 RFCurrent2000A can be used as a standalone data logger, or used with the RFC1000 wireless transceiver, to transmit data back to a central PC. The RFCurrent2000A 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 RFCurrent2000A 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 RFCurrent2000A 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

- **A** Graph View
- **B** Tabular Data View
- **C** Statistics
- **D** Properties
- **E** 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

RFCURRENT2000A SPECIFICATIONS*

General

Reading Rate:	1 reading every second up to 1 reading every 24 hours
Memory:	32,256 readings
Memory Wrap Around:	Yes
Start Modes:	Immediate Start & Delayed Start
Stop Modes:	• Manual through software • Delayed Stop • Timed (specific date and time)
Real Time Recording:	The device may be used with PC to monitor and record data in real time
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
LED Functionality:	• Green LED blinks every 10 seconds to indicate unit is logging • Blue LED blinks every 30 seconds to indicate unit is in wireless mode • Red LED blinks every 1 second to indicate alarm condition
Password Protection:	An optional password may be programmed into the device to restrict access to configuration options. Data may be read out without the password.
Engineering Units:	Native measurement units can be scaled to display measurement units of another type. This is useful when monitoring voltage outputs from different types of sensors such as temperature, CO2, flow rate and more.
Calibration:	Digital calibration through software.
Calibration Date:	Automatically recorded through the device
Battery Type:	Ultralife 9V Lithium included; user replaceable
Battery Life:	Approximately 4 years typical for 15 minute reading rate
Data Format:	uA, mA, A
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:	**20 mA & 3 A:** 3.19 in x 3.5 in x 0.95 in (80.9 mm x 88.9 mm x 24.1 mm) - Data logger only **160 mA:** 3.17 in x 3.5 in x 0.95 in (80.5 mm x 88.9 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

Sensor Type:	Current Sensing Circuitry		
Nominal Range:	**20 mA**	**160 mA**	**3 A**
Measurement Range:	-2 mA to +30 mA	-160 mA to +160 mA	-3 A to +3 A
Maximum Voltage Between Inputs to Ground:	2.5 V	2.5 V	2.5 V
Measurement Resolution:	0.0005 mA for 20 mA	0.005 mA for 160 mA	0.0001 A for 3 A
Calibrated Accuracy:	±0.0025 mA	±0.01 mA	±0.0001 A
Input Impedance:	10 Ω	1 Ω	0.02 Ω
Absolute Maximum Current:	±232 mA for 2 Seconds	±707 mA for 2 Seconds	±5 A for 2 Seconds
Input Connection:	Terminal Ports: one positive, one negative and a ground terminal port.		
Analog Conversion Time:	150 mS		
Frequency Rejection:	50+60 Hz		
Temperature Coefficient:	< ±50 ppm/°C typical		
Response Time:	0.15 Seconds 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
RFCURRENT2000A	Wireless Current Data Logger (20 mA, 160 mA, 3 A)
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
Calibration Certificate	Calibration Certificate available for data logger
U9VL-J	Replacement battery for RFCurrent2000A

For Quantity Discounts call (603) 456-2011 or email sales@madgetech.com

Countries approved for use, purchase and distribution of the RFCurrent2000A:

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, 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