

# RFCurrent2000A

## Wireless Current Data Logger

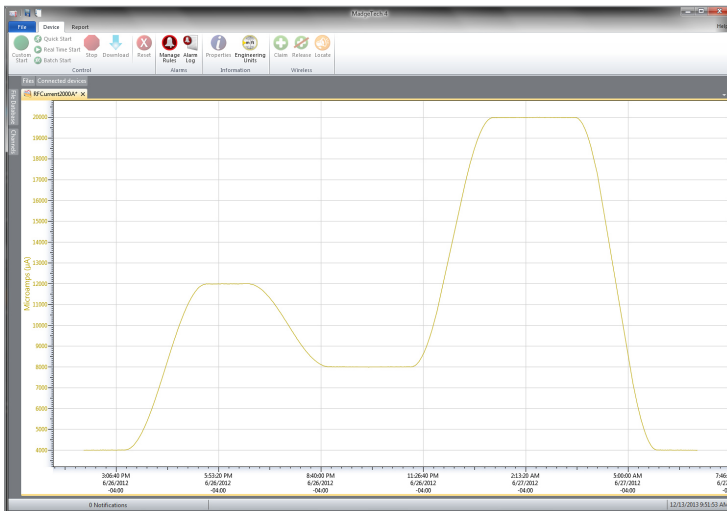


The RFCurrent2000A is a wireless data logger with a digital display, designed to measure and record DC current signals. This data logger can connect directly to low-level DC current sources which makes it ideal for battery usage studies, energy monitoring studies and other DC current monitoring applications. 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 convenient digital display provides instant access to the current reading. Minimum, maximum and average statistics are also provided for a convenient snap shot of the logged data. Out of range notification, an audible buzzer as well as LED alarm indicator notifies users when the temperature is above or below the user specified alarm. Through the software, email and text message alarms can also be sent.

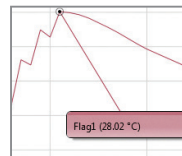
The RFCurrent2000A can be used as a single, wireless data logging system, or it can be expanded to a large scale system, which can include hundreds of data loggers measuring a number of areas (additional MadgeTech wireless data loggers and transceivers may be required). The RFCurrent2000A is compatible with the latest MadgeTech 4 Software.

## MadgeTech 4 Software Features

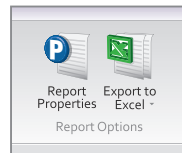


Graph View

- 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
- Summary view



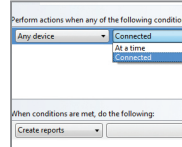
Cooling Flags



Export to Excel

Time	Time Zone	Data
1:13:37 PM	04:00	-000.000
1:14:37 PM	04:00	+000.200
1:15:37 PM	04:00	+000.400
1:16:37 PM	04:00	+000.600
1:17:37 PM	04:00	+000.800
1:18:37 PM	04:00	+001.000
1:19:37 PM	04:00	+001.200
1:20:37 PM	04:00	+001.400
1:21:37 PM	04:00	+001.600
1:22:37 PM	04:00	+001.800
1:23:37 PM	04:00	+002.000
1:24:37 PM	04:00	+002.200
1:25:37 PM	04:00	+002.400

Tabular Data View



Automation

## 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

## SPECIFICATIONS

Specifications are subject to change without notice. Specific warranty remedy limitations apply.

MEASUREMENT			
<b>Sensor Type</b>	Current Sensing Circuitry		
<b>Nominal Range</b>	<b>20 mA</b>	<b>160 mA</b>	<b>3 A</b>
<b>Measurement Range</b>	-2 mA to +30 mA	-160 mA to +160 mA	-3 A to +3 A
<b>Maximum Voltage Between Inputs to Ground</b>	2.5 V	2.5 V	2.5 V
<b>Measurement Resolution</b>	0.0005 mA for 20 mA	0.005 mA for 160 mA	0.0001 A for 3 A
<b>Calibrated Accuracy</b>	±0.0025 mA	±0.01 mA	±0.0001 A
<b>Input Impedance</b>	10 Ω	1 Ω	0.02 Ω
<b>Absolute Maximum Current</b>	±232 mA for 2 Seconds	±707 mA for 2 Seconds	±5 A for 2 Seconds
<b>Input Connection</b>	Terminal Ports: one positive, one negative and a ground terminal port		
<b>Analog Conversion Time</b>	150 mS		
<b>Frequency Rejection</b>	50+60 Hz		
<b>Temperature Coefficient</b>	< ±50 ppm/°C typical		
<b>Response Time</b>	0.15 Seconds at Sensor		

WIRELESS	
<b>RF Frequency</b>	2.45 GHz IEEE 802.15.4 ultra-low power wireless transceiver with fully bi-directional communication
<b>Band</b>	ISM band 2.405-2.475 GHz
<b>Maximum Output Power</b>	+0 dBm typical
<b>Receiver Sensitivity (RFC1000)</b>	-95 dBm typical
<b>Transmission Distance (to data loggers)</b>	<b>RFC1000, RFC1000-CE &amp; RFC1000-IP69K</b> 2,000 ft max. outdoors - line of sight unobstructed 500 ft max. indoors - typical urban environment
<b>Transmission Distance (to other RFC1000's)</b>	<b>RFC1000</b> 4,000 ft max. outdoors - line of sight unobstructed 1,000 ft max. indoors - typical urban environment <b>RFC1000-CE</b> 2,500 ft max. outdoors - line of sight unobstructed 700 ft max. indoors - typical urban environment <b>RFC1000-IP69K</b> 4,000 ft max. outdoors - line of sight unobstructed 1,000 ft max. indoors - typical urban environment

## Ordering Information

<b>RFCurrent2000A (20 mA)</b>	PN 901397-00	Wireless Current 20 mA data logger
<b>RFCurrent2000A (±160 mA)</b>	PN 901394-00	Wireless Current ±160 mA data logger
<b>RFCurrent2000A (±3 A)</b>	PN 901401-00	Wireless Current ±3 A data logger
<b>RFC1000</b>	PN 901383-00	Wireless RF receiver/repeater. USB to mini USB adapter & power supply included
<b>RFC1000-CE</b>	PN 901338-00	Wireless RF transceiver/repeater, CE approved for Europe. USB to mini USB adapter & power supply included
<b>RFC1000-IP69K</b>	PN 901389-00	Wireless RF transceiver/repeater, splash proof with an IP69K rating. USB to mini USB adapter included
<b>RFC1000 Cloud Relay</b>	PN 901900-00	MadgeTech Cloud Services Data Logging Hub
<b>RFC1000-CE Cloud Relay</b>	PN 901901-00	MadgeTech Cloud Services Data Logging Hub, CE approved for Europe
<b>Power Adapter</b>	PN 901839-00	Replacement USB universal power adapter
<b>U9VL-J</b>	PN 901804-00	Replacement battery for RFCurrent2000A

**Countries approved for use, purchase and distribution of the RFCurrent2000A:** Australia, Austria, Belgium, Bulgaria, Canada, Chile, China, Colombia, 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

GENERAL	
<b>Reading Rate</b>	1 reading every second up to 1 reading every 24 hours
<b>Memory</b>	32,256 readings
<b>LED Functionality</b>	<b>Green LED</b> blinks every 5 seconds to indicate unit is logging <b>Blue LED</b> blinks every 15 seconds to indicate unit is in wireless mode <b>Red LED</b> blinks every 1 second to indicate alarm condition
<b>Wrap Around</b>	Yes
<b>Start Modes</b>	Immediate and delay start
<b>Calibration</b>	Digital calibration through software
<b>Calibration Date</b>	Automatically recorded within device
<b>Battery Type</b>	9 V lithium or alkaline battery included; user replaceable with any 9 V battery
<b>Battery Life</b>	4 years typical at 15 minute reading rate
<b>Data Format</b>	uA, mA, A
<b>Time Accuracy</b>	± 1 minute/month
<b>Computer Interface</b>	USB to mini USB, 250,000 baud for standalone operation or RFC1000 required for wireless operation
<b>Operating System Compatibility</b>	Windows XP SP3 or later
<b>Software Compatibility</b>	Standard Software version 4.1.10.0 or later Secure Software version 4.1.9.0 or later
<b>Operating Environment</b>	-20 °C to +60 °C (-4 °F to +140 °F), 0 %RH to 95 %RH non-condensing
<b>Dimensions</b>	<b>20 mA &amp; 3 A:</b> 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 <b>160 mA:</b> 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
<b>Material</b>	ABS Plastic
<b>Weight</b>	4.4 oz (125 g)
<b>Approvals</b>	US (FCC), CA (IC), CE, South Korea (KCC), China (CMIIT), Japan (LCIE)
<b>Alarm</b>	User configurable high and low 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.
<b>Audible Alarm Functionality</b>	1 Beep per second for reading alarm above/below threshold

**BATTERY WARNING:** BATTERY 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.