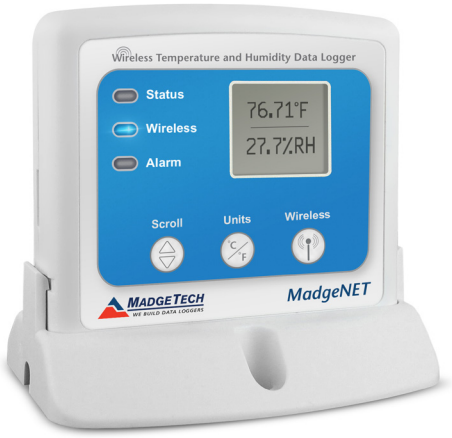
RFRHTEMP2000A
WIRELESS TEMPERATURE AND HUMIDITY DATA LOGGER

MADGETECH
WE BUILD DATA LOGGERS

Features
- Wireless Two-Way Communication
- View Data in Real Time
- 3 Year Battery Life
- Battery Life Indicator
- NIST Traceable
- Field Upgradeable
- Audible and LED Alarm Indicators
- Cumulative Alarm Delay

Benefits
- Fast Installation
- Minimal Long-Term Maintenance
- Full Communication From One PC
- Time and Money Saving with Battery Management
- Reduction of False Alarms

Applications
- Clean Rooms
- Laboratories and Hospitals
- Medical and Pharmaceutical
- Warehouse mapping
- Storage of Perishable Goods
- Chemical Storage
- Incubator Monitoring
- Greenhouse Monitoring
- HVAC
- Bakery/Cereal Production



The RFRHTemp2000A is a wireless temperature and humidity data logger with digital display. This device is calibrated traceable to NIST and is available with a Calibration Certificate. The RFRHTemp2000A is ideal for both industrial or laboratory applications including supply chain storage facilities, incubator monitoring and HVAC studies. Designed with external humidity and RTD based temperature sensors, the device provides a fast response time for both parameters.

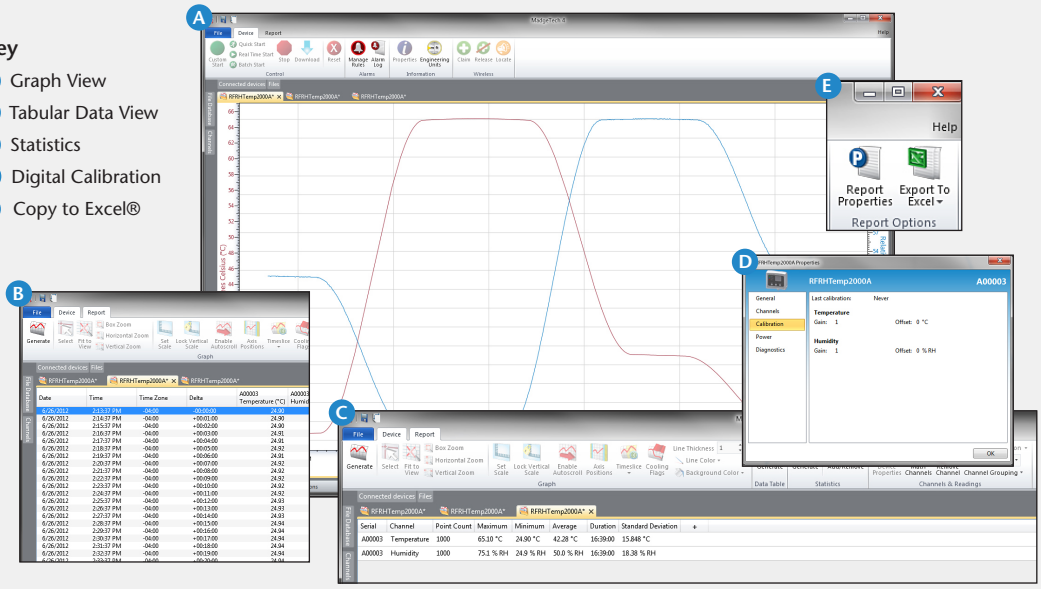
For customer convenience, functions include starting, stopping and downloading from the device wirelessly using the RFC1000 wireless transceiver. This allows customers to quickly access data and spend less time maintaining the device. Data can be provided in real time back to a central PC, or the device may be downloaded at periodic intervals. The digital display provides the current reading for both the humidity and temperature channels with minimum, maximum and average statistics accessible for a quick snapshot of the logged data.

The RFRHTemp2000A features user programmable alarm settings for both temperature and humidity parameters. An audible buzzer and LED alarm indicator notifies users when the temperature or humidity is above or below the threshold set in the alarm. Email and text alarms can also be configured and sent from within the software, allowing users to be notified almost anywhere.

The RFRHTemp2000A 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 RFRHTemp2000A utilizes the new MadgeTech Software, version 4.1. MadgeTech Data Logger Software is a powerful, analytic tool. 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 Digital Calibration
- 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
- Multilingual

RFRHTEMP2000A SPECIFICATIONS*

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. SPECIFIC WARRANTY REMEDY LIMITATIONS APPLY.

Temperature

Internal Channel Temperature Range:	-20 °C to +60 °C (-4 °F to +140 °F)
Temperature Resolution:	0.01 °C (0.02 °F)
Calibrated Accuracy:	±0.5 °C/± 0.9 °F (0 °C to +55 °C/32 °F to 131 °F)
Response Time:	10 minutes free air

Humidity

Humidity Range:	0 to 95 %RH
Humidity Resolution:	0.1 %RH
Humidity Calibrated Accuracy:	±3.0 %RH, ±2.0 %RH typical @ 25 °C (10 %RH to 90 %RH; 5 °C to 55 °C)
Response Time:	2 minutes to 63% of change

Wireless

RF Frequency:	2.45 GHz IEEE 802.15.4 ultra-low power wireless transceiver with fully bi-directional communication
Band:	ISM band 2.405-2.48 GHz
Maximum Output Power:	+0 dBm typical
Receiver 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

General

Reading Rate:	1 reading every second up to 1 reading every 24 hours
Memory:	16,128 per channel
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
Wrap Around:	Yes
Start Modes:	Immediate Start
Calibration:	Digital calibration through software
Calibration Date:	Automatically recorded within device
Battery Type:	9V lithium battery included; **user replaceable**
Battery Life:	3 years typical at 1 minute reading rate
Data Format:	• For Display: °C or °F, %RH • For Software: Date and time stamped °C, K, °F, or °R, %RH, mg/mL, Dew Point - °C/K/°F/°R
Time Accuracy:	± 1 minute/month
Computer Interface:	USB to mini USB, 250,000 baud for standalone operation or RFC1000 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:	3.0 in x 3.5 in x 0.95 in (76.2 mm x 88.9 mm x 24.1 mm) Data logger only
Enclosure Material:	ABS Plastic
Approvals:	US (FCC), CA (IC), CE, South Korea (KCC), China (CMIIT), Japan (LCIE)
Alarm:	Programmable high and low limits for temperature and humidity. Alarm is activated when temperature or humidity reaches or exceeds set limits. 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 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.

ORDERING INFORMATION

MODEL	DESCRIPTION	
RFRHTEMP2000A	Wireless Temperature and Humidity data logger with LCD.	
RFC1000	Wireless RF receiver/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 RFRHTemp2000A.	

Countries approved for use, purchase and distribution of the RFRHTemp2000A:

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

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WessexPower Solutions for High-tech Instrumentation
www.wessexpower.co.uk

LSTechnology E-commerce Instrumentation
www.loggershop.co.uk

Telephone: +44 (0) 1929 459 459 | Email: Sales@WPLS.co.uk

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