

# RFRTDTemp2000A

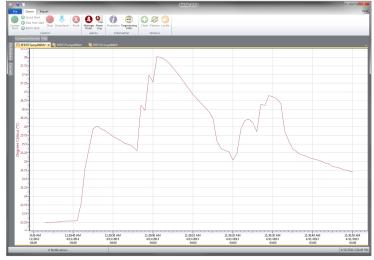
# Wireless Precision RTD-Based Temperature Data Logger

The RFRTDTemp2000A is an RTD-based, wireless temperature data logger with display. This data logger accepts 2, 3 or 4-wire 100  $\Omega$  platinum RTD's and features a device accuracy of ±0.04 °C. Starting, stopping and down-loading from the device are all performed wirelessly using the RFC1000 wireless transceiver, allowing the user to spend less time maintaining the data logger. Data can be provided in real time back to a central PC, or the device may be downloaded at periodic intervals.

The convenient digital display provides the current reading for both channels. 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 RFRTDTemp2000A 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 RFRTDTemp2000A is compatible with the latest MadgeTech 4 Software.

# MadgeTech 4 Software Features



Graph View

• Mean Kinetic Temperature • Full time zone support

Min./Max./Average lines

Data annotation

Summary view

- Multiple graph overlay
- Statistics
- Digital calibration
- Zoom in/zoom out
- Lethality equations (F0, PU)

Flag1 (28.02 °C)

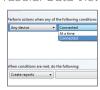
Cooling Flags



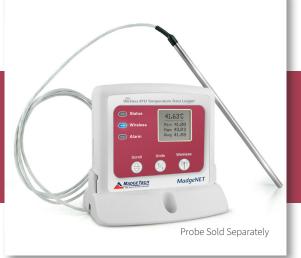
Export to Excel



Tabular Data View



Automation



#### **Features**

- Wireless Two-Way Communication
- · View Data in Real Time
- Battery Life Indicator
- 5 year battery life at 15 Minute Reading Rate
- Audible alarm and LED Alarm Indicator
- Wall or Table Mount Included
- Field Upgradeable
- ±0.04 °C Device Accuracy
- · Direct USB Interface

#### **Benefits**

- Fast Installation
- Minimal Long-Term Maintenance
- Full Communication From One PC
- Time and Money Saving with Battery Management

### **Applications**

- Clean Rooms
- Laboratories and Hospitals
- Medical and Pharmaceutical

# RFRTDTemp2000A

## **SPECIFICATIONS**

Specifications are subject to change without notice. Specific warranty remedy limitations apply. Call (603) 456-2011 or go to madgetech.com for details.

| TEMPERATURE*                     |   |  |
|----------------------------------|---|--|
| Temperature<br>Measurement Range | $18\Omega$ to 400 $\Omega$ -200 °C to +850 °C (-328 °F to +1562 °F) (Probe Dependent)                   |  |
| Resolution                       | 0.005 Ω<br>0.01 °C (0.018 °F) (Probe Dependent)   |  |
| Calibrated Accuracy              | $\pm 0.015~\Omega$<br>$\pm 0.04~^{\circ}\text{C}~(\pm 0.072~^{\circ}\text{F})~(\text{Probe Dependent})$ |  |
| Response Time                    | Depending on type of RTD sensor   |  |
| Calibration Accuracy<br>Range    | 18.5 Ω to 175.9 Ω<br>-200 °C to +200 °C (-328 °F to 392 °F)   |  |

| 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   |
| Maximum Output<br>Power                       | +0 dBm typical   |
| Receiver Sensitivity (RFC1000)                | -95 dBm typical  |
| Transmission Distance<br>(to data loggers)    | RFC1000, RFC1000-CE & RFC1000-IP69K<br>2,000 ft max. outdoors - line of sight unobstructed<br>500 ft max. indoors - typical urban environment  |
| Transmission Distance<br>(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 |

<sup>\*</sup>Temperature specifications based on ideal 100  $\Omega$  Pt RTD compliant with IEC 751(1983) and ITS-90, 5000  $\Omega$  FSR (accuracy based on 36 in lead wire RTD with 4 wire configuration)

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.

| GENERAL                           |   |
|-----------------------------------|---|
| Reading Rate                      | 1 reading every second up to 1 reading every 24 hours   |
| Memory                            | 21,504 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   |
| Wrap Around                       | Yes   |
| Start Modes                       | Immediate and delay start   |
| Calibration                       | Digital calibration through software  |
| Calibration Date                  | Automatically recorded within device  |
| Battery Type                      | 9 V lithium or alkaline battery included;<br>user replaceable with any 9 V battery  |
| Battery Life                      | 4 years typical at 1 minute reading rate  |
| Data Format                       | For Display: $^{\circ}$ C, $^{\circ}$ F or $^{\Omega}$ For Software: Date and time stamped $^{\circ}$ C, K, $^{\circ}$ F, $^{\circ}$ R or $^{\Omega}$   |
| Time Accuracy                     | ± 1 minute/month  |
| Computer Interface                | USB to mini USB, 250,000 baud for standalone operation or RFC1000 required for wireless operation   |
| Operating System<br>Compatibility | Windows XP SP3 or later   |
| Software<br>Compatibility         | Standard Software version 4.1.0.0 or later<br>Secure Software version 4.1.3.0 or later  |
| Operating<br>Environment          | -20 °C to +60 °C (-4 °F to +140 °F),<br>0 %RH to 95 %RH non-condensing  |
| Dimensions                        | 3.0 in x 3.5 in x 0.95 in<br>(76.2 mm x 88.9 mm x 24.1 mm) Data logger only   |
| Material                          | ABS Plastic   |
| Weight                            | 4.9 oz (140 g)  |
| Approvals                         | US (FCC), CA (IC), CE, South Korea (KCC), China (CMIIT),<br>Japan (LCIE)  |
| Alarm                             | 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. |
| Audible Alarm<br>Functionality    | 1 Beep per second for reading alarm above/below threshold   |

## Ordering Information

| RFRTDTEMP2000A         | PN 901431-00 | Wireless Precision RTD Based Temperature data logger  |
|------------------------|--------------|---|
| RFC1000                | PN 901383-00 | Wireless RF receiver/repeater. USB to mini USB adapter & power supply included                            |
| RFC1000-CE             | PN 901338-00 | Wireless RF transceiver/repeater, CE approved for Europe. USB to mini USB adapter & power supply included |
| RFC1000-IP69K          | PN 901389-00 | Wireless RF transceiver/repeater, splash proof with an IP69K rating. USB to mini USB adapter included     |
| RFC1000 Cloud Relay    | PN 901900-00 | MadgeTech Cloud Services Data Logging Hub   |
| RFC1000-CE Cloud Relay | PN 901901-00 | MadgeTech Cloud Services Data Logging Hub, CE approved for Europe   |
| Power Adapter          | PN 901839-00 | Replacement USB universal power adapter   |
| U9VL-J                 | PN 901804-00 | Replacement battery for RFRTDTemp2000A  |

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