RFTCTEMP2000A
WIRELESS THERMOCOUPLE TEMPERATURE DATA LOGGER

MADGETECH WE BUILD DATA LOGGERS

Features

- Wireless Two-Way Communication
- Ambient and Thermocouple Temperature Monitoring
- View Data in Real-Time
- 3 Year Battery Life
- Battery Life Indicator
- NIST Traceable
- Field Upgradeable
- Audible and LED Alarm Indicators
- Trigger Settings
- Cumulative Alarm Delay

Benefits

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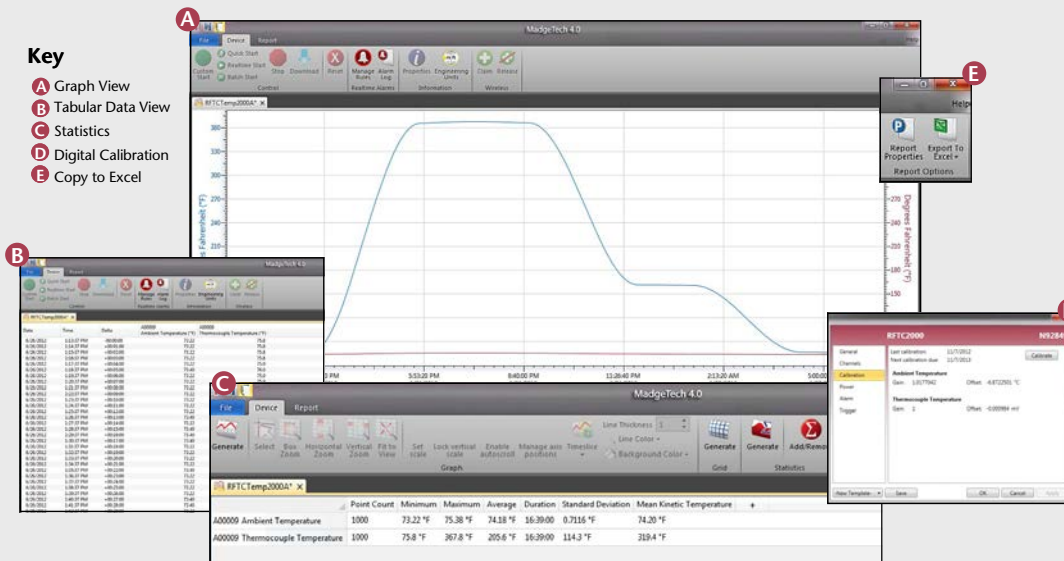- Reduction of False Alarms

Applications

- Clean Rooms
- Oven Temperature Monitoring
- Laboratories and Hospitals
- Medical and Pharmaceutical
- Warehouse mapping
- Storage of Perishable Goods
- Chemical Storage
- Incubator Monitoring
- Refrigerator and Freezers

The RFTCTemp2000A is a wireless thermocouple based data logger with digital display. The device measures ambient temperatures, as well as remote temperature via a thermocouple (sold separately), making it ideal for monitoring perishable goods, vaccine storage, chemicals and more. Starting, stopping and downloading from the device are all performed wirelessly using the RFC1000 wireless transceiver, allowing customer 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 period 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. For instant, 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 RFTCTemp2000A also features programmable trigger settings for applications in which temperature logging is critical only above or below a certain temperature. This information may be programmed into the device, and the data logger will only begin to log data to memory, once the temperature limit has been exceeded.

The RFTCTemp2000A can be used as a single, wireless data logging system, yet can be expanded to a large scale system, which can include hundreds of data loggers measuring a number of areas (additional MadgeTech wireless loggers and transceivers may be required). The RFTCTemp2000A utilizes the new MadgeTech Software, version 4.0. 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 (F_0, PU)
- Mean Kinetic Temperature
- Full time zone support
- Data annotation
- Min./Max./Average lines
- Data table view
- Automatic report generation
- Summary view

RFTCTEMP2000A SPECIFICATIONS*

Temperature

Internal Channel Temperature Range:	-20°C to +60°C (-4°F to +140°F)
Temperature Resolution:	0.1°C (0.18°F)
Calibrated Accuracy:	±0.10°C/± 0.18°F (0°C to +55°C/32°F to 131°F)
Response Time:	10 minutes free air

Remote Channel

Thermocouple Connection:	Female subminiature (SMP) (MP model) Pluggable screw terminal (TB model)
Cold Junction Compensation:	Automatic based on internal channel
Max. Thermocouple Resistance:	100Ω

Thermocouple Type:	Range (°C)	Resolution	Accuracy
J	-210 to +760	0.1°C	±0.5°C
K	-270 to +1370	0.1°C	±0.5°C
T	-270 to +400	0.1°C	±0.5°C
E	-270 to +980	0.1°C	±0.5°C
R	-50 to +1760	0.5°C	±2.0°C
S	-50 to +1760	0.5°C	±2.0°C
B	+50 to +1820	0.5°C	±2.0°C
N	-270 to +1300	0.1°C	±0.5°C

* Thermocouple accuracy is specified with a 24 AWG	
Response Time:	τ = 2 minutes to 63% of change

Wireless

RF Frequency:	2.45GHz IEEE 802.15.4 ultra-low power MadgeNET wireless transceiver with fully bi-directional communication
Band:	ISM band 2.405-2.48 GHz
Maximum Output Power:	+0dBm typical
Receiver Sensitivity (RFC1000):	-95dBm typical
Range:	2000' max. outdoors (line of sight unobstructed) 500' max. indoors (typical urban)

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 • For Software: Date and time stamped °C, K, °F, or °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 (MadgeTech 4.0 only)
Operating Environment:	-20°C to +60°C (-4°F to +140°F) 0 to 95% RH non-condensing
Dimensions:	3.0" x 3.5" x 0.95" (76.2mm x 88.9mm x 24.1mm) - Data logger only
Enclosure Material:	ABS Plastic
Alarm:	Programmable high and low limits; alarm is activated when temperature reaches or exceeds sets 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: 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	PRICE (U.S.)
RFTCTEMP2000A-MP	Wireless thermocouple based data logger with LCD, standard mini plugs	$289.00
RFTCTEMP2000A-TB	Wireless thermocouple based data logger with LCD, pluggable screw terminals	$289.00
RFC1000	Wireless RF receiver/repeater USB to mini USB adapter and power supply included	$199.00
*NIST	NIST Calibration Certificate	$60.00
U9VL-J	Replacement battery for RFTCTemp2000A	$10.00

ASK ABOUT OUR OTHER DATA LOGGERS

Temperature
Humidity
Pressure
pH
Level
Shock
LCD Display
Pulse/Event/State
Current
Voltage
Wireless
Intrinsically Safe
Spectral Vibration
Motion

*To order the product with the NIST certificate add -CERT to the end of the part number and add $60.00 to the price.

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