MADGETECH
WE BUILD DATA LOGGERS

Product Information Card

RFC1000

Part Name	RFC1000
Interface Type	USB (to PC) / Wireless (to Data Logger)
Operating Environment	–20 to +85°C, 0 to 95%RH non-condensed
LED Indicators	Red & Green
Enclosure Materials	ABS Plastic (body), PVC Plastic (antenna)
Dimensions	Enclosure: 3.8" x 1.6" x 0.8" / Antenna: 7.2"
Approvals	FCC ID:OA3MRF24J40MC, IC#: 7693A-24J40MC
Transmission Distance (To other RFC1000s)	4000' max. outdoor - line of sight unobstructed 1000' max. indoors - typical urban environment
Transmission Distance (To data loggers)	2000' max. outdoor - line of sight unobstructed 500' max. indoors - typical urban
Maximum number of connected data loggers	64
Frequency	2.405GHz - 2.475GHz
Ingress Protection	IP40

RFC1000
Wireless receiver for the RFOT and Therm-A-Lert

Specifications subject to change.
See MadgeTech's terms and conditions at www.madgetech.com

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Product Notes

MadgeTech has designed an RFC1000 with a higher powered transceiver than the standard RFC1000 model. This RFC1000 has a substantially longer transmit range, meaning better performance in occluded environments (ovens, refrigerators, etc.). This new RFC1000 also includes an external antenna, allowing more flexibility with mounting positions in both orientation and proximity to metal walls. This may be used as a repeater, or directly plugged into the PC.

Transmission Distance

The RFC1000 transmits to other RFC1000s up to 4000 feet maximum typical outdoors/line of sight, 1000 feet maximum typical indoors/urban. The RFC1000 transmits to data loggers up to 2000 feet maximum typical outdoors/line of sight, 500 feet maximum typical indoors/urban. The RFC1000 can connect to a maximum of 64 data loggers. The RFC1000 transmits on a frequency of 2.405GHz - 2.475 GHz.

Operating Environment

The RFC1000 is rated for use in an environment with temperatures from -20°C to 85°C and a humidity range of 0% to 95% RH non-condensing.The RFC1000 is rated IP40 and is protected against solids that are greater than 1mm in size. This device is not water resistant.

LEDs

The red LED indicates that the device has power. The green LED will blink when communicating with other MadgeTech devices.

Installation Guide

Installing the Software

Insert the Software CD in the CD-ROM Drive. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Install the **MadgeTech Software**, **USB Interface Drivers (under Drivers and Third Party Tools)** and **MadgeTech MadgeNET** Software. The software can also be downloaded from www.madgetech.com.

Channel Programming

The new RFC1000 transmits data on the 2.5GHz band, channel 11. Each MadgeTech Wireless Data Logger and RFC1000 has a set of dip switches with which the channel may be programmed.

Any MadgeTech data logger or RFC1000 that is on the same network are required to use the same channel. If they are not on the same channel, the devices will not communicate with one another.

The default wireless channel for MadgeTech wireless devices is channel 11. Different wireless channels may be used to create multiple networks in one area, or to avoid wireless interference from other devices. The images below show the orientations avaliable of the switches for each channel. Channel 26 (all switches in the up position) is not supported.

Follow the instructions below to configure the channel settings of your MadgeTech Data Loggers.

RFC1000: To program the channel on an RFC1000, first unplug the RFC1000. Use a Phillips head screwdriver to unscrew the enclosure. The dip switches are located on the front of the PCB circuit board. Change the dip switches to match the photo. Reconnect the RFC1000.

RFOT: To program the channel on an RFOT data logger, unscrew the body of the RFOT and remove the enclosure. Switch the wireless ON / OFF switch (red switch, next to the probe cable connector) to '0'. The dip switches are located on the back of the PCB (opposite side of the battery). Change the dip switches to match the photo. Return the wireless ON / OFF switch to '1'.

Therm-A-Lert-Series: Switch the wireless ON / OFF switch to '0'. The dip switches are located on the back of the device. Change the dip switches to match the photo. Switch the wireless ON / OFF switch back to '1'.

Deploying and Activating Devices

Step 1: Plug the RFC1000 into the USB port on the base station computer. *(Additional RFC1000s can be used as repeaters to transmit over greater distances)*

Step 2: If using multiple RFC1000s plug each one into a wall outlet in the desired locations. *(If transmitting over a distance greater than 1000 feet indoors or 4000 feet outdoors or there are walls/obstacles/corners that need to be maneuvered around, set up additional RFC1000s as needed.)*

Step 3: Verify that the data loggers are in wireless transmission mode by confirming the wireless ON / OFF switch is in the '1' position on each data logger. *(See Channel Programming steps above)*

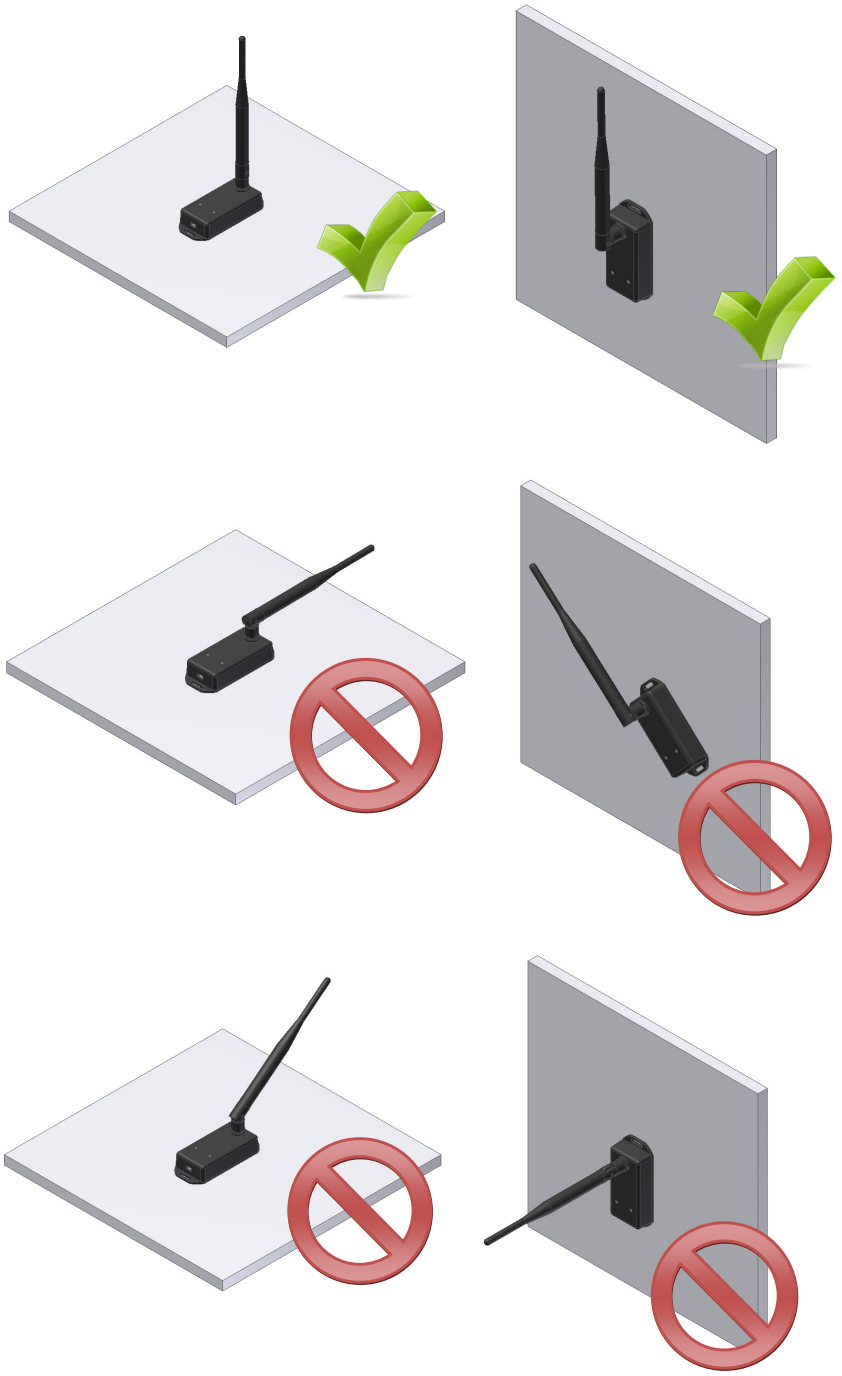
Step 4: On your PC, launch the MadgeNet software program. All active data loggers will be listed in the software showing that the device(s) are recognized.

Step 5: To activate your data loggers, click on one to highlight, then click the *Claim* icon, and then click the *Start* button. Do this for each logger in your list that you wish to activate.

Step 6: To view data on the screen in real-time, click the *Stream* button.

Mounting Instructions

For best wireless performance, both the RFC1000 and the MadgeTech data loggers should be mounted in the same orientation. This usually means that the external antenna should be pointing straight up. The antenna can pivot to accommodate either a wall mount or a desk mount.



http://www.instrumentation2000.com/madgetech-rfc1000-wireless-receiver.aspx

o "This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation."
o "To satisfy FCC RF Exposure requirements for mobile and base station transmission devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this distance is not recommended. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter."
o "This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."
o "Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante."

Contact:
Industrial Process Measurement, Inc.
3910 Park Avenue, Unit 7
Edison, NJ 08820
732-632-6400
support@instrumentation2000.com
http://www.instrumentation2000.com