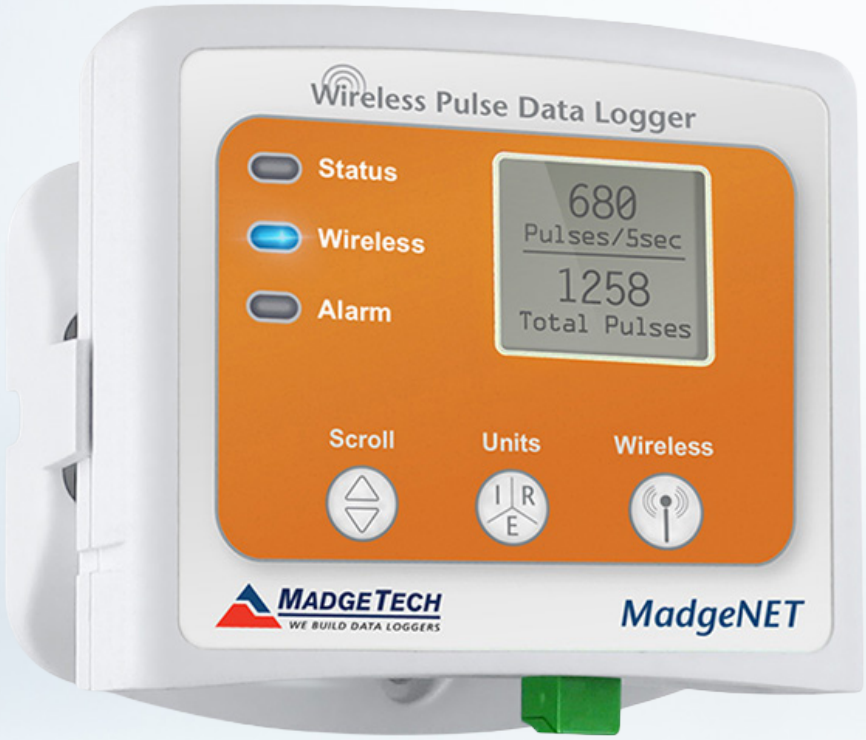
RFPulse2000A

Wireless Pulse Data Logger



Product User Guide

To view the full MadgeTech product line, visit our website at madgetech.com.

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Quick Start Steps

Product Operation (Wireless)

1. Install the MadgeTech 4 Software and USB Drivers onto a Windows PC.
2. Connect the RFC1000 wireless transceiver (sold separately) to the Windows PC with the provided USB cable.
3. Push and hold the wireless button on the RFPulse2000A for 5 seconds to activate wireless communication. The display will confirm “Wireless: ON” and the blue LED will blink every 15 seconds.
4. Launch the MadgeTech 4 Software. All active MadgeTech data loggers that are within range will automatically appear in the Connected Devices window.
5. Select the data logger within the Connected Devices window and click the **Claim** icon.
6. Select the start method, reading rate and any other parameters appropriate for the desired data logging application. Once configured, deploy the data logger by clicking **Start**.
7. To download data, select the device in the list, click the **Stop** icon, and then click the **Download** icon. A graph will automatically display the data.

Product Operation (Plugged In)

1. Install the MadgeTech 4 Software and USB Drivers onto a Windows PC.
2. Confirm the data logger is not in wireless mode. If wireless mode is on, press and hold the Wireless button on the device for 5 seconds.
3. Connect the data logger to the Windows PC with the provided USB cable.
4. Launch the MadgeTech 4 Software. The RFPulse2000A will appear in the Connected Devices window indicating the device has been recognized.
5. Select the start method, reading rate and any other parameters appropriate for the desired data logging application. Once configured, deploy the data logger by clicking the **Start** icon.
6. To download data, select the device in the list, click the **Stop** icon, and then click the **Download** icon. A graph will automatically display the data.

Product Overview

The RFPulse2000A is a wireless pulse data logger, featuring a convenient LCD screen to display current readings, minimum, maximum and average statistics, battery level and more. User programmable alarms can be configured to activate an audible buzzer and LED alarm indicator, notifying the user when the pulse levels are above or below the user set threshold. Email and text alarms can also be configured allowing users to be notified from almost anywhere.

Selection Buttons

The RFPulse2000A is designed with three direct selection buttons:

- **Scroll:** Allows user to scroll through current readings, average stats and device status information displayed on the LCD Screen.
- **Units:** Allows users to change displayed units of measurement to either rates per second, minute, hour or per day.
- **Wireless:** Push and hold this button for 5 seconds to activate or deactivate wireless communication.

Users have the ability to manually reset the statistics within the device to zero without needing to use the MadgeTech 4 Software. Any data recorded up to that point is recorded and saved. To apply the manual reset, press and hold the scroll key down for three seconds.

LED Indicators

- **Status:** Green LED blinks every 5 seconds to indicate the device is logging.
- **Wireless:** Blue LED blinks every 15 seconds to indicate the device is operating in wireless mode.
- **Alarm:** Red LED blinks every 1 second to indicate an alarm condition is set.

Mounting Instructions

The base provided with the RFPulse2000A can be used in two ways:



Mounting: The base securely snaps to the backside of the data logger for wall mounting. There are two holes in the base to allow for screws.



Tabletop: The bottom of the logger snaps in place to use on a tabletop or horizontal surface.

Software Installation

MadgeTech 4 Software

The MadgeTech 4 Software makes the process of downloading and reviewing data quick and easy, and is free to download from the MadgeTech website.

MadgeTech 4 Software

1. Download the MadgeTech 4 Software on a Windows PC by going to **madgetech.com/software**.
2. Locate and unzip the downloaded file (right click on the file and select **Extract**).
3. Open the **MTInstaller.exe** file.
4. Select a language, then follow the instructions provided in the MadgeTech 4 Setup Wizard to finish the MadgeTech 4 Software installation.

Installing the USB Interface Driver

USB Interface Drivers can easily be installed on a Windows PC, if they are not already available and running.

1. Download the USB Interface Driver on a Windows PC by going to **madgetech.com/software**.
2. Locate and unzip the downloaded file (right click on the file and select **Extract**)
3. Open the **PreInstaller.exe** file.
4. Select **Install** on the dialog box.



For more detailed information, download the MadgeTech Software Manual at **madgetech.com**.

MadgeTech Cloud Services

MadgeTech Cloud Services allows users to remotely monitor and manage groups of data loggers throughout a large facility or multiple locations, from any internet enabled device. Transmit real-time data to the MadgeTech Cloud Services platform via the MadgeTech Data Logger Software running on a central PC or transmit directly to the MadgeTech Cloud without a PC using the MadgeTech RFC1000 Cloud Relay (sold separately). Sign up for a MadgeTech Cloud Services account at **madgetech.com/software**.



For more detailed information, download the MadgeTech Cloud Services Manual at **madgetech.com**.

Activating & Deploying the Data Logger

1. Connect the RFC1000 wireless transceiver (sold separately) to the Windows PC with the provided USB cable.
2. Additional RFC1000's can be used as repeaters to transmit over greater distances. If transmitting over a distance greater than 500 feet indoors, 2,000 feet outdoors or there are walls, obstacles or corners that need to be maneuvered around, set up additional RFC1000's as needed. Plug each one into an electrical outlet in the desired locations.
3. Verify that the data loggers are in wireless transmission mode. Push and hold the **Wireless** button on the data logger for 5 seconds to activate or deactivate wireless communication.
4. On the Windows PC, launch the MadgeTech 4 Software.
5. All active data loggers will be listed in the Device tab within the Connected Devices panel.
6. To claim a data logger, select the desired data logger in the list and click the **Claim** icon.
7. Once the data logger has been claimed, select a start method in the Device tab.



For steps to claim the data logger and view data using MadgeTech Cloud Services, refer to the MadgeTech Cloud Services Software Manual at **madgetech.com.**

Channel Programming

Different wireless channels may be used to create multiple networks in one area, or to avoid wireless interference from other devices. Any MadgeTech data logger or RFC1000 wireless transceiver that is on the same network is required to use the same channel. If all of the devices are not on the same channel, the devices will not communicate with one another. MadgeTech wireless data loggers and RFC1000 wireless transceivers are programmed by default on channel 25.

Changing the channel settings of the RFPulse2000A

1. Switch the wireless mode to **OFF** by holding down the **Wireless** button on the data logger for 5 seconds.
2. Using the provided USB cable, plug the data logger into the PC.
3. Open the MadgeTech 4 Software. Locate and select the data logger in the **Connected Devices** panel.
4. In the Device tab, click the **Properties** icon.
5. Under the Wireless tab, select a desired channel (11 - 25) that will match with the RFC1000.
6. Save all changes.
7. Disconnect the data logger.
8. Return the device to wireless mode by holding down the **Wireless** button for 5 seconds.



To configuring the channel settings of the RFC1000 wireless transceiver (sold separately), please refer to the RFC1000 Product User Guide that shipped with the product or download it from the MadgeTech website at madgetech.com.

CHANNEL NOTE: MadgeTech wireless data loggers and wireless transceivers purchased prior to **April 15, 2016** are programmed by default to channel 11. Please refer to the Product User Guide provided with these devices for instructions to change the channel selection if needed.

Product Maintenance

Battery Replacement

Materials: U9VL-J Battery or any 9 V Battery

1. On the bottom of the data logger, open the battery compartment by pulling in on the cover tab.
2. Remove the battery by pulling it from the compartment.
3. Install the new battery, taking note of the polarity.
4. Push the cover closed until it clicks.

Recalibration

Recalibration is recommended annually for any data logger; a reminder is automatically displayed in the software when the device is due. To send devices back for calibration, visit madgetech.com.

Ordering Information

901420-00 — RFPulse2000A

901383-00 — RFC1000

901388-00 — RFC1000-CE

901389-00 — RFC1000-IP69K

901900-00 — RFC1000 Cloud Relay

901901-00 — RFC1000-CE Cloud Relay

901839-00 — Replacement USB Universal Power Adapter

901804-00 — U9VL-J Replacement Battery

Troubleshooting

Why is the wireless data logger not appearing in the software?

If the RFPulse2000A doesn't appear in the Connected Devices panel, or an error message is received while using the RFPulse2000A, try the following:

- Check that the RFC1000 is properly connected. For more information, see **Troubleshooting wireless transceiver problems** (below).
- Ensure that the battery is not discharged. For best voltage accuracy, use a voltage meter connected to the battery of the device. If possible, try switching the battery with a new 9V lithium.
- Ensure that the **MadgeTech 4 Software** is being used, and that no other MadgeTech Software (such as **MadgeTech 2**, or **MadgeNET**) is open and running in the background. **MadgeTech 2** and **MadgeNET** are not the compatible with the RFPulse2000A.
- Ensure that the **Connected Devices** panel is large enough to display devices. This can be verified by positioning the cursor on the edge of the **Connected Devices** panel until the resize cursor appears, then dragging the edge of the panel to resize it.
- Ensure that the data logger and RFC1000 are on the same wireless channel. If the devices are not on the same channel, the devices will not communicate with one another. Please refer to the Channel Programming section for information on changing the device channel.

Troubleshooting Wireless Transceiver Problems

Check that the software properly recognizes the connected RFC1000 wireless transceiver.
If the wireless data logger is not appearing in the **Connected Devices** list, it may be that the RFC1000 is not properly connected.

1. In the MadgeTech 4 Software, click the **File** button, then click **Options**.
2. In the **Options** window, click **Communications**.
3. The **Detected Interfaces** box will list all of the available communication interfaces. If the RFC1000 is listed here, then the software has correctly recognized and is ready to use it.

Check that Windows recognizes the connected RFC1000 wireless transceiver.
If the software does not recognize the RFC1000, there may be a problem with Windows or the USB drivers.

1. In Windows, click **Start**, right-click **Computer** and choose **Properties**.
2. Select **Device Manager** in the left hand column.
3. Double-click on **Universal Serial Bus Controllers**.
4. Look for an entry for **Data Logger Interface**.
5. If the entry is present, and there are no warning messages or icons, then windows has correctly recognized the connected RFC1000.
6. If the entry is not present, or has an exclamation point icon next to it, the USB drivers may need to be installed. USB drivers can be downloaded from the MadgeTech website.

Ensure that the USB end of the RFC1000 is securely connected to the computer.

1. If the cable is connected to the PC, unplug it and wait ten seconds.
2. Reconnect the cable to the PC.
3. Check to make sure that the red LED is lit, indicating a successful connection.

Compliance Information

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.

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.

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.

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.

Need Help?

Product Support & Troubleshooting

- Refer to the Troubleshooting section of this document.
- Visit our Knowledge Base online at **madgetech.com/resources.**
- Contact our friendly Customer Support Team at (603) 456-2011 or **support@madgetech.com**.

MadgeTech 4 Software Support

- Refer to the built-in help section of the MadgeTech 4 Software.
- Download the MadgeTech 4 Software Manual at **madgetech.com.**
- Contact our friendly Customer Support Team at (603) 456-2011 or **support@madgetech.com**.

MadgeTech Cloud Services Support

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