



# **Edu-Logger Radio Frequency Module 900-216**



## **Edu-Logger RF communication module 900-216**

The RF communication module allows for remote operation of all Edu-Logger sensors. The RF modules communicate wirelessly with one another – acting similarly to a very long cable between the sensor and a computer to stream data to the Edu-Logger software in real time.

The working range of the RF module is up to 20 meters (65 feet) which adds a large amount of flexibility to truly customize your experiments to your specific needs.

The computer does not need to have Bluetooth or Wi-Fi capabilities; everything required is built directly into the RF communication module. The RF modules will work with any computer which has a USB port to connect the USB module into.

## Using Edu-Logger RF modules:

As with all Edu-Logger devices, setting up the RF communication modules is very quick and easy. It is important however to follow these few steps to properly collect data.

### Materials needed:

- 2 RF communication modules (900-216)
- USB module (900-213)
- Battery module (900-215)
- Any Edu-Logger sensor

### Setting the RF ID number:

For your RF modules to properly work they must be set to the same ID channel (paired) so they can “speak” with one another directly. This is done very easily using the Edu-Logger software. Keep in mind, if you have multiple pairs of RF modules in the same area they must be set to different RF ID values (1 through 9) to prevent interference.

1. Connect the USB module into your computer using the included USB to micro-USB cable.
2. Connect both of the RF modules into the USB module.
3. Open the Edu-Logger software.
4. Click on the “Edu-Logger Tools” button located at the top of the screen.
5. In the dropdown menu click on “Set RF ID”.
6. Select an ID number (1 through 9) and make note of your selection.
7. Note: To pair your RF modules, set the ID of each RF to the same value (1 through 9).

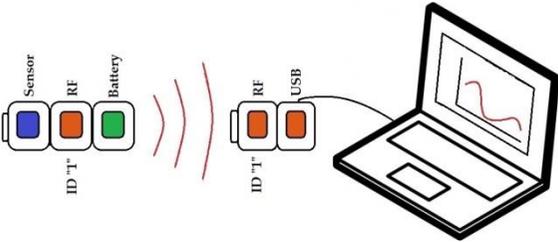
8. Both of your RF communication modules are now set to your chosen value (paired).
9. Note: This setup is not required prior to every use as long as you keep modules with similar ID's paired for experimentation.

### **Connecting sensors using RF modules:**

Once you have paired two RF communication modules to the same RF ID number (1 through 9) you can begin connecting Edu-Logger modules and sensors together. Again it may be easiest to imagine the RF communication modules as a long cable between the sensor and the USB module.

1. Connect the USB module into a computer using the included USB to mini USB cable.
2. Connect one of the paired RF modules to the left side of the USB module.
3. Separately, connect the second RF module into the left side of a charged battery module. Note: press and hold the button on the front of the battery module: if a light comes on, than the battery has sufficient power. If no light comes on, than you must charge the battery some more.
4. Connect whichever sensors you wish to use into the left side of the second RF module (which is connected into the battery). Note: You can conduct experiments with up to 5 Edu-Logger sensors using the RF modules.
5. Open the Edu-Logger software; it will automatically search for sensors.
6. Once your sensors are detected you are ready to begin collecting data wirelessly!

For reference, the image below demonstrates roughly how your setup should appear.



<b>Specifications:</b>	
<b>Frequency</b>	2.4 GHz DSSS (Direct-sequence spread spectrum)
<b>Bit Rate</b>	1 Mbps
<b>Maximum Range</b>	20 meters in open air.

<b>Included in package:</b>
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- 2 Edu-Logger RF communication modules
- Edu-Logger RF communication module instruction guide (this document)

### **Maintenance and storage:**

- Never submerge the Edu-Logger plastic body in any liquid.
- After use, gently wipe away any foreign material from the RF module
- Store in a box at room temperature out of direct sunlight.

### **Warranty:**

We promise to deliver our sensor free of defects in materials and workmanship for a period of 3 years from the date of purchase. Our warranty does not cover damage of the product caused by improper use, abuse, or incorrect storage. Sensors with a shelf life such as ion selective probes have a warranty of 1 year. Should you need to act upon the warranty please contact your distributor. Your sensor will be repaired or replaced.

**Thank you for using Edu-Logger!**

Flexible, simple, fast, forward thinking.

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