

SERVING CLEMSON SURVEYING CLEMSON

Using the EOS Arrow 100

The following steps will get you set up with the Arrow 100 GPS receiver and ready to start field data collection. Before you begin, make sure you have access to EOS Tools Pro and ArcGIS Survey123 or ArcGIS Fieldmaps. EOS Tools Pro provides an easy interface for setting up the Arrow 100, which can then record precise location information in ArcGIS Survey123. These apps are already installed on the Samsung Field Tablets and are free to install on personal devices as well.

Setting Up the Arrow 100 for Survey

1. Remove the two halves of the survey pole from their carry case. Screw together the top and bottom halves, *being careful with the pointed end of the survey pole*. When complete, the pointed end should go down and the bubble level should be visible and facing up at the center of the pole.
2. Remove the Arrow 100 Antenna and mount (bronze disk with screw mount attachment) from the Arrow 100 kit and screw it on to the top of the survey pole. Make sure the Arrow 100 antenna is secured to the pole, but do not overtighten.
3. Follow the instructions below to connect the Arrow 100 receiver to the antenna and power on the Arrow 100.
4. Once power on and setup are complete, the Arrow 100 receiver should be carried in the orange sling bag in the Arrow 100 kit, worn by the surveyor.
5. When collecting data, make sure that the antenna height is set to 2.036 meters, the height of the survey pole plus the antenna mount.

Powering Up the Arrow 100

1. Connect the antenna cable to the Arrow 100 receiver. Twist the base of the antenna cable until it is snug, but do not overtighten.
2. Connect the other end of the antenna cable to the Arrow antenna. Again, do not overtighten.
3. Place equipment in the open with clear view of the sky.
4. Power on the Arrow 100 receiver. Hold the power button until the Power LED lights up.
 - a. Initially, the red power LED will light up and the blue Bluetooth connection LED will blink.
 - b. Give the Arrow 5 to 10 minutes to track satellites and determine its position. After this initial startup, satellite fix time will only take a minute or two.
 - c. Once all the LED lights are on, the Arrow is ready to collect data. The accuracy of the receiver can now be viewed in the EOS Tools Pro app to confirm that the receiver is ready for data collection.

Connect to the Arrow 100

1. Turn on the Arrow 100 and wait until the Bluetooth light is flashing.

2. Open the Bluetooth settings on the Survey Tablet or your personal device and connect to the “**Arrow 100 GNSS 18320906**” device. If you do not see this device, refresh the Bluetooth device list and make sure that the Bluetooth light on the Arrow is still flashing.
3. Open EOS Tools Pro, and the screen should show the data output of the Arrow receiver. If the screen says “Looking for authorized connected devices...” return to the Bluetooth settings and make sure that Bluetooth is connected to the Arrow 100.

Collecting Data with the Arrow 100

1. Once the Arrow 100 is ready to collect data and connected to a device, open the ArcGIS Survey123 app on the Survey Tablet or personal device (or ArcGIS Fieldmaps, if desired and using a personal device).
2. If necessary, log into Survey123 with your Clemson ID.
 - a. Click “Sign in to ArcGIS Online” on the loading screen or click the icon in the top right corner of the screen, then select the “Sign in” button.
 - b. Select Your ArcGIS organization’s URL, type “clemson” in the blank provided, then click *Continue* and select the blue button for Clemson University that appears on the next screen.
 - c. Input your Clemson username and password, then *Login*.
 - d. If using the Survey Tablet checked out with the survey equipment, it is generally a good idea to sign out of these apps when returning the equipment.
3. Open the Settings pane by clicking the icon in the top right corner of the screen, then selecting *Settings*.
4. In the Settings pane, select *Location*. In the Location window, click + *Add location provider* at the bottom of the screen.
5. In the *Select Connection Type* window that pops up, choose Bluetooth. The device will automatically begin searching for available GPS devices connected to Bluetooth such as the Arrow 100 receiver.
6. Select Eos Positioning Systems 18320906 (the Arrow 100) when it appears under *Select a provider*. On the next screen, if using the green or yellow survey poles with the Arrow 100, input 2.036 as the Antenna Height. Otherwise, measure the height from the base of the survey pole to the bottom of the antenna mount and add 0.036 to calculate the height of the receiver, and input this as Antenna Height.
7. Click the back arrow on the top left corner of the screen until you return to the Location window. There should now be a green check mark to the left of the Eos Positioning Systems entry. This indicates that the app is now receiving location information from the Arrow 100 receiver.
8. Use the back arrow to return to the main app interface. You are now ready to download a project from your ArcGIS account and begin collection information!
 - a. For more information on capturing field data using ArcGIS Survey123 or Fieldmaps, consult the following link or use the QR code below: <https://bit.ly/3zuZ1Iz>



