

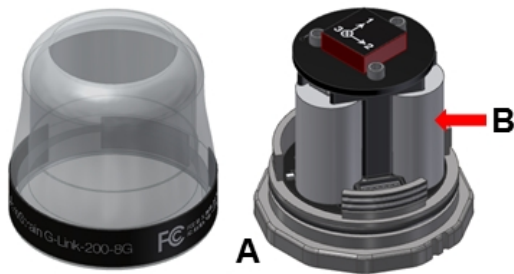
LORD QUICK START GUIDE

G-Link[®]-200

Ruggedized High-Speed Triaxial Accelerometer Node

The G-Link-200 wireless accelerometer node features an on-board triaxial accelerometer that allows high-resolution data acquisition at noise levels as low as 25 or 80 $\mu\text{g}\sqrt{\text{Hz}}$. The G-Link-200 can output continuous waveform data, or one of four derived channels, including Velocity (IPS_{rms}), Amplitude (G_{rms} and $G_{\text{pk-pk}}$) and Crest Factor, allowing long-term monitoring of key performance indicators while maximizing battery life.

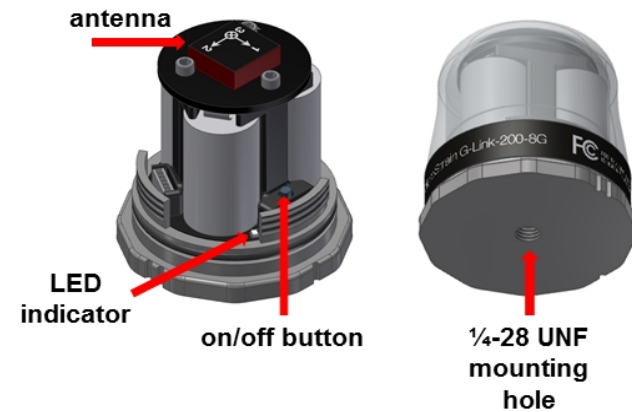
To acquire sensor data, the G-Link-200 is used with a LORD Sensing data gateway such as the WSDA-101 or WSDA-1500 Base. G-Link-200 sensor nodes come with the following components.



Item	Description	Quantity
A	G-Link-200	1
B	½ AA, 3.6 V Lithium Batteries	3

Table 1 - G-Link-200 Components List

The G-Link-200 LEDs indicate operational modes showing when the node is booting up, idle and waiting for a command, sampling, resynchronizing, or if there is an error.



Indicator	Behavior	Node Status
Device status indicator	OFF	Node is OFF
	Rapid green flashing on start-up	Node is booting up
	1 (slow) green pulse per second	Node is idle and waiting for a command
	1 green blink every 2 seconds	Node is sampling
	Blue LED during sampling	Node is resynchronizing
	Red LED	Error or low battery

Table 2 - Indicator Behaviors

SYSTEM OPERATION

Sensor nodes have three operational modes: *active*, *sleep*, and *idle*. When the node is sampling, it is in active mode. When sampling stops, the node is switched into idle mode, which is used for configuring node settings, and allows toggling between sampling and sleeping modes. The node will automatically go into the ultra low-power sleep mode after a user-determined period of inactivity. The node will not go into sleep mode while sampling.

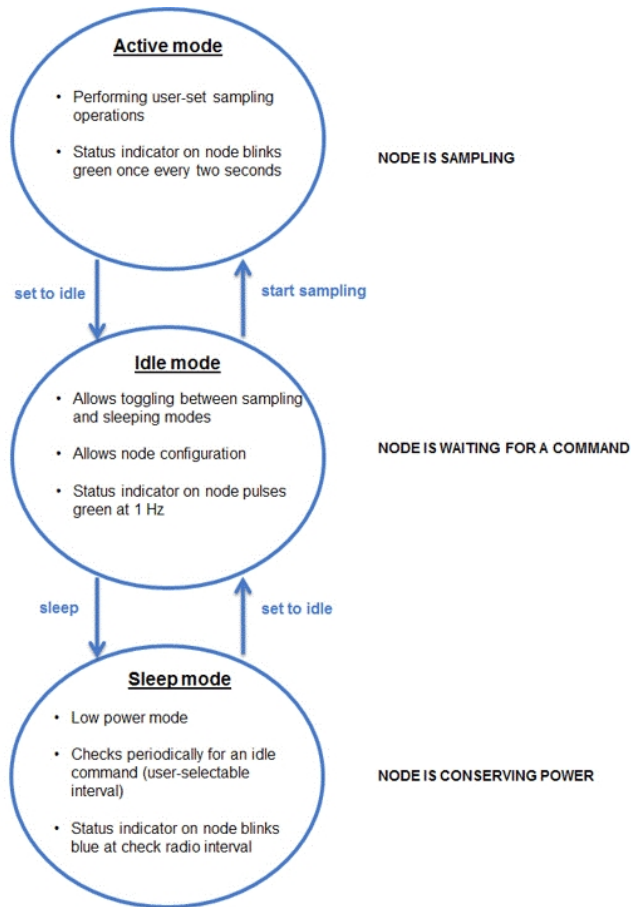


Figure 1 - Node Operational Modes

1. Install Software

Install the **SensorConnect** software on the host computer before connecting any hardware. The SensorCloud web platform is also available for data visualization and analysis, and it is accessed by logging onto the SensorCloud website. The SensorConnect software is available on the LORD Sensing website for free download:

<http://www.microstrain.com/software>

SensorCloud is an optional data collection, visualization, analysis, and remote management tool. It is based on cloud computing technology and is accessed directly from a web connection. Automatic, real-time data collection is available through Ethernet gateways, such as the WSDA-1500. Data files can also be uploaded. For more information, see [Connect to SensorCloud on page 1](#).

2. Establish Gateway Communication

Drivers for the USB gateways are included the SensorConnect software installation. With the software installed, the USB gateway will be detected automatically whenever the gateway is plugged in.

1. Power is applied to the gateway through the USB connection. Verify the gateway status indicator is illuminated, showing the gateway is connected and powered on.
2. Open the SensorConnect software.
3. The gateway should appear in the Controller window automatically with a communication port assignment. If the gateway is not automatically discovered, verify the port is active on the host computer, and then remove and re-insert the USB connector.

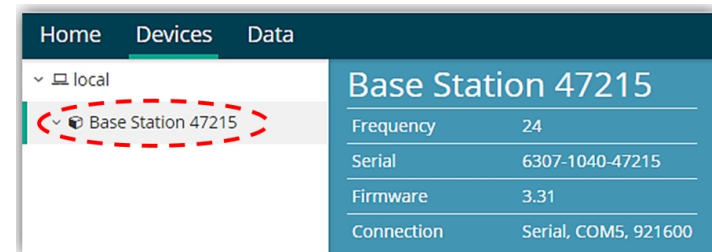


Figure 2 - USB Gateway Communication

3. Connect to Nodes

Several methods can be used in SensorConnect to establish communication with the nodes: the automatic node discovery feature, manually entering the node address, and scanning transmission frequency and node address ranges.

A. Add Node Via Node Discovery

If the base and node are on the same operating frequency, the node will populate below the Base Station listing when powering on the G-Link-200.

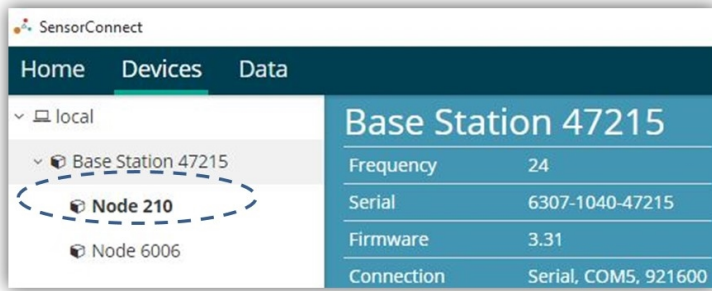


Figure 3 - Node Discovered On Same Frequency

If a red circle with a number appears next to the Base Station, the node is operating on a separate radio channel (see [Connect to Nodes on page 3](#)).

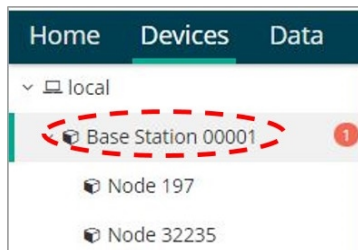


Figure 4 - Node On Other Frequency

B. Add Node Manually

Adding a node manually requires entering the node address and its current frequency setting.

From the Base Station, select the Manual Add Node tile, enter the Node Address, last known Frequency (factory default is 15), and select Add Node.

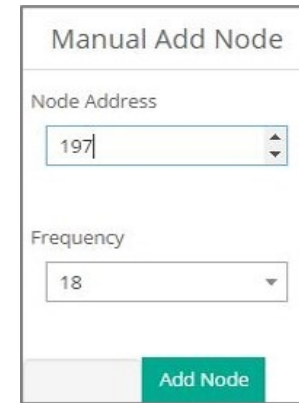


Figure 5 - Add Node By Address

If the node was successfully added, two confirmation messages will appear and it will be listed under the Base Station.

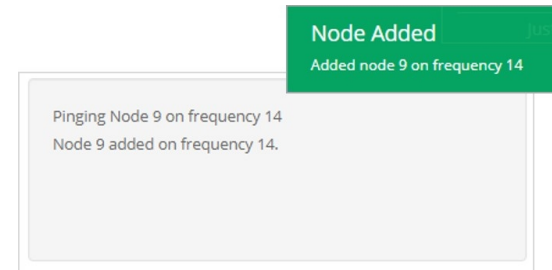


Figure 6 - Add Node Confirmation

If the node failed to be added, a failure message will appear. This means the node did not respond to the base station which could indicate the node is not in idle mode or it may be on another frequency. If "Add Node Anyway" is selected, it will associate that node with the channel entered but it is likely there will be a communication error. If the node was not in idle, move the base station to the frequency of the node and issue a "Set to Idle" command.

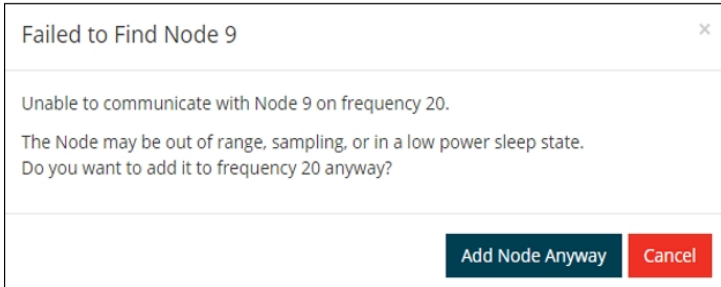


Figure 7 - Failure to Add Node

C. Move Node to Base Station Frequency

If a red circle with a number appears next to Base Station, the node is operating on a separate radio channel. Select the Base Station and then select the Nodes on Other Frequencies tile.

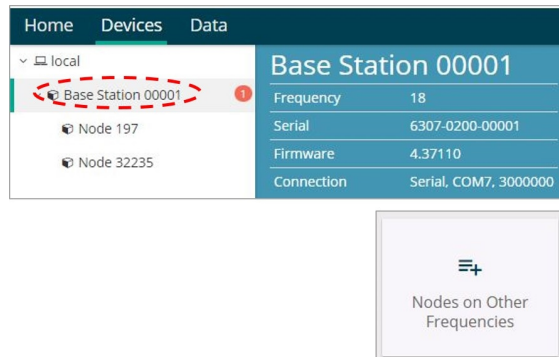


Figure 8 - Nodes On Other Frequencies

Highlight the new node being added and select Move Node to Frequency (#).

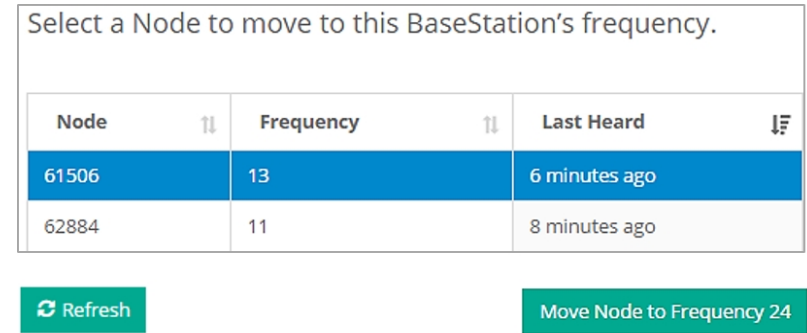


Figure 9 - Move Node

4. Configure Node

Node settings are stored to non-volatile memory and may be configured using SensorConnect. The configuration menus show the channels and configuration options available for the type of node being used.

For this example, the G-Link-200 is using the default settings found under Configure > Hardware.

Input Range: ± 2 G's (acceleration)

Input Range: ± 10 G's (acceleration)

Low Pass Filter: 1000 Hz

Low Pass Filter: 800 Hz

High Pass Filter: Disabled

High Pass Filter: Disabled

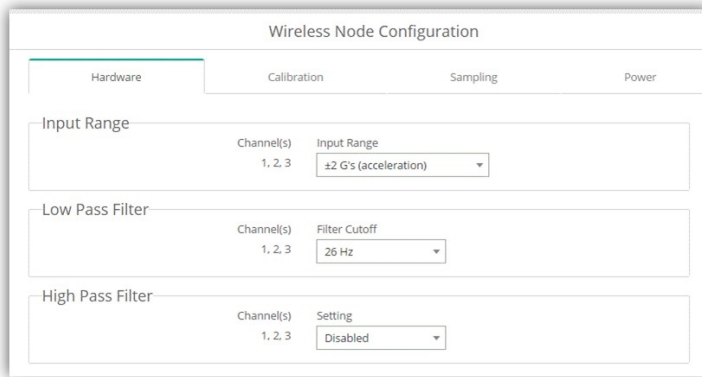


Figure 10 - Node Configuration

5. Configure Sampling Setting and Start Data Acquisition

1. Left click on the Base Station > Sampling, and indicate the nodes to be sampled by checking the box to the left of each node.
2. Under 3 Channels, select Raw Channels, ch1, ch2 and ch3 from the drop down menu.
3. Under Sampling, select Sample Rate from the drop down menu, select Continuously to sample indefinitely.

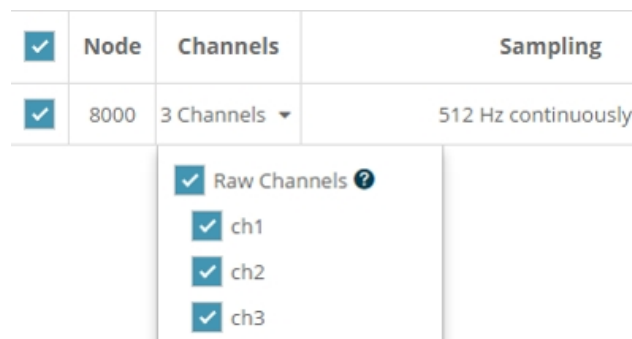


Figure 11 - Sampling Setting

4. Select Apply and Start Network.
5. Select Create Quick View Dashboard in the pop up window immediately to create a dashboard of the new data.

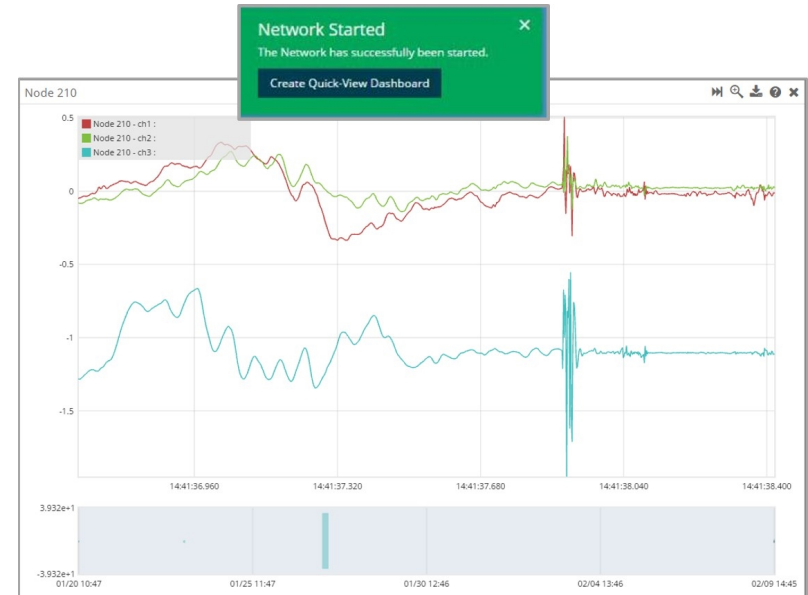


Figure 12 - Quick View Dashboard

6. Replacing Batteries

1. Remove the cap from the G-Link-200.
2. Remove the three ½ AA batteries from the G-Link-200.
3. Insert three new ½ AA batteries (Saft LS 14250 recommended), observing the correct polarity orientation. The positive polarities are indicated on the batteries and the node by a "+" symbol.
4. Replace the cap.

7. Battery Hazards



NOTICE



Lithium batteries contain toxic chemicals that are harmful to humans and the environment. Disposal is subject to federal and local laws. Do not discard the battery or the node in the trash. Follow proper battery disposal protocol, or contact LORD Sensing Technical Support for information on extracting the battery or returning the product for proper recycling and disposal.

