

Technical Note

V-Link[®], G-Link[®], SG-Link[®], and SG-Link[®] OEM 2.4 GHz Wireless Sensors



Logging Data in Low Duty Cycle Mode

Overview

MicroStrain's V-Link[®], G-Link[®], SG-Link[®] and SG-Link[®] OEM 2.4 GHz wireless sensor nodes can be set to operate in Low Duty Cycle (LDC) mode in 3 different ways. They can 1) datalog LDC only, or 2) transmit LDC only, or 3) datalog and transmit LDC at the same time. This technical note discusses how to conduct such operations with Agile-Link software version 1.4.1.

Applicability

This functionality is only available on nodes with firmware 4.97 or higher and on base stations with firmware 2.00 or higher.

Operation

Step 1

- As an example, let's setup for a 'datalog LDC only' session.
- Establish communications between the node and the software as normal.
- Right-click the node. A drop-down menu appears.
- Click Read/Write EEPROM.
- The Read/Write EEPROM window appears.
- Enter the value 38 (for EEPROM address 38) in the upper left number scroll.
- Click the Read button.
- By default, a value of 43690 will appear in the upper right text box. This is the factory default.
- Enter the value 1 (for datalog LDC only) in the upper right text box.
- Click the Write button and the value will be written to EEPROM.
- Click OK and the Read/Write EEPROM window disappears.

Step 2

- Good practice now dictates that you clear the datalogging memory of the node.
- Right-click the node. A drop-down menu appears.
- Click Datalogging.
- Click Erase.
- A confirming message box appears.
- Click Yes and the message box disappears.
- A progress bar indicates erasing and upon completion, disappears.

Step 3

- Now let's set up a short LDC session.
- Right-click the node.
- Click Configure and the Configuration window appears.
- Click the Low Duty Cycle tab.
- Set the Sample Rate to 1 Hz.
- Uncheck Continuous Low Duty Cycle.
- Set the Sweeps to 100.
- Click Apply. Click OK and the Configuration window disappears.

Step 4

- Right-click the node. A drop-down menu appears.
- Click Low Duty Cycle. Click Start.
- The Data Collector tab will appear.
- You will observe that LDC appears to have started but that no data is appearing in the Data Collector.
- This is because the node has been set to 'datalog only'.
- It is not transmitting data over the air as is normal in LDC.
- After 100 seconds, right-click the node in the Data Collector.
- A drop-down menu will appear.
- Click Stop All Monitoring.
- A confirming message box will appear.
- Click Yes and the message box will disappear.

Step 5

- Move to the Localhost frame and right-click the node. A drop-down menu will appear.
- Click Datalogging.
- Click Download and the LDC datalogging just completed will be downloaded.

Step 6

- Right-click the node. A drop-down menu will appear.
- Click Datalogging.
- Click Browse Triggers and the Trigger Browser window will appear.
- Click and open the download just made as normal.
- The data will be laid out in a normal datalogging file with the following major exception: The time stamp column will be erroneous. The current Agile-Link software does not understand the LDC datalogging that we are performing. In this case, establish the correct time stamp by equating the data to the time-stamp expected. In this example, we set up a 1 Hz sampling rate, so each data row will be at a 1 second interval.

Table of EEPROM 38 Settings

Value	LDC Action
1	Datalog only
2	Transmit only
3	Datalog and transmit
Any value other than 1, 2 or 3	Transmit only



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