Varying the Sample Rate on Delphin's Expert Logger

Delphin's Expert Logger series can log data at speeds up to 100 Hz per channel. When setting sampling speeds in Delphin ProfiSignal software, users have a choice between logging at a constant rate or at a maximum rate. In our latest Tech Article from Delphin, we discuss both of these options.

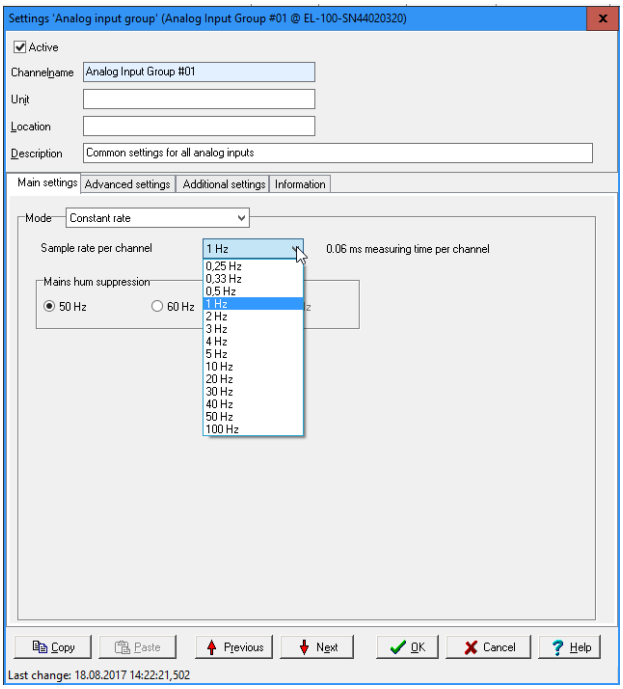
For more information on Delphin data acquisition systems, call CAS DataLoggers at (800) 956-4437 or visit our website at www.dataloggerinc.com.

Varying the Sampling Rate:

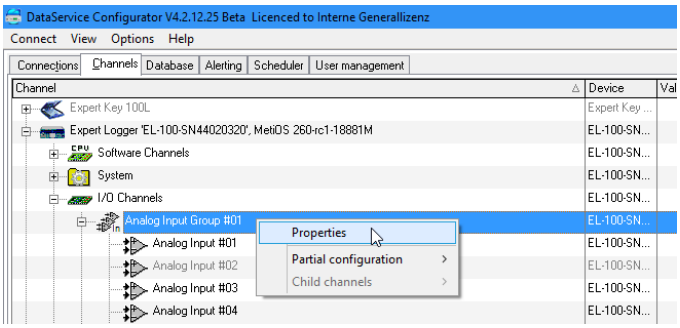
All of the analog inputs within a Delphin Expert Logger device are organized according to groups. Depending on the type of device, there are 2 or 3 analog groups containing up to 16 analog inputs. Sample rates in Expert logger devices can be set according to these individual analog groups.

Two different sample rate options are available:

1. **Constant rate:** Determines the sampling rate for each analog input, irrespective of the active channels in the group. Using the Delphin Expert Logger series, it's possible to set sample rates ranging from 0.25 Hz to 100 Hz per channel. Using a constant rate, you always get the same set sample rate. See the following screenshot.



2. **Maximum rate:** Sample rates are set via set conversion times. The rate is calculated from the sum of the A/D conversion times for the active channels. See the screenshot below, taken from the Delphin DataService Configurator utility.



As always, keep in mind that faster sampling rates also increase signal interference, resulting in a lower measurement precision. Therefore, the lower the sampling rate, the more exact the measurement.

How Fast Should I Log Data?

Typically you'll need high sampling speeds for complicated applications including product test, test benches, R&D, etc.

As for how long you want to keep logging data, this depends on the memory capacity of the logger and the sample rate. Duration can be determined by dividing the memory capacity by the sample rate. For example, if the logger can store 10,000 samples and you take 2 samples every minute, the data logger could run for 10,000/2 or 5,000 minutes (about 3 days).

If your data values (for ex. temperature, voltage) won't change several times a second, you can save time and hassle by setting your data loggers at a lower sample rate (say, once every 5-10 minutes depending on what you're monitoring) which keeps you from getting a mountain of repetitive data. You'll also save memory space on your data loggers so you can record over longer periods and ensure that all the data you view is relevant.

Need a Measurement System? Ask the Experts!

At CAS DataLoggers we have the industry's most complete selection of data logging equipment, with hundreds of different models from more than 18 manufacturers.

No matter what sample speed you need, we can provide your business or organization with the technology to cut labor costs, save time, and measure your critical values at high accuracy.

For more info on Delphin Data Loggers, or to find the ideal solution for your application-specific needs, contact a CAS DataLoggers Application Specialist at (800) 956-4437 or visit our website at www.DataLoggerInc.com.