LGR-5320 Series Frequently Asked Questions

Is 200 kS/s the per-channel sampling rate or the aggregate sampling rate?

Analog channels are sampled at up to a 200 kS/s aggregate rate (100 kS/s max with the LGR-5325). The per-channel sampling rate is determined by dividing the aggregate sample rate by the number of channels being sampled.

This means that if you are measuring 1 channel you will be able to sample at 200 kS/s, but if you are measuring 2 channels, you will only be able to sample at 100 kS/s/channel. If you are measuring 4 channels, the highest overall sampling rate is 50 kS/s/channel.

Can I sample all the data at 200 kS/s?

The overall throughput of the LGR-5320 series is limited by the throughput of the SD card. Most SD cards can support data transfer over 600 kS/s.

All digital lines are read as a group and require one sample. Each individual 32-bit counter/encoder requires two samples. If you configure your device to read all analog channels, any/all digital input channels, and a 32-bit counter/encoder channels at 100 kS/s, the overall throughput to the SD card will be:

> 100 kS/s (analog channels) + 100 kS/s (digital channels) + 2x100 kS/s (1 encoder) = 400 kS/s

How will I know if I'm sampling too fast?

If the acquisition is too fast for data to be continuously written to the SD card, logging will stop, "SD STAT" LED will flash and the Analog Input LEDs will display error code 0x07 (00000111).

What is the skew between channels?

The analog-to-digital converter (ADC) samples data at a fixed rate of 200 kS/s. Therefore the channel to channel skew for the analog channels is 5 µS. If you are reading all 16 analog channels, the overall skew from channel 0 to channel 15 will be 80 µS (16 * 5 µS).

Please note that the first analog channel and all digital channels (digital inputs, counters, encoders) are sampled with the first sample clock, therefore there is minimal skew between the first analog channel and all digital channels.

Can channels have different sample rates?

No. All channels must be sampled at the same rate.

Can I have different pre-trigger and post-trigger scan rates?

Yes. Data can be logged at different rates before and after a trigger event.

How do I know data is being taken?

The LGR-5320 series uses 5 LEDs to signify the state of the instrument. When the device is logging, the LOG LED will be on.

How do I configure the LGR-5320 Series Logger?

DAQLog software is included with all LGR-5320 series loggers and can be used to configure supported devices directly or to create a configuration file (or several configuration files) for later transfer to devices. If the logging device is connected to the PC via USB on which DAQLog is running, the configuration can be deployed directly to the device. If the logging device is not connected to the PC the configuration file can be transferred to the logger via the supplied SD card.

For more information about configuring the LGR-5320 Series logger please refer to the LGR-5320 data sheet.

Can I see the data in real time?

No. During an acquisition the data is streamed directly to the SD card. Once the acquisition is complete, the file can be downloaded via the USB cable or directly from the SD card.

Logged data is stored as one or more .dat files on the memory card. After logging data, you can convert the .dat files with DAQLog.

Can I import the data into other programs?

Yes. The LGR-5320 series loggers save data in a binary format. DAQLog provides the ability to convert the binary file (*.dat) to an ASCII file (*.csv). Users can drag and drop the ASCII file into MS Excel and other programs for graphing and analysis.

Can I swap SD cards during an acquisition?

No. If you need to remove the SD card, you must stop the acquisition in process. The LGR-5320 does, however support up to 32 GB SD memory cards for very large log files.

Can I run the LGR-5320 Series on battery power?

Yes. Any source that supplies between +9 VDC and +30 VDC is acceptable. While MCC does not offer a battery accessory, battery operation is an option.