

# APPENDIX A

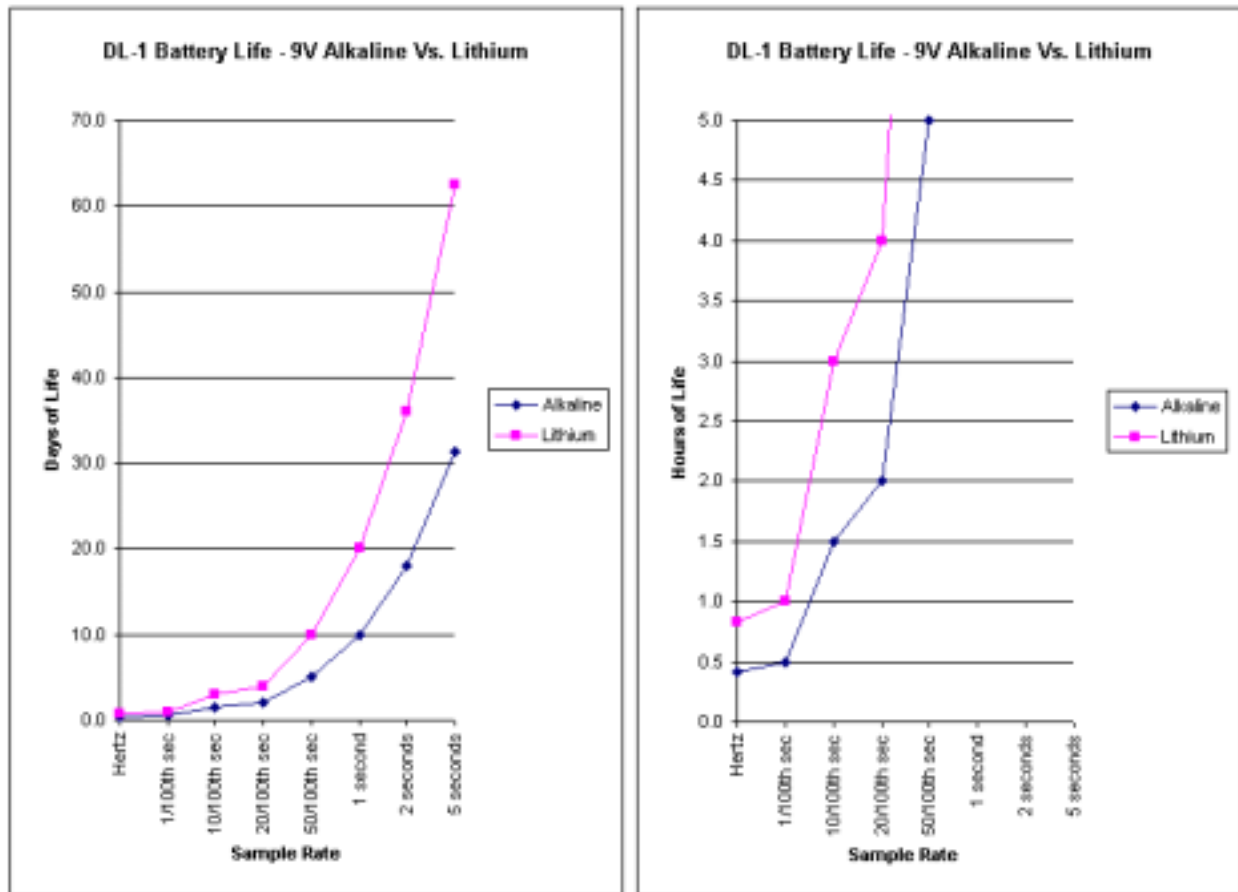
## Model DL-1 Technical Information

### 1. Battery Life Vs. Configuration

Battery life is virtually independent of the number of channels configured for sampling. With 1 channel selected, 540,000 sample records can be logged, but with 4 analog channels selected only 135,000 sample records can be logged.

For short run times, power consumption is not critical. However, with long run times in applications which require battery operation, it is important to verify that the configuration will run to completion before the battery is drained.

The following graph shows the effect of variations in the *Logging Indication Flash Interval* with various *Sample Intervals* at room temperature.



The Sample Interval directly affects battery life; each sample recorded consumes a fixed amount of power. To be sure a logging sequence will run to completion before battery power is expired, find the desired logging sequence Total Run Time on the "Battery Life (Days of Life)" axis on this chart. A horizontal line drawn through this point will intersect the curves for various Sample Intervals, indicating valid combinations of the sampling and flash intervals for which a Duracell 9V Alkaline battery Vs. a Lithium battery at full capacity will provide proper operation.

**\*\*IMPORTANT:** This profile for battery life does not apply when the Trigger Mode is enabled. With trigger mode enabled, battery life is much shorter. The actual life is not to be specified because of the many options and unknown trigger frequency. Estimated operating times for a 9V alkaline battery range between 15 and 30 hours in the trigger mode.

## 2. Timing and Storage Format

The sequence in which input channels are sampled follows the order shown in the application software configuration window, starting with Channel 1 and ending with Channel 4.

Each analog channel to be sampled requires approximately 200 microseconds. Actual sampling is completed after 12 microseconds (this is the “sampling time aperture”); however, some time is required for conversion and filtering. Four (4) of these samples are taken and then averaged for each reading to be recorded.

## 3. Electrical & Mechanical Specifications

<b>INPUTS</b>	
Analog Input Voltage Range Resolution Absolute Accuracy Input Bias Current	4 Analog 0 to 5 V (DL-1-10:0 to 10V) 20mV (DL-1-10:40mV) ± 10mV (DL-1-10 ± 20mV) 400 nA (DL-1-10: ~ 15kΩ)
Sampling Frequency	Fast as 512 Hz, Slow as 99 min. (All channels)
<b>DATA STORAGE</b>	
Data Storage Recording Duration Data Memory Battery Life	540,672 samples 0.002 seconds to years 10 years
<b>OPERATING</b>	
Power Supply Voltage Current Standby Recording LED Indication (sampling)	9V battery 300µA  26mA (only while sampling) 10mA (can be disabled)
<b>BATTERY LIFE</b>	Up to 1 month, 9V Alkaline(up to 2 months, lithium)
Temperature Operating Storage	0 to 60 degrees Celsius -20 to +70 degrees Celsius
<b>COMMUNICATION</b>	
Baud Rate Connection Data Format	115,200 bps 9-pin female 8 data, no parity, 1 stop bit
<b>DIMENSIONS</b>	1 ½ in. X 1 ½ in. X 10 ¼ in.
<b>WEIGHT</b>	8.4 OZ. (237 G)