



S3-D40
S3 Vibration Sensor

Polycarbonate
 Digital Capacitive Accelerometer: $\pm 40g$
 Battery: 250 mAh
 Storage: 2 GB

S3-D40

The S3-D40 is a vibration recorder with additional environmental sensors. This model's low cost makes it ideal for general purpose vibration testing.

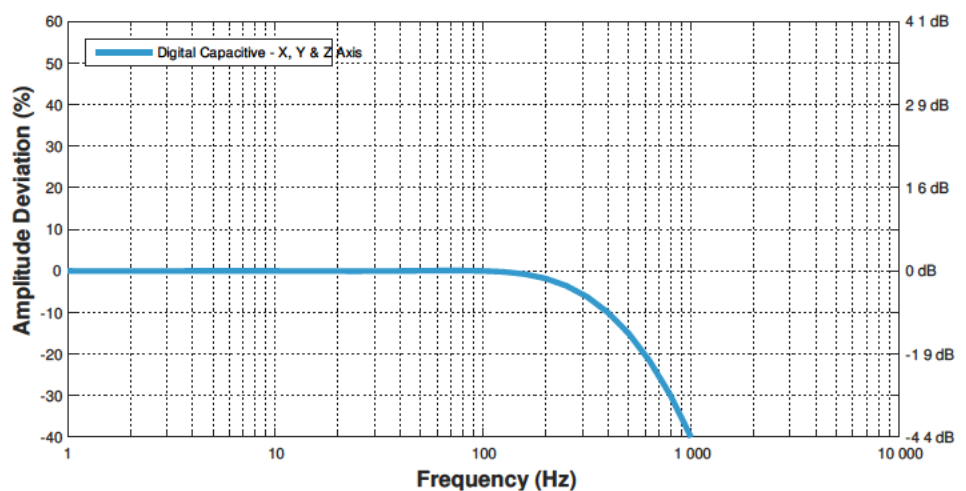
Product Features

- **Convenient, Configurable, and Reliable**
- **Standalone Measurement System**
 Embedded sensors, storage & power
- **Selectable High-Performance Accelerometers**
 Variable capacitance, piezoelectric & piezoresistive
 Selectable measurement range from 16g to 2,000g
 Selectable sampling rate up to 20,000 samples per second
- **Up to 4 Billion Data Points of Memory**
- **Embedded Sensor Suite**
 Gyroscope, magnetometer, pressure, temperature, humidity & light
- **Triggering from Sensors and/or Time-Based**
- **Rechargeable Battery Life of Over 4 Hours Continuous**
 Can operate with external power
- **Simple USB Interface for Download & Charging**
- **NIST Traceable Calibration**
- **Trusted by Over 1,500 Different Commercial Customers**

Accelerometer Specifications

Accelerometer Type	Range	Sampling Rate	Bandwidth	Noise	Resolution
Digital Capacitive	$\pm 40g$	4,000 Hz	0 to 300 Hz	< 0.01 gRMS	0.00008 g

Frequency Response Plot

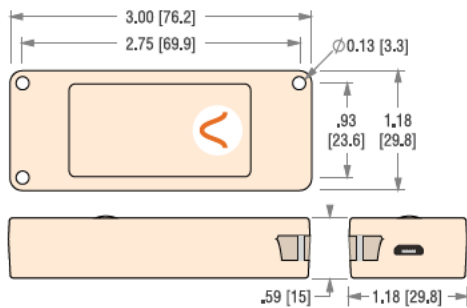


Battery & Storage Performance

Battery performance is heavily dependent upon the device configuration (sensor sample rates and triggers), battery age (including charging cycles), and temperature. The following table provides the battery life and storage capacity of this device assuming it has a relatively new battery and it is at room temperature. When showing performance it assumes all sensors are on at the default sample rate with the main accelerometer sample rate driving performance. With triggers, it assumes the device is in trigger mode 99% of the time. Here are some additional resources: [Setting Sensor Configuration](#), [Battery Specifications](#), [Battery Life Estimator Tool](#).

Sample Rate	Storage Capacity	Continuous Recording	Main Accel. Trigger	2nd Accel. Trigger	Periodic/Time Trigger
50 Hz	8 days	17 hours	53 hours		64 days
200 Hz	5 days	17 hours	53 hours		64 days
800 Hz	45 hours	16 hours	53 hours		60 days
4,000 Hz	13 hours	13 hours	52 hours		52 days

Dimensions



Mechanical Specifications

Mass	40 grams
Case Material	Polycarbonate
Mounting - Screw	4-40 Bolts (70 in-oz)
Mounting - Tape (Double Sided)	3M 950 Tape
Length	76.2 mm (3.00")
Width	29.8 mm (1.18")
Thickness	15.0 mm (0.59")
Ingress Protection	IP 50 (Dust Protected)

Free Software Features

- **Free Standalone Software Packages** [Lab](#) - Configuration, Quick Snapshot, Batch File Conversion [Analyzer](#) - Analysis of enDAQ Sensor Data in MATLAB
- **Configure Sensors for Measurement**
- **Export/Convert Data to CSV or MATLAB**
- **Analysis** FFT PSD Spectrogram Digital Filtering

