

W8-E100D40

W8 Shock & Vibration Sensor

$4,000.00

Aluminum 7075
Piezoelectric Accelerometer: ± 100g
Digital Capacitive Accelerometer: ± 40g
Battery: 4000 mAh
Storage: 16 GB

W8-E100D40

The W8-E100D40 is a vibration and shock recorder with a high performance piezoelectric accelerometer, a secondary capacitive accelerometer and other environmental sensors. It uploads directly to the enDAQ cloud over WiFi after completing a recording yet this wireless connectivity can be configured to be off when desired. This model is most popular for general purpose testing because of its wide application range. Its aluminum enclosure improves reliability in harsh environments and widens its frequency response. The W8 offers an impressive 4,000 mAh battery (our largest) to allow for the longest recording times of our sensors.

Demo with an Engineer
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Coronavirus Update: Please note that delivery times may be affected; for more information please click here, or contact our Customer Success Team

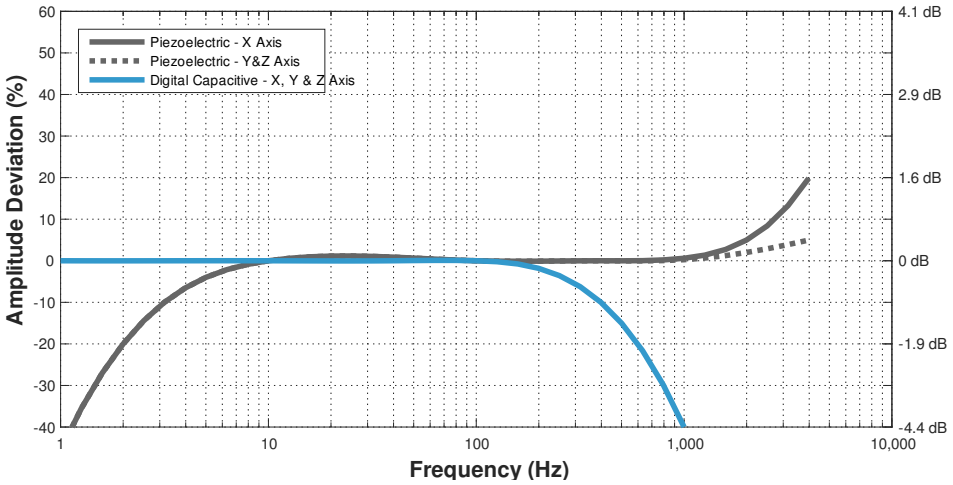
Product Features

- **Convenient, Adaptable, and Reliable** Learn More
- **Standalone Wireless Measurement System**
  Embedded sensors, storage, WiFi connectivity, & 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 8 Billion Data Points of Memory**
- **Embedded Sensor Suite**
  Gyroscope, magnetometer, pressure, temperature, humidity & light
  Now includes GPS and Microphone
- **Triggering from Sensors and/or Time-Based**
- **Rechargeable Battery Life of Many Days**
  Extend battery life with triggering and/or external power
- **Simple USB Interface for Download & Charging**
- **NIST Traceable Calibration**
- **Trusted by Over 2,000 Different Commercial Customers**

Accelerometer Specifications

Accelerometer Type	Range	Sampling Rate	Bandwidth	Noise	Resolution
Piezoelectric	± 100g	20,000 Hz	5 to 2,000 Hz	< 0.04 gRMS	0.003 g
Digital Capacitive	± 40g	4,000 Hz	0 to 300 Hz	< 0.01 gRMS	0.00008 g

Frequency Response Plot



Additional Sensor Specifications

Sensor	Measurement Range	Resolution	Sampling Rate
Microphone	105 dB		0 (off) to 20,000 Hz
GPS Location		2.5 m	0 (off) to 1 Hz
GPS Time		60 ns	0 (off) to 1 Hz
Gyroscope	2000°/s	0.06 °/s	0 (off) to 3,200 Hz
Magnetometer	± 1300 µT	0.3 µT	0 (off) to 10 Hz
Temperature	-40 to 85 °C	0.01 °C	0 (off) to 10 Hz
Pressure	1 to 200 kPa	1.6 Pa	0 (off) to 10 Hz
Humidity	0 to 100 %RH	0.04% RH	0 (off) to 10 Hz
Light	0 to > 20 uV	<100 mlx	0 (off) to 4 Hz

Environmental Specifications

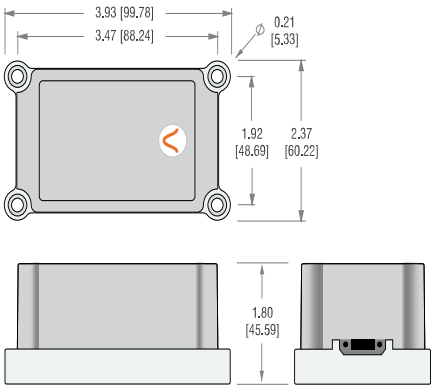
Parameter	Range	Notes
Operating Temperature	-40°C to 80°C (-40°F to 176°F)	
Recommended Storage Temperature	15°C to 30°C (59°F to 86°F)	Recharging Temperature 0°C to 45°C (32°F to 113°F)
Humidity	0 to 95 %RH	Non-Condensing
Pressure	20 kPa to 110 kPa (2.9 psi to 16.0 psi)	Absolute Pressure
Shock Limit	>3,000 g	Refer to Shock Report (PDF)
No Electric Field Susceptibility	2 MHz to 18 GHz @ 200 V/m	Refer to EMI Test Report (PDF)
No Magnetic Field Susceptibility	30 Hz to 100 kHz	Refer to EMI Test Report (PDF)

Battery & Storage Performance

Battery performance is heavily dependent upon the device configuration (sensor sample rates and triggers), battery age (including charging cycles), temperature, and WiFi interference/strength. 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. **It also assumes wireless upload is turned OFF. If the device is uploading to the cloud after every recording, assume a battery life of 50% that listed below.** With triggers, it assumes the device is in trigger mode 99% of the time. Here are some additional resources: Measurement Settings, Battery Specifications, Battery Life Estimator Tool.

Sample Rate	Storage Capacity	Continuous Recording	Main Accel. Trigger	2nd Accel. Trigger	Periodic/Time Trigger
100 Hz	44 days	8 days	8 days	33 days	2.3 years
1,000 Hz	18 days	8 days	8 days	33 days	2.1 years
5,000 Hz	6 days	6 days	8 days	33 days	1.7 years
20,000 Hz	34 hours	3 days	8 days	33 days	320 days

Dimensions



Mechanical Specifications

Mass	250 grams
Case Material	Aluminum Base, Polycarbonate Top
Mounting - Screw	10-32 Bolts (23 ft-lb)
Mounting - Tape (Double Sided)	3M 950 Tape
Length	99.8 mm (3.93")
Width	58.6 mm (2.31")
Thickness	45.6 mm (1.80")
Ingress Protection	IP 50 (Dust Protected)

Free Software Features

- **enDAQ Cloud** Access Data Remotely within Seconds of a Recording Receive Email Alerts Share Recording Files with URL Free for 1 Sensor and 100 GB of Storage $100/Month for 5 Sensors and 500 GB of Storage
- **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 Spectogram Digital Filtering

