

W8-D40

## W8 Vibration Sensor

**$3,250.00**

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

### W8-D40

The W8-D40 is a wireless vibration recorder with additional 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's low cost and robust aluminum enclosure makes it ideal for general purpose vibration testing in harsh environments. 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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Contact Customer Success

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

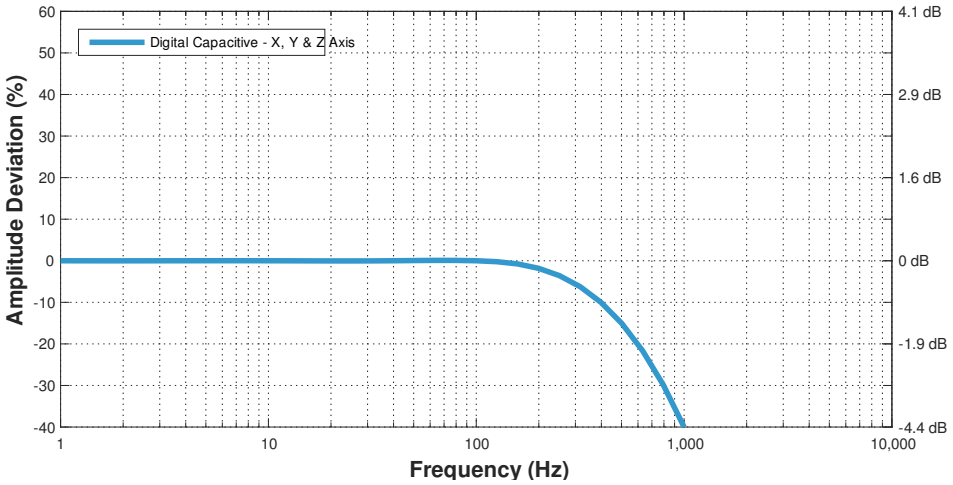
## Product Features

- **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 |
|---|---|---|---|---|---|
| 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

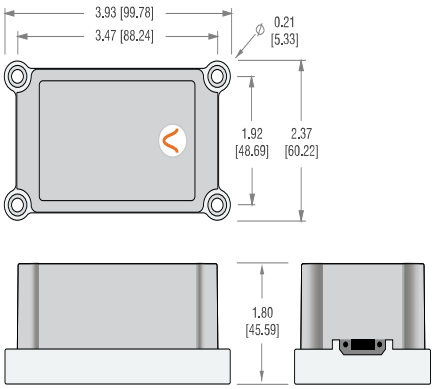
| Parameter | Range | Notes |
|---|---|---|
| Operating Temperature | -40°C to 80°C (-40°F to 176°F) | |
| Recommended Storage Temperature | 15°C to 30°C (59°F to 86°F) | Recharging Temperature 0°C to 45°C (32°F to 113°F) |
| Humidity | 0 to 95 %RH | Non-Condensing |
| Pressure | 20 kPa to 110 kPa (2.9 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 |
|---|---|---|---|---|---|
| 50 Hz | 64 days | 11 days | 35 days | | 2.8 years |
| 200 Hz | 40 days | 11 days | 35 days | | 2.8 years |
| 800 Hz | 15 days | 10 days | 35 days | | 2.6 years |
| 4,000 Hz | 4 days | 8 days | 35 days | | 2.3 years |

## 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

