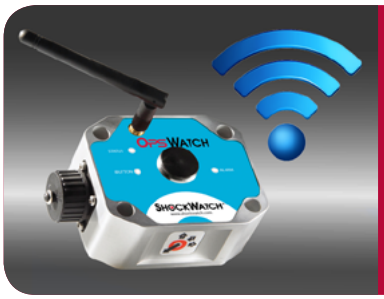
SHOCKWATCH®
SMART SOLUTIONS FOR SAFE TRANSIT

OpsWatch
Wi-Fi Enabled Vibration & Impact Monitoring System



OpsWatch measures both impact and low frequency vibration to identify machine deterioration during operation and detect potential shipping damage to protect equipment, prevent unplanned downtime, maximize utilization, and reduce the cost.

Protect Equipment. Prevent Downtime. Maximize Utilization. Reduce Cost.

Vibration and shock monitoring is an integral part of machine condition monitoring programs. Change in equipment vibration serves as an early warning of decline in operating function and signals the need for maintenance to avoid more serious faults and/or failure. All equipment that has belts, gears, bearings, drive motors, and other moving components has a “normal” range of vibration during operating cycles. The shocks and normal wear and tear of usage that equipment experiences over time generate changes in vibration pattern. OpsWatch enables real time monitoring of low frequency shock and vibration to identify these changes when they happen. The system provides alerts when vibration is outside of the normal range and has the capability to stream condition-based data through Wi-Fi communication.

Detect Shipping Damage Before Equipment Is Installed

By monitoring equipment during transportation and delivering impact alerts and data, the OpsWatch system provides warning of potential damage to equipment before it is installed. With built-in intelligence, OpsWatch adjusts its setting for transport or stationery operation based on the sensed power source: battery for transport and direct power for stationary monitoring. The impact monitoring profile of a piece of equipment changes when it is being transported as a component versus when it becomes part of a larger operational system. Different impact / vibration levels are of concern based on the particular profiles.

Benefits:

- **Protect Equipment** in transit and during operation with the only dual mode device in the industry.
- **Prevent Downtime** by using the data and alerts provided by the OpsWatch system as part of your preventative maintenance program. Data and real-time alerts streamed through Wi-Fi communication into the easy-to-use condition monitoring software will help you to identify potential equipment faults before they occur.
- **Maximize Utilization** by using OpsWatch in stationary mode, monitoring the day to day operation of your equipment.
- **Reduce Cost** by using low frequency vibration and shock detection to drive preventative maintenance before expensive repairs or even equipment replacement is required.

Applications:

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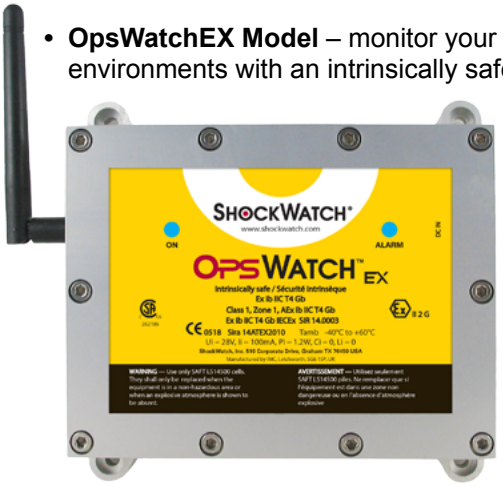
Features

- **User-Friendly Software** – easy to configure to meet your specific needs
  - » Product can be configured remotely using any Wi-Fi enabled device (cell phone, tablet, or laptop)
  - » Impact event max peak values (X, Y, and Z axes) are automatically set to record within each user defined time slot.
  - » User sets warning and alarm levels based on the specific application and the product being monitored.
  - » Custom system integration available upon request
- **Dual Mode Monitoring** – protect your equipment during both operation and transportation
  - » Condition Based Monitoring Mode
    - Transmit impact events and vibration data via Wi-Fi to server-based software
    - Record virtually limitless number of events
    - Event alarms are cleared only after they have been acknowledged by the user
    - Collect data from a single or multiple OpsWatch units installed in a facility
  - » Transport Monitoring Mode
    - Record up to 870 events
    - Set programmable wake-up values to maximize battery life
    - Transfer data from journey automatically when connected to direct power
- **OpsWatchEX Model** – monitor your equipment in Zone 1 environments with an intrinsically safe device



OpsWatch Key Specifications	
Operating Temperature Range:	-22°F to 185°F -30°C to 85°C
Size:	4.8in x 3.1in x 2.2in 123mm x 84mm x 55 mm
Weight:	1.1lbs (without battery) 515g (without battery)
Power Source:	2 x 3.6V Lithium Thionyl Chloride (transport mode) External Power (static mode)
Battery Life:	Up to 12 months
Sampling Rate:	1000-5000 samples per second
Scale Factor Accuracy at 5G:	± 2%
Additional Error Other Ranges:	± 2%
Acceleration Range:	± 1G to ± 200G
Cut-off Frequency Options (Programmable):	10Hz, 40Hz, 50Hz, 90Hz, 120Hz, 250Hz and 500Hz
Wake-up, Warning, and Alarm Threshold (% of Range):	5 - 95%
Wake-up Time:	0.25ms
WiFi Specifications	
Networking Standards:	IEEE 802.11 b/g/n/d/e/h/i/j
Frequency Band:	2.412-2.484 GHz
Wifi Security	Open, WEP-40, WEP-104, WPA, WPA2-PSK, WPA/WPA2-mixed
Certifications	FCC, IC, CE
OpsWatch EX Key Specifications	
Enclosure IP Rating:	IP67
Operating Temperature Range:	-40°C to 85°C -40°F to 185°F
Weight:	1350g
Battery Type:	2 x 3.6V lithium thionyl chloride
Operating Frequency:	2.4GHz
Data Rate:	250000bps
Intrinsically Safe Environment:	Ui=28V, Ii=100mA, Pi=1.2W, Ci=0, Li=0

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