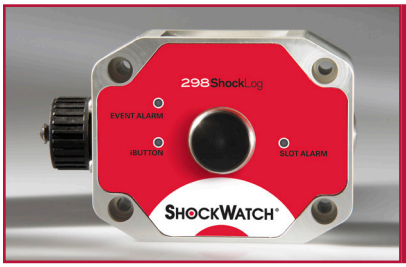
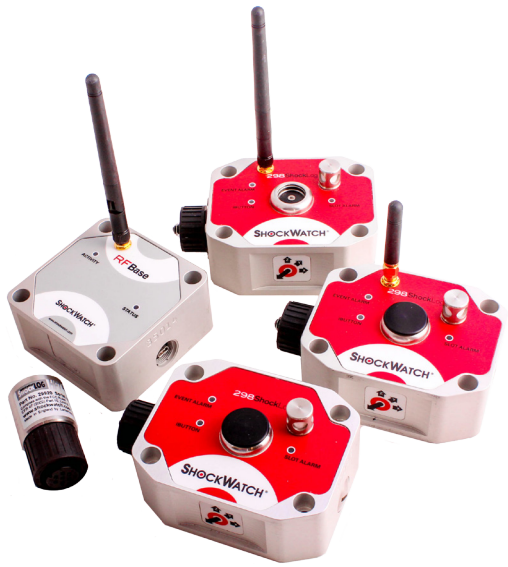
ShockWatch® Impact Recorders

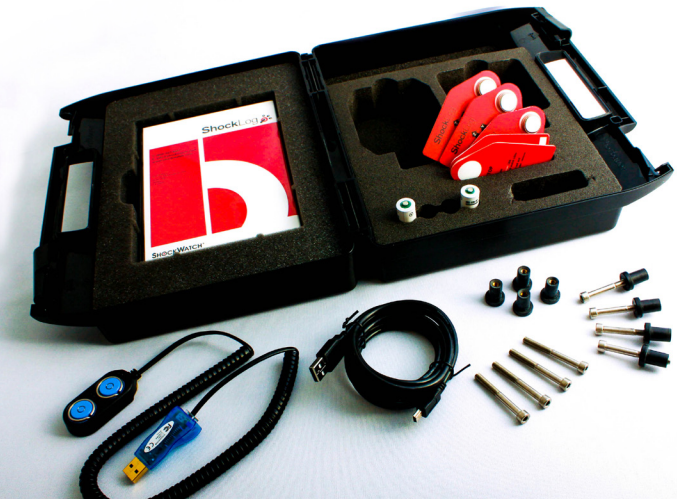


The ShockLog 298 is a highly durable impact recorder that can be configured to monitor critical parameters, providing an unmistakable alert that an impact to a shipment, equipment, or building may have compromised its integrity, performance, or safe operation.

ShockLog 298 Overview

The ShockLog 298 is the flagship model in the ShockWatch® series of impact recorders, which includes the ShockLog 208, ShockLog 248 and g-View impact recorders. With user-programmable impact scale and frequency filters, the ShockLog 298 offers the most flexible option for customers. The ShockLog 298 monitors impact, events, vibration and internal temperature and provides peak value (time slot) and summary period journey profile data. The ShockLog 298 will record the detailed impact curve of up to 870 events. Optional accessories or built-in features allow you to extend the measurement power of the ShockLog 298 units. Measure external temperature, humidity, pressure, tilt, roll or GPS coordinates and tailor the ShockLog 298 to meet the requirements of your particular environment. Set alarm criteria so you know when unacceptable conditions have been encountered.





Identify Incidents Before Delivery or Installation

ShockLog 298 delivers a visual alert that your product has encountered conditions that might affect its performance or safety, enabling immediate inspection and remediation at the time shipment is received or before installation in the field.

Protect Your High Value Assets

Customers use the ShockLog 298 impact recorder to:

- Alert recipients and operators to inspect goods and equipment for potential damage
- Determine baseline damage boundaries
- Detect mishandling during shipping, operation and storage, enabling you to identify and assign accountability and take corrective action
- Make adjustments to product packaging, loading process, carriers or mode of transport
- Help identify opportunities for improvement through journey profiling

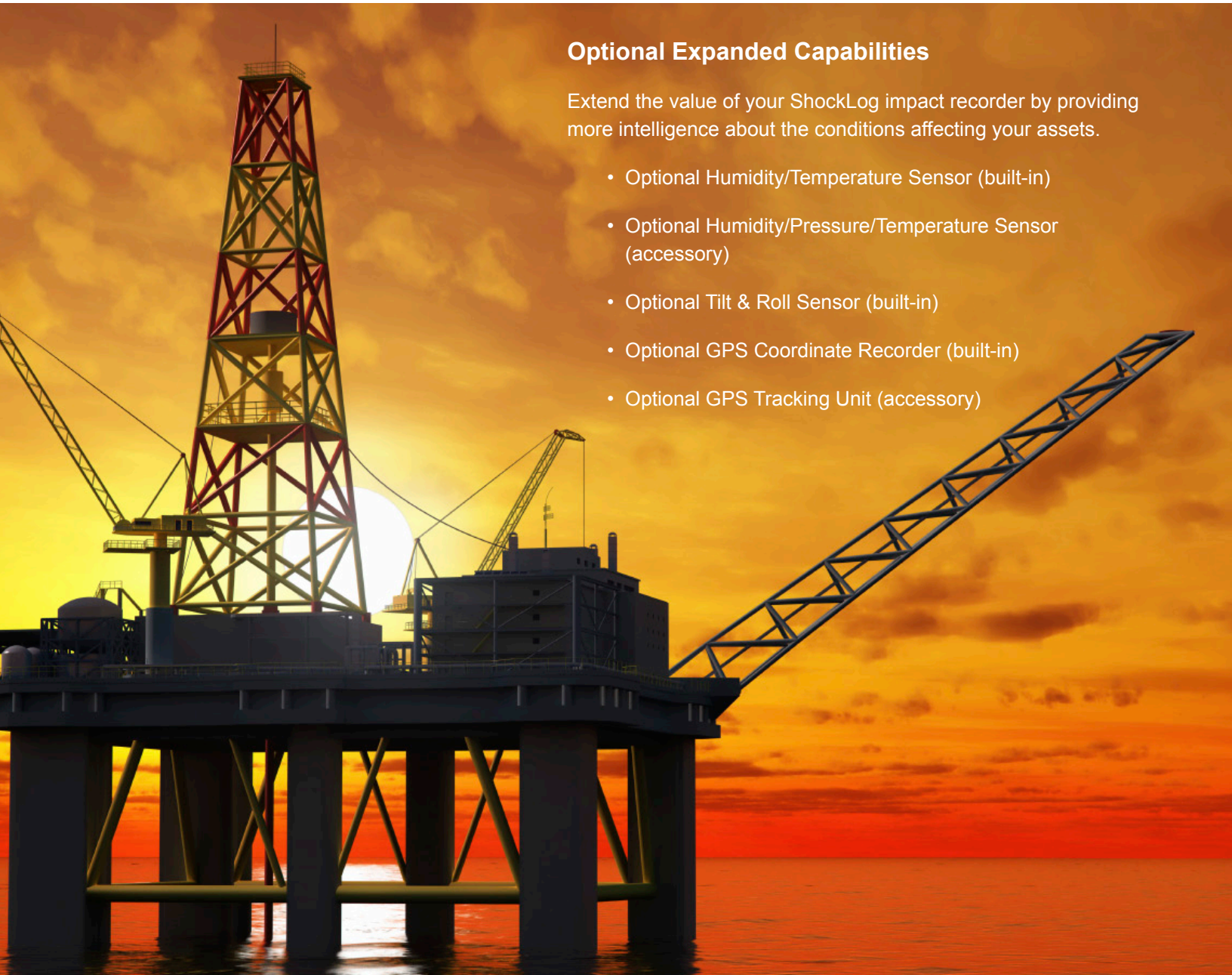
ShockWatch® Impact Recorders

ShockLog 298 Applications

The ShockLog 298 is designed for applications where a variety of conditions are to be monitored.

Below is a small sampling of applications in which the ShockLog 298 has been used:

- Automotive parts: Motors, pumps, windshields, engines, transmissions
- Transportation: Rail cars, barges, cranes, and trucking fleets
- Energy: Oil and gas drilling, power transformers, nuclear materials, solar panels, and wind turbines
- Defense and aviation: Lasers, missiles, munitions, gyroscopes, aircraft engines, rocket boosters, and satellites
- Medical and research: Lab equipment, particle accelerator systems, MRI machines, dental chairs, x-ray equipment



Optional Expanded Capabilities

Extend the value of your ShockLog impact recorder by providing more intelligence about the conditions affecting your assets.

- Optional Humidity/Temperature Sensor (built-in)
- Optional Humidity/Pressure/Temperature Sensor (accessory)
- Optional Tilt & Roll Sensor (built-in)
- Optional GPS Coordinate Recorder (built-in)
- Optional GPS Tracking Unit (accessory)

ShockWatch® Impact Recorders

Data Transfer

The ShockLog 298 allows you to transmit data via iButton® interface or USB connection.

iButtons allow for easy control to setup, download, start and stop the ShockLog. A full journey report can be downloaded using an iButton® while keeping the unit secure and tamperproof. Gain complete programming control and full data access over the USB port.

A Radio Frequency (RF) communication module is an optional communication interface. The ZigBee radio allows the ShockLog to be mounted in difficult-to-access locations and programmed/downloaded over an RF link.

ShockLog Software Allows For Configuration, Data Extraction and Analysis

Control your ShockLog device through a simple Windows®-based software program. Clear instructions allow for quick deployment and easy data analysis. The ShockLog Report View provides an overview of the entire journey. ShockLog 298 provides peak acceleration values for all three axes reported on a time basis as well a detailed impact curve. Zoom in for a closer view, or export data into programs such as Excel and MatLab for more detailed analysis.

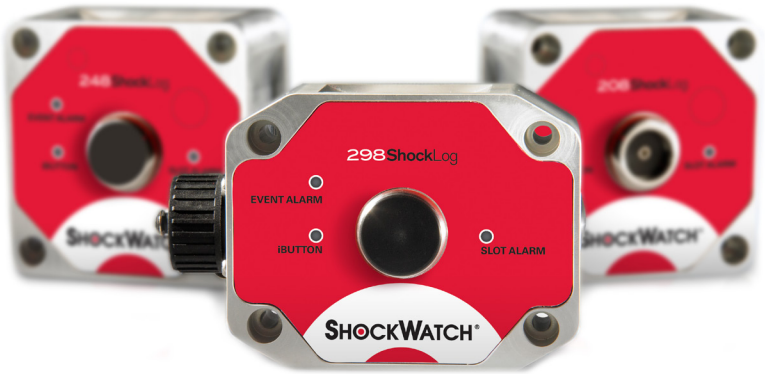
Features

- Records impact events; max peak X, Y, and Z; gRMS; and internal temperature
- Record up to 870 events
- Field-proven triaxial piezoelectric accelerometer technology
- Sensors record direction, amplitude, and duration of impact force
- User-definable warning and alarm levels
- Programmable wake-up values for maximizing battery life
- LED lights for visual notification of alarms and warnings
- Self-contained unit design, free of cables and wires
- IP67-rated, RF-screened
- Option to build temperature/humidity sensor into unit, or add a temperature/pressure/humidity accessory sensor
- Captures coordinates when event occurs at summary intervals with GPS (optional)
- GPS allows users, through hyperlinks, to pinpoint the exact location of an event and summary with the use of Google Maps (optional)

ShockWatch® Impact Recorders

ShockLog 298 Specifications

Key Specifications	
Operating Temperature Range:	-40°F to 185°F -40°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)
Battery Type:	2 x 3.6V Lithium Thionyl Chloride 2 x 1.5V AA alkaline
Battery Life:	Up to 18 months w/ lithium battery
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 and 250Hz
Wake-up, Warning, and Alarm Threshold (% of Range):	5 - 95%
Wake-up Time:	0.25ms



Factory Fit Specifications

Humidity / Temperature Specifications	
Temperature Measuring Range:	-40°F to 185°F -40°C to 85°C
Temperature Accuracy:	± 4°F / ± 2°C
Humidity Measuring Range:	0 - 100% RH
Humidity Accuracy	± 3% RH
Dew Point Measuring Range:	-40°F to 185°F -40°C to 85°C 0 - 100% RH
Dew Point Accuracy:	± 4°F / ± 2°C
RF Specifications	
Operating Frequency:	2.4GHz
Max Output Power:	Up to +10dBm
Receiver Sensitivity (Per 1%):	Up to -100dBm
RF Data Rate:	250,000bps
Packet Data Rate:	Up to 125k baud
RF Base Specifications	
Radio:	ZigBee Module
Transmission Distance: (Dependent on environment)	Up to one mile
Power Levels:	10mW (10dB)
Data Transmission Rates:	115,200 baud
Tilt and Roll Specifications	
Tilt Range Monitored:	± 180°
Resolution:	0.1°
Transverse Sensitivity:	5%
GPS Specifications	
Sensitivity	157dBm reacquisition 148dBm cold starting
High Accuracy Position:	2.5m CEP Velocity 0.1m/sec

SHOCKWATCH®
SMART SOLUTIONS FOR SAFE TRANSIT

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