



# ULTRASHOCK-EB

## Pressure, Humidity, Temperature, and Tri-Axial Shock Recorder with Extended Battery

### Features

- All inclusive design
- Built-in accelerometers
- 60 day battery life
- High speed download
- Low cost
- Reusable
- Compact
- User-friendly
- CE compliant

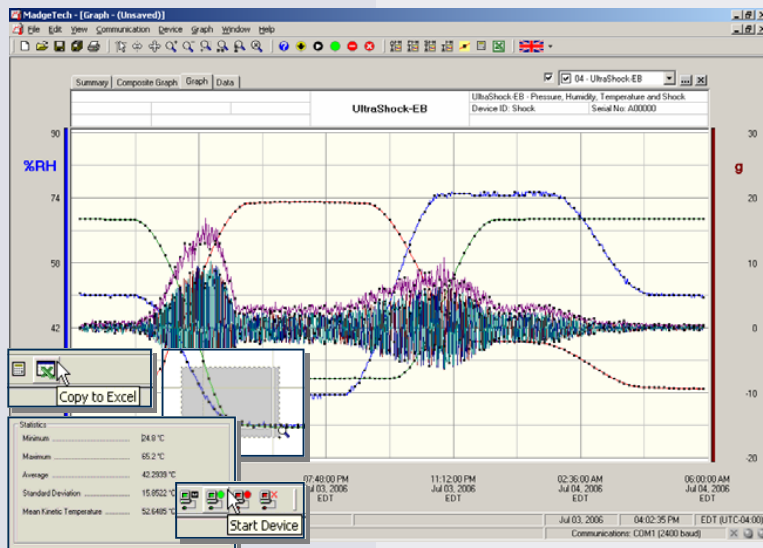
### Applications

- Complete environmental shipment monitoring
- Shipping live cargo
- Aircraft turbulence measurement
- Endurance testing
- Assembly line monitoring
- Brake & crash testing
- Laboratory drop testing
- Machinery monitoring
- Railcar coupling impacts

The UltraShock-EB is a battery powered, stand alone temperature, pressure, humidity and 3-axis shock recorder which offers a battery life of up to 60 days typical. The unit measures and records temperature, pressure and humidity at the selected reading rates, while shock is recorded as the peak acceleration levels over the same interval.



The UltraShock-EB is specifically designed for documenting dynamic environments such as moving vehicles, trucks, containers, ships, etc. The device is also valuable in characterizing environments such as production and assembly lines of delicate electronics, IC fabrication, communications and computer components. This is an all-in-one compact, portable, easy to use device that will measure and record up to 174,762 measurements per channel (1,572,858 measurements, total). The storage medium is non-volatile solid state memory, providing maximum data security even if the battery becomes discharged. The device can be started and stopped directly from your computer and it's small size allows it to fit almost anywhere. The UltraShock-EB makes data retrieval quick and easy. Simply plug it into an empty COM or USB port and our user-friendly software does the rest.



PTC® Data Recorder Software displays shock, temperature, humidity, and pressure data in an easy to use graph.

The Windows®-based software package allows the user to effortlessly collect, display and analyze data. A variety of powerful tools allow you to examine, export, and print professional looking data with just a click of the mouse.

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# ULTRASHOCK-EB SPECIFICATIONS\*

## TEMPERATURE

**Sensor:** Semiconductor  
**Range:** -20 to +54°C  
**Resolution:** 0.1°C  
**Accuracy:** ±0.5°C (0 to +50°C)

## HUMIDITY

**Sensor:** Capacitive Polymer  
**Range:** 0 to 95%RH  
**Resolution:** 0.1%RH  
**Calibrated Accuracy:** ±3%RH (±2%RH typical at 25°C)  
**Specified Accuracy Range:** +10 to +40°C; 10 to 80%RH

## PRESSURE

**Sensor:** Semiconductor Strain Gage  
**Range:** 0 to 30PSIA  
**Resolution:** 0.002PSIA  
**Calibrated Accuracy:** ±1.0%FSR at 25°C; ±0.2% typical  
**Specified Accuracy Range:** 0 to 30 PSIA, 25°C

## SHOCK

**Accelerometer Type:** MEMS Semiconductor

<b>Acceleration Range (g):</b>	±5g	±50g	±100g
<b>Acceleration Resolution (g):</b>	±0.01g	±0.05g	±0.1g
<b>Calibrated Accuracy (g):</b>	±0.2g	±1.0g	±2.0g

**Absolute Max. Acceleration:** 200g (all versions)

**Sampling Rate:** 1.953ms/512Hz  
**Accelerometer Freq. Resp.:** 0Hz to approx. 400Hz

**Memory:** 174,762 readings per channel; 1,572,858 total readings  
**Reading Rate:** 64Hz to 5 minutes for shock, selectable in software. Temperature, pressure and humidity, approximately every 2 seconds at intervals faster than 2 seconds, otherwise sampled at the reading rate.

**Start Modes:** Software programmable immediate start or delay start up to 180 days from PC launch.

**Password Protection:** An optional password may be programmed into the device to restrict access to configuration options. Data may be read out without the password.

**Calibration:** Digital calibration through software

**Calibration Date:** Automatically recorded within device

**Battery Type:** 6 D-cell alkaline batteries, **user replaceable**

**Battery Life:** 60 days typical at 25°C, 1 minute reading rate

**Data Format:** Date and time stamped gravities (g and mg), temperature (°C, °F, K, °R), humidity (%RH, mg/ml water vapor concentration), pressure (PSIA, inHg, mmHg, bar, atm, Torr, Pa, kPa, MPa)

**Time Accuracy:** ±1 minute/month at 20 to 30°C

**Computer Interface:** PC serial or USB (interface cable required); 115,200 baud

**Software:** Windows 95/98/ME/NT/2000/XP based software

**Operating Environment:** -20 to +54°C, 0 to 95%RH (non-condensing)

**Dimensions:** 5.5" x 5.4" x 3.2" (140mm x 137mm x 80mm)

**Weight:** 80 oz. (2.3kg)

**Enclosure:** Anodized aluminum

**Approvals:** CE

BATTERY WARNING: DO NOT CONNECT IMPROPERLY. CHARGE OR DISPOSE OF IN FIRE, BATTERY MAY EXPLODE OR LEAK.

## SOFTWARE FEATURES

**Multiple Graphs:** Simultaneously analyze data from several units or deployments; easily switch to a single data series

**Graphical Cursor:** One click displays readings by time, value, parameter or sample number

**Data Table:** Instantly access tabular view for detailed dates, times, values, and annotations

**Scaling Options:** Autoscale function fits data to the screen, or allows user to manually enter their own values

**Formatting Options:** Change colors, line styles, plotting options, show or hide channels quickly

**Statistics:** Calculate average, min, max, standard deviation, and mean kinetic temperature with the touch of a button

**Export Data:** Export data in a variety of common formats, or switch to Excel® with a single click

**Logger Configuration:** Easy set up and launch of data loggers with immediate or delayed start, preferred sample rate, and device ID

**Communications:** Automatically sets up communications port, or lets user select configuration

\*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. SPECIFIC WARRANTY AND REMEDY LIMITATIONS APPLY.

## ORDERING INFORMATION

Model	Description
ULTRASHOCK-5-EB	Temperature, Humidity, Pressure and ±5g Tri-Axial Shock Recorder
ULTRASHOCK-50-EB	Temperature, Humidity, Pressure and ±50g Tri-Axial Shock Recorder
ULTRASHOCK-100-EB	Temperature, Humidity, Pressure and ±100g Tri-Axial Shock Recorder
ULTRASHOCK-250-EB	Temperature, Humidity, Pressure and ±250g Tri-Axial Shock Recorder
IFC110	Software, manual and RS232 interface cable
IFC200	Software, manual and USB interface cable
Contact PTC®	N.I.S.T. Calibration Certificate

### ASK ABOUT OUR OTHER DATA RECORDERS

Temperature	Pulse/Event/State
Humidity	Low Level Current
Pressure	Low Level Voltage
pH	RF Transmitters
Level	Intrinsically Safe
Shock	Spectral Vibration

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