

# AUTOMATING ULTRASOUND

*for trip warning of lubrication &  
early fault bearing detection*



**WHEN RELIABILITY MATTERS  
CONNECT TO CONFIDENCE**

### WHAT IS ULTRASOUND TECHNOLOGY?

Ultrasound is a game-changing technology, especially when combined with standard vibration output. Ultrasound technology works by attenuating a resonance at a high frequency with a curve to a resonant peak at an even higher frequency.

### USES FOR ULTRASOUND TECHNOLOGY

An ultrasound output allows users to be alerted for early bearing fault detection and to monitor the lubrication levels inside the bearing housings as two of the more common industrial uses. However, not all ultrasound technology can be used for these applications.

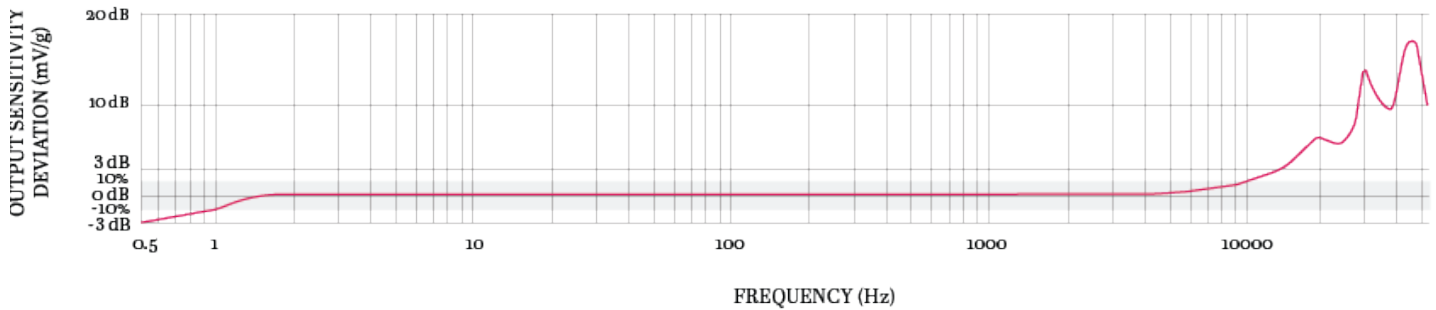
### CTC ULTRASOUND PRODUCTS



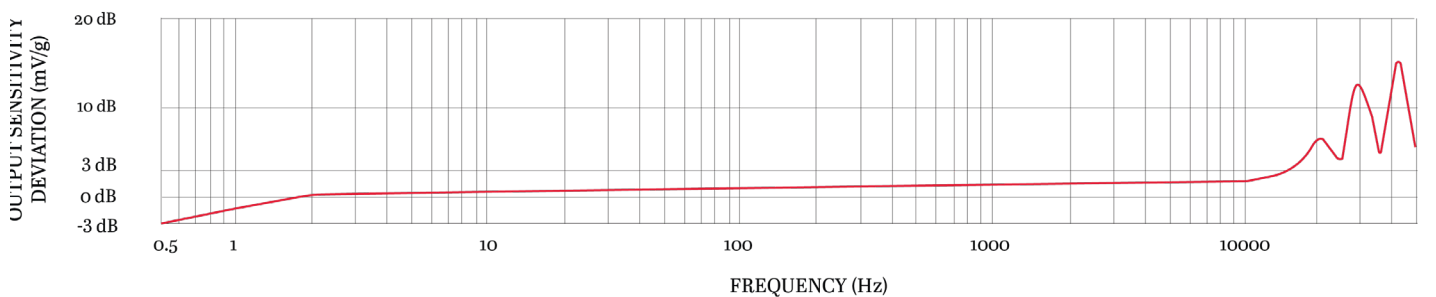
CTC's **UEB332** (top exit) and **UEA334** (side exit) sensor series combines a linear vibration output of 0.5 Hz - 23 kHz within a  $\pm 3$  dB tolerance. The resonant peak of this sensor is 42 kHz, which allows this one sensor to give a premium output in the vibration range and the ultrasound range.

You no longer have to use two different devices to achieve both methods of monitoring!

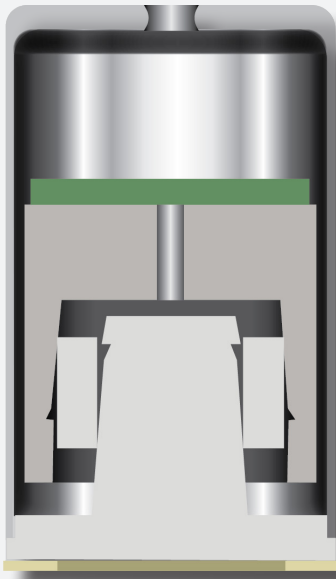
### UEB332 TYPICAL FREQUENCY RESPONSE



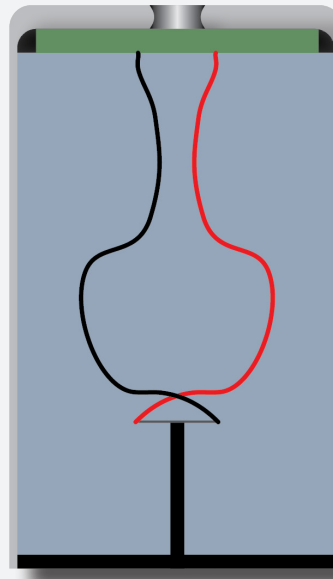
### UEA334 TYPICAL FREQUENCY RESPONSE



## SENSOR CONSTRUCTION COMPETITIVE COMPARISON



**CTC's UEB332**  
*with shear-mode design*



**COMPETITOR'S SENSOR**  
*with diaphragm design*

Not only can you monitor utilizing both methods from one sensor, you can also automate these outputs by utilizing CTC's **SC320** Signal Conditioner.

The SC320 Signal Conditioner offers dual band technology allowing the user to set two bands of 4-20 mA output from one sensor. A great example of this is setting one band to the ISO standard filter of 10 Hz - 1 kHz for automating your vibration output, and setting a second band pass filter at 20 kHz - 40 kHz to automate your ultrasound band. That's not all - the SC320 also offers an isolated BNC so you can still access your true raw output of the UEB or UEA sensor.



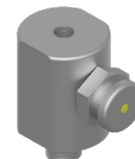
If utilizing this setup to help automate your lubrication program, CTC also offers **Zerk-style mounting adapters** that enable the ultrasound sensor to be mounted on your grease port and still leave the sensor permanently installed.



**MH134-4A**



**MH134-4B**



**MH145-1B**

CTC is the world leader in the design and manufacture of industrial accelerometers, piezo velocity transducers, 4-20 mA vibration sensors, and proximity probes as well as all related mounting hardware, cabling, and junction boxes. Our products enable efficient vibration monitoring for predictive maintenance in a wide variety of industries. Industries served include cement, mining, petrochemical, food & beverage, auto, steel, wind, paper & pulp, power generation, water & wastewater treatment, pharmaceutical, hospitals, bottling, and more. Our mission is to offer the widest variety of accelerometers and vibration hardware products, which are compatible with data collectors and online monitoring systems, as well as the tools for installation.



The CTC product line features vibration analysis hardware for heavy industry.

All CTC products are backed by our unconditional, lifetime warranty. If any CTC product should ever fail, we will repair or replace it at no charge.



The PRO line offers the industry's most reliable proximity probe sets.

All PRO products are backed by a lifetime warranty on materials and workmanship. PRO will repair or replace any of our products as long as the product was not subjected to misuse, neglect, natural disasters, improper installation, or modification.

All stock products may be returned for a 25% restocking fee if returned in new and unused condition within 90 days of shipment. Built-to-order and private-label products qualify for a 50% refund if returned in new and unused condition within 90 days of shipment. Custom products are quoted and built specifically to the requirements of the customer, which may include completely custom product design or private-labeled versions of standard products for OEM customers. Custom products are non-cancellable, non-returnable, and non-refundable.

