

## ITEM OPPORTUNITY SYNOPSIS

<b>Scouting Number:</b>	2024-225
<b>Name of the item to be scouted:</b>	Omnisensor
<b>State item to be used in:</b>	None

### Describe the Item:

<p><b>Please describe the item application/the end use of the item.</b></p>	<p>The National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS), Pacific Region (PR), Pacific Tsunami Warning Center (PTWC) operates a seismic network within the State of Hawaii to monitor for and rapidly evaluate Hawaii earthquakes for their potential to generate tsunamis. PTWC's current seismic network was installed around 2006 and its sensors are now beginning to fail. The seismic sensors were purchased nearly 20 years ago and they are now beginning to fail. The existing model of sensors are no longer available for purchase, so PTWC must replace them with newer sensors that are still compatible with the existing Kinometrics Q330 field digitizers and Kinometrics Antelope data ingest software.</p>
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### Supplier Information:

<b>Type of Supplier Being Sought (select from the list below):</b>	
Manufacturer	x
Contract Manufacturer	
Distributor	
Other (Please Specify)	
<b>Reason for Scouting Submission (select from the list below)</b>	
2nd Supplier	
Price	
Re-Shore	
Past supplier no longer available	
New Product Startup	
BABA	x
Other (Please Specify)	

### Summary of Technical Specifications and Performance Requirements:

<p><b>Describe the manufacturing processes (elaborate to provide as much detail as possible)</b></p>	<p>Electronic Assembly see attached specs sheet</p>
<p><b>Provide dimensions / size / tolerances / performance specifications of the item</b></p>	<p>Need an Omnisensor similar in form, fit, and fashion to the Kinometrics Omnisensor. The Kinometrics Omnisensor covers more than 205 dB dynamic range in one watertight enclosure, with one marine connector and one cable, for posthole and borehole installations. All internal sensors are mutually aligned, and no mass lock or mass centering are necessary. The cable is Y-terminated at the surface to be used with a 6-channel digitizer. Overall Specifications: Voltage Input: 11-18 V DC input (internally isolated) Electrical Protection: Over-voltage, reverse-voltage, and current overload protection Galvanic Isolation: Power input and digital control lines (setup mode and calibration enable lines have independent galvanic isolation) Operational Temperature: -20° to +60°C Power Consumption: 1.5W Posthole Orientation: Yoke adapter and orientation poles available Physical Dimensions: Height: Sensor Body and Connector: 13 inches (33.0cm) Diameter: 3.9 inches (9.8 cm) Weight: 12.6 pounds (5.7 kg) Stainless steel housing rated IP68 with oceanographic-grade connector Episensor Specifications: Dynamic range: 155 dB+ Bandwidth: DC to 200Hz Calibration coil: Standard Full-scale range: ± 4g (Optional ± 2g and ± 1g) Output: ± 20V differential Linearity: &lt; 1000 µg/g<sup>2</sup> Hysteresis: &lt; 0.1% of full scale Cross-axis sensitivity: &lt; 1% (including misalignment) Zero point thermal drift: &lt; 500 µg/°C (1g sensor) MBB-2 Specifications: Sensor Technology: Triaxial orthogonal, XYZ oriented feedback sensor elements with capacitive displacement transducer Sensitivity: 1500 V/(m/s) trimmed to ± 0.5% precision Clip Level: 13mm/s to 40 Hz Bandwidth: -3 dB points at 120 seconds and 160 Hz Operable Tilt Range: ± 2.5 Degrees Dynamic Range: 155 dB at 1 Hz Velocity Output: Industry standard 40 V peak-to-peak differential output Mass Position Output: Independent mass position output for each of the XYZ axes Calibration: Calibration input for XYZ components; single digital control line to activate calibration on all three axes Short Period Mode: 1sec mode used for deployment; digital control line enables short period mode on all three axes</p>
<p><b>List required materials needed to make the product, including materials of product components, if applicable</b></p>	<p>Unknown except as provided in attached specs sheet</p>

<b>Are there applicable certification requirements?</b>	
Yes	
No	x
Please explain:	
<b>Are there any applicable regulations that apply to the production of this item?</b>	
Yes	
No	x
Please explain:	
<b>Are there any other standards / requirements?</b>	
Yes	
No	x
Please explain:	
<b>NAICS CODES:</b>	
NAICS 1	334519 Other Measuring and Controlling Device Manufacturing
NAICS 2	
<b>Additional Comments:</b>	
Additional technical comments:	Any offered products must be fully compatible (form, fit, and function) with existing systems without need for modification to product or system.
<b>Volume and Pricing:</b>	
Estimated Potential Business Volume (i.e. #units per day, month, year):	One-time purchase
Estimated Target Price/Unit Cost Information:	Quantity 1 omnisensor \$13,200.00 each Quantity 1 y-cable \$1,275 each Estimated shipping/insurance \$412.0
<b>Delivery Requirements:</b>	
When is it needed by? (Immediate, 30 days, 6 months, etc.)	Anticipate award of contract by end of current fiscal year (09/20/2024), with delivery by 45 days after award.
Describe packaging requirements (i.e. individually/group packaging, etc.)	N/A
Where will this item be shipped?	Honolulu, HI
<b>Additional Comments:</b>	
Is there other information you would like to include?	This is a Simplified Acquisition, which has a shorter lead time to completion than an action over \$250,000.00. It is expected that this requirement will be awarded within the next 30-60 days, and any timely scouting (requested completed within 15 days from submission) would be appreciated to align with Simplified Acquisition requirements for posting and the Buy American Act Waiver process. Department of Commerce Point of Contact: Marcelle Loveday Director, Acquisition Policy & Workforce Office of Acquisition Management MLoveday@doc.gov Please copy scouting@nist.gov on all correspondence.

# Omnisensor

## Record everything, everywhere

Meet the Omnisensor: the global reference force balance accelerometer Model Episensor and the rugged mini broadband seismometer Model MBB-2 – born to be together!

The Omnisensor covers more than 205 dB dynamic range in one watertight enclosure, with one marine connector, one cable, for posthole and borehole installations. No earthquake of interest will be too small to be lost or too large to be off scale.

All internal sensors are mutually aligned, and no mass lock or mass centering are necessary. The cable is Y-terminated at the surface to be used with a 6-channel digitizer: best matched with Q8, Q330S+ and Obsidian8X dataloggers. An installation at 600m depth was tested in a dry borehole.



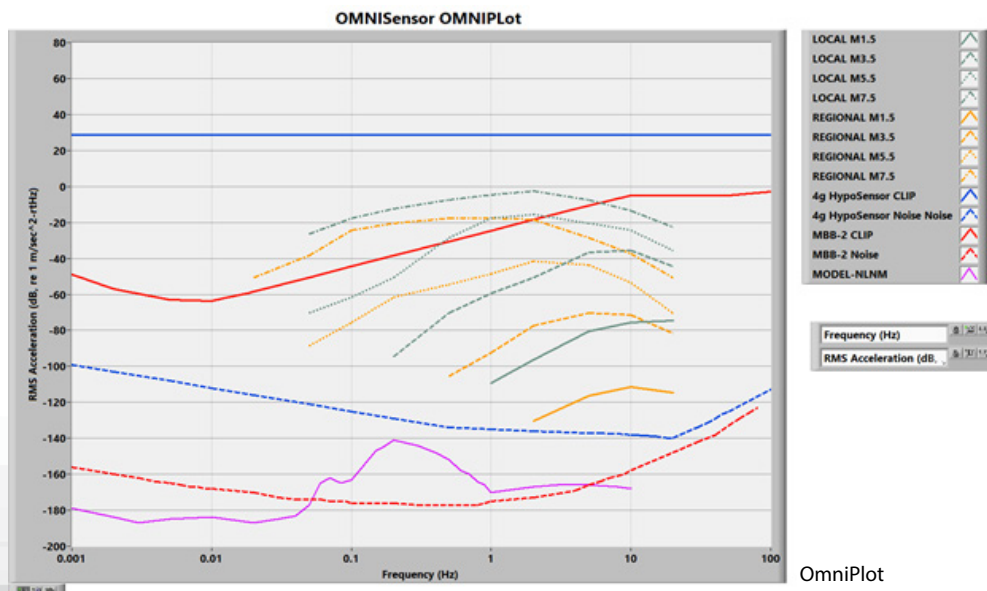
## FEATURES

### Episensor Features

- Low noise
- Extended bandwidth - DC to 200Hz
- Calibration coil (standard)
- Double-stage transient protection

### MBB-2 Features

- No mass lock required
- No mass centering required
- Small, portable, 120 second broadband sensor
- Large operational tilt range





## SPECIFICATIONS

### Episensor Specifications

<b>Dynamic range</b>	155 dB+
<b>Bandwidth</b>	DC to 200Hz
<b>Calibration coil</b>	Standard
<b>Full-scale range</b>	± 4g (Optional ± 2g and ± 1g)
<b>Output</b>	± 20V differential
<b>Linearity</b>	< 1000 µg/g <sup>2</sup>
<b>Hysteresis</b>	< 0.1% of full scale
<b>Cross-axis sensitivity</b>	< 1% (including misalignment)
<b>Zero point thermal drift</b>	< 500 µg/°C (1g sensor)

### Overall Specifications

<b>Voltage Input</b>	11-18 V DC input (internally isolated)
<b>Electrical Protection</b>	Over-voltage, reverse-voltage, and current overload protection
<b>Galvanic Isolation</b>	Power input and digital control lines (setup mode and calibration enable lines have independent galvanic isolation)
<b>Operational Temperature</b>	-20° to +60°C
<b>Power Consumption</b>	1.5W
<b>Posthole Orientation</b>	Yoke adapter and orientation poles available
<b>Physical Dimensions</b>	Height: Sensor Body and Connector: 13 inches (33.0cm) Diameter: 3.9 inches (9.8 cm) Weight: 12.6 pounds (5.7 kg) Stainless steel housing rated IP68 with oceanographic-grade connector

### MBB-2 Specifications

<b>Sensor Technology</b>	Triaxial orthogonal, XYZ oriented feedback sensor elements with capacitive displacement transducer
<b>Sensitivity</b>	1500 V/(m/s) trimmed to ± 0.5% precision
<b>Clip Level</b>	13mm/s to 40 Hz
<b>Bandwidth</b>	-3 dB points at 120 seconds and 160 Hz
<b>Operable Tilt Range</b>	± 2.5 Degrees
<b>Dynamic Range</b>	155 dB at 1 Hz
<b>Velocity Output</b>	Industry standard 40 V peak-to-peak differential output
<b>Mass Position Output</b>	Independent mass position output for each of the XYZ axes
<b>Calibration</b>	Calibration input for XYZ components; single digital control line to activate calibration on all three axes
<b>Short Period Mode</b>	1 sec mode used for deployment; digital control line enables short period mode on all three axes

\*Specifications subject to change without notice