ITEM OPPORTUNITY SYNOPSIS

Scouting Number:	2024-191
Name of the item to be scouted:	Anemometer
State item to be used in:	Washington
Describe the Item:	
Please describe the item application/the end use of the item.	Estimates eddy-covariance air-sea fluxes from ships and uncrewed surface vehicles (USVs) in various parts of the global oceans need to measure high-frequency 3-dimensional wind along with other variables. Gill 23 R3-50 3D Research Sonic Anemometers are essential components of the sensor packages for surface flux measurement.
Supplier Information:	
Type of Supplier Being Sought (select from the list below):	
Manufacturer	x
Contract Manufacturer	
Distributor	
Other (Please Specify)	
Reason for Scouting Submission (select from the list below)	
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:	
Describe the manufacturing processes (elaborate to provide as much detail as possible)	Manufacturing process unknown beyond the provided specifications.
Provide dimensions / size / tolerances / performance specifications of the item	- 3-dimensional wind at sampling frequencies: = 20 Hz in all three directions - Wind speed range: 0 - 45 m/s or above - Wind speed resolution: 0.01 m/s or higher - Wind speed accuracy: <1%RMS @ 12 m/s - Wind speed offset: < |±0.01| m/s - Wind direction range: 359° - Wind direction resolution: 1° - Wind direction accuracy: < |±1°|RMS - Sound measurement rate: 50 Hz - Sound measurement range: Above 300 m/s - Sound measurement resolution: 0.01 m/s - Sound measurement accuracy: < |±0.5|% - Operational ranges: Temperature: - 40°C – 60°C Humidity: 5 – 100% Rainfall: up to 300 mm/hr - Compatible with LI-COR LI-7500DS HO2/CO2 sensors for surface latent heat flux measurement - Portable and easy mount on ships and USVs - Well-documented track records of operational applications
List required materials needed to make the product, including materials of product components, if applicable	Various
Are there applicable certification requirements?	
Yes	
No	x
Please explain:	
Are there any applicable regulations that apply to the production of this item?	
Yes	
No	x
Please explain:	
Are there any other standards / requirements?	
Yes	
No	x
Please explain:	
NAICS CODES:	
NAICS 1	334519 Other Measuring and Controlling Device Manufacturing
NAICS 2	
Additional Comments:	

Additional technical comments:	
Volume and Pricing:	
Estimated Potential Business Volume (i.e. #units per day, month, year):	Single purchase for a quantity of 3
Estimated Target Price/Unit Cost Information:	$59,280.00 total
Delivery Requirements:	
When is it needed by? (Immediate, 30 days, 6 months, etc.)	September 1, 2024
Describe packaging requirements (i.e. individually/group packaging, etc.)	multiple boxes, each smaller than freight shipment
Where will this item be shipped?	Seattle, WA 98115
Additional Comments:	
Is there other information you would like to include?	Department of Commerce Point of Contact for questions on BABA/Buy American compliance: Marcelle Loveday Director, Acquisition Policy & Workforce Office of Acquisition Management MLoveday@doc.gov

R3-50™

3-Axis Ultrasonic Anemometer

Key Features

- **3-axis research anemometer**
- **50Hz output rate**
- **0-45 m/s wind speed**
- **0-360º wind direction**
- **U, V, W vector outputs**
- **Sonic temperature output**
- **Aluminium/carbon fibre construction**
- **Custom calibration provided as standard**

The R3-50™ 3-axis anemometer has been designed for scientific research, particularly suitable for determining fluxes using the eddy covariance technique. This precision ultrasonic anemometer will monitor wind speeds up to 45m/s, with a fast data output rate of 50Hz. U, V, W and SOS (sonic temperature) outputs are available, and data can be logged using the supplied Gill WindCom™ software.

The R3-50 is of aluminium/carbon fibre construction and will operate effectively in environmental temperatures from -40°C to +60°C. Optional accessories are available including cables, sensor input units (analogue inputs) and power supplies.

WIND SPEED

Range	0 - 45 m/s
Resolution	0.01 m/s
Accuracy	<1% RMS

DIRECTION

Range	0 - 360°
Resolution	1°
Accuracy*	<±1° RMS

SPEED OF SOUND

Range	300-370 m/s
Resolution	0.01 m/s
Accuracy	< ±0.5% @ 20ºC

MEASUREMENT

Ultrasonic output rate	50 Hz
Parameters	UVW, Speed of Sound

DIGITAL OUTPUT

Communication	RS422 full duplex, 8 data bits, 1 stop bit, no parity
Baud rates	2400 - 115200
Output parameters	Selectable 0.4 to 50 Hz

PRT INPUT

Input resolution	0.01°C
Input accuracy	<0.01°C (0°C to +50°C) <0.15°C (-40°C to +60°C)

*Accuracy spec applies for wind speed <32 m/s and for wind incidence up to ±20º from the horizontal

ANALOGUE OUTPUTS (REQUIRES PCIA UNIT)

Quantity	7 (U, V, W, SoS, PRT plus 2 analogue outputs)
Scale	±10, ±20, ±30, ±60 m/s
Update rate	0.4 to 50 Hz
Range and resolution	±2.5 V, 14 bits
Accuracy	<0.1% of FSR

ANALOGUE INPUTS (REQUIRES SIU)

Quantity	6 differential inputs
Sampling rate	50 Hz
Range and resolution	±5 V, 14 bits
Accuracy	<0.1% of FSR

POWER REQUIREMENT

Anemometer	9-30 VDC (<150mA @ 24 VDC or 300mA @ 12 VDC)

MECHANICAL

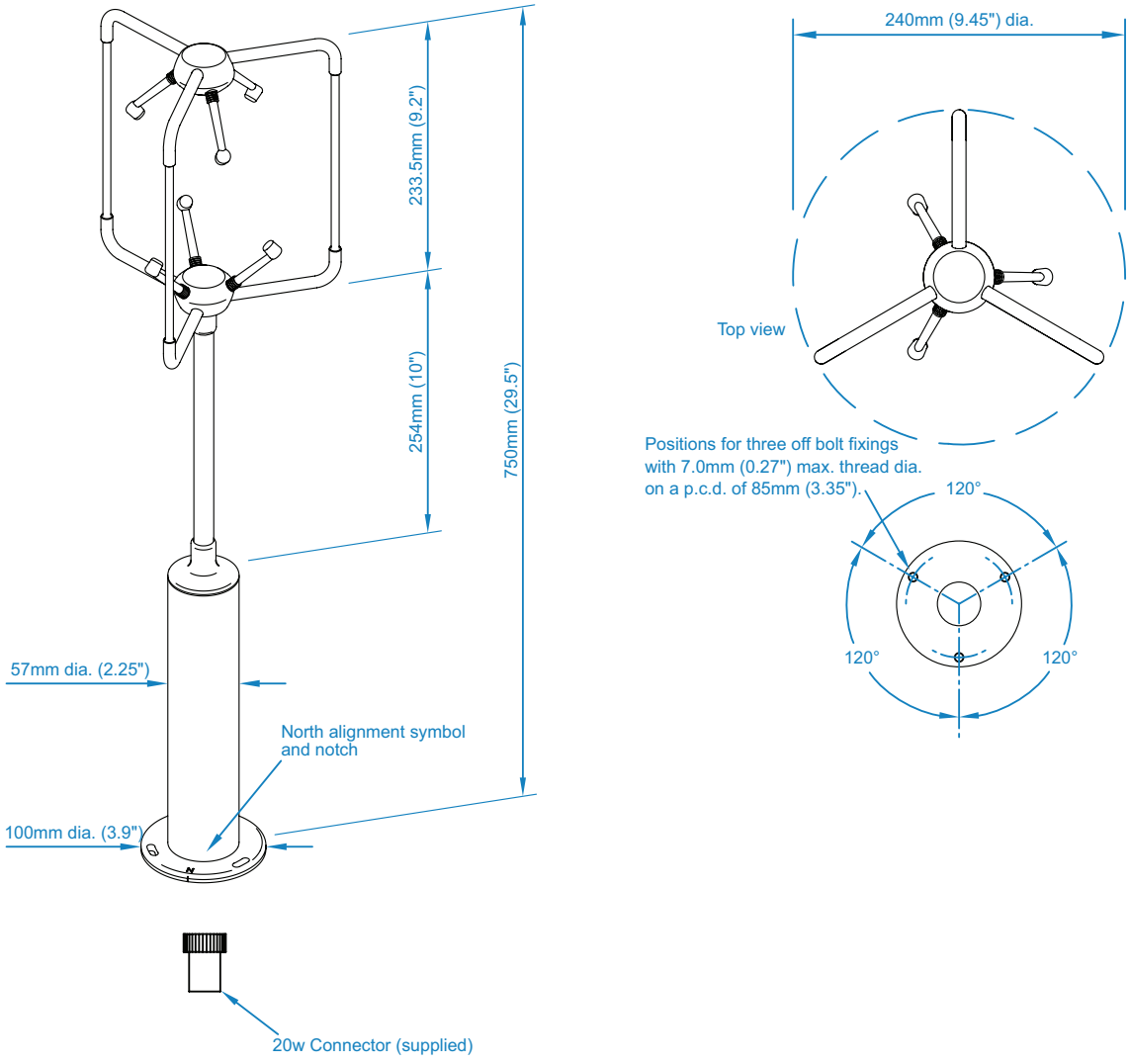
Material	Aluminium/Carbon Fibre
Size	750mm x 240mm
Weight	1.0 kg

ENVIRONMENTAL

Protection Class	IP65
Operating Temp	-40°C to +60°C
Precipitation	300mm/hr
EMC	BS EN 50081-1: 1992 (Emissions) BS EN 50082-1: 1997 (Immunity)
Suitable for exposure to a marine environment	

Typical Applications

- Wind Turbulence Measurement
- Component Wind Velocity UVW
- Wind Profiling



Specifications may be subject to change without prior notice.

GILL

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