ITEM OPPORTUNITY SYNOPSIS

Scouting Number:	2024-173
Name of the item to be scouted:	Pro-Oceanus Mini CO2 Submersible pCO2 Sensor
State item to be used in:	None
Describe the Item:	
Please describe the item application/the end use of the item.	The National Oceanic and Atmospheric Administration (NOAA), Oceanic and Atmospheric Research (OAR), Great Lakes Environmental Research Laboratory (GLERL) is a multidisciplinary environmental research laboratory that provides scientific understanding to inform the use and management of Great Lakes and coastal marine environments. The GLERL uses sensors to collect and monitor the CO2 and acidification levels of the Great Lakes and provide data for HAB analysis. As atmospheric CO2 increases, the availability of dissolved inorganic carbon (DIC) is shifting within aquatic systems causing the pH to drop. Due to the multi-faceted nature of the DIC system, the GLERL requires a submersible pCO2 sensor similar in form and fucntion to Pro-Oceanus Mini CO2 in order to document the impacts or potential shifts in phytoplankton species composition and abundance.
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)	Unknown except as provided on attached specs sheet.
Provide dimensions / size / tolerances / performance specifications of the item	The Mini CO2 instrument uses infrared detection to measure the partial pressure of CO2 gas dissolved in liquids with a range from 0-1000 ppm up to 0-100%. The instruments are compact, lightweight, plug and play sensors; and measure total dissolved gas pressure (TDGP). The housing is rated to 6000 dbar of hydrostatic pressure, and is resistant to most corrosive liquids. This is the only known instrument that can meet the Government's needs, and this notice's intent is to identify any other products that meet the full requirements listed below. Sensor Performance: CO2 Measurement Ranges: 0-2000 ppm CO2, by volume; 0-5000 ppm; 0-1% (10,000 ppm); 0-100% Total Dissolved Gas Pressure: 0-2 bar Accuracy: pCO2: ± 2% of max range TDGP: ± 1% Equilibration rate (t63): 3 minutes Resolution: 0.1% of max range Physical Specifications: Length: 28 cm (11 in) Diameter: 5.3 cm (2.1 in) Weight - Air: 0.53 kg (1.2 lbs) Weight - Water: -0.06 kg (-0.1 lbs) Housing Material: Acetal Plastic / Titanium Depth Rating: 0 - 600 m (Plastic); Up to 6000 m (Titanium) Water Temperature: 0º to 40º C Electrical: Input voltage: digital: 7 - 24 VDC; analog: 12 - 24 VDC Power consumption: 85 mW (7 mA @ 12 V) Data output: digital: RS-232, ASCII CSV; analog: 0-5 V or 4-20mA Sample rate: 2 seconds (variable rate with logger/controller) Optional Accessories: Titanium housings: Rated up to 6000 m depth Internal battery power External battery pack: 19, 76 or 134 Amp-hour capacity Water-pumped head: Reduce biofouling and improve response rate Mooring cage or frame with instrument brackets Pigtail Cables with Locking Sleeves: 5, 10, 25, 50 meters, or longer Applications: Aquaculture monitoring of dissolved CO2 for fish and shellfish health Coastal zone CO2 fluxes Algae to fuel bioreactor feedback control Groundwater and well water monitoring Carbon budget studies for lakes and rivers Carbon capture storage monitoring of aquifer and surface water levels of pCO2 Wastewater greenhouse gas emissions Ocean glider and profiler missions

List required materials needed to make the product, including materials of product components, if applicable	Unknown except as provided on attached specs sheet.
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:	The required sensor must have the highest accuracy rate with the fastest transmission required for pCO2 needed to ensure data reliability and timeliness. Pro-Oceanus sensors are utilied throughout NOAA and any offered alternatives must be fully compatible (form, fit, and function) with existing systems, without the need to modify the product or existing network.
Volume and Pricing:	
Estimated Potential Business Volume (i.e. #units per day, month, year):	One-time purchase
Estimated Target Price/Unit Cost Information:	$9,000.00 each for Mini CO2 sensor (quantity 2 required); $4,633.00 total for accessories.
Delivery Requirements:	
When is it needed by? (Immediate, 30 days, 6 months, etc.)	Estimate award of contract no later than end of current fiscal year (by 09/20/2024), with delivery required by 60 days after date of award.
Describe packaging requirements (i.e. individually/group packaging, etc.)	Product must be delivered undamaged
Where will this item be shipped?	Ann Arbor, MI
Additional Comments:	
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. Agency contact information for questions on BABA/Buy American compliance: Department of Commerce Point of Contact: Marcelle Loveday, Director, Acquisition Policy & Workforce Office of Acquisition Management MLoveday@doc.gov

Mini CO_2 ™

Features

- Low power consumption
- Compact size
- Optional internal or external battery power
- Easy integration
- Large selection of concentration ranges
- Digital option comes with internal data logger and controller with 2GB flash memory

pCO_2 Sensor Applications

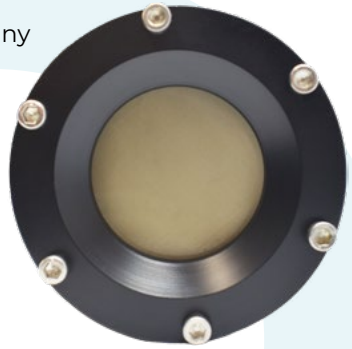
- Aquaculture monitoring of dissolved CO_2 for fish and shellfish health
- Coastal zone CO_2 fluxes
- Algae to fuel bioreactor feedback control
- Groundwater and wellwater monitoring
- Carbon budget studies for lakes and rivers
- Carbon capture storage monitoring of aquifer and surface water levels of pCO_2
- Wastewater greenhouse gas emissions
- Ocean glider and profiler missions

Mini CO_2 Submersible pCO_2 Sensor

The Mini CO_2™ instrument uses infrared detection to measure the partial pressure of CO_2 gas dissolved in liquids. With pCO_2 ranges from 0-1000 ppm up to 0-100%, the Mini CO_2 provides the versatility needed for any application.

Mini CO_2™ submersible instruments are compact, lightweight, plug and play sensors. The instrument also measures total dissolved gas pressure (TDGP), a useful parameter for many applications and data correction.

With housing options rated to 6000 dbar of hydrostatic pressure, and resistance to most corrosive liquids, the Mini CO_2 can provide reliable dissolved carbon dioxide data for many applications. Flow-through and in-line adapters are also available for simple and effective industrial solutions.



For specialized applications, Pro-Oceanus can provide custom solutions to suit any need.

PRO OCEANUS
Stability in a sea of change.

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Mini CO_2 ™

Sensor Specifications

Sensor Performance

CO_2 Measurement Ranges *other ranges available	0-2000 ppm CO_2; by volume 0-5000 ppm 0-1% (10,000 ppm) 0-100%
Total Dissolved Gas Pressure	0-2 bar
Accuracy:	
pCO_2	± 2% of max range
TDGP	± 1%
Equilibration rate (t_{63})	3 minutes
Resolution	0.1% of max range

Physical

Length	28 cm (11 in)
Diameter	5.3 cm (2.1 in)
Weight	Air: 0.53 kg (1.2 lbs) Water: -0.06 kg (-0.1 lbs)
Housing Material	Acetal Plastic / Titanium
Depth Rating	0 - 600 m (Plastic) Up to 6000 m (Titanium)
Water Temperature	0° to 40° C

Electrical

Input voltage	digital: 7 - 24 VDC analog: 12 - 24 VDC
Power consumption	85 mW (7 mA @ 12 V)
Data output	digital: RS-232, ASCII CSV analog: 0-5 V or 4-20mA
Sample rate	2 seconds (variable rate with logger/controller)

Optional Accessories

Titanium housings
Rated up to 6000 m depth

Internal battery power

External battery pack
19, 76 or 134 Amp-hour capacity

Water-pumped head
Reduce biofouling and improve response rate

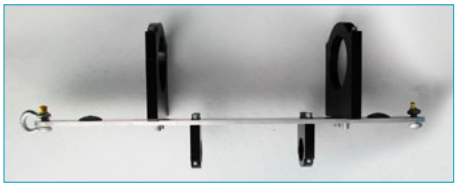
Mooring cage or frame with instrument brackets

Pigtail Cables with Locking Sleeves
5, 10, 25, 50 meters, or longer

Water-Pumped Head Accessory

Pigtail Cable with Locking Sleeve

Copper Antifouling Shield



Instrument and Battery Mooring Bracket

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