

MEPNN Supplier Scouting Opportunity Synopsis

Section 1: General Information

Scouting Number	2026-419
Item to be Scouted	Pyrgeometer & Pyranometer
Days to be scouted	15
Response Due By	08/13/2026
Description	The Physical Sciences Laboratory (PSL) requires a manufactured or commercial off the shelf pyranometer, pyrgeometer and accompanying accessories similar in form, fit, and function to the CMD33 pyranometer, the

Section 2: Technical Information

Type of supplier being sought	Manufacturer
Reason	High quality observations vital for weather forecasting and marine operations.
Describe the manufacturing processes (elaborate to provide as much detail as possible)	The manufacturing of a pyranometer involves a combination of precision optical engineering and electronic assembly. The process begins with precision glass molding and polishing to create a high-transmittance hemispherical dome, followed by the chemical deposition or layering of a black absorbing surface (thermopile sensor) onto a ceramic substrate. The thermopile itself is fabricated using thin-film deposition or wire-bonding of thermocouples to ensure high thermal sensitivity. Finally, the components are integrated through precision mechanical assembly into a weatherproof housing, involving vacuum sealing or potting to protect the sensor from moisture, and the integration of a PCB for signal conditioning. The manufacturing of a pyrgeometer involves high-precision optical fabrication and mechanical assembly. The core process begins with the grinding and polishing of a germanium window, followed by the application of a specialized thin-film optical coating (typically via physical vapor deposition) to create a selective filter for long-wave infrared radiation. The sensing element is constructed using precision machining (CNC milling/turning) to create the blackened cavity and housing, which is then treated with a high-emissivity matte black coating to minimize internal reflections. Finally, the device undergoes electrical assembly to integrate the thermopile sensor and is vacuum-sealed or hermetically closed to ensure thermal stability.

Provide dimensions / size / tolerances / performance specifications for the item	pyranometer Analog Outputs 0 to 21 mV Cable Length 33, 82, 164, 330 ft (10, 25, 50, 100 m) Classification Spectrally Flat Class A (ISO 9060:2018) Digital Outputs N.A. Directional Response ? 5 W/m² (up to 80 ° with 1000 W/m² beam) Drying Cartridge and Maintenance Interval External, replacement after approx. 6 months IP Rating IP67 Irradiance Saturation 4000 W/m² (Max.) Material Enclosures Aluminum, anodised Non-linearity ? $\pm 0.2\%$ (100 to 1000 W/m²) Non-stability ? $\pm 0.5\%$ (change/year) Operating Humidity 0 to 100% Operating Temperature Range -40 to +80 °C Response Time ? 1.7 s (63%), ? 5 s (95%) Sensitivity 7 to 14 $\mu\text{V/W/m}^2$? $\pm 0.5\%$ (-20 to +50 °C) Spectral Accuracy 200 to 3600 nm Temperature Correction ? $\pm 0.5\%$ (-20 to +50 °C) Weight 1.3 lb (600 g) Zero offset A ? $\pm 3 \text{ W/m}^2$ Zero offset B ? $\pm 1 \text{ W/m}^2$ Pyrgeometer Ambient Temperature -40 - +176 °F (-40 - +80 °C) Analog Output Yes Analog Outputs -5 - 5 mV Analogue Ouput Signal -5 - 5 mV Cable Connection 8 pin plug Cable Length 33, 82, or 164 ft (10, 25 or 50 m) Definiton of Measured Values Long-wave atmospheric radiation Digital Outputs N.A. Dimensions Ø 5.9 in (150 mm), H 3 in (76.6 mm) Field-of-View 180 ° Housing Material Anodised aluminum IP Rating IP67 Measuring Range 4.4 - 50 μm Non-linearity ? 1 % Non-stability ? 1 % Operating Humidity 0 - 100 % Operating Temperature Range -40 - +176 °F (-40 - +80 °C) Power Consumption none Power input none Response Time ? 18 s Sensitivity 5 - 15 $\mu\text{V/W/m}^2$ Temperature Dependence of Sensitivity ? 1% (-4 °F - +122 °F) Temperature Range -40 - +176 °F (-40 - +80 °C) Weight 1.3 lbs (0.6 kg) Zero offset A < 4 W/m² Zero offset B < 2 W/m²
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List required materials needed to make the product, including materials of product components	Unknown except as provided in attached spec sheet. primary materials used in a pyrgeometer include germanium for the high-transparency infrared window and specialized thin-film metals or dielectrics for the optical coatings. The housing and cavity are typically constructed from high-grade aluminum or stainless steel for structural stability and thermal conductivity. The sensing element relies on thermocouple materials (such as bismuth, antimony, or constantan) for the thermopile, and the interior is treated with a high-emissivity carbon-based or ceramic black paint to absorb infrared radiation. The primary materials used in a pyranometer include high-transmittance optical glass (typically borosilicate) for the dome and a black-coated absorbing surface (such as a specialized pigment or thin film). The housing is constructed from anodized aluminum for corrosion resistance and structural rigidity. Internally, it utilizes semiconducting materials (such as silicon) for the thermopile sensor, copper or gold-plated wiring for electrical connectivity, and thermal insulating polymers or resins for potting and sealing.
Are there applicable certification requirements?	No
Are there applicable regulations?	No
Are there any other standards, requirements, etc.?	No
Additional Technical Comments	Any offered product must be completely compatible (for, fit, and function) with the existing system, without the need for modification to the product or system.

Section 4: Business Information

Estimated potential business volume	One-time purchase
Estimated target price / unit cost information (if unavailable explain)	Quantity of one (1) pyrgeometer \$7,434.00; quantity of two (2) Waterproof 4-pin Plug 10-m cable \$182.00 each; quantity of one (1) pyranometer \$8,419.50.
When is it needed by?	Anticipate contract award by 08/31/2026. with delivery by 09/30/2026.
Describe packaging requirements	Best available. Delivered undamaged. Specifics discussed in negotiation.
Where will this item be shipped?	Boulder, CO

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 the Simplified Acquisition requirements for posting and the Buy American Act Waiver process.
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