

Request for Proposal (RFP) for the supply of Sun tracker with accessories

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S. No	Name of the component	Quantity Required
1	Single arm Sun tracker	1
2	Pyrheliometer	1
3	Pyranometer	1

Technical specifications of the component

1. Single arm Sun tracker

Technical Specifications

Arms	: 1
Pointing accuracy Solar elevation 0 to 87°	: < 0.01 °
Angle resolution	: 0.009 °
Rotation angle Zenith	: -15 - 95 °
Rotation angle Azimuth	: 0 - 360 °
Torque	: 12 Nm
Payload side arms	: 7.5 kg (Total payload 15kg)
Sun sensor	: FOV 30 °
Ingress protection IP	: 65
Operating temperature range	: -40 - 50 °C
Communication	: RS-422 / 232C
Power consumption	: < 10 W
Power supply	: 21 to 31 VDC / 15W
Power supply (Power Adapter)	: 100 to 240 VAC / 20W
Weight	: <20 kg (With tripod)
Motor	: Stepper motor
Driving technology	: Harmonic drive®
Tracking mode	: Solar position / Free positioning
Tripod	: Table tripod
Pyrheliometer mount	: Adjustable / One position
Power cable length	: 10 m
Communication cable length	: 10 m
Shading Assembly Disk	: Required
Top mounting plate	: 1 position and 2 position mounting plates

2. Pyrheliometer

Technical Specifications

ISO 9060 classification	: First Class
Output	: Analog (mV)
Response time 95%	: < 1 Sec.
Zero Offset A 200W/m ²	: 0 W/m ²
Zero Offset B 5K/hr	: < 1 W/m ²
Non-stability change/1 year	: < 0.5 %
Non-linearity at 1000W/m ²	: < 0.5 %
Spectral selectivity 0.35-1.5 μ m	: +/- 1 %
Temperature response -20°C to 50°C	: < 0.5 %
Tilt response at 1000W/m ²	: < 0.2 %
Sensitivity	: Approx. 10 μ V/W/m ²
Impedance	: Approx. 5000 Ω
Operating temperature range	: -40 - 80 °C
Irradiance range	: 0 - 4000 W/m ²
Wavelength range	: 200 - 4000 nm
Ingress protection IP	: 67
Cable length	: 10 m

3. Pyranometer

Technical Specifications

ISO 9060 classification	: Secondary Standard
Output	: Analog (mV)
Response time 95%	: < 0.5 Sec.
Zero Offset A 200W/m ²	: < 1 W/m ²
Zero Offset B 5K/hr	: +/- 1 W/m ²
Non-stability change/5 years	: +/- 0.5 %
Non-linearity at 1000W/m ²	: +/- 0.2 %
Directional response at 1000W/m ²	: < 10 W/m ²
Spectral selectivity 0.35-1.5 μ m	: +/- 3 %
Temperature response -10°C to 40°C	: < 0.8 %
Temperature response -20°C to 50°C	: < 1 %
Tilt response at 1000W/m ²	: +/- 0.2 %
Sensitivity	: Approx. 10 μ V/W/m ²
Impedance	: < 45000 Ω
Operating temperature range	: -40 - 80 °C
Irradiance range	: 0 - 4000 W/m ²
Wavelength range	: 285 - 3000 nm
Ingress protection IP	: 67
Cable length	: 10 m
Ventilation unit	: Required

Expected deliverables:

As mentioned in "**Table of Contents**" along with conformance certificates for specifications mentioned in "**Technical specifications of the components**" along with all necessary test certificates.

Expected Time Schedule

4 - 6 weeks

For any information/clarifications contact the following

Technical: *venkata@iiap.res.in*

Administrative matters: "*purchase@iiap.res.in*".