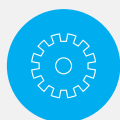
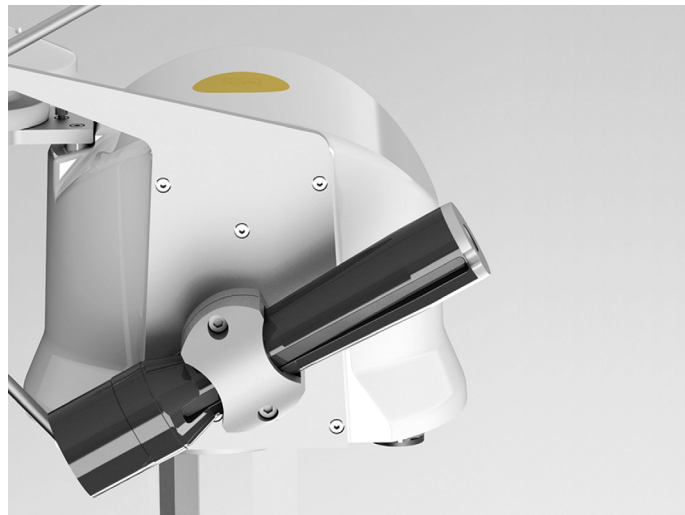


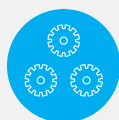
RaZON⁺

All-in-one Solar Monitoring System

RaZON⁺ is an innovative ALL-IN-ONE solar monitoring system with integrated pyrheliometer, shaded pyranometer, digital data processing, GPS receiver and data logger. It measures DNI from the sun and DHI from the sky and, knowing the sun position, calculates GHI that matches secondary standard value. From the DNI measurements sunshine duration is calculated much more accurately than any sunshine duration sensor on the market.



DNI measurement with impressive accuracy



All-in-one system: pyrheliometer, pyranometer and data logger



Designed for remote locations and resistant to soiling



User-friendly from installation to operation, to maintenance



Extremely low maintenance

Measurements are acquired every second and averaged over one minute. The integrated data logger presents the stored averages as DNI, DHI and GHI irradiance measurements in W/m²; sunshine duration in hours and energy in kWh/m².

RaZON⁺ outperforms all rotating shadow band and shadow mask systems on the market, none of which actually measure DNI. RaZON⁺ provides a complete set of solar radiation data,

accurately, affordably and in accordance with ISO 9060: 1990.

The pyranometer and pyrheliometer are Smart sensors connected via Modbus[®] to the RaZON⁺ Smart sun tracker. There will be a future update to connect further Smart devices. Ethernet and RS-485 ports provide all the necessary interfaces and data formats for communication with industrial data acquisition and control systems.

Specifications

Pointing accuracy	< 0.2° (passive)
Payload	1 kg
Angular velocity	up to 30 °/s
Rotation	110° zenith, 600° azimuth
Protection against over rotation	physical limit stops
Supply voltage	24 V DC (20 to 30 V DC)
Power	13 W (day and night)
Operating temperature range	-20 °C to +50 °C
Weight	10 kg (sun tracker + tripod + PR1 + PH1)
Dimensions (w x d x h)	60 x 60 x 48 cm
Accuracy of bubble level	< 0.1°
Ingress protection (IP) rating	IP 65 (suitable for all-weather outdoor use)
CE / FCC compliance	yes
RoHS	yes
Transmission	high precision reduction gear
Power connections	DC power
Communication interface	Ethernet optional Wi-Fi + web browser RS-485 Modbus® ASCII
Data logging	1 s sampling, 1 minute average logging
GPS, location and time / date	integrated GPS
Installation	plug-and-play, Wi-Fi enabled device used
Functional self-test	standard
Test / diagnostic facility	standard via Ethernet connection
Sun tracking mode	standard
PC system requirements	Ethernet connection, web browser
Firmware update possible	flash memory
Maintenance	none
Restart after power interruption	automatic