PTOLEMEO PV50/80

Dual axis Solar Trackers

Maximize the energy yield of your photovoltaic installation
by up to 40% with PTOLEMEO solar tracking system

PTOLEMEO SA
Renewable Energy Technologies

www.ptolemeo.com

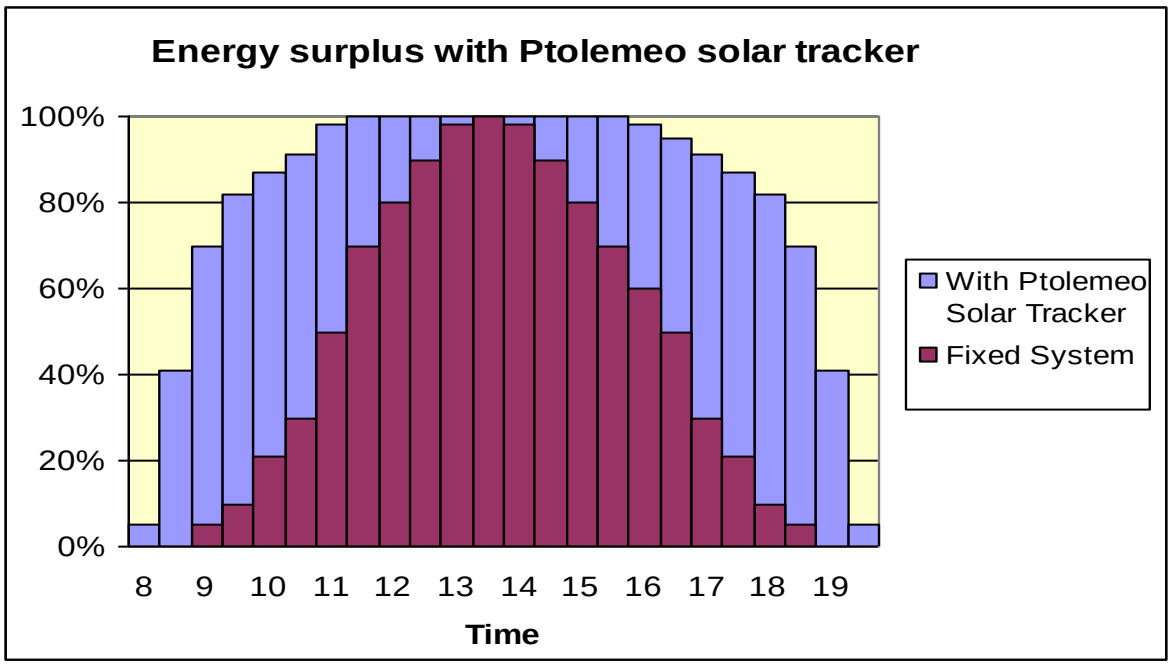
Tracking the Sun

The motion mechanism of the system is based on two axes. It follows automatically the sun's azimuthal and polar movement maximizing solar radiation incidence and thus the electricity production by the photovoltaic panels

The system is driven by the most reliable way: Software using astronomical algorithm is employed to compute the precise position of the sun at any given moment as a function of time, date and latitude. In this way the system cannot be misled by weather conditions (clouds etc) or other interfering factors (artificial lighting etc.)

During cloudy weather, it automatically sets itself at horizontal position in order to receive the maximum of the diffuse radiation, minimizing at the same time energy consumption.

Energy gain exceeding 40% with respect to fixed tilt PV installations have been computed over one year's period!



Unique characteristics

The first tracking system to use a specially designed “space frame” (patented OBI 1006740) for the support of the solar panels. It gives unequaled robustness and reliability compared to any other solar tracker even at extreme weather conditions.

Combines electromechanical motion for azimuthal rotation and hydraulic for tilt elevation. Not only one but two hydraulic cylinders are used, ensuring thus enhanced holding torque and especially wide, four-point (not only three-point) seating.

Advantages

- Increased energy yield by up to 40%
- Certified durability study by TÜV Hellas
- Compatible with all PV panel types
- Quick installation
- Minimal maintenance
- Fully automatic operation
- Unique strength (warranted for wind speed up to 140km/h)
- Aesthetics
- Remote diagnostics, control and handling
- Self protection from axtreme weather conditions (wind, snow, hail) with automatic alignment
- Warranty for life with a maintenance contract

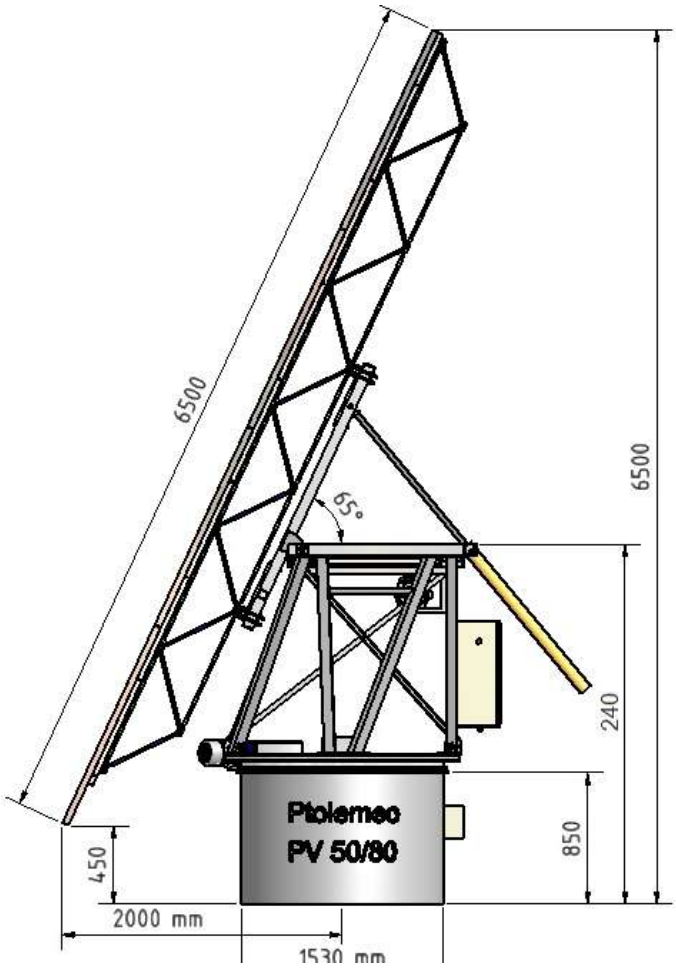
«Intelligent System»

It is driven by a software using astronomical algorithm calculations.

It sets itself at horizontal position for wind speeds exceeding a certain limit for self protection or during heavy cloudiness for better absorption of diffuse radiation and minimal energy consumption

It adjusts tilt angle (back-tracking) when necessary to avoid self-shadowing.

It is remotely supervised, controlled and handled, via internet or mobile telephone.



Technical Specifications	Ptolemeo PV50/80
Total PV power	9000 – 13000 W
Pay surface	Up to 80m^2 (Width up to 12m, Height up to 6,5m)
Total height from ground	6,5m
Distance of solar panels from ground	0.45m
Weight	2tn (with no load)
Foundation	Bed and basis from reinforced concrete 8 m^3
Position Control	Closed loop with encoder and position sensors
Power feeding / Auxiliary Circuit	3 X 230 VAC / 24 VDC
Azimuthal angle range	60^o - 300^o
Polar angle range	0^o - 65^o
Control Unit	PLC S7 300 SIEMENS with distributed I/O and communication system Profibus.
Manual operation for each unit separately	On site with a special control (for maintenance or cleaning works) or remotely through the internet for remote diagnostics, reset etc
Software	Ptolemeo
Position Accuracy	±0,5^o
Energy Consumption/ Year	35kWh
Maintenance	Greasing once per year
Driving	Two synchronized hydraulic cylinders and one electrical motor
Durability	For winds up to 140km/h
Warranty	20 years with a maintenance contract
Πιστοποιήσεις	ISO 9001:2008, CE, Eurocode 1 and 3, TUV Hellas, New Anti-seismic Regulation

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