QBotix

Solar powered by robotics

QBotix is the pioneering company to use mobile, autonomous and rugged robots in the operation of solar power plants. Our goal is to make solar energy competitive with conventional energy through balance of system innovations.

The QBotix Tracking System™

QTS utilizes a pair of autonomous robotic controllers to control up to 300 kW of solar panels with high accuracy and reliability.

The QTS has many advantages over existing systems on the market:

Dual-Axis Tracking at Single-Axis Pricing. QTS is comparable in installed cost to existing single axis systems but generates up to 15 percent more energy. QTS will generate up to 40 percent more energy than fixed mount systems.

Universal Compatibility. QTS is compatible with all standard solar modules, inverters and foundation types used in ground-mounted installations for commercial, distributed generation and utility deployments.

Fast and Easy Installation. QTS ships pre-assembled and can be installed rapidly without using heavy equipment. The system does not require tight installation tolerances. Modular architecture allows fast deployments from 100 kW to multiple MW's.

Site Flexibility. QTS can be installed without extensive land grading or trenching required by other tracking systems. The system can accommodate land constraint by adjusting the Ground Coverage Ratio (GCR) based on the specific location and power generation needs.

System Level Intelligence. QTS comes with monitoring software that provides detailed information about power plant operation, including preventive maintenance indicators and system diagnostics.

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PRODUCT SPECIFICATIONS

Tracking Type	Dual-Axis
Tracker Service Area	Standard: 107.6 sq. ft.
Tracking Range	Elevation: 10 to 90 degrees
Azimuth: -120 to 120 degrees	
kWp per Tracker	Up to 1.5 kWp (based on 300W module)
Trackers per Block	Up to 200
kW per Block	Up to 300kW (based on a 300W module)
Robots per Block	2 in synchronous operation
Drive System	Advanced Robotic Controller Passive elevation linear actuator Passive azimuth slew drive
Materials	Hot-dip galvanized steel
Foundation Post Depth	(4" schedule 40 pipe) 8-12 ft. site specific
Foundation Post Height	1.5 ft.
Array Height	81.4 in. Standard, adjustable
Ground Coverage Ratio	0.20-0.32 customizable based on needs of project
Module Configuration	4-5 Single modules in portrait
Modules Supported	Commercially available crystalline PV, thin-film PV, some CPV
Allowable Wind Load	90 MPH in Stow
Wind Stow	Typically initiated between 31.5-45 MPH, flexible to site requirements
Land Area Required per 1MW	Approximately 6 to 8 acres
Energy Gain vs Fixed Tilt	Up to 40%, site specific
Warranty	10 years
Control System	Advanced distributed control network
Solar Tracking Method	Algorithmic
Tracking Accuracy	+/- 1 degree
Backtracking	Customizable
Nighttime Stow	Yes
Wireless communication	XBee 900 MHz to Ethernet/MODBUS SCADA
System Performance Data	Online customizable visualizations

For more information visit

www.QBotix.com