

TECHNICAL DATASHEET

GENIUS TRACKER™ 2P

WORLD'S HIGHEST POWER PRODUCING
& FASTEST INSTALLING 2P SOLAR TRACKER



ACTUATOR

Rugged design for 40-year field life
in harsh environmental climate:
IP66 rated.

PRE-ASSEMBLED DRIVE SYSTEM

50% FASTER

No machines or driveline for industry's
fastest install.

SADDLE BRACKET

Allows efficient alignment
with row tube.

CONTROLLER

24V battery charged by small solar module drives.
24V actuator motor, Zigbee wireless communication.

DRIVE POST

Wide Flange.

SELF-LUBRICATING DRIVE BEARING

Self lubricating open form polymer bearing
that improves damping.

OWNER BENEFITS

UP TO **2% MORE POWER PRODUCTION**
RESULTS IN **HIGHER KWH OUTPUT**
based on project specifics

INSTALLER BENEFITS

- **FEWER POST COUNT PER MW** UP TO **55% LESS POSTS** THAN SOME 1P COMPETITORS
- **SHORTER 200 FT [61 M] TRACKERS** **INSTALL EASILY** ON UNDULATING SITES TO REDUCE GRADING
- **FASTEST INSTALLING DRIVE SYSTEM** UTILIZING PRE-ASSEMBLED COMPONENTS

OWNER BENEFITS

UP TO 2% MORE POWER PRODUCTION
 Results In higher kWh output.

WEATHERSMART™

Proprietary algorithm optimizes tilt angle based on weather data to maximize power production. Adds up to 1.25% additional power production.

LOWEST O&M COST

Lowest grass cutting & module washing cost.

ZERO MAINTENANCE DRIVE SYSTEM

INSTALLER BENEFITS

FASTEST INSTALLING SYSTEM

Advanced design innovations & pre-assembled components.

PRE-ASSEMBLED DRIVE ARM

Can be lifted by one worker. No machine required. 50% faster than most competing systems.

PE STAMPED DRAWINGS

Design loads according to local building codes: ASCE 7, NBC, Eurocode, AS1170, IS 875.

PROPRIETARY INTEGRATED HARDWARE™

Proprietary hardware allows for faster structure assembly, module mounting, and reduced O&M cost. Oversized Serrated Flange Nyloc Nut and Oversized Flange Star Bolt with integrated star washer eliminates the need for washers and star washers.

GameChange Solar

HEADQUARTERS

230 East Ave, Suite 100
 Norwalk, CT, USA
 Phone: +1 (203) 769-3900
 Fax: +1 (646) 607-2223
 gamechangesolar.com
 media@gamechangesolar.com

GLOBAL OFFICES

El Paso, TX
 Florence, SC
 Dublin, Ireland
 Madrid, Spain
 Wuxi, China
 Bangalore, India
 Dubai, UAE
 Buenos Aires, Argentina
 Johannesburg, South Africa
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SERVICE SUPERCENTERS

Lakeland, FL, USA Santiago, Chile
 Mesa, AZ, USA Madrid, Spain

RESEARCH & DEVELOPMENT CENTER

Brimfield, MA, USA

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Modules	Modules Supported	Most commercially available modules, including frameless crystalline and thin film
Civil	Slope Tolerance (N-S)	7% standard, can go to 10% special order
	Slope Tolerance (E-W)	15%
	Tracker follows slope (Y/N)	Yes
Structural	Drive Type	Robust linear actuator stainless steel & aluminum
	Posts per MW	170/MW for normal wind conditions
	Design Wind Load	105 mph [46.9 m/s](Std) / 115 mph [51.4 m/s](Premium 1) / 130 mph [58.12 m/s](Premium 2)
	Snow Load	5 psf [24 kPa](Std) / 20 psf [96 kPa](Premium 1) / 40 psf [1.92 kPa](Premium 2) / 60 psf [2.87 kPa](Premium 3)
	Tracking Range (Std)	45° - 52°
	Tracking Range (Premium)	60°
	Post Sections	HDG wide flange steel
	Post Size (Interior) & (Exterior)	W6 or W8 Wide Flange
	Motor Foundation	W6 or W8 Wide Flange
	Standard Embedment	5 - 9 ft. [1.52 - 2.75 m]
Design	Flood Plain Allowance	Up to 6 ft. [1.83 m]
	Module Configuration	2 up in portrait for crystalline & First Solar Series 6™, 2 up in portrait for Bifacial, 6 to 8 up landscape for First Solar Series 4™
	Length per Table	Up to 205 ft. [62.48 m] (for example 120 crystalline modules)
	Module Attachment	Bottom mount for framed modules or clamps for glass on glass modules
	Ground Coverage Ratio	0.3 to 0.65
	Rows per Drive	1 drive per tracker(table), distributed drive system
	Powering System	Onboard solar module with battery
	Ground Clearance To Module	18 - 48 in. [45.7 - 121.9 cm] typical
	Min / Max Ground to Top of Post	70 in. [1.78 m] typical + 9 in. [22.86 cm] min. adjustment range
	Backtracking / Anti-shading	Yes, although can be turned off as requested (i.e. for FSLR modules)
	Temperature Range	-20° C (-40° C also available) + 48° C
Electromagnetic Interference	Electromagnetic Interference	Compliant with FCC guidelines/ Applicable sections EN 61000
	Install	
Specialty Tools Required	Specialty Tools Required	No
	Max Offload for Deliveries	As per customer requirement
Electrical	Tracking Method	Time and location based algorithm
	String Design	Compatible with any string size
	Cable Supports	Hole punching per customer requirement for nominal cost
	Linear Actuator Motor	24V DC UL Listed
	Parasitic Loss	0 amps
	Controller Box	Zigbee wireless communications, 24V solar module and battery
	Control System	Master to Node: Zigbee wireless communications Master to SCADA/DAS: Modbus TCP communications
	# of Motors	25/MW for typical conditions, depending on module wattage and loading
	1000V System or 1500V System	Both
	Grounding Method	Tracker structure is part of grounding path per UL 2703
	UL Compliance	UL 2703 / UL 3703
	Ingress Protection	IP66 (NEMA 4 equivalent)
	# Anemometers	1 per 6 MW - 10 MW typical
	Monitoring System	Web portal interface available Compatible with all standard third party monitoring vendors
	Snow & Flood Sensors	Move modules to optimum location for weather events
	Backup Power	Solar module and battery providing integrated backup - 3 days
	O&M	Warranty
Shipping	Max load	International - 18.5 to 22.5 metric tons per container USA - 45,000 lbs. [20,411 kg] per truckload, 5,000 lbs. [2,267 kg] maximum bundle size, 2,900 lbs. [1315.4 kg] or other maximum as requested by customers
	Shipping Containers or Flatbeds	Flat beds for structure, dry vans for hardware
Commissioning	# Trucks or Containers per MWdc	4 typical for trucks, 5 typical for containers
	Backfeed required?	No, generator for power as alternative