

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

than typical competitor drive systems.
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 **1.25% MORE POWER PRODUCTION**
RESULTS IN **HIGHER KWH OUTPUT AND HIGHER ROE**
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 1.25% MORE POWER PRODUCTION AND HIGHER ROE
 Combine to increase owner cash flow

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 typical competitors

PE STAMPED DRAWINGS

Design loads according to local building codes: ASCE 7, NBC, Eurocode, AS1170, GB 50009

PROPRIETARY INTEGRATED HARDWARE™

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

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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 [0.24 kPa](Std) / 20 psf [0.96 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]	
	Flood Plain Allowance	Up to 6 ft. [1.83 m]	
	Design	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		Compliant with FCC guidelines/ Applicable sections EN 61000	
Install	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 as 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 4/4x equivalent)	
	# Weather Station	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	5 year drive & control, 10 year structural standard, 10 /20 also available	
	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	
	# Trucks or Containers per MWdc	4 typical for trucks, 5 typical for containers	
Commissioning	Backfeed required?	No, Generator for power as alternative	