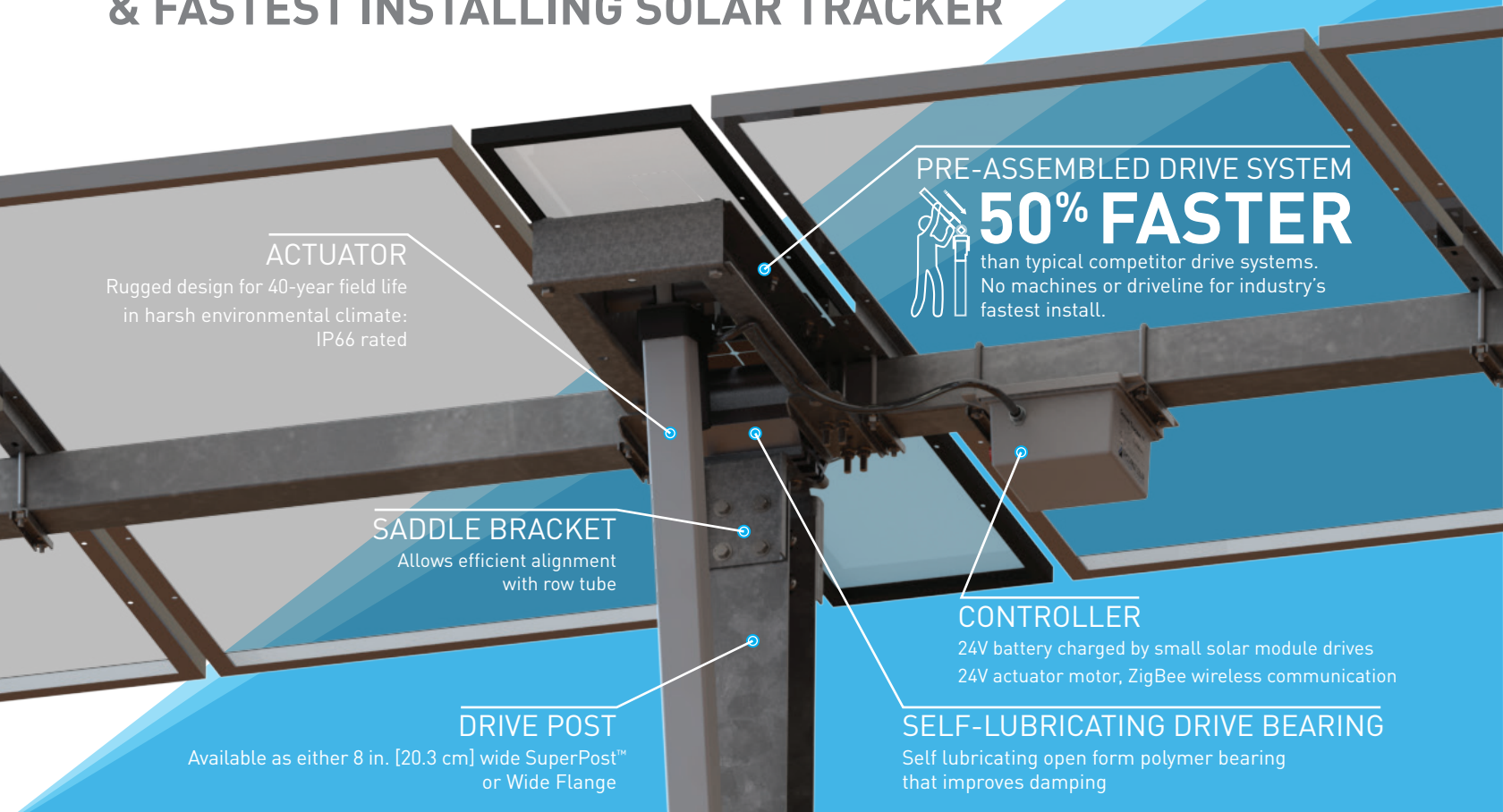


TECHNICAL DATASHEET

GENIUS TRACKER™ 1P

WORLD'S HIGHEST POWER PRODUCING
& FASTEST INSTALLING 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

Available as either 8 in. [20.3 cm] wide SuperPost™ or Wide Flange

SELF-LUBRICATING DRIVE BEARING

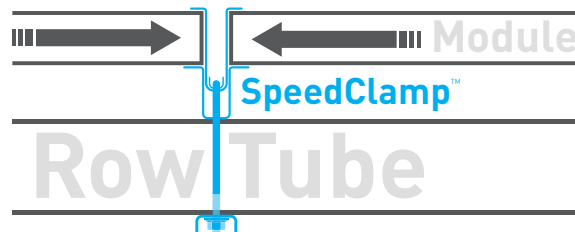
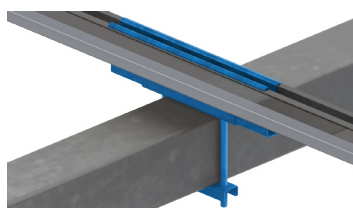
Self lubricating open form polymer bearing that improves damping

OWNER BENEFITS

UP TO 6.75% MORE POWER PRODUCTION
RESULTS IN **HIGHER KWH OUTPUT** AND **UP TO 40% HIGHER ROE**
based on project specifics

INSTALLER BENEFITS

200% FASTER INSTALL SPEED WITH **SPEEDCLAMP™** THAN ANY OTHER TRACKER



OWNER BENEFITS

UP TO 40% HIGHER ROE

Combine to increase owner cash flow

HIGHER MODULE DENSITY

Increased row spacing means more time facing the sun and less time running from the shade, adds up to 5% more power production than competitors

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

SPEEDCLAMP™

Mounts modules with no mounting hardware, speeds module installation up to 200%

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 15% 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	350-400/MW for 1 up portrait / 2 up landscape or 250-300/MW for 2 up portrait	
	Design Wind Load	105 mph [46.9 m/s](Std) / 130 mph [58.1 m/s](Premium 1) / 150 mph [67 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	G235 [55 µm] galvanized steel (or HDG option) roll formed standard posts, HDG wide flange option also available	
	Post Size (Interior) & (Exterior)	6 x 6 in. [15.24 x 15.24 cm] roll form shape or W6x7, W6x9, W6x12 or W6x15 wide flange	
	Motor Foundation	6.5 x 8 in. [16.51 x 20.32 cm] roll form hat or W6x15 or larger wide flange	
	Standard Embedment	5 - 7 ft. [1.52 - 2.13 m]	
Flood Plain Allowance	Up to 6 ft. [1.83 m]		
Design	Module Configuration	1 or 2 up in portrait for crystalline & First Solar Series 6™, 2 up landscape or 1 or 2 up in portrait for Bifacial, 3 to 4 up landscape for First Solar Series 4™	
	Length per Table	Up to 320 ft. [97.53 m] (for example 78 First Solar Series 6™ modules)	
	Module Attachment	SpeedClamp™ or bolts available for bottom mount frame modules or clamps for glass on glass modules	
	Ground Coverage Ratio	0.25 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	56 in. [1.42 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	20 to 52 / MW depending on module wattage and loading conditions (35 for typical conditions)	
	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 stroke end / IP67 motor end (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	