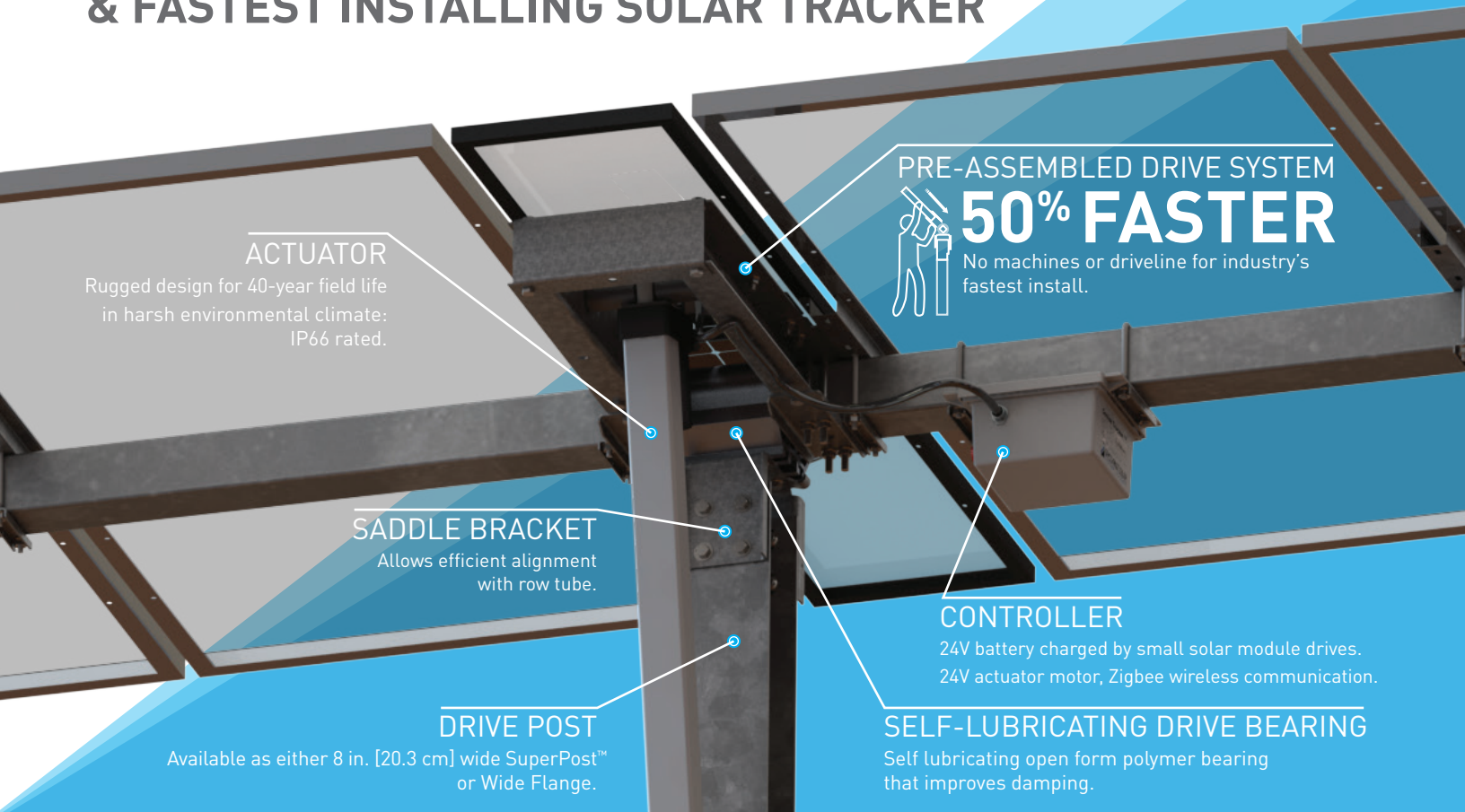


TECHNICAL DATASHEET

# 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**

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**

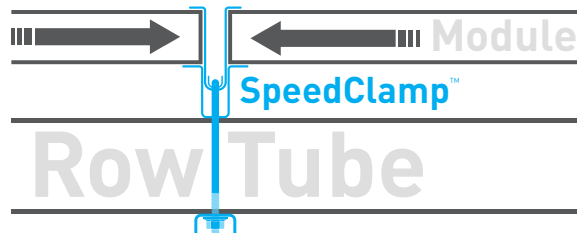
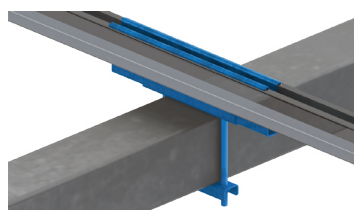
Self lubricating open form polymer bearing  
that improves damping.

## OWNER BENEFITS

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

## INSTALLER BENEFITS

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



## OWNER BENEFITS

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

**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 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 LOCATIONS

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

### SERVICE SUPERCENTERS

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

### RESEARCH & DEVELOPMENT CENTER

Brimfield, MA, USA

**DISCLAIMER:** GameChange Solar provides this documentation without warranty in any form either expressed or implied. GameChange Solar may revise this document at any time without notice.

<b>Modules</b>	<b>Modules Supported</b>	Most commercially available modules, including frameless crystalline and thin film
<b>Civil</b>	<b>Slope Tolerance (N-S)</b>	7% standard, can go to 15% special order
	<b>Slope Tolerance (E-W)</b>	15%
	<b>Tracker follows slope (Y/N)</b>	Yes
<b>Structural</b>	<b>Drive Type</b>	Robust linear actuator stainless steel & aluminum
	<b>Posts per MW</b>	350-400/MW for 1 up portrait / 2 up landscape or 250-300/MW for 2 up portrait
	<b>Design Wind Load</b>	105 mph [46.9 m/s](Std) / 130 mph [58.1 m/s](Premium 1) / 150 mph [67 m/s](Premium 2)
	<b>Snow Load</b>	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)
	<b>Tracking Range (Std)</b>	45° - 52°
	<b>Tracking Range (Premium)</b>	60°
	<b>Post Sections</b>	G235 [55 µm] galvanized steel (or HDG option) roll formed standard posts, HDG wide flange option also available
	<b>Post Size (Interior) &amp; (Exterior)</b>	6 x 6 in. [15.24 x 15.24 cm] roll form shape or W6x7, W6x9, W6x12 or W6x15 wide flange
	<b>Motor Foundation</b>	6.5 x 8 in. [16.51 x 20.32 cm] roll form hat or W6x15 or larger wide flange
	<b>Standard Embedment</b>	5 - 7 ft. [1.52 - 2.13 m]
<b>Flood Plain Allowance</b>	Up to 6 ft. [1.83 m]	
<b>Design</b>	<b>Module Configuration</b>	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™
	<b>Length per Table</b>	Up to 500 ft. [150 m]
	<b>Module Attachment</b>	SpeedClamp™ or bolts available for bottom mount frame modules or clamps for glass on glass modules
	<b>Ground Coverage Ratio</b>	0.25 to 0.65
	<b>Rows per Drive</b>	1 drive per tracker(table), distributed drive system
	<b>Powering System</b>	Onboard solar module with battery
	<b>Ground Clearance To Module</b>	18 - 48 in. [45.7 - 121.9 cm] typical
	<b>Min / Max Ground to Top of Post</b>	3'-8" [1.12 m] typical + 9 in. [22.86 cm] min. adjustment range
	<b>Backtracking / Anti-shading</b>	Yes, although can be turned off as requested (i.e. for FSLR modules)
	<b>Temperature Range</b>	-20° C (-40° C also available) + 48° C
	<b>Electromagnetic Interference</b>	Compliant with FCC guidelines/ Applicable sections EN 61000
	<b>Install</b>	<b>Specialty Tools Required</b>
<b>Max Offload for Deliveries</b>		As per customer requirement
<b>Electrical</b>	<b>Tracking Method</b>	Time and location based algorithm
	<b>String Design</b>	Compatible with any string size
	<b>Cable Supports</b>	Hole punching per customer requirement for nominal cost
	<b>Linear Actuator Motor</b>	24V DC UL Listed
	<b>Parasitic Loss</b>	0 amps
	<b>Controller Box</b>	Zigbee wireless communications, 24V solar module and battery
	<b>Control System</b>	Master to Node: Zigbee wireless communications Master to SCADA/DAS: Modbus TCP communications
	<b># of Motors</b>	20 to 52 / MW depending on module wattage and loading conditions (35 for typical conditions)
	<b>1000V System or 1500V System</b>	Both
	<b>Grounding Method</b>	Tracker structure is part of grounding path per UL 2703
	<b>UL Compliance</b>	UL 2703 / UL 3703
	<b>Ingress Protection</b>	IP66 Actuator (NEMA 4 equivalent)
<b># Anemometers</b>	1 per 6 MW - 10 MW typical	
<b>Monitoring System</b>	Web portal interface available Compatible with all standard third party monitoring vendors	
<b>Snow &amp; Flood Sensors</b>	Move modules to optimum location for weather events	
<b>Backup Power</b>	Solar module and battery providing integrated backup - 3 days	
<b>O&amp;M</b>	<b>Warranty</b>	5 year drive & control, 10 year structural standard, 10 /20 also available
<b>Shipping</b>	<b>Max load</b>	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
	<b>Shipping Containers or Flatbeds</b>	Flat beds for structure, dry vans for hardware
	<b># Trucks or Containers per MWdc</b>	4 typical for trucks, 5 typical for containers
<b>Commissioning</b>	<b>Backfeed required?</b>	No, generator for power as alternative