

# TerraTrak 1P

15% faster to install than the average of 3 market relevant trackers



TerraTrak 1P is designed for fewer foundations per MW and reliable performance. Our smart engineering allows for fewer parts and faster installation. The foundation agnostic design ensures reliable results in any terrain. With 80% of the parts shared with TerraTrak 2P, you're ensured proven quality and performance.

### Versatile above & below grade

- Compatible with driven piles and ground screws
- A-frame has legs with 36" of adjustability
- Reduce grading and overcome undulating topography

### Electrician's favorite tracker

- Easy wire management design for faster wire installation
- Designed to save on skilled labor
- Efficient wire layout requires less materials

### Proven reliability with over 1 GW of experience

- Up to 10% N/S torque tube slope
- Standard design wind speed of 105mph per ASCE 7, higher wind load available
- Up to 100 psf snow load

### 15% faster to install than the average of 3 market relevant trackers

- 30%-50% fewer foundations per MW
- Longer spans between foundations
- 30% fewer parts

## Best in class controls

### NEW! Peak Production Package



#### Topography informed backtracking





Our proprietary algorithm can increase production by up to 3%. It incorporates three-dimensional site conditions and neighboring tracker positions to avoid shade. This is ideal for sites with uneven or undulating terrain.



#### Irradiance optimized tracking

Our proprietary algorithm can increase production by up to 2%. The algorithm uses irradiance forecasts to improve energy capture under diffuse or cloudy conditions. Instead of strictly following the sun path, the system reorients modules upward when diffuse light is more productive. Unlike others, our tracking utilizes cloud-based irradiance forecasting over on-site sensors.

## Perform easier O&M

	<p><b>Row level control</b></p> <p>View row level performance and control each individual row for easy O&amp;M. This allows you to move individual rows or perform routine maintenance while the rest of your site continues tracking.</p>
	<p><b>Remote access</b></p> <p>This allows for faster troubleshooting without rolling a truck on site. The admin panel allows users to see inside the project site, view real-time data, and investigate historical data that often leads to identification of the issue.</p>
	<p><b>Dashboard</b></p> <p>Real-time, user-friendly dashboard allows you to view all sites. View all alerts and row-level detail. Through the dashboard, you can view real time issues and historical performance.</p>
	<p><b>Real time alerts</b></p> <p>Notifications via email or SMS push alerts in real time, allowing you to react quickly.</p>

## Specifications

<b>Module orientation</b>	1 module in portrait	<b>Drive system</b>	Independent row design / 12 VDC motor (10A Nominal) / IP-65 / zero grid power consumption
<b>Tracker range of motion</b>	100°	<b>Bushings</b>	High impact polymer / lubricant-free, dry bushings
<b>Torque tube slope</b>	N/S: Up to 10% (Natural terrain slope could be higher)	<b>Fasteners</b>	Standard sizes / self-locking / no special tools required
<b>Foundation</b>	Driven pile and ground screw	<b>Material coating</b>	HDG, inline, pre-galvanization, powder coating
<b>Wind load</b>	105mph per ASCE 7, higher wind load available	<b>Adjustable foundations</b>	Flexible installation allows market leading adjustability
<b>Snow load</b>	Up to 100 psf	<b>Electrical subsystem</b>	Highly advanced BMS hardware & software
<b>Foundations per MW</b>	200-300	<b>Modules</b>	Compatible with large format modules and First Solar Series 7 TR1
<b>Weather monitoring</b>	Wind, hail, snow	<b>Certification</b>	UL3703
<b>Torque tube height</b>	4ft standard, adjustable (4ft min height above grade)	<b>Warranty</b>	10 year structural, 5 year on drive and control system, 20 years on foundations, extended terms available
<b>Corrosion</b>	ISO 9223 C2, C3		

\*Optimized means the design is most cost efficient in this configuration (60 modules, 2 string). Higher loads can be accommodated with an engineering review.

## Electrical Specifications

<b>Power requirements</b>	18-24VDC as provided by included pony panel(s) and/or TTAC
<b>Pony panel</b>	<ul style="list-style-type: none"> <li>• 150W monofacial module, <math>V_{mp} \sim 17.93V_{dc}</math>, <math>I_{mp} \sim 8.37A</math></li> <li>• 1150 × 620 × 35 mm</li> </ul>
<b>TTAC (HEP-150-24A)</b>	<ul style="list-style-type: none"> <li>• Input: 100-240 VAC, 50-60 Hz</li> <li>• Output: 24 VDC @ 6.3A</li> </ul>

### Network controller

<b>Battery</b>	LiFePO4 (nominal 3.2V cells)
<b>Battery capacity</b>	15.2Ah
<b>Peak power consumption (typical)</b>	70W
<b>Operating temperature</b>	-30°C to 60°C

### Weather station

<b>Battery capacity</b>	15.2Ah
<b>Peak power consumption (typical)</b>	50W
<b>Sensors supported</b>	<ul style="list-style-type: none"> <li>• Wind (speed / gust / direction)</li> <li>• Snow depth</li> <li>• Ambient temperature</li> <li>• 8 additional I/O ports (24V)</li> </ul>

### Tracker controller

<b>Battery</b>	<ul style="list-style-type: none"> <li>• LiFePO4 (nominal 3.2V cells)</li> <li>• Quick access battery cover with captive screws</li> <li>• Isolated battery compartment, avoids exposing internals when changing battery</li> <li>• Integrated pack heater</li> </ul>
<b>Low battery detection</b>	The tracker controller will automatically stow when the battery level drops below 15% and resumes tracking when it has charged back to 30%
<b>Battery capacity</b>	6.4Ah
<b>Peak power consumption (typical)</b>	120W
<b>Operating temperature</b>	-30°C to 60°C
<b>Environmentally tested</b>	<ul style="list-style-type: none"> <li>• MIL-STD-810G tested</li> <li>• NEMA 4X/IP65 enclosure</li> <li>• Lightning surge protection</li> </ul>