iTracker: catching all the sun

iTracker – the intelligent tracker –
maximizes the output of your PV power plant,
thanks to its all-around performance
and Soltigua's customer-tailored solutions

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Track and field: iTracker's decathlon

"The decathlon includes ten separate events and they all matter. You can't work on just one of them."

Dan O'Brien
Olympic gold medal

Track

Horizontal single-axis trackers increase the performance of PV power plants by up to 30% with alimited increase of the investment. By following the sun throughout the day PV trackers maximise power generation.
They also better match the grid demand profile, which peeks in the afternoon, and contribute to a smarter and more sustainable energy system.

Field

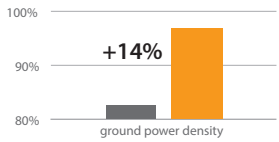
To maximize the actual PV output in the field, trackers must deliver on several dimensions during the different phases of the PV project life: design, installation, operation and maintenance.
Challenges are numerous and diversified, ranging from field configuration to need for local content, from local labour skills to weather conditions, from budgetary constraints all the way down to asset management for a long lifespan.

iTracker's decathlon

Effective tracker performance requires all-around achievements and attention to detail, like a decathlete, who prepares for multiple challenges at the same time.
This is iTracker's intelligence: delivering everywhere it matters!

01 Power Density

Smallest footprint for each installed PV module



- Up to 14% additional capacity for a given area
- Continuous table with no interruptions thanks to virtual axis of rotation
- Length up to 96 meters
- Single row 3D backtracking maximises annual output

02 Site Adaptability

The most flexible tracker on the market

- Optional universal joint for undulating sites avoids ground works
- North South slopes up to 15% - no East West slope limitation
- Independent row tracking enables more flexible layouts
- Alignment is possible in any direction to adapt to site constraints

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03 Wind Management

Holistic approach to wind loads

- Wind tunnel tested, including dynamic analysis
- Intelligent stowing position along the array avoids wind galloping
- Soltigua's patented bearing concept includes a torsional limiter
- An embedded damping factor avoids the addition of external dampers

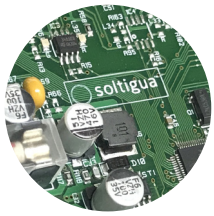
04 Outdoor Resistance

Ready for the harshest environment

- Linear actuator with IP 66 dynamic rating and IP69K static rating
- IP 65 electric box against moisture, dust and sand
- Broad range of working temperatures from -10°C to +50°C
- HDG metal structure and components with advanced coatings (Zn-Al-Mg)

05 Endurance & Reliability

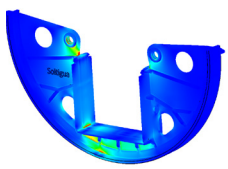
Designed and field tested for 50-year service



- Patented balanced design reduces mechanical stress on structure and actuator
- Proprietary rugged printed control board can resist temperatures from -20° to +80°C
- Drive and bearing components tested on the field for an equivalent 50-year service
- Technical due diligence available on request

06 Advanced Design

Integrated mechanical engineering



- Tracking precision, balanced design and broad rotation range increase yield by up to 1,5%
- Engineering platform leverages Soltigua's experience in complex CSP collectors
- 3D CAD modelling enables rapid virtual prototyping and in depth analysis
- FEM (Finite Elements) analysis performed for various load cases on critical components

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07 Intelligent Monitoring

Monitoring tailored to specific customer needs

- Individual monitoring and control of each tracker
- Soltigua's cloud-based SCADA shows solar array status at a glance, in an intuitive manner
- Single tracker status can also be detected, including warnings and alerts
- Real time and historical data available

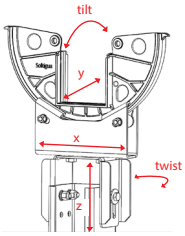
08 Minimized O&M

Minimized operating cost for the pv array

- Simplified cleaning and vegetation management: no obstacles between rows
- Adjacent rows can face each other to allow their simultaneous cleaning
- Continuous table is already optimized for autonomous robot cleaning
- All moving parts are maintenance free, as they are sealed and self lubricated

09 Ease of installation

Fast, simple and user friendly installation



- Highest installation tolerances on the market avoid repair work at construction site
- No specialized tool is required during installation: no welding, no drilling
- Installation manual available to partners and clients
- Installation courses in Soltigua's headquarters and on project sites

10 Certified Quality

100% compliant to state-of-the-art standards

- CE marked according to the Machinery Directive 2006/42/UE
- Structural design compliant with Eurocodes EN 1991-1-1, EN 1991-1-3, EN 1991-1-4
- Electrical design as per EU Directives 2014/35/UE (LV) and 2014/30/UE (EMC)
- Quality system certified by TUV Sud according to ISO 9001:2015

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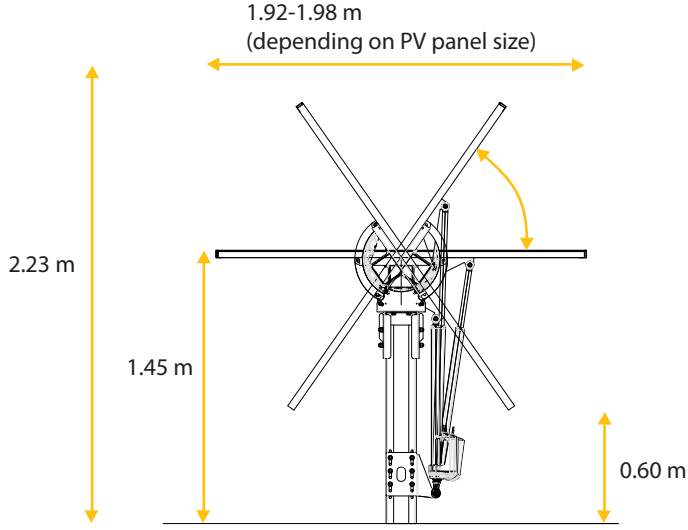
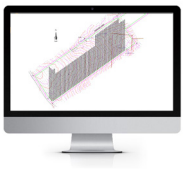
Technical features

Tracking type	Independent single axis horizontal tracker; Any tracker alignment possible (ideally along North-South direction); Individual 3D backtracking
Tracking algorithm	Accurate astronomical formulas; tracking precision = 0.5°
Rotation range	±55°
Ground cover ratio	Freely configurable by customer (between 34% and 50%)
PV Module compatibility	Framed modules; All major brands
Module mount	1 module portrait; 2 modules landscape
Drive system	1 Independent linear actuator per tracker
Peak power per tracker	Up to 32.64 kWp per tracker (with 340Wp panels)
N° of Module per tracker	Up to 100 72-cell modules (1000 V) or 90 72-cell modules (1500 V)
PV array voltage	1000 V or 1500 V
Power supply	400 V AC (50/60 Hz) / Self powered
Communication	Private wired network / wireless with star topology
Monitoring	Local control via SCADA; Remote control available
Power consumption	≈ 600 kWh/MWp/year
Foundation type	standard: driven pile; compatible also with: cement block; ground screw
Wind resistance (Eurocodes)	In operation: up to 80 km/h in any position, depending on tracker version; Stow position: up to 200+ km/h in stow position, depending on tracker version.
Snow resistance	Up to 1'050 N/m2; depending on tracker version
Tracker stowing time	≤ 3 min
Installation tolerances	North South: ±45 mm; East-West: ±25 mm; Height tolerance: ±40 mm; Tilt: 8°; Twist: 15°
Ground slope	Max 15% slope in longitudinal direction (North- South); Any slope in transversal direction (East-West) [max 70% local slope for rotation clearance]
Installation method	Engineered for fast and easy assembly; no welding nor drilling required on site
Materials	HDG construction steel; Maintenance free drive components (actuator and bearings)
Certifications/Compliance	CE 2006/42/UE; Eurocodes EN1991-1-1/3/4; LV 2014/35/UE; EMC 2014/30/UE; ISO 9001-2015
Warranty	Structure: 10 years; Drive and electronics: 5 years; Warranty extension available



Dedicated global service



Project engineering - Tailored to the needs of each individual plant

- Choice of optimal trackers based on project features (PV modules, land, wind etc.)
- Detailed layout development already during proposal
- Optimization during basic engineering

Scope of supply - Flexible battery limits for goods and services

- On-site presence adapted to customer preference: from simple supervision to full turn-key
- If wished, selected structural components can be sourced locally by the client

Project management - Reliable network across 4 continents

- 100+ year of cumulative experience in project management
- Extensive network of local partners for seamless client service
- Projects successfully delivered and commissioned across 4 continents

Post sale assistance - Guaranteed support - online and onsite

- 99% availability guarantee included as sales contract standard
- Suitable stock of spare parts supplied and maintained available on site
- Remote monitoring service available upon request

Training - Supporting continuous learning during the entire life of the plant

- Dedicated courses at Soltigua's headquarters for construction partners
- On-site sessions during erection and commissioning phase
- Comprehensive manuals for detailed reference during O&M

A unique product portfolio

Soltigua is the only PV tracker supplier with a 10-year experience in engineering and manufacturing concentrating collectors for solar heat up to 320°C.
By manufacturing both parabolic troughs and Fresnel collectors, Soltigua can offer the most suitable solution to any solar thermal installation.

For more information and quotes write to sales@soltigua.com

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soltigua™
solar tracking since 2007

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