



SIGMA TRACKER

True Bifacial

Reliable technology

Mounting Systems presents its stable and innovative single-axis, single-post Tracker system. An efficient electric motor drives the torque tube and the jack in a tilt range of up to $\pm 50^\circ$. Designed with two main goals in mind: Firstly, to achieve static stability and minimize vibrations during operation, and secondly, to create a smooth and low friction system that will ensure a low level of energy demand. The Sigma Tracker can withstand wind speeds of up to a remarkable 260 km/h.

Variable module layout

All mono- and bifacial module configurations in portrait and landscape are possible, providing design flexibility and ensuring optimized project layouts. Minimized shadowing from the backside optimize the bifacial module features.

Self-locking mechanism

Sigma Tracker design exploits the self-locking capability of the trapezoidal threaded nut on a spindle to provide static stability on each post of the tracker. The high load bearing capacity of the scissor-jack design allows for a stable and reliable tracker structure in all positions during tracking. The versatile load bearing property of the mechanism allows the tracker to sustain high loads (wind & snow) and provides robust dynamic stability.

Low maintenance requirements

The profiles of the system are made of self-healing, coated steel, contributing to the system's long durability even under conditions of high corrosiveness. All electrical and moving parts are designed to withstand extreme weather and environmental conditions and to minimize maintenance requirements.

Excellent adaptability

The Sigma Tracker can adapt to multiple soil conditions. Driven pile foundations, earth screws and concrete foundations are some of the grounding options for the Sigma Tracker. Depending on the project requirements, further adaptations can take place, rendering the Sigma Tracker the most flexible solution in the market.



Open Terrain



Framed Module



Unframed Module



Orientation Portrait



Orientation Landscape





mounting
systems

APPLICATION

Module types	All monofacial and bifacial options, framed or laminates Optimized bifaciality in accordance with module manufacturer requirements
Module layout	2V (vertical/portrait) 4H (horizontal/landscape) Flexible string configuration Up to 240 PV modules per tracker
Corrosion category	Standard corrosion class C3
Warranty	Standard 10 years on structural parts 5 years on moving parts and electronics

MECHANICAL FEATURES

Operation angle	+50° east to -50° west
Wind protection	Stow position 0° Up to 90 km/h with tracking * Up to 260 km/h in stow position *
Operating temperature	-25°C to +60°C
Foundation	Driven piles, concrete foundation, screw piles
Support profiles	Steel profile (anti-corrosive coating)
Module fastening	Screws, clamps – in accordance with standard fastening requirements of module OEM

TRANSMISSION SYSTEM

Drive	Single row drive with non-static torque tube
Motor	Asynchronous standard motor with integrated gear and chain drive
Lifting system	Tilting rafter driven by scissor jack on each structural pile

ELECTRICAL SYSTEM

Power input	Standard: 400V, 50Hz, 0.55 kW per tracker Optional: 230V, 50/60Hz, 0.55 kW per tracker
Annual consumption	90kWh per tracker in standard operation

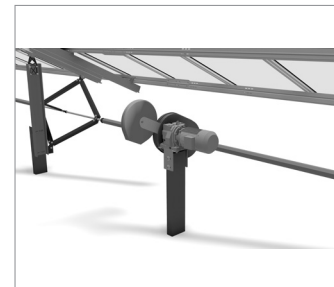
CONTROL SYSTEM

General	Decentralized control system on each tracker mounted to existing structural pile
Operating modes	Automatic mode with backtracking; manual mode, cleaning mode, maintenance mode (freely programmable)
Hardware	Siemens SIMATIC S7 including Variable Frequency Drive
Tracking software	Astronomical based on Siemens solar library including adaptable backtracking
Sensors	2 x tilt sensor with +/-0.5° accuracy Wind sensor – quantity depending on project site topology
Control system design	Master Control Box for up to 30 trackers Slave Control Box for each tracker
Communication	MODBUS RS485 between Master and Slave Control Box; PROFINET project wide communication
Data interface	SIGMA VIEW 1.3 SCADA Exchange – Modbus/TCP or SQL

* subject to project details and static requirements



Structural system



Drive system



Transmission system

* Standard values. Design solutions available for higher wind speeds

** For terms and conditions please refer to the Mounting Systems GmbH warranty

*** All technical details are subject to project specifications and might occasionally be exceeded