



MULTIPLE-ROW SINGLE AXIS TRACKER SP1000

The main characteristics that define Nclave SP1000 tracker are:



1. Horizontal single-axis tracker with up to 18 rows driven by one linear actuator.



6. Several adjustment points create a broad window for rraming and assebly misalignment.



2. Proven, robust and reliable tracking systems.



7. Nclave linear actuator and polymer bearing have been age tested under extreme atmospheric conditions proving their high reliability.



3. Maintenance-free polymer spherical bearing patented by Nclave.



8. The strength of the 3-phases AC motor driven by a Variable Frequency Drive extends the system life: low speed for tracking and fast speed for protection response.



4. Easy to install on uniform slopes(N-S and E-W).



9. Control system based on industrial-grade Omran PLC integrates advanced wind control software that considers prestow positions for tracker safety.



5. Easy to install and operate in complex terrain due to the most adaptable bearing in the indsutry.



Trinapro is designed for fully utility application, including solution on land, solution on water. Trinapro integrates premium module, European tracker or superior floating and inverter, also equipped with smart maintenance, dedicating to reduce LCOE from individual components, system and performance. Trinapro is really smart, service-oriented and high-return utility solution.

TECHNICAL SPECIFICATIONS

GENERAL CHARACTERISTICS

Solar tracker	Horizontal, single-axis, multi-row
Tracking range	110° (±55°)
Modules surface per tracker	Up to 2160 m ²
Foundation options	Direct ramming /Pre-drilling /Concrete micro-piling /Screw pile
Terrain adaptation	Up to 6% global inclination
Ground Coverage Ratio (GCR)	Configurable: standard range (28-50%)
Structure	HDG high strength steel S275 and S355 and Magnelis®
Hardware	8.8 grade / ZnNi + seal
Drive unit	Linear actuator
Allowable Wind and Snow Loads	Tailored to site requirements
Standards & regulation	Structural calculation according to Eurocodigo and USA standars
Modules configuration	1000V version 1500V version
Compatible solar panels	Frame, DUAL glass, thin film...
Availability	> 99,5%

ELECTRONIC CONTROLLER SPECIFICATIONS

Controller	Industrial Quality Omron PLC
IP Marking	IP65
Tracking algorithm	Astronomical calculations (error < 0.0015°) with backtracking
Advanced Wind Control	High wind, medium wind and low wind
Night-time parking position	Configurable
Communications options	Wire option RS-485/ RS-422/ Ethernet / Optical - Fiber
Operating temperature	Atitude < 1000 m); -5°C to 50°C
Sensors	Analogic inclinometer
Motor type	Asynchronous 3-phases AC motor driven by VFD 1.1 / 1.5 kW
Daily energy consumption	Control 0.26kWh/day; Motor 0.22kWh/day; Total 0.48kWh/day
Std. powersupply	Single phase 230 Vac-50/60 Hz

MANTEINANCE

Maintenance-free bearings	Yes
Structure maintenance	Minium (grease gear drive once every 2 years). Optional every 10 years.

WARRANTY (Expandable)

Structure	10 years
Corrosion protection	20 years according to ISO 14713 C3



ONE-ROW SINGLE AXIS TRACKER SP160

The main characteristics that define Nclave SP160 tracker are:



1. Horizontal single-axis, single-row with independent slew drive permits full access between rows and enables flexible, high density site layouts.



4. Several adjustment points to accommodate a broad range of rammed piles and installation misalignment.



2. Reliable and proven tracking systems with many years and MW of field data.



5. The strength of the 3-phase AC motor driven by a Variable Frequency Drive extends the system life: low speed for tracking and fast speed for protection response.



3. Maintenance-free polymer spherical bearing patented by Nclave. Nclave's slew drive and polymer have been age tested under extreme environmental conditions to validate their high reliability.



6. Electronic board with microprocessor that integrates an advanced wind control software that considering prestow positions for tracker's safety.



Trinapro is designed for fully utility application, including solution on land, solution on water. Trinapro integrates premium module, European tracker or superior floating and inverter, also equipped with smart maintenance, dedicating to reduce LCOE from individual components, system and performance. Trinapro is really smart, service-oriented and high-return utility solution.

TECHNICAL SPECIFICATIONS

GENERAL CHARACTERISTICS

Solar tracker	Horizontal, single axis, one-row
Tracking range	120 (±60°)
Modules surface per tracker	Up to 180 m ²
Foundation options	Direct ramming/ Pre-drilling/ Concrete micro-piling/ Screw piles
Terrain adaptation	Up to 20% grade N-S
Ground Coverage Ratio (GCR)	Configurable: standard range (28 - 50%)
Structure	HDG high strength steel S275, S355 and Magenlis ®
Hardware	8.8 grade / ZnNi + seal
Drive unit	Slew drive
Allowable Wind and Snow Loads	Tailored to site requirements
Standards & regulation	Structural calculation according to Eurocodigo and USA standards
Modules configuration	1000V version 1500V version
Compatible solar panels	Frame, DUAL glass, thin film...
Availability	>99,5%

ELECTRONIC CONTROLLER SPECIFICATIONS

Controller	Electronic board with microprocesador
IP Marking	IP65
Tracking algorithm	Astronomical calculations (error < 0.015°) with backtracking
Advanced Wind Control	High wind, Medium wind and Low wind
Night-time parking position	Configurable
Communications options	Wire option - RS - 485 / RS -422/ Ethernet/ Optical-Fiber Wireless option - Zigbee
Operating temperature	Atitude < 1000 m: -5°C to 50°C
Sensors	Analogic inclinometer
Motor type	AC motor 0,18 kW DC Motor 0.15 kW
Daily energy consumption	Control 0.06kWh/day; Motor 0.06kWh/day; Total 0.12kWh/day
Std. powersupply	Single phase 230 Vac - 50/60Hz or SelfPowered

MANTEINANCE

Maintenance-free bearings	Yes
Structure maintenance	Minium (grease gear drive once every 2 years). Optional every 10 years.

WARRANTY (Expandable)

Structure	10 years
Corrosion protection	20 years according to ISO 14713 C3