novatrack

Sun Tracking Solutions

NovaTrack® HZ 2V

TRACKING THE SUN & POWER

MOST FLEXIBLE SUN TRACKER ON THE GROUND

HIGH POWER DENSITY

Higher density means more power and more profit.
NovaTrack HZ 2V offers the unique flexibility to cover each part of the installation land.
Maximizing the power density of each site, more power density compared to any other tracker manufacturer.

FLEXIBILITY ON ALL TERRAIN UP TO %25 SLOPE

Our (NovaFlex) axis link architecture, with fixed articulated driveline joints allows tolerances,
and creates the most natural terrain adaptability.
NovaBall patented bearing technology allows sloped area up to %25 north-south inclination, with long lasting and maintenance free operation.

ULTRASONIC WIND SPEED & DIRECTION, SNOW, TEMPERATURE SENSORS

NovaTrack with wind speed and direction sensor allows wind stowing, with keeping the system slightly inclined upwind position, minimizes the fluttering effect and potential failure points.
Wind direction and piezo vibration sensor also prevents system against hail damages, via by keeping the module surface in parallel position with wind direction.
Snow unloading mode comes with integrated with NovaTrack.

PRECISE POWER TRACK *

NovaTrack algorithm using string power output achives possible best energy yield, rather than sun radiation sensor. In case of invertor communication failure, NovaTrack keeps sun tracking over sun radiation sensors.

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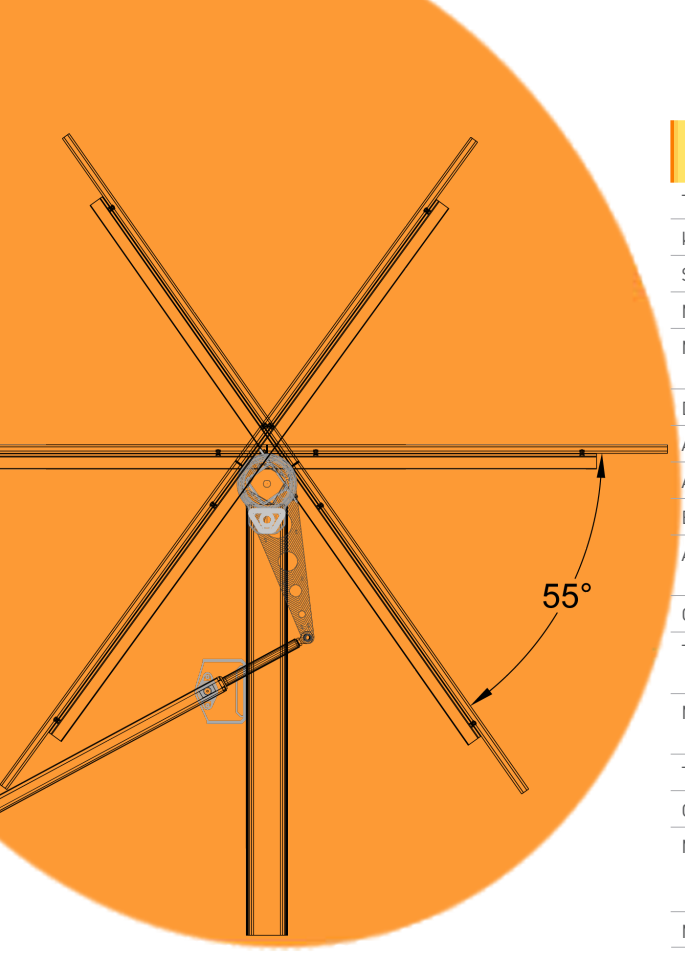

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PROFIT VERSUS COST

NovaTrack ensures the most possible performance gain with the lowest cost increase of solar plant.

Site adaptability tolerances and robust design construction can work efficiently. It means protecting your investment with a wind management system.
It also includes increasing power density. But most of all, value is measured in operational uptime, or reliability.

ROBUST AND FLEXIBLE DESIGN

NovaTrack has innovatiove design of flexibility.
Fewer moving parts, dencentralized control units, gives more availability on site.
Wear resistant spherical design with strong components provides tracker system long lasting life and keeps safe against extreme conditions.

MECHANICAL FEATURES & SPECIFICATIONS	
Tracking Type	Horizontal single axis
kW per Actuator Drive	Up to 30 kW DC using 310W crystalline 60Cell
String Voltage	Up to 1,500V DC
Maximum Axis Lenght	50 meter(2V), 60meter(1V)
Maximum Row Size	96 modules crystalline, glass-on-glass, and bifacial; 220 modues First Solar 4; 68 modules First Solar 6
Drive Type	Linear Actuator, Torque Arm
Actuator Type	2.2mm/sec, 12000N, 24V DC, 6A Max.
Actuators per 1 MW DC	Less than 36
East-West / North-South Dimensions	Depends on site / module specs
Array Height	1.75m standard, adjustable
Ground Coverage Ratio (GCR)	Flexible, 30–50% typical, others ranges on request
Terrain Flexibility	N-S tolerance: 0° - 15° standard Decentralized actuator drive
Modules Supported	Most commercially available, including 60-72 cell frameless crystalline, thin film, and bifacial
Tracking Range of Motion	± 55° standard
Operating Temperature Range	(-35°C to 65°C)
Module Configuration	Vertical (1V), (2V) portrait, including bifacial. (2H), (3H) landscape (framed or frameless) available.
Module Attachment	4 fastener with trevailing torque.
Hail & Snow Protection	Vibration + wind directionsensor detects course of hail shots. Keeping modules flat against to shots minimizes possible defects.
Materials	HDG steel and aluminum structural members
Allowable Wind Load (IBC 2012)	150 kmh, 3-second gust exposure
Wind Protection	Safe position slightly inclined upwind direction
ELECTRONIC CONTROLLER FEATURES/SPECIFICATIONS	
Solar Tracking Method	GPS input, Radiation sensor + String power output.
Control Electronics	MCU plus Central Controller
Data Feed	MODBUS over Ethernet
Night-time Stow	Yes
Tracking Accuracy	± 2° standard, field adjustable
Backtracking	Yes, terrain adaptable back tracking
INSTALLATION, OPERATION & MAINTENANCE	
PE Stamped Structural Calculations & Drawings	Yes
On-site Training & System Commissioning	Yes
Connection Type	Fully bolted connections, no welding
In-field Fabrication Required	No
Dry Slide Bearings & Articulating Driveline Connections	No lubrication required
Scheduled Maintenance	None required
Module Cleaning Compatibility	Robotic, Tractor, Manual
GENERAL	
Annual Power Consumption (kWh per 1 MW)	1400 kWh per MW per year, estimated
Land Area Required per 1 MW	Approx. 22 decares MW @ 33% GCR (site and design specific)
Energy Gain vs. Fixed-Tilt	20%+ up to % 30 , site specific
Warranty	10 year structural, 5 year drive & control components

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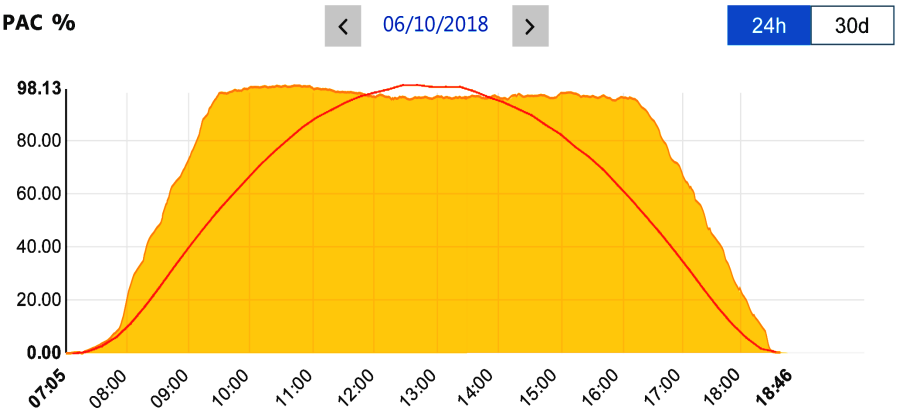
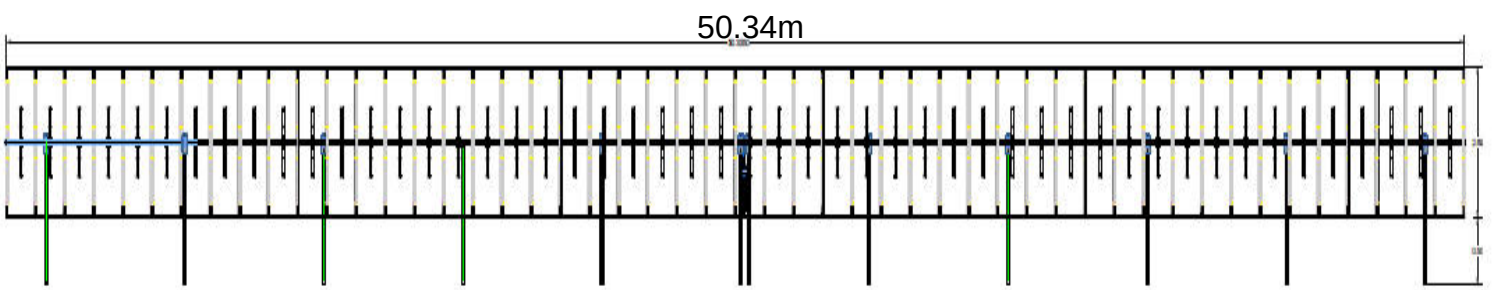
Energy Yield by NovaTrack powertrack technology ensures maximum energy production from your PV plant.

That configuration is supported with only Ingeteam for now.
Powertrack harware tool will allow all kind of PV Array installation to achive maximum power soon, upon after sensor technology.



Rating Chart Using Sunny Day in October
NovaTrack & Fixed Tilt References Are Nearby Places



NovaTrack HZ2V with post driven foundation, Rotation @ 55°

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NOVATRACK DESIGN WITH FLEXIBLE ARCHITECTURE

Unique decentralized design with independent linear actutor axis drives gives us chance of serial axis lenght up to 72m.

Syncronized axis drive outputs with load detection allows extended row lenght x2.

Load balance dampers will keep axis driver strained at light load during daily operation.

This feature gets the only weared part of the tracker system having long operation time over years.

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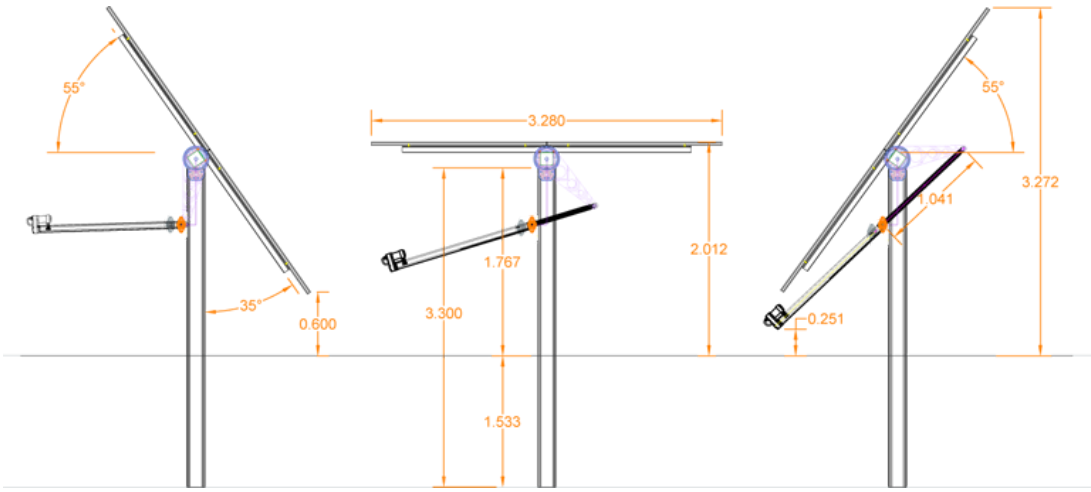
NovaTrack, with flexible axis lenght and separate control structure adapts the existing land terrain by following natural contours and creates power generation from any point of site.

No need for rectangular land placement configuration.

Extensible axis lenght up to 50m.

Nova Mass Damper integrated with shock absorber pads reduces both oscillations of tracker and load on the actuator.

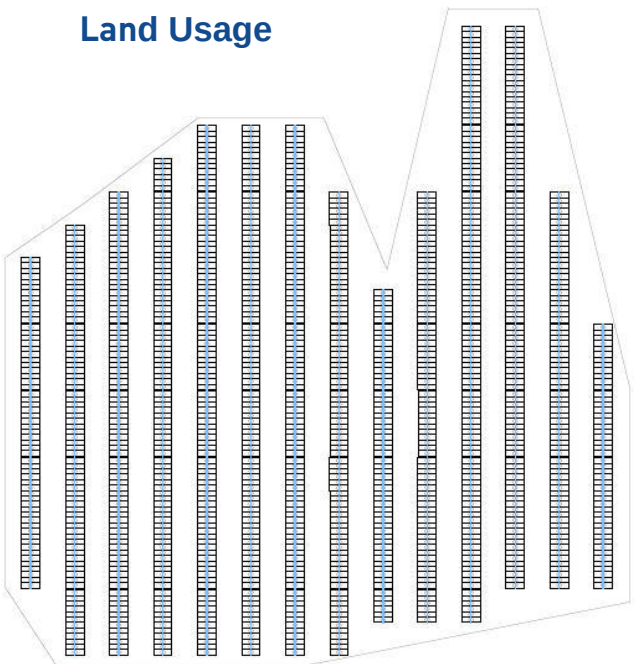
Self frictioned bearing balls also supports stability agains wind loads.



Pile Foundation Rotation Angle - Side View

NovaTrack Mass Damper

NovaTrack Land Usage



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