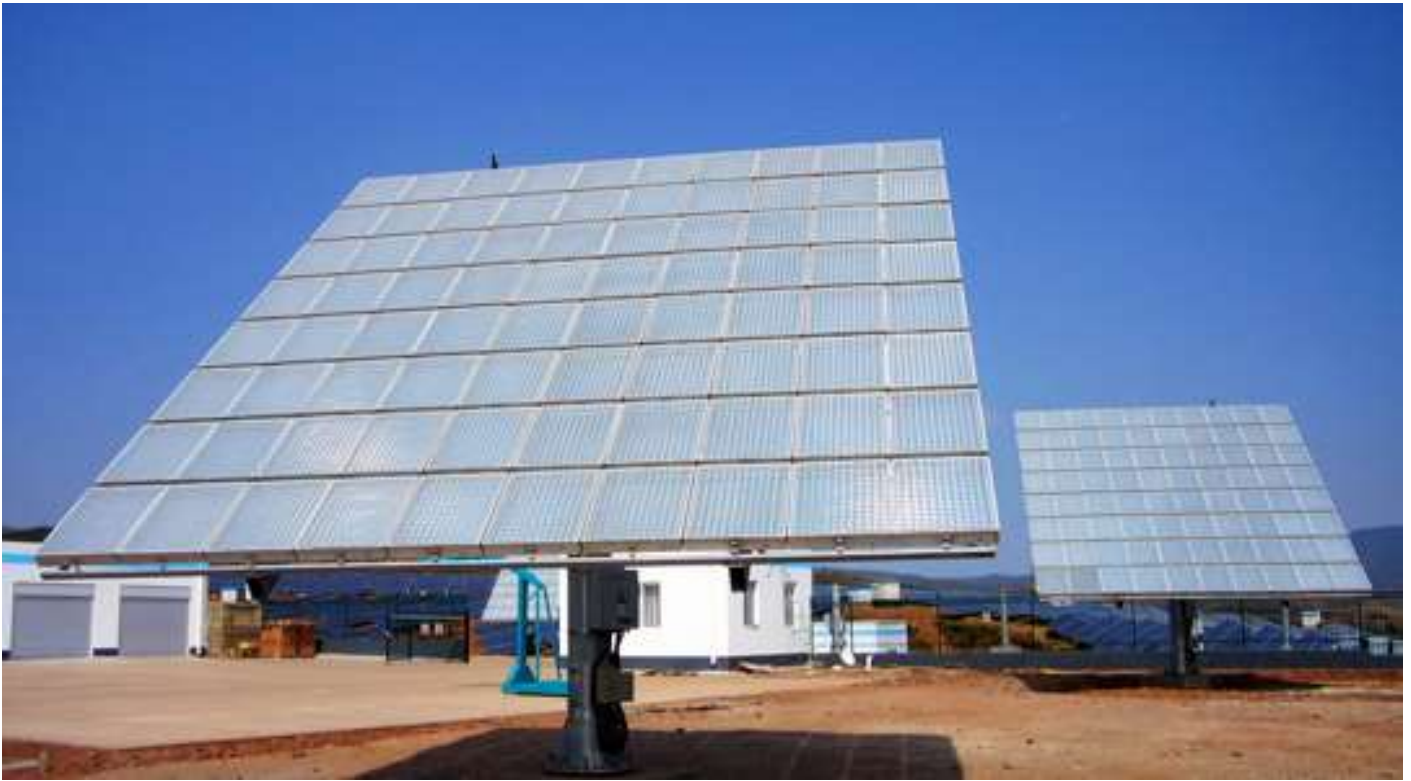


Dual Axis Tracker



Dual Axis Tracking System (DAT)

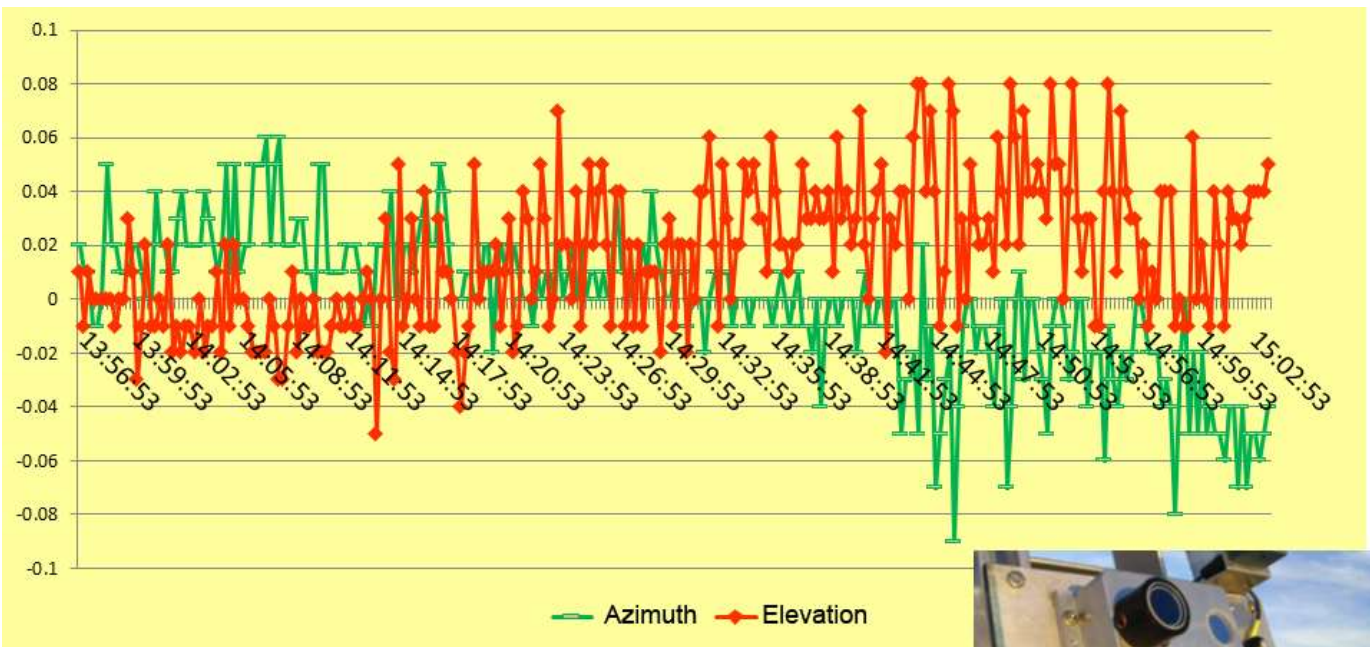
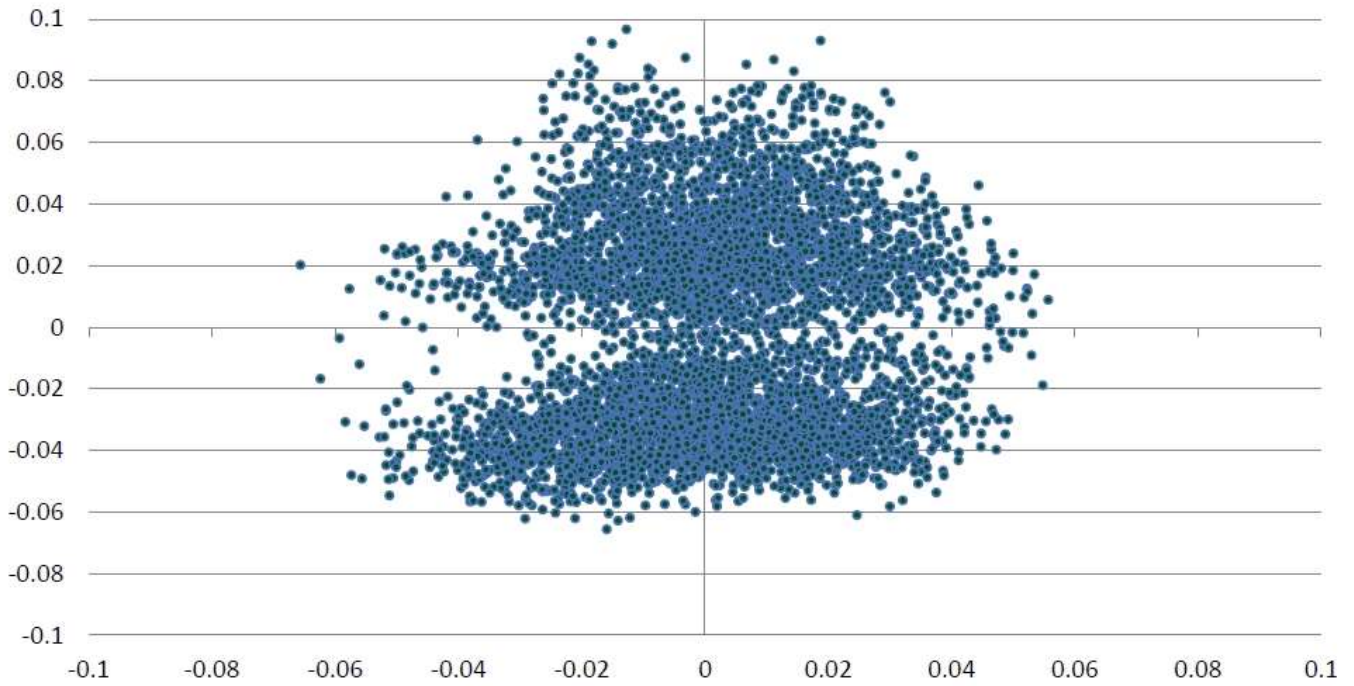
This tracker model has fulfilled the dream of tracking the sun all day in azimuth and elevation angles. Generally speaking, DAT has a maximum power generation compared to all tracker models and about 45 percent more power compared to Fixed PV System (about 25% in China).

Applications of DAT have ranged from Photovoltaic to High Concentration Photovoltaic (HCPV), such as solar tower thermal, heliostats polyethylene, or Sterling Optical power system. Macsun Solar has been focused on developing and designing precision HCPV Trackers since 2007.

With a hybrid controller program containing a calendric and sun sensor, its tracking accuracy has reached +/- 0.1 degree.

The test result has been recognized by RETC (Renewable Energy Test Center) in California. RETC has completed a six month outdoor test on MST's dual axis tracker since October 2013 to May 2014 near 50 miles east of Las Vegas in Nevada USA.

Azimuth / Elevation (degrees) - 10/20/2013



Dual Axis Tracker for PV



DAT has been applied to a PV system (silicon or thin film panels) installed mostly in northern hemispheres. In these areas, due to low rise of sun position, array distance for either Fixed or SAT Systems need to be wider which does not meet economic efficiency standards. DAT is the best choice for the purpose of power generation. There are mainly three different models of DAT: MST-100, MST-300/350 and MST-400. With 10 to 60 square meter panels on each tracker, one Controller program can command up to 6 trackers. The basic features of the program are backtracking, high wind protection, and preset positioning for panel cleanup and snow mode.

Technical details:

Model MST-300: Ground / Roof Type --- PV & CPV Tracker

Type of Solar Tracker: Dual Axis Tracker with linear actuator for tilting and slew drive for positioning.

Tracking Accuracy (Up to 16m/s): $\pm 0.1^\circ$ (including deflection in wind at all points on array)

Design Temperature Range: - 40°C to +70 °C

Operation temperature range: - 30°C to +55°C

Maximum Operational Wind Speed: 22m/s (79km/hr) - at which speed the system moves into stow position

Absolute Maximum Wind Speed: 40 m/s

Array Area: up to 6 m² / (depends on module dimension and weigh)

Post Height: 2.3m

Maximum Height: 3.66 m

Weight: 600 kg (excluding modules)

Payload: kg (Solar modules only)

System Design Lifetime: 25 years

Elevation Tracking Range: 0° to 75°

Azimuth Tracking Range: 0~270° and 0~450° (For different latitude use)

Control Type: Light sensor + Historic tracking

Tracking Type: Dual-axis tracking

Automatic high wind stow function (option with wind speedmeter)

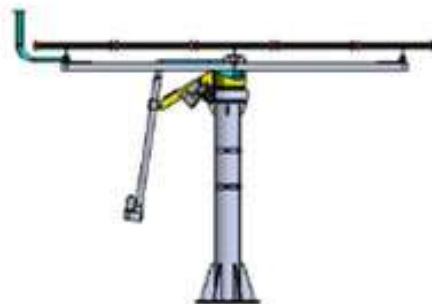
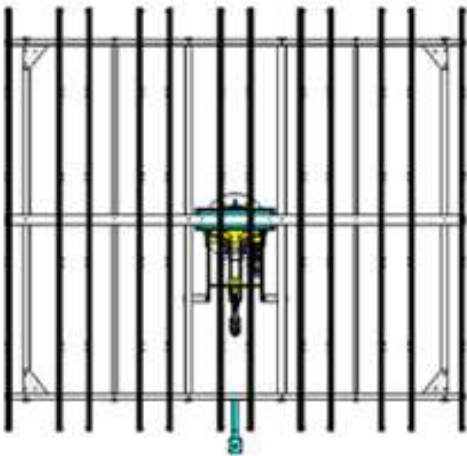
Emergency stop button on tracker

Safety Feature: Safe positions for maintenance operations

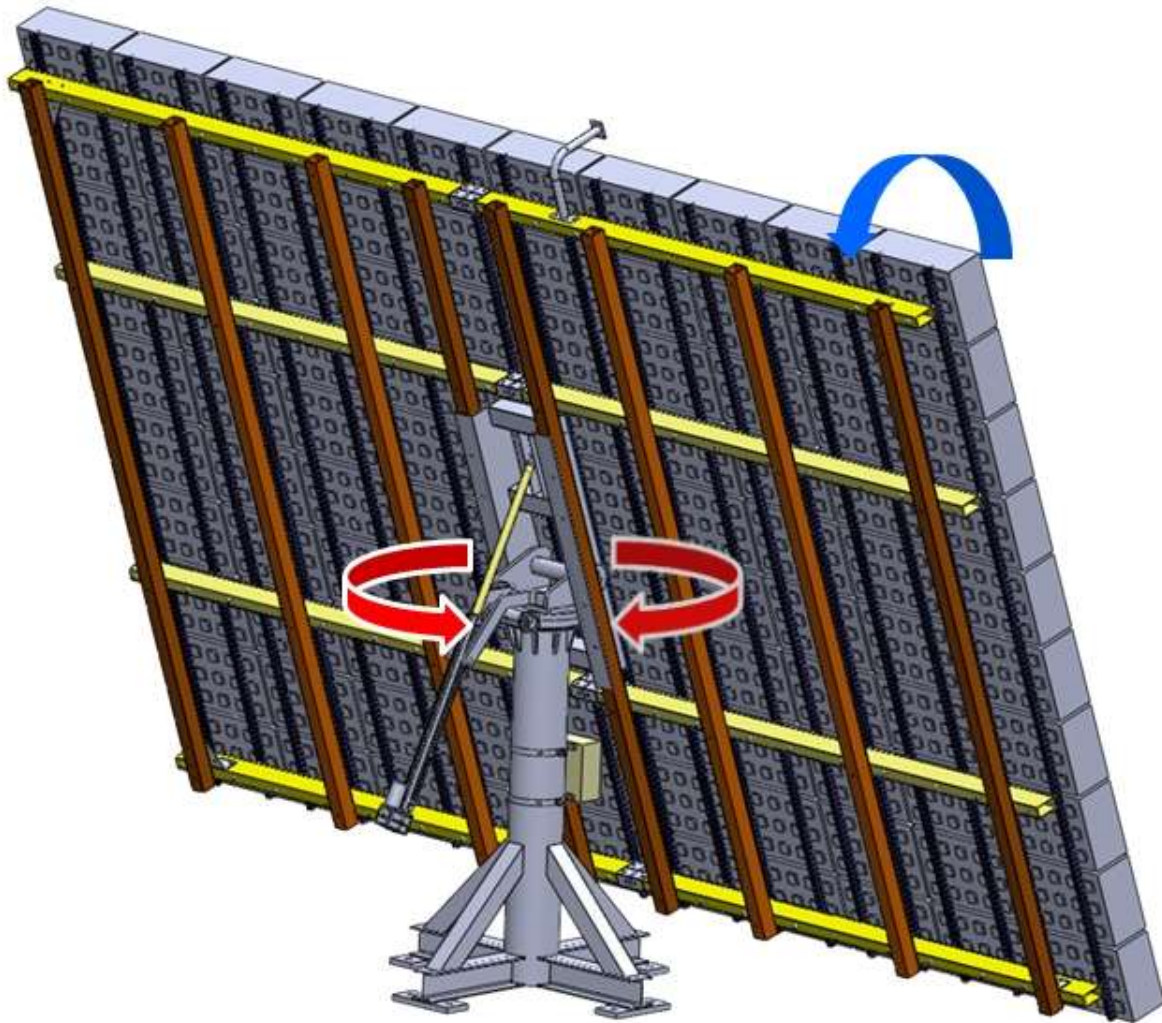
IP Rating IP 65

Labview remote monitoring (option)

Control Box Power Supply Source: 110/ 220V AC



Dual Axis Tracker for CPV



High concentrating solar panels only work with "direct sunlight", since the concentrator solar cells are quite tiny (example: 3.6mm²). Extensive tracking accuracy is required. Macsun Solar has had specialized tracker designs and productions since 2007, specializing in HCPV trackers. With hybrid controller programming on each tracker, tracking accuracy has reached +/-0.1 degree. GST has had long-term relationships with experienced vendors in solar industry.

Technical details:

Model MST-400: Ground Type --- PV & CPV Tracker

Type of Solar Tracker: Dual Axis Tracker with linear actuator for tilting and slew drive for positioning.

Tracking Accuracy (Up to 16m/s): $\pm 0.1^\circ$ (including deflection in wind at all points on array)

Design Temperature Range: - 40°C to +70 °C

Operation temperature range: - 30°C to +55°C

Maximum Operational Wind Speed: 22m/s (79km/hr) - at which speed the system moves into stow position

Absolute Maximum Wind Speed: 40 m/s

Array Area: Up to 60 m² (depends on module dimension and weigh)

Post Height: 3.23m

Maximum Height: 6.84 m

Weight: 2,000 kg (excluding modules)

Payload: 2,600 kg (Frame + Solar modules)

System Design Lifetime: 25 years

Elevation Tracking Range: 0° to 75°

Azimuth Tracking Range: 0 ~ 270° and 0 ~ 450°

Control Type: Light sensor + Historic tracking

Tracking Type: Dual-axis tracking

Safety Feature: Automatic high wind stow function (option with wind speedmeter)

Emergency stop button on tracker

Safe positions for maintenance operations

Control Box Power Supply Source: IP Rating IP 65

Labview remote monitoring (option)

110/ 220V AC

Gallery:

