01 Single axis tracker

T-P-1AT-EW/V/1P

TYPE	CONSTRUCTION	MODULE DIRECTION	MODULE LAYOUT	NUMBER OF PILES
Piled (P)	Single axis (1AT)	East-west (EW)	Vertical (V)	1

Designed to follow the sun

SEE ONLINE →

DESCRIPTION

MECHANICS:

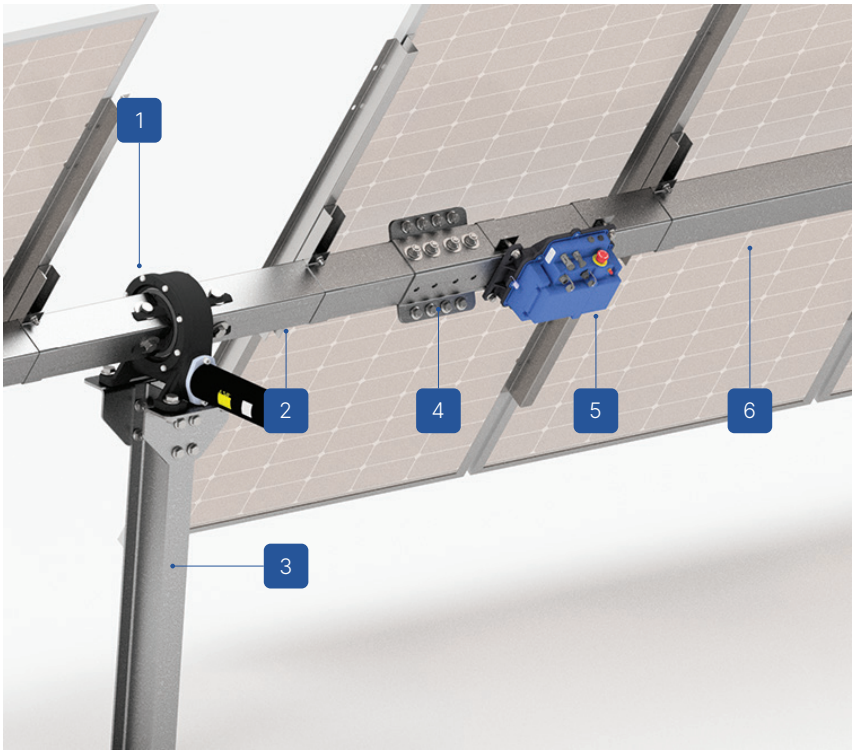
- Strength verification of structure parameters carried out by a specialist laboratory.
- Various tracker lengths available to suit specific number of strings, and the selection of number and length of the trackers is individually carried out for each project.
- Design assumptions implemented according to the DFA methodology (Designed for Assembly).
- Split adaptive bearings adjust its position to variable thermal or geometric deformations of the supporting beam.
- The use of an intermediate purlin to increase the central support surface of the load-bearing purlin connected to the PV panel.
- Drive leg is in the same axis as the support columns (the length of the support columns is selected individually, depending on the geographical and geological conditions of the project).
- Standardization of structural elements.
- Optimization of screw connections.

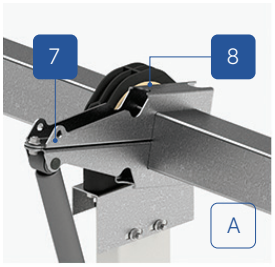
CONTROLS:

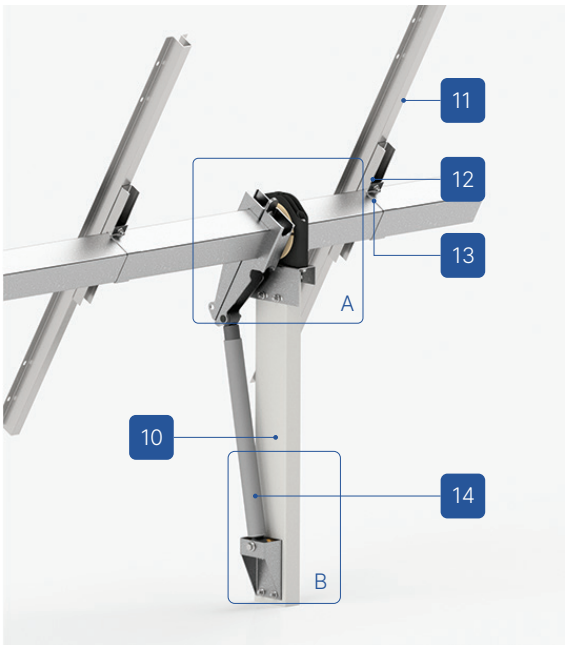
- Device is using an advanced astronomical algorithm to control the position of the panels in relation to the current position of the sun.
- Intuitive installation and startup configuration system.
- Configurable alarm and notification management.
- Backward algorithm that prevents and minimizes row shading.
- Zigbee® wireless communication system, or wired RS-485.
- Remote monitoring and preventive maintenance to reduce installation downtime (easy integration with SCADA system in the Modbus TCP/IP standard).
- Possibility of individual configuration of the tracker operation depending on the order of rows and terrain slope.
- Safety system against excessive wind speed (safe positioning of PV panels).
- Possibility of using various service modes related to the position of the panels, e.g. snow removal, cleaning.
- Possibility to use a snow level detector.
- Possibility of current and historical verification of installation parameters via cloud data storage.

CHARACTERISTICS	T-P-1AT-EW/V/1P
Construction base	Ground
Method of mounting	Piled (P)
Type of construction	Tracker (T), single axis (1A)
Module orientation	East-west (EW)
Module layout	Vertical (V)
PV module length (MAX)	2300
Type of tracking	Automatic, horizontal[1]
Tracking algorithm	Direct astronomical patterns; Tracking precision = 2,0°[2]
Rotation range	±60°
Ground cover factor	Any configuration determined by the customer (from 32% to 50%)
PV module compatibility	Standard/Bifacial
Drive system	1 independent horizontal rotation drive per 1 tracker
Modules per tracker	max 60 (individual configuration possible)
Power supply	dedicated photovoltaic modules + 230V AC 50/60 Hz[3] battery
Communication	Zigbee® wireless (or wired RS-485) communication system
Monitoring	Modbus TCP/IP, possibity of integration with SCADA system
Adaptation to the slope of terrain	up to 6% in N-S direction
Wind resistance	1) Up to 80 km/h in any given position 2) Up to 140 km/h in horizontal or any position configured as neutral
Method of distribution	Individual order

[1] Recommended alignment of the tracker axis along the north-south direction.
[2] Possible individual adjustment of traction to the topography of the terrain.
[3] Possibility of UPS usage.







1. Central drive
   RBTSOLAR-1AT-TGB-CD
2. Secondary beam
   RBTSOLAR-1AT-SB
3. Central IPE 160 drive column
   RBTSOLAR-1AT-CD-C
4. Beam connector
   RBTSOLAR-1AT-B-C
5. TCU controller
   RBTSOLAR-1AT-P4Q-CTR
6. Main beam
   RBTSOLAR-1AT-MB
7. Damper upper arm
   RBTSOLAR-1AT-D-UA
8. Main beam bearing
   RBTSOLAR-1AT-TGB-MB-B
9. Damper low joint
   RBTSOLAR-1AT-D-LJ
10. Main column
    RBTSOLAR-1AT-MC

11 Purlin
   RBTSOLAR-1AT-PLN

12. Purlin runner
    RBTSOLAR-1AT-PLN-R
13. Purlin joint
    RBTSOLAR-1AT-PLN-J
14. Damper
    RBTSOLAR-1AT-TGB-D

TECHNICAL NOTES

Assembly method:
Screw connections. Designed for fast and easy installation.
No on-site welding or drilling required.
Materials:
Construction graded steel.

SERVICE

Maintenance-free bearings.
Inspection and maintenance of the rotary drive every 2 years.

Technical inspections according to individual arrangements.