

Single-Axis **SOLAR TRACKER** for 12 panels

- With time-derived astronomical positioning for the automatic sun-tracking
- Single-Axis solar tracker with embedded positioner
- Time controlled astronomical algorithm for sun tracking
- Simple installation and synchronization of sun time
- Usable for PV and lighter thermal panels
- Around 7 hours of automatic tracking at perpendicular angle
- User friendly web interface for monitoring, setting and upgrading
- USB communication port, optionally CAN BUS, RS485
- For surface area up to 20m² and max. 500 kg (2.16kWp at 15% cell efficiency)
- Made in Europe

SunTracer ST12SLT Single-Axis
with backstructure for 12 panels
Product code: 0114

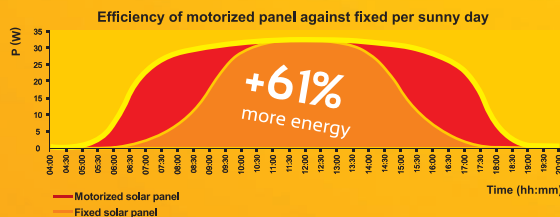
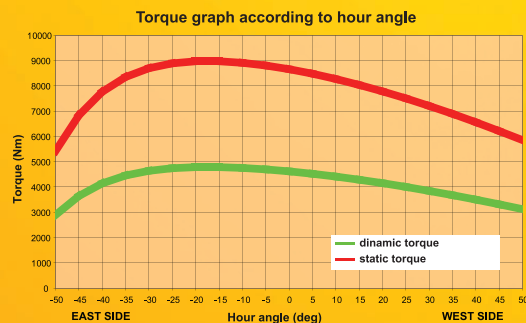
GREEN ENERGY

SAT CONTROL

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+61.6%
more energy



Real energy measurement of two equal solar panels (fixed and motorized)
 Three equal solar panels were exposed to the sun and the converted electrical power was measured.
Test conditions: Solar panels (all): 2160 Wp (producer spec. at AM 1.5), Date: July 2010
 Time: 4:00 to 20:00 (sun time), Geo. latitude: 46° N, Weather conditions: sunny
Results: Average energy of fixed: 9029 Wh, Average energy of motorized: 14623.2 Wh,
Note: sum of motor energy consumption through all day at full load is 35.5Wh or 0.24%
 of all collected energy, **Efficiency of the motorized panel:** 161,6%

Mechanical Capabilities

Number of turning axis	Single-Axis
Hour Angle Limit	100°, software and hardware limit
Elevation angle	15 - 90°, adjustable start
Type of hour-angle motor	Linear Motor 5M45900M3 with stroke of 900 mm
Type of elevation-angle motor	/
Hour-angle shaft diameter and length	Square tube 120 x 120 mm, L=5000 mm (steel)
Turning speed of hour angle shaft	2,33 mm/s
Turning speed of elevation shaft	/
Max. dynamic torque of the hour-angle shaft	>4780 Nm, see graph
Max. dynamic torque of elevation shaft	/
Destructive torque of the hour-angle shaft	>9000 Nm, see graph
Destructive torque of elevation shaft	>1500 Nm, see graph
Backstructure size	4 Arms lenght of 3280 (L) mm
Type of backstructure clamp	Toothed scissors grippers - 48 pcs
Tube diameter for mounting	/
Max. dimensions of a solar panel	12 pieces of 0,99 m x 1,68 m in total 20,00 m2
Max. weight of a solar panel	12 pcs per 25kg
Estimated service life	5.000 rotations of 200° or 10 years

Positioning System Data

Tracking accuracy	<0.5° (optionally <0.1° - for additional payment)
Operating Protocol	TdAPS (Time derived Astronomical Positioning System)
Type of Positioning System	Servo driver positioner with TdAPS arc logic function calc.
Type of positioner	Din Rail positioner MICRO and exterior cables
Type of timer	GMT clock with EOT and calendar
Type of application program for supervision and setting	Solar tracking system monitor via web site
Setting and changing data via PC	Yes, It can be setup 1000 parameters
Monitoring possibility via PC	Yes, It can be monitored 1000 parameters
Turned on the position sent from PC	Yes, it turn on position sent from PC, also all other setting can be commanded with string sent from PC
Turning time interval	1min. - 15min.

Communication Data

Type of communication interface	USB interface
Networking solution for control from centre	CAN BUS, RS485

Firmware - Software

Upgrading possibility via PC	Yes, firmware via PC with help of web wizard
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Electrical Data

Motor Power Supply	24 VDC ± 10% (5A current capacity)
Backup battery	CR 2512 coin
Max. consumption during the operation of the hour-angle shaft	4A @ 4780 Nm
Max. Current of elevation shaft	/
Standby consumption (when is not moving)	60 mA @ 24 VDC
Power supply connection	1 piece of 2 Wire Cable with an Internal Cu Conductor of 1.5mm2 (not included with kit)
Box	190 (L) x 140 (W) x 70 (H) mm with connection harness

Environmental Data

Operating temperature	-25°C to +85°C (optionally with artic grease for teperatures from -40°C up to +85°C)
Operation at humidity	0% to 100%, relative humidity
Max. safe wind speed	max. 144km/h

Corrosion, weather and chemical resistance

Neutral Salt Spray (3000 h, EN ISO 9227 NSS)	/
Hot-dip galvanizing (HDG, EN ISO 1461)	75-100 m (equivalent of 50 years)

Packaging

Dimensions of a packed product	1 box of 5 (L) x 0,5 (W) x 0,5 (H) m (Wooden Box is not included with kit)
Product weight	350 kg

Quality Certificates

International Protection Rating (IEC 60529)	IP63
Electromagnetic Compatibility (EMC Directive 89/336/EEC)	Yes
Low Voltage Equipment Directive (EEC Council Directive 73/23/EEC)	Yes

Optional Properties

Anti-Shadowing Function	Yes, included
Heliostat usage	No

