Dual-Axis SOLAR TRACKER for 15 panels ST44M3V15P

Code: 0153

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- With time-derived astronomical positioning for the automatic sun-tracking
- Dual-axis solar tracker with embedded positioner
- Time controlled astronomical algorithm for sun tracking
- Simple installation and synchronization of sun time
- Usable for PV, CPV and lighter thermal panels and Heliostats
- 7 hours of automatic tracking at perpendicular angle
- User friendly web interface for monitoring, setting and upgrading
- USB comunication port, optionally RS485
- For surface area up to 25 m^2 and max. 345 kg
- Made in Europe

GREEN ENERGY

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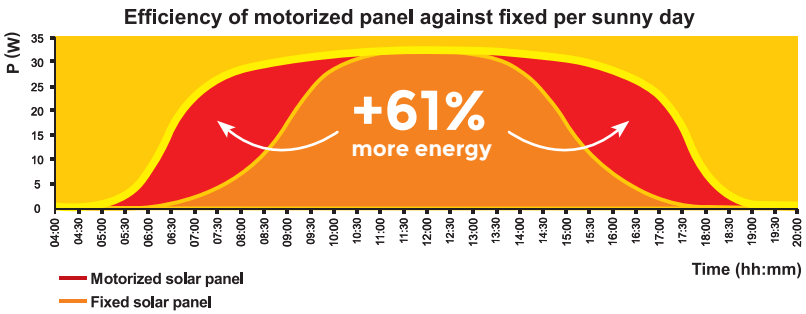
Mechanical Capabilities	
Number of turning axis	Dual-Axis
Hour Angle Limit	100°, software and hardware limit 50°E to 50°W
Elevation angle	15-90°, adjustable start
Type of hour-angle motor	Linear Motor SM4S900M3 with stroke of 900 mm
Type of elevation-angle motor	Linear Motor SM4S900M3 with stroke of 900 mm
Hour-angle shaft	Square tube 140x140
Backstructure size	5x5 m (H size 4 x 2,45 m)
Type of backstructure clamp	Toothed scissors gripers - 60 pcs
Tube diameter for mounting	Square tube 200x200, H=3500 mm (stell)
Max. dimensions of a solar panel	15 pieces of 0,99 m x 1,67 m in total 25 m²
Max. weight of a solar panel	15 pcs per 23 kg
Estimated service life	800-1000h of motor operation (DC motor replace on 8 years if each day one cycle), backup battery replace on 3-5 years if battery in, all other 25 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 externor 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, via USB or RS485
Monitoring possibility via PC	Yes
Turned on the position sent from PC	Yes
Turning time interval	1-15 min.
Communication Data	
Type of communication interface	USB interface
Networking solution for control from centre	RS485
Firmware - Software	
Upgrading possibility via PC	Yes, via USB with Helios Analytics
Electrical Data	
Motor Power Supply	24 VDC +5% / -15% (2.5A current capacity) SMPS must have 150% inrush current
Backup battery	CR 1225 coin
Standby consumption (when is not moving)	60 mA ± 30% @ 24VDC
Power supply connection	1 piece of 2 Wire Cable with an Internal Cu Conductor of 2,5 mm² (for lenghts up to 30 m), (not included with kit)
Junction Box	190 (L) x 140 (W) x 70 (H) mm with connection harness
Environmental Data	
Operating temperature	- 25°C to +70°C (optionally with artic grease for teperatures from -40°C up to +70°C)
Operation at humidity	0% to 100%, relative humidity
Max. safe wind speed	max. 144 km/h
Corrosion, weather and chemical resistance	
Neutral Salt Spray (3000 h, EN ISO 9227 NSS)	Yes
Hot-dip galvanizing (HDG, EN ISO 1461)	75-100 µm (equivalent of 50 years)
Packaging	
Dimensions of a packed product	1 box of 5550 (L) x 800 (W) x 800 (H) mm (Wooden Box is not icluded with kit)
Product weight	850 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	Yes, for additional payment



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): 1.0 kWp (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: 5016 Wh, Average energy of motorized: 8124 Wh,
Note: sum of motor energy consumption through all day at full load is 17.52Wh or 0.22% of all collected energy, Efficiency of the motorized panel: 161,6%

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