









Three equal solar panels were exposed to the sun and the converted electrical power was measured. ns: 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%

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 SM4S900M3 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 gripers - 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 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, 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	lmin 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)
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Packaging	1
Dimensions of a packed product	1 box of 5 (L) \times 0,5 (W) \times 0,5 (H) m (Wooden Box is not included with 350 kg
Product weight	
Product weight Ouality Certificates	The state of the s
Quality Certificates	ID62
Quality Certificates International Protection Rating (IEC 60529)	IP63
Quality Certificates	Yes
Quality Certificates International Protection Rating (IEC 60529) Electromagnetic Compatibility (EMC Directive 89/336/EEC) Low Voltage Equipment Directive (EEC Council Directive 73/23/EEC	Yes
Quality Certificates International Protection Rating (IEC 60529) Electromagnetic Compatibility (EMC Directive 89/336/EEC)	Yes





