

SunTracer - solar motors



SunTracer Family comparison (review between models)	SunTracer OG+™ with back-structure / 383106390135 / SM3SPMOG+	SunTracer+™ / 383106390129 / SM3SPMCBL+	“SunTracer WP+” for water pump / 383106390134 / SM3SPMWP+	“SunTracer Camper” 383106390128 / SM3SPMCBLC
General features included in product	SunTracer OG+	SunTracer+	SunTracer WP+	SunTracer CBLC
On-Off Charging circuit 10A	/	Included	/	Included
Internal batt. for return at evening	/	/	Included	/
Controlling & driving via PC	Included	/	/	/
Backstructure with 2 arms and 4 clamps	Included, long wheel and long arms	Included long wheel and long arms	Included long wheel and long arms	Included, short wheel, long arms
Options	/	/	/	Clamp for motorhome's tube diameter 30mm
Type of charging circuit	/	ON-OFF charging-regulation circuit with adjustable hysteresis limits	Loop throw, for sensing the solar panel voltage and power and internal battery charging	ON-OFF charging-regulation circuit with adjustable hysteresis limits
Backup battery	Backup for timer, position and data	Backup for timer, position and data	/	Backup for timer, position and data
Internal power battery for return at evening	/	/	Yes, the battery is 9V 330mAh	/
Setting changing possibility via PC	Yes, Earth's hemisphere, time	Yes, reference voltage for charging of battery and load, Earth's hemisphere, cable resistance between the motor and the battery	Yes, Earth's hemisphere, time and charging cycle reset	Yes, reference voltage for charging of battery and load, Earth's hemisphere, cable resistance between the motor and the battery
Monitoring possibility via PC	Yes, power supply voltage, position, sun time	Yes, solar panel voltage and current, load voltage and current, position, sun time, reference voltages for ON-OFF switching	Yes, Solar power supply voltage, position, sun time, charging cycles, charging status and voltage	Yes, solar panel voltage and current, load voltage and current, position, sun time, reference voltages for ON-OFF switching
Turn on position sent from PC	Yes, it turn on position sent from PC, also all other setting can be setted with string sent from PC	/	/	/
Options	/	/	/	Camper tube dia 30mm clamp
Motor supply from solar cell	from 8 to 43VDC	from 8 to 43VDC	/	from 8 to 43VDC
Battery hysteresis of charging	/	from 8 to 40VDC	/	from 8 to 40VDC
Load hysteresis of discharging	/	from 8 to 40VDC	/	from 8 to 40VDC
Maximum charging current	/	10A @ >12V	33 mA	10A @ >12V
Consumption in idle state	20 mA ±25% @ 12V	20 mA ±25% @ 12V	20 mA ±25% @ 12V + battery consumption for charge	20 mA ±25% @ 12V
Connection	1 x pair Cu conductor cables with internal cross-section 1mm ²	3 x pair Cu conductor cables with internal cross-section 4mm ²	2 x pair Cu conductor cables with internal cross-section 4mm ²	3 x pair Cu conductor cables with internal cross-section 4mm ²
Turning time interval	1-15 minutes adjustable	15 minutes	15 minutes	15 minutes
Arm width	1 m	1 m	1 m	1,15 m
Motor shaft length	1150 mm	1150 mm	1150 mm	560 mm
Max dimen. of a solar cell	2m x 1m of aluminium structure, made for panels with up to 2m ² in area	2 m x 1 m of aluminium structure, made for panels with up to 2m ² in area	2m x 1m of aluminium structure, made for panels with up to 2m ² in area	1,15 m x 0.8m of aluminium structure, made for panels with up to 0.8m ² in area
Max. weight of a solar cell	25 kg under the condition that the solar cell is turning through the centre of gravity	25 kg under the condition that the solar cell is turning through the centre of gravity	25 kg under the condition that the solar cell is turning through the centre of gravity	10kg under the condition that the solar cell is turning through the centre of gravity
Product weight	8 Kg	6,5 Kg	8 Kg	8 Kg
Max. safe wind speed	<130 km/h	<130km/h	<130 km/h	<160km/h

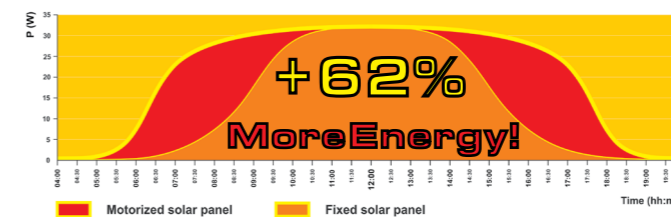
Common Technical data

Servo motor with final worm gear type	Included, steel gear
Positioner with sun arc function calc.	Included
Real time clock & date with bck. batt.	Included
RS232 interface to PC	Included
Setting via PC	Included
Monitoring via PC	Included
Upgrading via PC	Included
Type of engine	Servo motor with position encoder on steel worm cogwheel
Type of positioner	Servo driver positioner with sun arc logic function calculation
Type of timer	Real time timer with calendar
Type of communication interface	RS232 interface to PC
Upgrading possibility via PC	Yes, firmware via PC with special upgrade program
Type of backstructure clamp	Clip, press and stick - 4 pcs
Operating protocol	MSCS (Motorized Solar Calculation System)
Horizontal turning	100°, software and hardware limit
Inclination (motor elevation)	75°
Shaft diameter	Ø40 mm (steel)
Final stage of cogwheel	steel worm wheel
Turning speed	1.33°/s ±25% @17V & @100W sol. cell & @-10°C
Consumption during operation	<200 mA ±25% @ 50W sol. cell
Initial current consumption	350 mA @ t<0,25s typically
Operating temperature	-25°C +70°C
Operation at humidity	0% to 100% of relative humidity
Type of solar connectors	TYCO SOLARLOK
Limit EAST-WEST	end switches, programmable limit
Maximum working torque of output shaft	35.9 Nm @17V & @0.5°/s (measured)
Destructive torque of output shaft	>200 Nm
Estimated service life	20,000 turns of 180° (90°E + 90°W), or 10 years
Dimensions of a packed motor	1175(L) x 135(W) x 200(H) mm

Real energy measurement of two equal solar panels (fixed and motorized)
Two equal solar panels were exposed to the real sun and converted electrical power was measured.

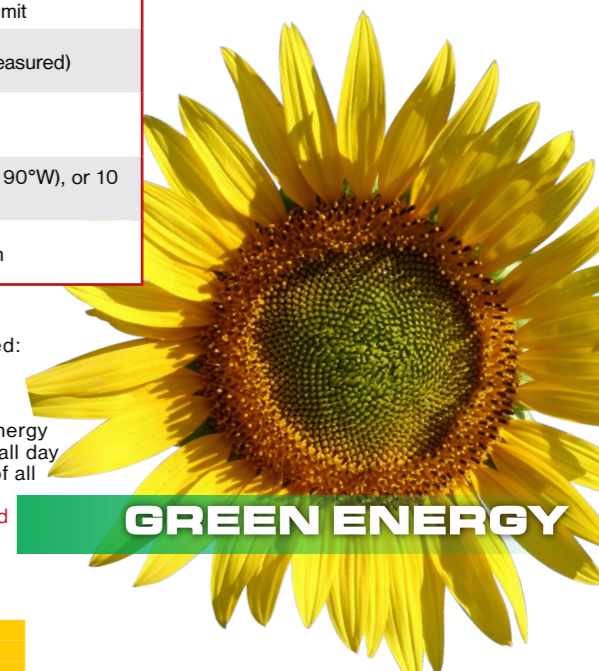
Test conditions:
Solar panels (both): 200W (producer spec. at AM 1.5)
Date: July 2005
Time: 4:00 to 20:00 (sun time)
Geo. Latitude: 46°N
Weather conditions: sunny, but not completely clear weather

Results:
Average energy of fixed: 836,8Wh
Average energy of motorized: 1354Wh
Note: sum of motor energy consumption through all day is 5,84Wh or 0.43% of all collected energy.
Efficiency of motorized panel: 161,1%



Features

- A professional motor with a positioner, power-supply regulator, back structure for the automatic solar cell rotation within adjustable time interval.
- A strong, heavy-duty aluminum housing and a simetric powerful metal motor pole.
- Polarmount structure for tracking the sun.
- Motor rotation up to 100°, that means 8 hours of tracking the sun at the perpendicular angle.
- Used for solar cells up to 2m², or up to 200Wp, (depend from model).
- Low power consumption of the motor.
- A built-in charging and regulation circuit for a storage battery and load (up to 15A at voltage >12V) (depend from the model).
- Adjustable charger and load hysteresis voltage (depend from the model).
- Built-in RS232 communication port for monitoring solar values, setup and upgrading firmware.
- Output pole destruction torque min. 200Nm (measured).
- Easy sun clock synhronization.
- A back-up battery for the internal time and date.
- Suitable for use in tropic and desert conditions.



GREEN ENERGY

SAT CONTROL

Want to get more?