

## Dual-Axis Heliostat for mirror application up to 3,1 m<sup>2</sup>

- 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 Heliostats, Tower Receiver CSP and Natural Daylighting System
- 13 hours of automatic tracking and sun mirroring
- User friendly interface for monitoring, setting and upgrading
- USB communication port, RS485
- For surface area up to 3,1 m<sup>2</sup> and max 90 kg
- Made in Europe

## GREEN ENERGY

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Made in Europe

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# Sun Tracer Dual-Axis Heliostat for Tower Receiver CSP

## Mechanical Capabilities

|                                      |   |
|--------------------------------------|---|
| Number of turning axis               | Dual-Axis   |
| Hour Angle Limit                     | 100°, software and hardware limit   |
| Elevation angle                      | 15-90°, adjustable start  |
| Type of hour-angle engine            | Linear Motor SM4S520M2 with stroke of 520 mm  |
| Type of elevation shaft and stroke   | Linear Motor SM4S520M2 with stroke of 520 mm  |
| Hour-angle shaft diameter and length | Ø48 mm, L=1450 mm (steel)   |
| Backstructure size                   | 1.250 (H) mm x 1.500 (V) mm   |
| Type of backstructure clamp          | Toothed scissors grippers - 4 pcs   |
| Tube diameter for mounting           | Ø 60-68 mm (not included with kit)  |
| Max. dimensions of a mirror panel    | 1 mirror panel with dimensions of 1.250 mm x 2.500 mm with net surface of 3,1 m²  |
| Max. weight of a mirror panel        | 90 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                                       | < 0.1°  |
| Operating Protocol                                      | TdAPS (Time derived Astronomical Positioning System)  |
| Type of positioner                                      | Din Rail positioner MICRO-D 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 Helios Analytics  |
| Setting and changing data via PC                        | Yes   |
| Monitoring possibility via PC                           | Yes   |
| 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 |

## Communication Data

|   |               |
|---|---------------|
| Type of communication interface             | USB interface |
| Networking solution for control from centre | RS485         |

## Firmware - Software

|                              |  |
|------------------------------|--|
| Upgrading possibility via PC | Yes, firmware via PC with help of Helios Analytics |
|------------------------------|--|

## Electrical Data

|  |  |
|--|--|
| Motor Power Supply                       | 24 VDC +5% / -15% (2.5A current capacity) SMPS must have 150% inrush current                                       |
| Backup battery                           | CR 2512 coin   |
| Standby consumption (when is not moving) | 20 mA ±25% @ 24V   |
| Power supply connection                  | 1 piece of 2 Wire Cable with an Internal Cu Conductor of 2,5 mm² (for lengths up to 30 m), (not included with kit) |

## Environmental Data

|                       |   |
|-----------------------|---|
| Operating temperature | -25°C to +70°C (optionally with artic grease for temperatures from -40°C up to +70°C) |
| Operation at humidity | 0% to 100%, relative humidity   |
| Max. safe wind speed  | max. 120 km/h   |

## Corrosion, weather and chemical resistance

|  |                                    |
|--|------------------------------------|
| Hot-dip galvanizing (HDG, EN ISO 1461) | 75-100 µm (equivalent of 50 years) |
|--|------------------------------------|

## Packaging

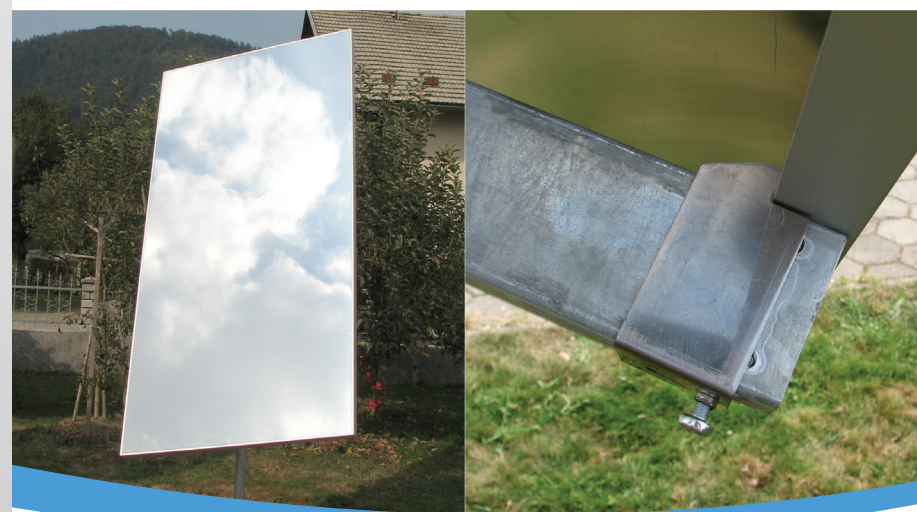
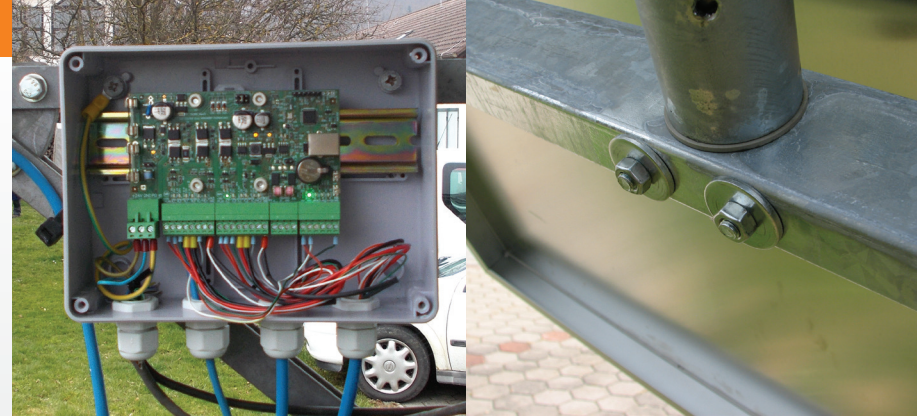
|                                |  |
|--------------------------------|--|
| Dimensions of a packed product | 1 box of 1600 (L) x 200 (W) x 270 (H) mm |
| Product weight                 | 45 kg                                    |

## 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 | No  |
| Heliostat usage         | Solar Mirror SolReflex® HM3CIM-3 for additional payment |



## Sat Control d.o.o.

Poženik 10, 4207 Cerklje na Gorenjskem, Slovenia, Phone: +386 4 281 62 00,  
info@solar-motors.com, info@sat-control.com www.solar-motors.com, www.sat-control.com