# Suntrack User Guide

## The user manual

28-2-2012
Heliostaat.nl
Mark Ursum

# User Guide

## Introduction.

This is suitable for both the standard SG2100A motors and the users with own motors.

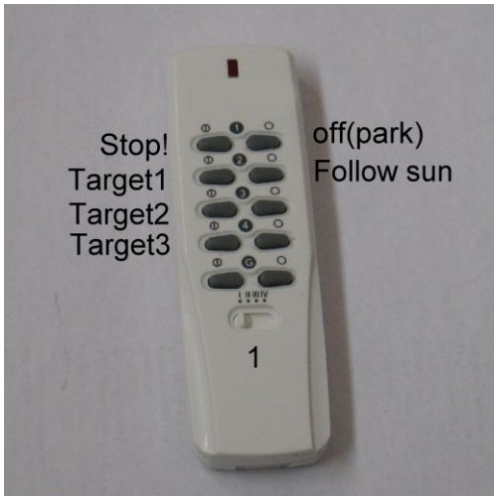
## Description

With daily use only position 1 of the slide switch is used. The mirror can focus on a target or power off, the mirror will then go to the park position. Turn to a parking position where the mirror is rotated slightly to the ground. The mirror can always remain focused on one goal, when the sun rises the next day the mirror will move toward it and then continue. There are 4 working modes: follow target 1,2 or 3 and follow the sun.

## Position 1

Note: To turn backlight on press an unused key on the remote: next to target 2 or 3.
This is the normal position. Position 1 .. 4 relates to the slider. It can call stored points and be targeted directly at the sun. With off the mirror will go to the park position.

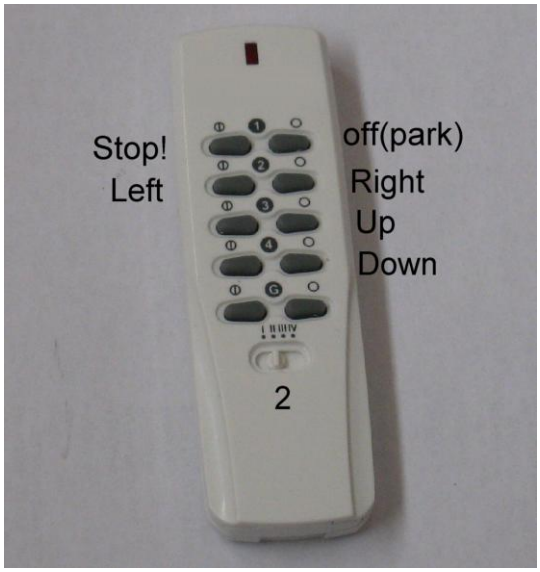
| Key | Function |
|---|---|
| **Stop!** | stop immediately. |
| **Off** | parking position |
| **Target1..3** | recorded point calls. |
| **Follow sun** | right into the sun. |



## Position 2

This is for manual movement. If the mirror is manual moved the new point will be followed as a manual target.

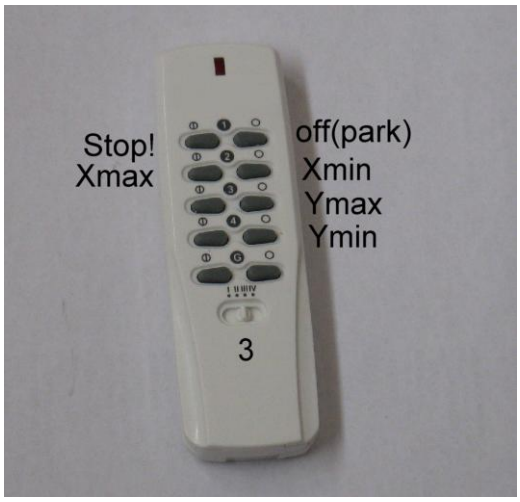
| Key | Function |
|---|---|
| **Stop!** | stop immediately. |
| **Left** | turn clockwise. |
| **Right** | turn anticlockwise. |
| **Up** | Up |
| **Down** | Down |




## Position 3

Calibration endpoints using the end switches. First go to the min positions, the LCD now shows the deviation in parentheses, it should be between -5 and +5. Learn the highest position only once. Note that it is usually not possible to go to Xmax and Ymax simultaneously, the engines will clash. First run both axes to minimum. The controls are immediately turns 1º away from the end. Run both axes to maximum to learn the controller the working area.

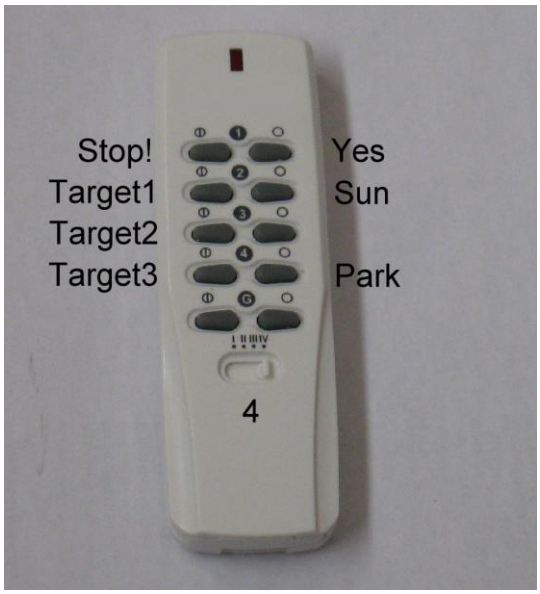
| Key | Function |
|---|---|
| **Stop!** | stop immediately. |
| **Xmax** | turn to the maximum horizontal position (clockwise) |
| **Xmin** | turn to zero. (anticlockwise) |
| **Ymax** | turn to the maximum vertical position. (up) |
| **Ymin** | turn to zero. (down) |




## Position 4

Saving Target 1 .. 3 and sunposition. The sunposition needs only be calibrated when installing or changing hardware. Saving the positions must be confirmed with the Yes avoid unwanted stores. To save a position press target1 LCD shows: Save? Ft1 . press Yes the LCD shows: Saved FT1 or any other key to ignore. How to calibrate the sun position see installation manual.

| Key | Function |
|---|---|
| **Stop!** | stop immediately. |
| **Target1** | The postion to be stored. |
| **Target2** | |
| **Target4** | |
| **Yes** | Confirm |
| **Sun** | Calibration of sun position |
| **Park** | Save parking postion |




## Problems

The control is equipped with various protection devices. This can cause a message on the LCD:

| Problem | description |
|---|---|
| **wait for GPS/DCF sync** | DCF: The internal clock has run out after a long time to have stood, it can take a few minutes to receive a valid DCF signal. Ensure that the LED flashes at one second rate by the DCF antenna. |
| | GPS: wait for a valid signal, place the receiver close to a window |
| **HalX of HalY** | There is power to the motors but no movement on the sensor. The motor is jammed or there is a cable lock or breakage. Try to move to position 2. |
| **EndX of EndY** | Endy EndX or the limit switch is always seen. The controls are immediately rotating 1 º away from the end and can not always be seen. The switch is broken or there is a cable lock or breakage. |
| **flashing colon** | The flashing colon means that no DCF clock read the last 24 hours. Make sure the LED blinks at one second rate by the DCF antenna. The DCF clock is only read in Off state or between 0:00 and 1:00 at night. |
| **backlight turns off** | The backlight on the LCD goes off after 3 minutes. Turn it on by pressing an unused button for example, right button 3 |
| **not responding to remote.** | If engines do not run in mode 1 or 2, the maximum X or Y are may be low. Do a calibration min and max. position 3. |
| **not responding to remote.** | Replace the CR2032 battery of the remote control. Is the rotary switch on the back of the remote on the right position? |
| **not responding to remote.** | Advanced users can choose their own code: A..P. |
| **recorded point has moved.** | Make sure the mounting of the rotors is still leveled. Do a zero calibration position 3 with Xmin and Ymin. |
| **time / date incorrect** | Time is always a no DST. GPS users may have the wrong time zone |
| **DCF does not work** | Make sure the LED blinks at one second rate by the DCF antenna. |